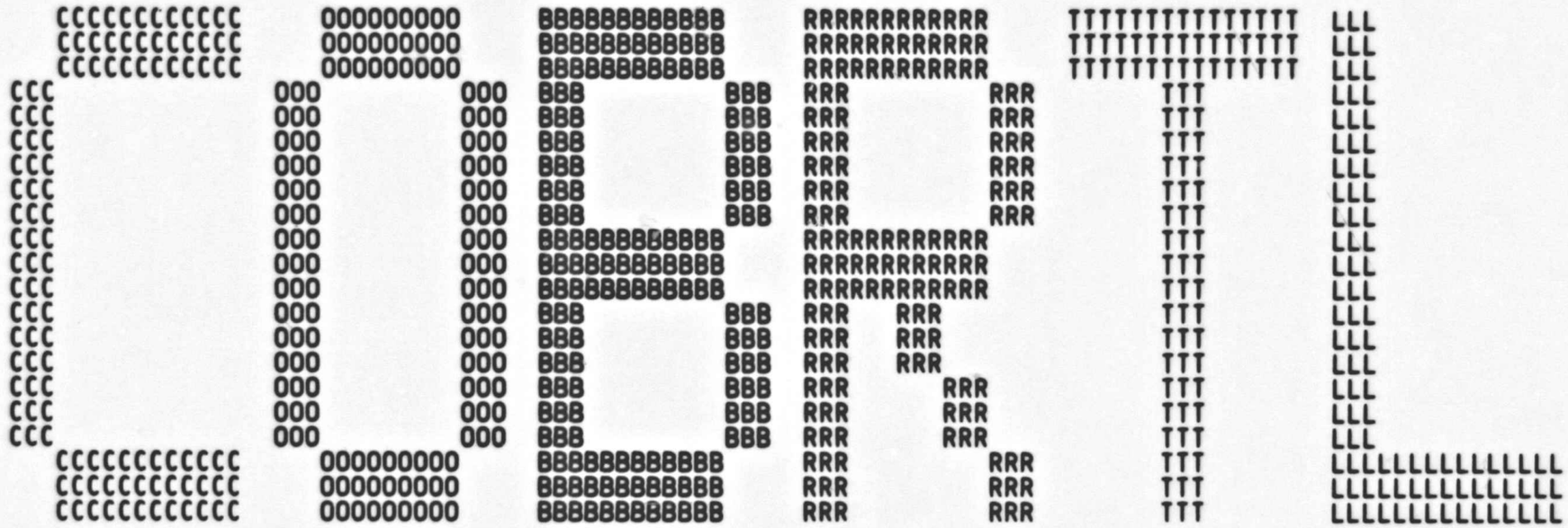
COBRA

FILEID**COBDEF

```
  CCCCCCCC    OOOOOO    BBBBBBBB    DDDDDDDD    EEEEEEEEEE  FFFFFFFFFF
  CCCCCCCC    OOOOOO    BBBBBBBB    DDDDDDDD    EEEEEEEEEE  FFFFFFFFFF
CC          OO      OO  BB      BB  DD      DD  EE          FF
CC          OO      OO  BB      BB  DD      DD  EE          FF
CC          OO      OO  BB      BB  DD      DD  EE          FF
CC          OO      OO  BB      BB  DD      DD  EE          FF
CC          OO      OO  BBBBBBBB    DD      DD  EEEEEEEE    FFFFFFFF
CC          OO      OO  BBBBBBBB    DD      DD  EEEEEEEE    FFFFFFFF
CC          OO      OO  BB      BB  DD      DD  EE          FF
CC          OO      OO  BB      BB  DD      DD  EE          FF
CC          OO      OO  BB      BB  DD      DD  EE          FF              ....
  CCCCCCCC    OOOOOO    BBBBBBBB    DDDDDDDD    EEEEEEEEEE  FF              ....
  CCCCCCCC    OOOOOO    BBBBBBBB    DDDDDDDD    EEEEEEEEEE  FF              ....
```

```
RRRRRRRR    EEEEEEEEEE    QQQQQQ
RRRRRRRR    EEEEEEEEEE    QQQQQQ
RR      RR  EE          QQ      QQ
RR      RR  EE          QQ      QQ
RR      RR  EE          QQ      QQ
RR      RR  EE          QQ      QQ
RRRRRRRR    EEEEEEEE    QQ      QQ
RRRRRRRR    EEEEEEEE    QQ      QQ
RR   RR     EE          QQ  QQ  QQ
RR   RR     EE          QQ  QQ  QQ
RR    RR    EE          QQ    QQ
RR    RR    EE          QQ    QQ
RR      RR  EEEEEEEEEE    QQQQ  QQ
RR      RR  EEEEEEEEEE    QQQQ  QQ
```

```
! REQUIRE FILE: LIB$:COBDEF.REQ          Version 1-017   BH1017  12-AUG-81
!
!
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!
!
! MODIFICATION HISTORY:
!
! 1-001 - Start of revison history.   RKR  13-SEPT-79
! 1-002 - Add COB$K_EXC_ORG.    MWS 4-OCT-79
! 1-003 - Add Minimums and Maximums to series of COB$K symbols.
!         Redefine module name data structure by making first
!         word a length of entry.
!         Add COB$K_EXC_CLRSS  (Close Reel)
!         Add COB$K_ACC_SIZE (Buffer size in COB$ACCEPT)
!         Add COB$_USE_EXIT  (Special signal between handler and
!                             COB$$INVOKE_USE)
!         RKR 18-OCT-79
! 1-004 - Add COB$A_NAM_FILES to module name data structure.
!         RKR 18-OCT-79
! 1-005 - Remove COB$_USE_EXIT.  (It needs to be in COBMSG.MDL
!         so that S.MLB knows about it, so that the .MAR world can
!         get at it.   RKR 20-OCT-79
! 1-006 - Add COB$K_DIS_SIZE.  RKR 21-OCT-79
! 1-007 - Change comment on COB$K_ERR_BADCL.  RKR 29-OCT-79
! 1-008 - Changed macro COB$L_USE_COUNT into COB$B_USE_COUNT
!         and added COB$B_GUSE_COUNT which is a count of the global
!         file entries.  Also added COB$A_CHK_PROC which is the
!         definition of the offset of USE procedure address in the
!         signal arguments.  Note that these changes were made by the
!         COBOL group during the time when there was only part-time
!         RTL support provided.  Also added comments to the definition
```

```
!          list for COB$IOEXCEPTION.  LB  04-MAR-81
! 1-009 - Added macro definitions for the Data Base USE procedure entries.
!          Also added associated literals for data base USE entries.  LB 11-MAR-81
! 1-010 - Added more field references for data base USE entries.  LB 12-MAR-81
! 1-011 - Changed macro for COB$A_CHK_PROC to be an offset of 12 in the signal
!          array to account for the addition of an FAO count parameter which
!          will reside at offset 8 in the signal array.  Same change occurred
!          for the corresponding data base macro (COB$A_DBCHK_PROC).  LB 16-APR-81
! 1-012 - Added a macro COB$A_OPN_PROC to be an offset of 16 in the signal
!          array due to the addition of another parameter being signalled
!          in module COB$IOEXCEPTION.  Changed the name of macro COB$A_CHK_PROC
!          to COB$A_FIL_PROC to more accurately reflect the information we
!          are referencing.  LB  21-APR-81
! 1-013 - Added a literal entry to the COB$ERROR set of entries
!          (COB$K_ERR_DBARG).  Also incremented the maximum value for the
!          case stmt by one to account for the added entry.  LB  1-MAY-81
!
! 1-014 - Added COB$K_EXC_KEY. Also incremented the maximum value for the
!          case stmt by one to account for the added entry. PDG 24-JUL-81
! 1-015 - Added COB$K_EXC_UNLCK as new OPEN error for explicit record
!          locking.  Also incremented the maximum value for the case
!          stmt by one to account for the added entry.  LB 8-AUG-81
! 1-016 - Fixed spelling error on OPEN error.  LB 12-AUG-81
! 1-017 - Added COB$K_EXC_PIO.  Previous IO NOT sucessful READ for
!          DELETE and START statements.  Updated COB$K_EXC_MAXM to 7.
!                                                 BH 1-SEP-83
```

```
!+
! Definitions for the module name data structure.  This structure is used by
! routine COB$FIND_NAME, which is called by COB$CALL and COB$CANCEL.  It is
! built in PSECT COB$NAMES_____2 by a contribution from each COBOL module.
! The bracketing PSECTs COB$NAMES_____1 and COB$NAMES_____3 are used to find
! the beginning and end of the structure.
!
!-
MACRO
        COB$L_NAM_LENT= 0,0,32,0 %,     ! Length in bytes of name entry
        COB$A_NAM_NAME= 4,0,32,0 %,     ! Pointer to ASCIC module name
        COB$A_NAM_ENTRY=8,0,32,0 %,     ! Address of module entry point
        COB$L_NAM_LLEN= 12,0,32,0 %,    ! Length of local storage for module
        COB$A_NAM_LOCAL=16,0,32,0 %,    ! Address of local storage for module
        COB$A_NAM_FILES=20,0,32,0 %;    ! Address of counted list of RAB addresses

LITERAL
        COB$S_NAM=      24;             ! Length of block
                                        ! *** Should never be used to
                                        !     search this table ****
```

```
!+
! Definitions for the first parameter of COB$ERROR, the routine called by
! compiled code to report an error.  If the error is COB$K_ERR_SORT, a second
! parameter is also present, which is the status returned by SORT.
!
!-
LITERAL
        COB$K_ERR_MIN=0,                ! Minimum for CASEing
        COB$K_ERR_ALTER=0,              ! GO TO with no preceding ALTER
        COB$K_ERR_PERFR=1,              ! Recursive activation of PERFORM
        COB$K_ERR_PERFN=2,              ! Nesting error for PERFORM
        COB$K_ERR_PERFT=3,              ! TIMES value overflows longword
        COB$K_ERR_SUBSD=4,              ! OCCURS DEPENDING value overflows longword
        COB$K_ERR_SUBSC=5,              ! Subscript overflows longword
        COB$K_ERR_SORT=6,               ! Error during SORT
        COB$K_ERR_INSPE=7,              ! INSPECT CONVERTING lengths unequal
        COB$K_ERR_BADCL=8,              ! CALL failed on routine (!AS)
        COB$K_ERR_DBARG=9,              ! Expression value in DB arg list overflows longword
        COB$K_ERR_MAX=9;                ! Maximum for CASEing
```

```
!+
! Definitions for the COBOL file context area.
! The fields COB$A_CTX_LINAG and following are present only if it is
! a linage file.  This area is allocated in PSECT $LOCAL by the
! compiler for each file immediately preceeding the RAB.
!
!-
MACRO
        COB$B_CTX_FLAGS= -4,0,8,0 %,    ! Flag bits
        COB$V_CTX_OPENL= -4,0,1,0 %,    ! TRUE only if a LINAGE file has been
                                        !   opened but not yet written to.
        COB$V_CTX_OPT=   -4,1,1,0 %,    ! TRUE only if it is an OPTIONAL file.
        COB$V_CTX_FLK=   -4,2,1,0 %,    ! TRUE only if File closed WITH LOCK.
!a9a9
        COB$V_CTX_PIO=   -4,3,1,0 %,    ! TRUE only if previous IO was successful READ
!a9a9
        COB$B_CTX_FLAG2= -3,0,8,0 %,    ! More flag bits
        COB$V_CTX_OFNF=  -3,0,1,0 %,    ! TRUE only if Optional file not found.
        COB$V_CTX_NNVR=  -3,1,1,0 %,    ! TRUE only if No next valid record.
        COB$B_CTX_MODE=  -2,0,8,0 %,    ! OPEN mode
        COB$B_CTX_ID=    -1,0,8,0 %,    ! Version number
        COB$L_CTX_LINAG= -8,0,32,0 %,   ! LINAGE storage
        COB$L_CTX_FOOTI=-12,0,32,0 %,   ! FOOTING storage
        COB$L_CTX_TOP=  -16,0,32,0 %,   ! TOP storage
        COB$L_CTX_BOTTO=-20,0,32,0 %,   ! BOTTOM storage
        COB$L_CTX_COUNT=-24,0,32,0 %;   ! LINAGE-COUNTER itself


!+
! Values of COB$B_CTX_MODE.
!
!-
LITERAL
        COB$K_CTX_INPUT=0,              ! INPUT mode
        COB$K_CTX_OUTPU=1,              ! OUTPUT mode
        COB$K_CTX_I_O=  2,              ! I-O mode
        COB$K_CTX_EXTEN=3,              ! EXTEND mode
        COB$K_CTX_MAX=3;                ! Maximum for upper bound check

LITERAL
        COB$S_CTX_NOLIN=4,              ! Size of CTX area without LINAGE
        COB$S_CTX_LINAG=24;             ! Size of CTX area with LINAGE
```

```
!+
! Definition for the COBOL specific stack location (relative to FP, mapped as
! a REF BLOCK[,BYTE]).  This location is to be presumed initialized if and
! only if SF$A_HANDLER contains COB$HANDLER.
!
!-
MACRO
        COB$A_SF_USE=   -4,0,32,0 %;    ! Address of USE list
```

```
!+
! Definition for the USE description list pointed to by COB$A_SF_USE.  This
! structure is allocated by the compiler in PSECT $PDATA if USE procedures are
! present in the module, and compiled code places its address in COB$A_SF_USE.
! It is used by COB$IOEXCEPTION to search for an applicable USE procedure if
! an I/O exception occurs.
!
!-
MACRO
        COB$A_USE_PNC=  0,0,32,0 %,     ! Address of PERFORM nest counter
        COB$A_USE_MODES=4,0,0,0 %,      ! Base of OPEN mode entries, in order:
                                        !     INPUT
                                        !     OUTPUT
                                        !     I-O
                                        !     EXTEND
                                        ! (Same order as COB$B_CTX_MODE)
        COB$B_USE_COUNT=36,0,8,0 %,     ! Count of file entries
        COB$B_GUSE_COUNT=36,8,8,0%,     ! Count of global file entries
        COB$A_USE_FILES=40,0,0,0 %;     ! Base of first file entry

!+
! Definition for one USE description entry within the structure above.
! Mode entries begin at offset COB$A_USE_MODES and are two longwords each.
! File entries begin at offset COB$A_USE_FILES and are three longwords each.
!
!-
MACRO
        COB$A_USE_PROC= 0,0,32,0 %,     ! Address of procedure
        COB$A_USE_EOPR= 4,0,32,0 %,     ! Address of end of PERFORM range block
        COB$A_USE_RAB=  8,0,32,0 %;     ! Address of RAB (only in file entries)

LITERAL
        COB$S_USE_MODES=8,              ! Size of an open mode entry
        COB$S_USE_FILES=12;             ! Size of a file entry

!+
! Definition of offsets of USE procedure addresses in signal arguments.
!-

MACRO
        COB$A_FIL_PROC = 12,0,32,0%,    ! Addr of file specific USE procedure
        COB$A_OPN_PROC = 16,0,32,0%;    ! Addr of open mode specific USE procedure
```

```
!+
! Definition for the COBOL specific stack location (relative to FP, mapped as
! a REF BLOCK[,BYTE]).
!-
MACRO
        COB$A_DB_USE = -8,0,32,0%;              !\Accesses offset 8 from the stack
                                                ! which contains a ptr to the
                                                !/Data Base USE list
```

```
!+
! Definition for the Data Base USE description list pointed to by COB$A_DB_USE.
! This structure is allocated by the compiler in PSECT $PDATA if USE procedures are
! present in the module, and compiled code places its address in COB$A_DB_USE.
! It is used by COB$DBEXCEPTION to search for an applicable USE procedure if
! a Data Base exception occurs.
!-

MACRO
        COB$B_USE_CODE  = 0,0,8,0%,             ! Identifying code for data base exceptions
        COB$A_DBUSE_PNC = 4,0,32,0%,            ! Address of PNC for declaring program
        COB$B_DBUSE_CNT = 8,0,8,0%,             !\# of DB USE procedures defined
                                                ! in this program (includes both local
                                                ! and global procedures defined in both
                                                !/this program and in containing programs
        COB$B_GDBUSE_CNT= 8,8,8,0%,             !\# of global DB USE procedures
                                                !/defined in the local program
        COB$A_DBUSE_ENT =12,0,32,0%;            !Base address of 1st DB USE procedure

!+
! Definition for one Data Base USE description entry within the
! structure above.  Note that COB$A_USE_PROC and COB$A_USE_EOPR
! are already defined in the USE list for routine COB$IOEXCEPTION.
! Also, note that COB$L_USELIT occupies the same field reference as
! COB$A_USE_RAB does for routine COB$IOEXCEPTION.
!-

MACRO
!       COB$A_USE_PROC= 0,0,32,0 %,     ! Address of procedure
!       COB$A_USE_EOPR= 4,0,32,0 %,     ! Address of end of PERFORM range block
        COB$L_USE_LIT = 8,0,32,0 %;     !\A data base exception literal or zero
                                        !/for "ON OTHER" or no "ON"

LITERAL
        COB$K_DBUSE_CODE = 1,           !\Code indicating generic class
                                        !/ = Data Base
        COB$S_DBUSE = 12;               ! Size of a DB entry

!+
! Definition of offset of Data Base USE procedure address in the
! signal argument vector.  (Used in COB$HANDLER when trying to find an
! applicable USE procedure.
!-

MACRO
        COB$A_DBCHK_PROC = 12,0,32,0%;
```

```
!+
! Definitions for the first parameter of COB$IOEXCEPTION, which encodes the
! statement type and the specific error that has been encountered.  Note
! that if the error-type parameter indicates an RMS error, the RMS status is
! obtained from the RMS structures.
!-
MACRO
        COB$W_EXC_STMT= 0,0,16,0 %,             ! I/O statement type
        COB$W_EXC_ERROR=2,0,16,0 %;             ! Error type


!+
! Values for COB$W_EXC_STMT.
!-
LITERAL
        COB$K_EXC_MINS=1,               ! Minimum for CASEing

!+
! Class of open errors, varying in file organization
! and file access.
!-

        COB$K_EXC_OPESS= 1,

        COB$K_EXC_OPERS= 3,
        COB$K_EXC_OPERR= 4,
        COB$K_EXC_OPEIS= 5,
        COB$K_EXC_OPEIR= 6,

!+
! Class of close errors, varying in file organization
! and file access.
!-

        COB$K_EXC_CLOSS= 7,

        COB$K_EXC_CLORS= 9,
        COB$K_EXC_CLORR=10,
        COB$K_EXC_CLOIS=11,
        COB$K_EXC_CLOIR=12,

!+
! Class or read errors, varying in file organization
! and file access.
!-

        COB$K_EXC_REASS=13,

        COB$K_EXC_REARS=15,
        COB$K_EXC_REARR=16,
        COB$K_EXC_REAIS=17,
        COB$K_EXC_REAIR=18,

!+
! Class of write errors, varying in file organization
```

```
! and file access.
!-

        COB$K_EXC_WRISS=19,

        COB$K_EXC_WRIRS=21,
        COB$K_EXC_WRIRR=22,
        COB$K_EXC_WRIIS=23,
        COB$K_EXC_WRIIR=24,

!+
! Class of re-write errors, varying in file organization
! and file access.
!-

        COB$K_EXC_REWSS=25,

        COB$K_EXC_REWRS=27,
        COB$K_EXC_REWRR=28,
        COB$K_EXC_REWIS=29,
        COB$K_EXC_REWIR=30,

!+
! Class of delete errors, varying in file organization
! and file access.
!-

        COB$K_EXC_DELSS=31,

        COB$K_EXC_DELRS=33,
        COB$K_EXC_DELRR=34,
        COB$K_EXC_DELIS=35,
        COB$K_EXC_DELIR=36,

!+
! Class of start errors, varying in file organization
! and file access.
!-

        COB$K_EXC_STARS=39,

        COB$K_EXC_STAIS=41,

!+
! Close re-wind error in sequential organization and
! sequential access.
!-

        COB$K_EXC_CLRSS=43,
        COB$K_EXC_UNLCK=44,
        COB$K_EXC_MAXS=44 ;             ! Maximum for CASEing


!+
! Values for COB$W_EXC_ERROR.
```

```
!-
LITERAL
        COB$K_EXC_MINM= 0,              ! Minimum for CASEing
        COB$K_EXC_RAB=  0,              ! RMS RAB error.
        COB$K_EXC_FAB=  1,              ! RMS FAB error.
        COB$K_EXC_FLK=  2,              ! OPEN of a file closed WITH LOCK.
        COB$K_EXC_OPN=  3,              ! OPEN of a file that is already open.
        COB$K_EXC_MIN=  4,              ! The length of a variable length record
                                        ! is less than the minimum specified.
                                        ! This occurs on READs, WRITEs, and REWRITEs.
        COB$K_EXC_ORG=  5,              ! The organization of the file opened
                                        ! does not match what was expected.
        COB$K_EXC_KEY = 6,              ! An index key of the file opened does
                                        ! not match what was expected
        COB$K_EXC_PIO = 7,              ! Previous IO operation was NOT successful READ
        COB$K_EXC_MAXM= 7;              ! Maximum for CASEing
```

```
!+
! Definitions for the first parameter used by the COB$ACCEPT and COB$DISPLAY
! run-time routines.  These routines are invoked by the in-line code compiled
! for the ACCEPT and DISPLAY statements, respectively.  This parameter is the
! integer unit encodings designating the unit from which input/output is to read/written
! for these statements.
!-
LITERAL
        COB$K_UNIT_MIN= 0,              ! Minimum for CASEing
        COB$K_INPUT=    0,              ! COB$INPUT logical name
        COB$K_OUTPUT=   1,              ! COB$OUTPUT logical name
        COB$K_CONSOLE=  2,              ! COB$CONSOLE logical name
        COB$K_CARDREAD= 3,              ! COB$CARDREADER logical name
        COB$K_PTREADER= 4,              ! COB$PAPERTAPEREADER logical name
        COB$K_LINEPRINT=5,              ! COB$LINEPRINTER logical name
        COB$K_PTPUNCH=  6,              ! COB$PAPERTAPEPUNCH logical name
        COB$K_UNIT_MAX= 6;              ! Maximum for CASEing


!+
! Buffer size allocated in COB$ACCEPT. Represents largest record that
! can be ACCEPTted.
!-

LITERAL
        COB$K_ACC_SIZE = 1024 ;


!+
! Buffer size of temp buffer in COB$DISPLAY with which it will concatenate
! callers strings.  Beyond this size, it resorts to heap storage.
!-

LITERAL
        COB$K_DIS_SIZE = 132 ;
```

TYPEMAIN
LIS

COBPROLOG
REQ

COBACCDAT
LIS

COBACCDWK
LIS

UNLOCK
LIS

UTILSUBS
LIS

INTPAR
SDL

COBDEF
REQ

COBACCDAY
LIS

COBACCECV
LIS

COBRTL

COBLNK
REQ

COBRTL
MAP