M 7

```
   CCCCCCCCCCCC     000000000     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
   CCCCCCCCCCCC     000000000     BBBBBBBBBBBB     RRRRRRRRRRRR     TTTTTTTTTTTTTTT  LLL
   CCCCCCCCCCCC     000000000     BBBBBBBBBBBB     RRRRRRRRRRRR     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  BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
CCC              000         000  BBBBBBBBBBBB     RRRRRRRRRRRR           TTT        LLL
CCC              000         000  BBBBBBBBBBBB     RRRRRRRRRRRR           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
   CCCCCCCCCCCC     000000000     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
   CCCCCCCCCCCC     000000000     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
   CCCCCCCCCCCC     000000000     BBBBBBBBBBBB     RRR         RRR        TTT        LLLLLLLLLLLLLLL
```

```
                                   E 1
**FILE**ID**COBHANDLE
```

```
  CCCCCCCC    000000    BBBBBBBB    HH      HH    AAAAAA    NN      NN  DDDDDDDD    LL          EEEEEEEEEE
  CCCCCCCC    000000    BBBBBBBB    HH      HH    AAAAAA    NN      NN  DDDDDDDD    LL          EEEEEEEEEE
CC          00      00  BB      BB  HH      HH  AA      AA  NN      NN  DD      DD  LL          EE
CC          00      00  BB      BB  HH      HH  AA      AA  NN      NN  DD      DD  LL          EE
CC          00      00  BB      BB  HH      HH  AA      AA  NNNN    NN  DD      DD  LL          EE
CC          00      00  BB      BB  HH      HH  AA      AA  NNNN    NN  DD      DD  LL          EE
CC          00      00  BBBBBBBB    HHHHHHHHHH  AA      AA  NN  NN  NN  DD      DD  LL          EEEEEEEE
CC          00      00  BBBBBBBB    HHHHHHHHHH  AA      AA  NN  NN  NN  DD      DD  LL          EEEEEEEE
CC          00      00  BB      BB  HH      HH  AAAAAAAAAA  NN    NNNN  DD      DD  LL          EE
CC          00      00  BB      BB  HH      HH  AAAAAAAAAA  NN    NNNN  DD      DD  LL          EE
CC          00      00  BB      BB  HH      HH  AA      AA  NN      NN  DD      DD  LL          EE                ....
CC          00      00  BB      BB  HH      HH  AA      AA  NN      NN  DD      DD  LL          EE                ....
  CCCCCCCC    000000    BBBBBBBB    HH      HH  AA      AA  NN      NN  DDDDDDDD    LLLLLLLLLL  EEEEEEEEEE        ....
  CCCCCCCC    000000    BBBBBBBB    HH      HH  AA      AA  NN      NN  DDDDDDDD    LLLLLLLLLL  EEEEEEEEEE        ....

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

```
0 MODULE COB$$HANDLER (
0                 IDENT = '1-022'          ! FILE: COBHANDLE.B32 EDIT:PDG1022
0                 ) =
1 BEGIN
1 !
1 !****************************************************************************
1 !*                                                                          *
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1 !*                                                                          *
1 !****************************************************************************
1 !
1 !
1 !++
1 ! FACILITY:     COBOL SUPPORT
1 !
1 ! ABSTRACT:     This procedure is the error handler for COBOL error
1 !               conditions.  It gets invoked as a result of a call
1 !               to LIB$SIGNAL.
1 !
1 !
1 ! ENVIRONMENT:  Vax-11 User Mode
1 !
1 ! AUTHOR: MLJ , CREATION DATE: 03-MAY-1979
1 !
1 ! MODIFIED BY:
1 !
1 ! 1-001 - Original. MLJ  03-MAY-1979
1 ! 1-002 - Added boilerplate and comments. RKR 18-JULY-1979
1 ! 1-003 - Declare psects via library macro. RKR 23-AUG-1979
1 ! 1-004 - Change symbolic name of LIBRARY file. RKR 1-OCT-79
1 ! 1-005 - Change name of entry point to COB$$HANDLER. RKR 18-OCT-79
1 ! 1-006 - Remove definition of COB$_USE_EXIT. Cosmetic changes.
1 !         RKR 20-OCT-79
1 ! 1-007 - But forgot to declare it as EXTERNAL LITERAL.
1 !         RKR 20-OCT-79
1 ! 1-008 - Check for COB$_USE_EXIT by using LIB$MATCH_COND.
1 !         RKR 22-OCT-79
1 ! 1-009 - Make arguments to LIBMATCHCOND be by REF.  RKR 31-OCT-79
1 ! 1-010 - Add code to resignal a COBOL-specific error message if
1 !         signal is SS$_ROPRAND and associated opcode was
```

```
1 !          CVTTP or CVTSP.  RKR 21-NOV-79
1 ! 1-011 - Correct resignaling code.  RKR 27-NOV-79
1 ! 1-012 - Added abstract, functional description, comments and made
1 !          cosmetic changes.  Added code that breaks up the CASE code
1 !          for a USE procedure condition value into the appropriate types -
1 !          file specific and mode specific.  This addition of code
1 !          also involved introducing two new condition values and
1 !          symbolic names for those values.  LB  3-MAR-81
1 ! 1-013 - Added comments.  LB 09-MAR-81
1 ! 1-014 - Added code for handling a data base USE procedure condition
1 !          code (as a result of the new routine COB$DBEXCEPTION).  Also
1 !          changed the range of the CASE statement from 0-3 to 0-5 to
1 !          account for new error conditions.  And added yet more
1 !          comments.  LB  12-MAR-81
1 ! 1-015 - Added code to check for the DB code (check that COB$B_USE_CODE
1 !          equals COB$K_DBUSE_CODE) before searching for the DB entry.
1 !          This code used to reside in routine COB$DBEXCEPTION.  LB  16-MAR-81
1 ! 1-016 - Replaced arbitrary signalled values for USE procedure checking
1 !          code with appropriate symbol names which are now defined in
1 !          COBMSGDEF.  Added corresponding entries in the EXTERNAL LITERAL
1 !          declarations for this module.  LB  24-MAR-81
1 ! 1-017 - Changed names of the external literals to correspond to changes
1 !          made in COBMSG.MDL.  Deleted call to LIB$MATCH_COND and changed
1 !          the CASE stmt to a SELECTONE stmt.  Changed labels in the
1 !          SELECTONE stmt (used to be a CASE) to be mnemonics instead of
1 !          numbers.  Added comments.  LB  16-APR-81
1 ! 1-018 - Deleted the external literals COB$_LSTHNDLOP and LSTHNDLFL and
1 !          added LSTHNDUSE.  This was done as a result of a change made
1 !          in COBOL regarding the scoping rules for USE procedures.  Also
1 !          changed the macro name for the signalling arguments in the signal
1 !          array to reflect changes made to COBDEF (the reference had been
1 !          [COB$A_CHK_PROC] which has been changed and extended to the fields
1 !          [COB$A_OPN_PROC] and [COB$A_FIL_PROC]).  LB  21-APR-81
1 ! 1-019 - Entry point changed to COB$$HANDLER.  For some reason, it had
1 !          remained a single $ entry point.  Resolves duplicate symbol
1 !          problem with COBDHANDL.  LB 3-AUG-81
1 ! 1-020 - Added external routine declaration for COB$HANDLER.  LB 4-AUG-81
1 !
1 ! 1-021 - Added handling of SORT/MERGE signalled errors.  Currently
1 !          using literal SORT_FAC_CODE until the literal SORT$_FACILITY
1 !          is put into STARLET.  ER 16-MAR-84
1 ! 1-022 - Move handling of SORT/MERGE errors to end of SELECTONE, and
1 !          resignal the errors prefixed with the COB$_ERRDURSOR message.
1 !          Remove unreferenced variables.  Change indentation, and reword the
1 !          checks that validate the addresses of the USE lists.  Add comments.
1 !          PDG 9-Apr-84
1 !--
1
1 !<BLF/PAGE>
```

```
1 !+
1 ! SWITCHES
1 !-
1
1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
1
1 !+
1 ! LINKAGES
1 !       NONE
1 !-
1
1 !+
1 ! TABLE OF CONTENTS:
1 !-
1
1 FORWARD ROUTINE
1
1 ! changed name to cob$$handler
1         COB$$HANDLER;
1
1 !+
1 ! INCLUDE FILES
1 !-
1
1 REQUIRE 'RTLIN:RTLPSECT';                  ! Macros for declaring psects
1 LIBRARY 'RTLSTARLE';                       ! RTL routines
1 REQUIRE 'RTLIN:COBDEF';                    ! COBOL specific RTL macros and literals
1
1 !+
1 ! MACROS
1 !       NONE
1 !-
1
1 !+
1 ! EQUATED SYMBOLS
1 !-
1
1 LITERAL
1         CVTTP_OPCODE = %X'26',             ! Opcode value for CVTTP instruction
1         CVTSP_OPCODE = %X'09';             ! Opcode value for CVTSP instruction
1
1 !+
1 ! PSECT DECLARATIONS:
1 !-
1
1 DECLARE_PSECTS (COB);                      ! Psects for COB$ facility
1
1 !+
1 ! EXTERNAL REFERENCES
1 !-
1
1 EXTERNAL ROUTINE
1         LIB$STOP,
1         LIB$SIGNAL,
1         COB$$INVOKE_USE: NOVALUE,          ! Invoke the USE procedure
1         COB$HANDLER;
1
```

```
; 165          0699  1 EXTERNAL LITERAL
; 166          0700  1         COB$_ERRDURSOR,
; 167          0701  1         COB$_NO_USEPRO,            ! No USE procedure available - error on file !AS
; 168          0702  1         COB$_LSTHNDUSE,            ! Lost handler for a USE procedure - environment corrupted !2(+)
; 169          0703  1         COB$_LSTHNDLDB,            ! Lost handler for data base exception - environment corrupted !+
; 170          0704  1         COB$_USE_EXIT,             ! Special signal from COB$$INVOKE_USE
; 171          0705  1         COB$_INVDECDAT;            ! Invalid decimal data signal
; 172          0706  1 LITERAL
. 173          0707  1         SORT$_FACILITY = 28;       ! Delete when SORT$_FACILITY is in STARLET 1-021 ER
```

```
1 ! changed name to cob$$handler
1 GLOBAL ROUTINE COB$$HANDLER(SIGNAL,MECHANISM)=
1
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       This routine is the error handler for COBOL error conditions.
1 !       It gets invoked as a result of a call to LIB$SIGNAL.
1 !
1 ! CALLING SEQUENCE:
1 !
1 !       COB$$HANDLER (signal.rr.r, mechanism.rr.r)
1 !
1 ! FORMAL PARAMETERS:
1 !
1 !       SIGNAL.rr.r     Address of vector of longwords indicating
1 !                       nature of condition.
1 !
1 !       MECHANISM.rr.r  Address of vector of longwords indicating
1 !                       the state of the process.
1 !
1 !
1 ! IMPLICIT INPUTS:
1 !
1 !       NONE
1 !
1 ! IMPLICIT OUTPUTS:
1 !
1 !       NONE
1 !
1 ! ROUTINE VALUE:
1 !
1 !       NONE
1 !
1 ! COMPLETION CODES:
1 !
1 !       NONE
1 !
1 ! SIDE EFFECTS:
1 !
1 !       NONE
1 !
1 ! NOTES:
1 !
1 !       The macro field references beginning with 'CHF' refer to
1 !       condition handling argument list offsets.
1 !
1 !--
```

```
2       BEGIN
2
2       MAP
2           MECHANISM:      REF BLOCK[,BYTE],
2           SIGNAL:         REF BLOCK[,BYTE];
2       LOCAL
2           CONDITION;      ! Condition that was signalled
2       LITERAL
2           FALSE = 0,
2           TRUE = 1;
2   !+
2   ! Find out if it is a signal of interest.
2   !-
2
2
2       CONDITION = .SIGNAL[CHF$L_SIG_NAME];        ! Fetch condition value from signal array
2
2
2   !+
2   ! Select appropriate action based on which one we have.
2   !-
2
2       SELECTONE .CONDITION OF
2           SET
2
2           [COB$_USE_EXIT]:        ! Special COBOL unwind signal
2
2               $UNWIND();          ! Just unwind
2
2           [SS$_ROPRAND]:          ! Was a SS$_ROPRAND
3               BEGIN
3
3               LOCAL
3                   USER_PC;        ! Program counter where exception took place
3
3               !+
3               ! Using the signal argument vector, extract the
3               ! program counter at the time the SS$_ROPRAND occurred.
3               ! The PC is the second-to-last argument in the signal vector.
3               ! Note that %BPVAL and %UPVAL are pre-declared BLISS literals
3               ! defining bits per BLISS value and units per BLISS value.
3               !-
3
3               USER_PC = .SIGNAL[ (.SIGNAL[CHF$L_SIG_ARGS]-1)*%UPVAL,0,%BPVAL,0 ];
3
3               !+
3               ! Check to see if a CVTTP or a CVTSP instruction
3               ! was the generator of the signal.  Note that the
3               ! PC is pointing to the instruction that caused the fault.
3               ! If the debugger had a breakpoint set on this instruction,
3               ! this check will fail, but that's okay.
3               !-
3
4               IF (  .(.USER_PC)<0,8> EQL CVTTP_OPCODE  OR
4                     .(.USER_PC)<0,8> EQL CVTSP_OPCODE     )
3               THEN
3
```

```
3                       !+
3                       ! Set the first longword of the signal argument
3                       ! vector (the condition value field) to the condition
3                       ! name we want the user to see, invalid decimal data.
3                       !-
3
3                       SIGNAL[CHF$L_SIG_NAME] = COB$_INVDECDAT;
2                   END;
2
2           !+
2           ! The following code handles the case of file specific
2           ! and open-mode specific GLOBAL USE procedure conditions.
2           ! Search through the entries for a match.  If there is a match,
2           ! then invoke the USE procedure and return SS$_CONTINUE;
2           ! otherwise, re-signal the error (return SS$_RESIGNAL).
2           !-
2
2           [COB$_LSTHNDUSE]:
3               BEGIN
3
3               LOCAL
3                   FP:             REF BLOCK[,BYTE],
3                   SFP:            REF BLOCK[,BYTE];       ! Saved FP
3               REGISTER
3                   USE = 2:        REF BLOCK[,BYTE],       ! Pointer to USE list
3                   USEENT = 3:     REF BLOCK[,BYTE];       ! Pointer to USE list entry
3
3               FP = .MECHANISM[CHF$L_MCH_FRAME];           ! Get FP of this program
3               SFP = .FP[SF$L_SAVE_FP];                    ! Get FP of program we want to look at
4               IF  BEGIN
4                   !+
4                   ! This check is to ensure that the only way
4                   ! you could get here is from a COBOL program.
4                   ! Note that we check for COB$HANDLER, rather than COB$$HANDLER;
4                   ! COB$HANDLER is the symbol that COBOL programs reference - it
4                   ! may be in a transfer vector or a fixup section; ie, the frame
4                   ! may not hold a direct reference to COB$$HANDLER.
4                   ! Also, get the USE list.
4                   ! Note that, if we get here, the USE list won't be zero.
4                   !-
4                   IF .SFP EQL 0 THEN FALSE
4                   ELSE IF .SFP[SF$A_HANDLER] NEQA COB$HANDLER THEN FALSE
4                   ELSE IF (USE = .SFP[COB$A_SF_USE]) EQL 0 THEN FALSE
4                   ELSE TRUE
4                   END
3               THEN
4                   BEGIN
4
4                   !+
4                   ! Search for a USE procedure declared for the specific file
4                   ! on which the exception occurred.  Note that the
4                   ! COB$A_USE_FILES reference is the base of the 1st file
4                   ! entry and COB$B_GUSE_COUNT is the count of global
4                   ! file entries.
4                   !-
4
4                   USEENT = USE[COB$A_USE_FILES];  ! Point to first file entry
```

```
4                  DECR I FROM .USE[COB$B_GUSE_COUNT]-1 TO 0 DO
5                      BEGIN                            ! Loop over files
5                      IF .USEENT[COB$A_USE_PROC] EQLA .SIGNAL[COB$A_FIL_PROC]
5                      THEN
6                          BEGIN
6                          COB$$INVOKE_USE(                 ! Invoke USE
6                              .USEENT[COB$A_USE_PROC],     ! Addr of USE procedure
6                              .USE,                        ! Ptr to USE list
6                              .FP[SF$L_SAVE_AP],           ! Argument pointer
6                              .USEENT[COB$A_USE_EOPR],     ! Addr of EOPR block
6                              .USE[COB$A_USE_PNC]);        ! Addr of Perform Nest Ctr
6                          RETURN SS$_CONTINUE;
5                          END;
5                      USEENT = .USEENT + COB$S_USE_FILES; ! Step to next
4                      END;
4
4
4                  !+
4                  ! Open Mode Only.
4                  !
4                  ! See if a procedure has been declared for the
4                  ! open mode.  Note that COB$A_USE_MODES refers to
4                  ! the base of the open mode entries.  There are four
4                  ! open modes, i.e. INPUT, OUTPUT, I-O, and EXTEND.
4                  !-
4
4                  USEENT = USE[COB$A_USE_MODES];  ! Point to first mode entry
4                  DECR I FROM 3 TO 0 DO
5                      BEGIN                            ! Loop over modes
5
5                      !+
5                      ! The check here for EOPR not equal to zero is
5                      ! to ensure that the program is a local one.  If
5                      ! EOPR equals zero, then the USE procedure is an
5                      ! up-level reference; then the original condition
5                      ! that was signalled, should be re-signalled.
5                      ! Else, if EOPR is not equal to zero and the USE
5                      ! procedure has been found, then call COB$INV_USE.
5                      !-
5
5                      IF .USEENT[COB$A_USE_PROC] EQLA .SIGNAL[COB$A_OPN_PROC]
5                          AND .USEENT[COB$A_USE_EOPR] NEQ 0
5                      THEN
6                          BEGIN
6                          COB$$INVOKE_USE(                 ! Invoke USE
6                              .USEENT[COB$A_USE_PROC],     ! Addr of USE procedure
6                              .USE,                        ! Ptr to USE list
6                              .FP[SF$L_SAVE_AP],           ! Argument ptr
6                              .USEENT[COB$A_USE_EOPR],     ! Addr of EOPR block
6                              .USE[COB$A_USE_PNC]);        ! Addr of Perform Nest Ctr
6                          RETURN SS$_CONTINUE;
5                          END;
5                      USEENT = .USEENT + COB$S_USE_MODES; ! Step to next
4                      END;
3                  END;
2              END;
2
```

```
!+
! The following code handles the case of a Data Base
! GLOBAL USE procedure condition.  Search through the COB$GDBUSE_CNT
! entries and check for a match for the entry address with the
! address of the USE procedure passed to this handler in the
! signal argument vector.  If there is a match, then invoke the
! USE procedure and return SS$_CONTINUE; otherwise, re-signal the
! error (return SS$_RESIGNAL).
!-

[COB$_LSTHNDLDB]:
    BEGIN

    LOCAL
        FP:             REF BLOCK[,BYTE],
        SFP:            REF BLOCK[,BYTE];       ! Saved FP
    REGISTER
        USE = 2:        REF BLOCK[,BYTE],       ! Ptr to Data Base USE list
        USEENT = 3:     REF BLOCK[,BYTE];       ! Ptr to Data Base USE list entry

    FP = .MECHANISM[CHF$L_MCH_FRAME];           ! Get FP of this program
    SFP = .FP[SF$L_SAVE_FP];                    ! Get FP of program we want to look at
    IF  BEGIN
        !+
        ! This check is to ensure that the only way
        ! you could get here is from a COBOL program.
        ! Also, get the DB USE list.
        !
        ! Check if this is a DB USE list.
        ! The COB$B_USE_CODE field should contain
        ! the generic code for the class of data base
        ! exceptions (equal to COB$K_DBUSE_CODE).
        ! This allows new kinds of USE procedures to be added,
        ! without requiring more longwords on the COBOL stack frame.
        !-
        IF .SFP EQL 0 THEN FALSE
        ELSE IF .SFP[SF$A_HANDLER] NEQA COB$HANDLER THEN FALSE
        ELSE IF (USE = .SFP[COB$A_DB_USE]) EQL 0 THEN FALSE
        ELSE IF .USE[COB$B_USE_CODE] NEQ COB$K_DBUSE_CODE THEN FALSE
        ELSE TRUE
        END
    THEN
        BEGIN

        !+
        ! Search for a USE procedure for the corresponding
        ! Data Base exception.  Note that the COB$A_DB_USE
        ! reference is the address of the data base entry while
        ! COB$B_DBUSE_CNT is the count of globa  Data Base
        ! USE procedures defined in the local [illegible]gram.
        !-

        USEENT = USE[COB$A_DBUSE_ENT];  ! Point to 1st data base entry
        DECR I FROM .USE[COB$B_GDBUSE_CNT] - 1 TO 0 DO
            BEGIN
            IF .USEENT[COB$A_USE_PROC] EQLA .SIGNAL[COB$A_DBCHK_PROC]
            THEN
```

```
6                   BEGIN
6                   COB$$INVOKE_USE (                   ! Invoke the USE procedure
6                       .USEENT[COB$A_USE_PROC],        ! Addr of DB USE procedure
6                       .USE,                           ! Ptr to DB USE list
6                       .FP[SF$L_SAVE_AP],              ! Argument pointer
6                       .USEENT[COB$A_USE_EOPR],        ! Addr of EOPR block
6                       .USE[COB$A_DBUSE_PNC]);         ! Addr of Perform Nest Ctr
6                   RETURN SS$_CONTINUE;
5                   END;
5               USEENT = .USEENT + COB$S_DBUSE;         ! Step to next entry
4               END;
3           END;
2       END;
2
2   !+
2   ! Check for other errors that are handled special'y.
2   ! Currently, these only include errors from Sort/Merge.
2   !-
2
2   [OTHERWISE]:                                ! No match occurred
3       BEGIN
3       MAP
3           CONDITION:      BLOCK[,BYTE];       ! Condition that was signalled
3
3       !+
3       ! Is it a SORT/MERGE error signal?
3       !-
3       IF  .CONDITION[STS$V_FAC_NO] EQL SORT$_FACILITY
3       THEN
4           BEGIN
4           IF .CONDITION[STS$V_SEVERITY] LSS STS$K_SEVERE
4           THEN
5               BEGIN
5               !
5               ! These errors are continuable.
5               !
5               RETURN SS$_CONTINUE             ! Ignore the error
5               END
4           ELSE
5               BEGIN
5               !
5               ! Resignal the error, prefixing the Cobol-specific
5               ! error message, and removing the PC and PSL.
5               !
5               ! Note that, although we don't need to increase the size
5               ! of the SIGNAL vector, we can't use it for the new signal,
5               ! since we musn't just mung the PC and PSL in this vector.
5               !
5               ! We assume that ARG_K_SIZE longwords suffice.  If not,
5               ! the displayed message will look tacky, that's all.
5               !
5               LITERAL ARG_K_SIZE = 12;                ! Should be large enough
5               LOCAL ARGS: VECTOR[ARG_K_SIZE];
5               BUILTIN CALLG;
5
5               ARGS[0] = MINU(.SIGNAL[CHF$L_SIG_ARGS], ARG_K_SIZE-1);
5               ARGS[1] = COB$_ERRDURSOR;
```

```
5                       ARGS[2] = 0;
5
5                       CH$MOVE(.ARGS[0] * %UPVAL    ! Everything ...
5                            - 2*%UPVAL,             ! Less bytes for PC and PSL
5                           SIGNAL[CHF$L_SIG_NAME],
5                           ARGS[3]);
5                       CALLG( ARGS[0], LIB$STOP );
5
5                       RETURN SS$_CONTINUE          ! Ignore the original error
5
4                       END;
3                   END;
2               END;
2
2           TES;
2
2       !+
2       ! Resignal the error if the signalled condition was not one
2       ! of the expected conditions to be handled.  Also resignal the
2       ! error if a USE procedure wasn't found or if the error had been
2       ! a SS$_ROPRAND since the signal name has been changed.
2       !-
2
2       RETURN SS$_RESIGNAL
1       END;


                                                        .TITLE  COB$$HANDLER
                                                        .IDENT  \1-022\

                                                        .EXTRN  LIB$STOP, LIB$SIGNAL
                                                        .EXTRN  COB$$INVOKE_USE
                                                        .EXTRN  COB$HANDLER, COB$_ERRDURSOR
                                                        .EXTRN  COB$_NO_USEPRO, COB$_LSTHNDUSE
                                                        .EXTRN  COB$_LSTHNDLDB, COB$_USE_EXIT
                                                        .EXTRN  COB$_INVDECDAT, SYS$UNWIND

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

                            00FC 00000                  .ENTRY  COB$$HANDLER, Save R2,R3,R4,R5,R6,R7          ; 0709
             57 00000000G  00  9E 00002                 MOVAB   COB$HANDLER, R7                               ;
             5E            30  C2 00009                 SUBL2   #48, SP                                       ;
             54      04    AC  D0 0000C                 MOVL    SIGNAL, R4                                    ; 0773
             52      04    A4  D0 00010                 MOVL    4(R4), CONDITION                              ;
00000000G    8F            52  D1 00014                 CMPL    CONDITION, #COB$_USE_EXIT                     ; 0783
                           0B  12 0001B                 BNEQ    1$                                            ;
                           7E  7C 0001D                 CLRQ    -(SP)                                         ; 0785
00000000G    00            02  FB 0001F                 CALLS   #2, SYS$UNWIND                                ;
                           7C  11 00026                 BRB     9$                                            ;
00000454     8F            52  D1 00028  1$:            CMPL    CONDITION, #1108                              ; 0787
                           1C  12 0002F                 BNEQ    3$                                            ;
             50            64  D0 00031                 MOVL    (R4), R0                                      ; 0801
             50      FC  A440  D0 00034                 MOVL    -4(R4)[R0], USER_PC                           ;
             26            60  91 00039                 CMPB    (USER_PC), #38                                ; 0811
                           05  13 0003C                 BEQL    2$                                            ;
             09            60  91 0003E                 CMPB    (USER_PC), #9                                 ; 0812
                           61  12 00041                 BNEQ    9$                                            ;
```

```
            04   A4 00000000G   8F   D0 00043 2$:     MOVL    #COB$_INVDECDAT, 4(R4)                       ; 0821
                                57   11 0004B         BRB     9$                                            ; 0780
     00000000G   8F             52   D1 0004D 3$:     CMPL    CONDITION, #COB$_LSTHNDUSE                   ; 0832
                                50   12 00054         BNEQ    10$                                           ;
                 50       08    AC   D0 00056         MOVL    MECHANISM, R0                                 ; 0842
                 55       04    A0   D0 0005A         MOVL    4(R0), FP                                     ;
                 50       0C    A5   D0 0005E         MOVL    12(FP), SFP                                   ; 0843
                                65   13 00062         BEQL    11$                                           ; 0855
                 51             67   9E 00064         MOVAB   COB$HANDLER, R1                               ; 0856
                 51             60   D1 00067         CMPL    (SFP), R1                                     ;
                                62   12 0006A         BNEQ    12$                                           ;
                 52       FC    A0   D0 0006C         MOVL    -4(SFP), USE                                  ; 0857
                                57   13 00070         BEQL    11$                                           ;
                 53       28    A2   9E 00072         MOVAB   40(R2), USEENT                                ; 0871
                 56       25    A2   9A 00076         MOVZBL  37(USE), I                                    ; 0874
                                09   11 0007A         BRB     5$                                            ;
            0C   A4             63   D1 0007C 4$:     CMPL    (USEENT), 12(R4)                              ;
                                18   13 00080         BEQL    7$                                            ;
                 53             0C   C0 00082         ADDL2   #12, USEENT                                   ; 0885
                 F4             56   F4 00085 5$:     SOBGEQ  I, 4$                                         ; 0872
                 53       04    A2   9E 00088         MOVAB   4(R2), USEENT                                 ; 0898
                 56             03   D0 0008C         MOVL    #3, I                                         ; 0912
            10   A4             63   D1 0008F 6$:     CMPL    (USEENT), 16(R4)                              ;
                                09   12 00093         BNEQ    8$                                            ;
                          04    A3   D5 00095         TSTL    4(USEENT)                                     ; 0913
                                04   13 00098         BEQL    8$                                            ;
                                62   DD 0009A 7$:     PUSHL   (USE)                                         ; 0921
                                45   11 0009C         BRB     14$                                           ; 0920
                 53             08   C0 0009E 8$:     ADDL2   #8, USEENT                                    ; 0924
                 EB             56   F4 000A1         SOBGEQ  I, 6$                                         ; 0899
                                56   11 000A4 9$:     BRB     17$                                           ; 0780
     00000000G   8F             52   D1 000A6 10$:    CMPL    CONDITION, #COB$_LSTHNDLDB                   ; 0939
                                4F   12 000AD         BNEQ    18$                                           ;
                 50       08    AC   D0 000AF         MOVL    MECHANISM, R0                                 ; 0949
                 55       04    A0   D0 000B3         MOVL    4(R0), FP                                     ;
                 50       0C    A5   D0 000B7         MOVL    12(FP), SFP                                   ; 0950
                                3F   13 000BB         BEQL    17$                                           ; 0964
                 51             67   9E 000BD         MOVAB   COB$HANDLER, R1                               ; 0965
                 51             60   D1 000C0         CMPL    (SFP), R1                                     ;
                                7A   12 000C3         BNEQ    21$                                           ;
                 52       F8    A0   D0 000C5         MOVL    -8(SFP), USE                                  ; 0966
                                74   13 000C9 11$:    BEQL    21$                                           ;
                 01             62   91 000CB         CMPB    (USE), #1                                     ; 0967
                                6F   12 000CE 12$:    BNEQ    21$                                           ;
                 53       0C    A2   9E 000D0         MOVAB   12(R2), USEENT                                ; 0981
                 56       09    A2   9A 000D4         MOVZBL  9(USE), I                                     ; 0984
                                1F   11 000D8         BRB     16$                                           ;
            0C   A4             63   D1 000DA 13$:    CMPL    (USEENT), 12(R4)                              ;
                                16   12 000DE         BNEQ    15$                                           ;
                          04    A2   DD 000E0         PUSHL   4(USE)                                        ; 0992
                          04    A3   DD 000E3 14$:    PUSHL   4(USEENT)                                     ; 0991
                          08    A5   DD 000E6         PUSHL   8(FP)                                         ; 0990
                                52   DD 000E9         PUSHL   USE                                           ; 0989
                                63   DD 000EB         PUSHL   (USEENT)                                      ; 0988
     00000000G   00             05   FB 000ED         CALLS   #5, COB$$INVOKE_USE                           ;
                                45   11 000F4         BRB     20$                                           ; 0993
                 53             0C   C0 000F6 15$:    ADDL2   #12, USEENT                                   ; 0995
```

```
                                 DE         56  F4 000F9 16$:      SOBGEQ  I, 13$                                  ; 0982
                                            41  11 000FC 17$:      BRB     21$                                     ; 0780
      1C          52             0C         10  ED 000FE 18$:      CMPZV   #16, #12, CONDITION, #28                ; 1013
                                            3A  12 00103           BNEQ    21$                                     ;
      04          52             03         00  ED 00105           CMPZV   #0, #3, CONDITION, #4                   ; 1016
                                            2F  19 0010A           BLSS    20$                                     ;
                                 50         64  D0 0010C           MOVL    (R4), R0                                ; 1041
                                 0B         50  D1 0010F           CMPL    R0, #11                                 ;
                                            03  1B 00112           BLEQU   19$                                     ;
                                 50         0B  D0 00114           MOVL    #11, R0                                 ;
                                 6E         50  D0 00117 19$:      MOVL    R0, ARGS                                ;
                          04     AE 00000000G 8F D0 0011A          MOVL    #COB$_ERRDURSCR, ARGS+4                 ; 1042
                                        08  AE  D4 00122           CLRL    ARGS+8                                  ; 1043
                                 50         6E  D0 00125           MOVL    ARGS, R0                                ; 1045
                                 50         04  C4 00128           MULL2   #4, R0                                  ; 1046
                                 50         08  C2 0012B           SUBL2   #8, R0                                  ;
                OC     AE     04 A4         50  28 0012E           MOVC3   R0, 4(R4), ARGS+12                      ; 1048
                          00000000G 00      6E  FA 00134           CALLG   ARGS, LIB$STOP                          ; 1049
                                 50         01  D0 0013B 20$:      MOVL    #1, R0                                  ; 1051
                                            04  00 0013E           RET                                             ; 1025
                                 50    0918 8F  3C 0013F 21$:      MOVZWL  #2328, R0                               ; 1066
                                            04  00144              RET                                             ; 1067

; Routine Size:  325 bytes,    Routine Base:  _COB$CODE + 0000


;  536          1068  1
;  537          1069  1 END
;  538          1070  0 ELUDOM




;                                PSECT SUMMARY
;
;       Name                  Bytes                         Attributes
;
;  _COB$CODE                         325  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       14         0         581        00:00.7
;                                        COMMAND QUALIFIERS

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

; Size:          325 code + 0 data bytes
; Run Time:         00:08.3
; Elapsed Time:     00:36.4
; Lines/CPU Min:     7772
; Lexemes/CPU-Min: 28895
; Memory Used:  155 pages
; Compilation Complete
```

0063 AH-BT13A-SE
VAX/VMS V4.0

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