```
MMM       MMM    AAAAAAAAA        IIIIIIIII    LLL
MMM       MMM    AAAAAAAAA        IIIIIIIII    LLL
MMM       MMM    AAAAAAAAA        IIIIIIIII    LLL
MMMMMM  MMMMMM  AAA        AAA        III       LLL
MMMMMM  MMMMMM  AAA        AAA        III       LLL
MMMMMM  MMMMMM  AAA        AAA        III       LLL
MMM MMM MMM  AAA        AAA        III       LLL
MMM MMM MMM  AAA        AAA        III       LLL
MMM MMM MMM  AAA        AAA        III       LLL
MMM       MMM  AAA        AAA        III       LLL
MMM       MMM  AAA        AAA        IIi       LLL
MMM       MMM  AAA        AAA        III       LLL
MMM       MMM  AAAAAAAAAAAAAAA       III       LLL
MMM       MMM  AAAAAAAAAAAAAAA       III       LLL
MMM       MMM  AAAAAAAAAAAAAAA       III       LLL
MMM       MMM  AAA        AAA        III       LLL
MMM       MMM  AAA        AAA        III       LLL
MMM       MMM  AAA        AAA       IIIIIIIII  LLLLLLLLLLLLLLL
MMM       MMM  AAA        AAA       IIIIIIIII  LLLLLLLLLLLLLLL
MMM       MMM  AAA        AAA       IIIIIIIII  LLLLLLLLLLLLLLL
```

```
MM      MM    AAAAAA      IIIIII    LL            RRRRRRRR   EEEEEEEEEE   QQQQQQ
MM      MM    AAAAAA      IIIIII    LL            RRRRRRRR   EEEEEEEEEE   QQQQQQ
MMMM  MMMM   AA    AA       II      LL            RR    RR   EE           QQ    QQ
MMMM  MMMM   AA    AA       II      LL            RR    RR   EE           QQ    QQ
MM  MM  MM   AA    AA       II      LL            RR    RR   EE           QQ    QQ
MM  MM  MM   AA    AA       II      LL            RR    RR   EE           QQ    QQ
MM      MM   AA    AA       II      LL            RRRRRRRR   EEEEEEE      QQ    QQ
MM      MM   AA    AA       II      LL            RRRRRRRR   EEEEEEE      QQ    QQ
MM      MM   AAAAAAAAAA     II      LL            RR  RR     EE           QQ  QQ QQ
MM      MM   AAAAAAAAAA     II      LL            RR  RR     EE           QQ  QQ QQ
MM      MM   AA    AA       II      LL            RR   RR    EE           QQ    QQ
MM      MM   AA    AA       II      LL            RR   RR    EE           QQ    QQ    ....
MM      MM   AA    AA     IIIIII    LLLLLLLLLL    RR    RR   EEEEEEEEEE   QQQQ QQ     ....
MM      MM   AA    AA     IIIIII    LLLLLLLLLL    RR    RR   EEEEEEEEEE   QQQQ QQ     ....


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   EEEEEEE      QQ    QQ
RRRRRRRR   EEEEEEE      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
```

```
! Version:      'V04-000'
!
!*********************************************************************
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!
!++
! FACILITY:    VAX/VMS MAIL UTILITY

! ABSTRACT:    MAIL REQUIRE FILE

! ENVIRONMENT: NATIVE/USER MODE

! AUTHOR: LEN KAWELL, CREATION DATE:

! MODIFIED BY:

!     V03-002 BLS0255        Benn Schreiber        28-Dec-1983
!             Remove old definitions, add implied_new flag

!     V03-001 BLS0246        Benn Schreiber        28-Nov-1983
!             Add bit to flag confirmation.
!--
```

```
!
! MACROS:
!
MACRO
        MAILSV_FACILITY =                               ! MAIL facility (should be $M_)
                (MAIL$_FACILITY ^ $BITPOSITION(STS$V_FAC_NO))%;
MACRO
        DESCRIPTOR []=                                  ! String descriptor
                UPLIT(%CHARCOUNT(%REMAINING),UPLIT BYTE(%REMAINING))%;
MACRO
        DYN_DESC_DECL =
                BLOCK[8,BYTE] PRESET ([DSC$B_CLASS] = DSC$K_CLASS_D,
                                      [DSC$B_DTYPE] = DSC$K_DTYPE_T)%;
MACRO
        INIT_DDESC(D) =                                 ! Init dynamic string descriptor
                BEGIN
                D[DSC$W_LENGTH] = 0;
                D[DSC$B_CLASS] = DSC$K_CLASS_D;
                D[DSC$B_DTYPE] = DSC$K_DTYPE_T;
                D[DSC$A_POINTER] = 0;
                END%,
        INIT_SDESC(D) =                                 !Init static string descriptor
                BEGIN
                D[DSC$W_LENGTH] = 0;
                D[DSC$B_CLASS] = 0;
                D[DSC$B_DTYPE] = 0;
                D[DSC$A_POINTER] = 0;
                END%;
MACRO
        IF_ERR(EXP,ERREXP1,ERREXP2) =                   ! CHECK FOR ERROR AND
                BEGIN                                   ! EXECUTE ERROR HANDLING IF
                LOCAL   STATUS;                         ! AN ERROR DOES OCCUR
                STATUS = EXP
                IF NOT .STATUS
                THEN    BEGIN
                        ERREXP1   ERREXP2
                        END;
                END%;
MACRO
        UPCASE(DESC) =                                  ! Upcase a string
                BEGIN
                EXTERNAL ROUTINE MAIL$UPCASE;
                MAIL$UPCASE(DESC);
                END%;
MACRO
        CS_COUNT = 0,8,0%,                              ! Counted string count field
        CS_STRING = 8,0,0%;                             ! Counted string string field
!
! Macro to generate descriptors names SD_string
!
MACRO
    SD[A] =
        BIND %NAME('SD_',A) = $DESCRIPTOR(A)%;
!
!       $FAB_DEV - macro to access FAB$L_DEV bits of FAB block.
!
!
```

```
MACRO
    $fab_dev(dev_bit) =
        $BYTEOFFSET(fab$l_dev),
        $BITPOSITION(%NAME('dev$v_',dev_bit)),1,0%;
MACRO
    debug_print(string) =
        BEGIN
            EXTERNAL ROUTINE LIB$PUT_OUTPUT;
            LIB$PUT_OUTPUT($DESCRIPTOR(string));
            END%;
!
! EQUATED SYMBOLS:
!
LITERAL
        TRUE            = 1,                    ! True
        FALSE           = 0,                    ! False

        CR              = 13,                   ! ASCII Carriage Return
        LF              = 10,                   ! ASCII Line Feed
        FF              = 12,                   ! ASCII Form Feed
        CTRLZ           = 26,                   ! ASCII CTRL/Z
        ESC             = 27,                   ! ASCII Escape
        COMMA           = 44,                   ! ASCII Comma

        MAIL$K_INBUFFSZ = 512;                  ! Input buffer size
!
! Define flags used for parsing message selection qualifiers
!
MACRO
    QUAL_BEFORE = 0,0,1,0%,                     !/BEFORE
    QUAL_SINCE  = 0,1,1,0%,                     !/SINCE
    QUAL_FILE =   0,2,1,0%,                     !/FILE
    QUAL_FROM =   0,3,1,0%,                     !/FROM
    QUAL_NEW =    0,4,1,0%,                     !/NEW
    QUAL_REPLIED = 0,5,1,0%,                    !/REPLIED
    QUAL_ANYQUAL = 0,0,6,0%,                    !Test if any qual selected
    QUAL_IMPLIED_NEW = 0,0,7,0%;               !/NEW IMPLIED, default to filename

SWITCHES ADDRESSING_MODE(EXTERNAL=GENERAL,NONEXTERNAL=GENERAL);
PSECT
    CODE = $CODE$ (ADDRESSING_MODE(GENERAL)),
    OWN = $OWN$ (ADDRESSING_MODE(GENERAL))
    GLOBAL = $GLOBAL$ (ADDRESSING_MODE(GENERAL)),
    PLIT = $CODE$ (ADDRESSING_MODE(GENERAL));
```

CMDS
LIS

DIRECTORY
LIS

SPAWNCMD
CLD

MAILREQ
REQ

EDIT
LIS

GETUSER
LIS

MAILDEF
SDL

ADDRLIST
LIS

GETNEW
LIS