```
FFFFFFFFFFFFFFF      AAAAAAAAA     LLL
FFFFFFFFFFFFFFF      AAAAAAAAA     LLL
FFFFFFFFFFFFFFF      AAAAAAAAA     LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFFFFFFFFFFF      AAA         AAA  LLL
FFFFFFFFFFFF      AAA         AAA  LLL
FFFFFFFFFFFF      AAA         AAA  LLL
FFF               AAAAAAAAAAAAAAA  LLL
FFF               AAAAAAAAAAAAAAA  LLL
FFF               AAAAAAAAAAAAAAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLL
FFF               AAA         AAA  LLLLLLLLLLLLLLL
FFF               AAA         AAA  LLLLLLLLLLLLLLL
FFF               AAA         AAA  LLLLLLLLLLLLLLL
```

```
_$a

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```
**FILE**ID**FALMACROS                                G 2




FFFFFFFFFF    AAAAAA    LL          MM      MM    AAAAAA      CCCCCCCC  RRRRRRRR      OOOOOO      SSSSSSSS
FFFFFFFFFF    AAAAAA    LL          MM      MM    AAAAAA      CCCCCCCC  RRRRRRRR      OOOOOO      SSSSSSSS
FF          AA      AA  LL          MMMM  MMMM  AA      AA  CC          RR      RR  OO      OO  SS
FF          AA      AA  LL          MMMM  MMMM  AA      AA  CC          RR      RR  OO      OO  SS
FF          AA      AA  LL          MM  MM  MM  AA      AA  CC          RR      RR  OO      OO  SS
FF          AA      AA  LL          MM  MM  MM  AA      AA  CC          RR      RR  OO      OO  SS
FFFFFFFF    AA      AA  LL          MM      MM  AA      AA  CC          RRRRRRRR    OO      OO    SSSSSS
FFFFFFFF    AA      AA  LL          MM      MM  AA      AA  CC          RRRRRRRR    OO      OO    SSSSSS
FF          AAAAAAAAAA  LL          MM      MM  AAAAAAAAAA  CC          RR  RR      OO      OO          SS
FF          AAAAAAAAAA  LL          MM      MM  AAAAAAAAAA  CC          RR  RR      OO      OO          SS
FF          AA      AA  LL          MM      MM  AA      AA  CC          RR    RR    OO      OO          SS      ....
FF          AA      AA  LL          MM      MM  AA      AA  CC          RR    RR    OO      OO          SS      ....
FF          AA      AA  LLLLLLLLLL  MM      MM  AA      AA    CCCCCCCC  RR      RR    OOOOOO    SSSSSSSS        ....
FF          AA      AA  LLLLLLLLLL  MM      MM  AA      AA    CCCCCCCC  RR      RR    OOOOOO    SSSSSSSS        ....


MM      MM    AAAAAA    RRRRRRRR
MM      MM    AAAAAA    RRRRRRRR
MMMM  MMMM  AA      AA  RR      RR
MMMM  MMMM  AA      AA  RR      RR
MM  MM  MM  AA      AA  RR      RR
MM  MM  MM  AA      AA  RR      RR
MM      MM  AA      AA  RRRRRRRR
MM      MM  AA      AA  RRRRRRRR
MM      MM  AAAAAAAAAA  RR  RR
MM      MM  AAAAAAAAAA  RR  RR
MM      MM  AA      AA  RR    RR
MM      MM  AA      AA  RR    RR
MM      MM  AA      AA  RR      RR
MM      MM  AA      AA  RR      RR
```

```
        .TITLE  FALMACROS - MACRO DEFINITIONS FOR FAL
        .IDENT  'V04-000'

;
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;****************************************************************************
;

;++
; Facility: FAL (DECnet File Access Listener)
;
; Abstract:
;
;       This module contains MACRO definitions that are placed in FAL.MLB for
;       use by FAL source modules.
;
; Environment: VAX/VMS, user mode
;
; Author: James A. Krycka,      Creation Date:  16-JUN-1977
;
; Modified By:
;
;       V03-001 JAK0136         J A Krycka      07-MAR-1984
;               Change CHECK_SS to $CHECK_SS.
;               Chnage CHECK_RMS to $CHECK_STATUS.
;               Change QBLOCK to $QBLOCK.
;
;--
```

```
        .SBTTL  CODE GENERATION MACROS

;++
; $SETBIT sets a single bit in a field.
;--

        .MACRO  $SETBIT POS,BASE,?DISPL
        BBSS    POS,BASE,DISPL
DISPL:
        .ENDM   $SETBIT

;++
; $CLRBIT clears a single bit in a field.
;--

        .MACRO  $CLRBIT POS,BASE,?DISPL
        BBCC    POS,BASE,DISPL
DISPL:
        .ENDM   $CLRBIT

;++
; $MAPBIT maps the designated bit from R1 into the designated bit in R2.
; The bit is set in R2 only if the corresponding bit is set in R1.
;--

        .MACRO  $MAPBIT SRCBIT,DSTBIT,?LABEL
        BBC     #SRCBIT,R1,LABEL
        BBCS    #DSTBIT,R2,LABEL
LABEL:
        .ENDM   $MAPBIT

;++
; $ZERO_FILL writes zeroes into the specified buffer. On completion R0-R5 are
; destroyed (with R3 containing the address of one byte beyond the buffer).
; The default is to zero 512 bytes (one page) at the specified address.
;--

        .MACRO  $ZERO_FILL DST=,SIZE=#512
        MOVC5   #0,DST,#0,SIZE,DST
        .ENDM   $ZERO_FILL

;++
; $CHECK_SS calls a subroutine that checks the status code in R0 and takes
; appropriate action. This MACRO is intended to check the results of a call
; to a System Service.
;--

        .MACRO  $CHECK_SS
        BSBW    FAL$CHECK_SS
        .ENDM   $CHECK_SS

;++
; $CHECK_STATUS calls a subroutine that checks the status code in R0 and takes
; appropriate action. This MACRO is intended to check the results of a FAL
; logging operation where a failure should not result in an image exit.
;--
```

```
        .MACRO  $CHECK_STATUS
        BSBW    FAL$CHECK_STATUS
        .ENDM   $CHECK_STATUS

;++
; $QBLOCK generates a quadword de criptor block followed by the character string
; itself and/or allocated space.
;--

        .MACRO  $QBLOCK TEXT,SPACE=0,BUFADR,?LABEL1,?LABEL2
        .LONG   LABEL2-LABEL1
        .LONG   LABEL1
        .IF NB  BUFADR
BUFADR==.
        .ENDC
LABEL1:
        .IRP    STR,<TEXT>
        .ASCII  \STR\
        .ENDR
        .IF NE  SPACE
        .BLKB   SPACE
        .ENDC
LABEL2:
        .ENDM   $QBLOCK

;++
; $CASEB, $CASEW, and $CASEL generate a CASEB, CASEW, CASEL instruction,
; respectively, followed by the case displacement table. The parameters for
; each MACRO are:
;
;       SELECTOR= the selector operand
;       BASE    = the base operand
;       DISPL   = the case displacement list
;
; Note: There is no LIMIT operand because the limit value is calculated from
;       the number of entries specified in the case displacement list.
;
; Note: These MACRO definitions place BASE after SELECTOR and DISPL so that
;       BASE can be omitted when keywords are not used in the MACRO invocation.
;--

        .MACRO  $CASEB  SELECTOR,DISPL,BASE=#0
        $CASE   SELECTOR,<DISPL>,BASE,TYPE=B
        .ENDM   $CASEB

        .MACRO  $CASEW  SELECTOR,DISPL,BASE=#0
        $CASE   SELECTOR,<DISPL>,BASE,TYPE=W
        .ENDM   $CASEW

        .MACRO  $CASEL  SELECTOR,DISPL,BASE=#0
        $CASE   SELECTOR,<DISPL>,BASE,TYPE=L
        .ENDM   $CASEL

;++
; $CASE is a support MACRO used by $CASEB, $CASEW, and $CASEL.
; $CASE generates a CASE[B/W/L] instruction followed by the case displacement
; table. The parameters for the MACRO are:
;
;       TYPE     = operand datatype of B, W, or L
;       SELECTOR= the selector operand
;       BASE     = the base operand
;       DISPL    = the case displacement list
;
; Note: There is no LIMIT operand because the limit value is calculated from
;       the number of entries specified in the case displacement list.
;
; Note: This MACRO definition places SELECTOR and DISPL ahead of BASE and TYPE
;       so that the latter two can be omitted when keywords are not used in the
;       MACRO invocation.
;--

        .MACRO  $CASE   SELECTOR,DISPL,BASE=#0,TYPE=B,?TABLE
        $$COUNT=0
        .IRP    EP,<DISPL>
        $$COUNT=$$COUNT+1
        .ENDR
        .IF     EQ,$$COUNT
        .ERROR  ; ***** case displacement list is null ***** ;
        .MEXIT
        .ENDC
        CASE'TYPE       SELECTOR,BASE,#<$$COUNT-1>
TABLE:
        .IRP    EP,<DISPL>
        .WORD   EP-TABLE
        .ENDR
        .ENDM   $CASE

        .END                            ; End of module
```

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VAX/VMS V4.0

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