N 3

LP

```
EEEEEEEEEE  XX      XX    AAAAAA    MM      MM  PPPPPPPP    LL          EEEEEEEEEE    SSSSSSSS
EEEEEEEEEE  XX      XX    AAAAAA    MM      MM  PPPPPPPP    LL          EEEEEEEEEE    SSSSSSSS
EEEEEEEEEE  XX      XX    AAAAAA    MM      MM  PPPPPPPP    LL          EEEEEEEEEE    SSSSSSSS
EE          XX      XX  AA      AA  MMMM  MMMM  PP      PP  LL          EE          SS
EE          XX      XX  AA      AA  MMMM  MMMM  PP      PP  LL          EE          SS
EE          XX      XX  AA      AA  MMMM  MMMM  PP      PP  LL          EE          SS
EE            XX  XX    AA      AA  MM  MM  MM  PP      PP  LL          EE          SS
EE            XX  XX    AA      AA  MM  MM  MM  PP      PP  LL          EE          SS
EE            XX  XX    AA      AA  MM  MM  MM  PP      PP  LL          EE          SS
EEEEEEEE        XX      AA      AA  MM      MM  PPPPPPPP    LL          EEEEEEEE      SSSSSS
EEEEEEEE        XX      AA      AA  MM      MM  PPPPPPPP    LL          EEEEEEEE      SSSSSS
EEEEEEEE        XX      AA      AA  MM      MM  PPPPPPPP    LL          EEEEEEEE      SSSSSS
EE            XX  XX    AAAAAAAAAA  MM      MM  PP          LL          EE                  SS
EE            XX  XX    AAAAAAAAAA  MM      MM  PP          LL          EE                  SS
EE            XX  XX    AAAAAAAAAA  MM      MM  PP          LL          EE                  SS
EE          XX      XX  AA      AA  MM      MM  PP          LL          EE                  SS
EE          XX      XX  AA      AA  MM      MM  PP          LL          EE                  SS
EE          XX      XX  AA      AA  MM      MM  PP          LL          EE                  SS
EEEEEEEEEE  XX      XX  AA      AA  MM      MM  PP          LLLLLLLLLL  EEEEEEEEEE  SSSSSSSS
EEEEEEEEEE  XX      XX  AA      AA  MM      MM  PP          LLLLLLLLLL  EEEEEEEEEE  SSSSSSSS
EEEEEEEEEE  XX      XX  AA      AA  MM      MM  PP          LLLLLLLLLL  EEEEEEEEEE  SSSSSSSS
```

```
**FILE**ID**DTE_DF03                                    K  8




DDDDDDDD    TTTTTTTTTT  EEEEEEEEEE              DDDDDDDD    FFFFFFFFFF    000000      333333
DDDDDDDD    TTTTTTTTTT  EEEEEEEEEE              DDDDDDDD    FFFFFFFFFF    000000      333333
DD      DD      TT      EE                      DD      DD  FF          00      00  33      33
DD      DD      TT      EE                      DD      DD  FF          00      00  33      33
DD      DD      TT      EE                      DD      DD  FF          00    0000          33
DD      DD      TT      EE                      DD      DD  FF          00    0000          33
DD      DD      TT      EEEEEEEE                DD      DD  FFFFFFFF    00  00  00        33
DD      DD      TT      EEEEEEEE                DD      DD  FFFFFFFF    00  00  00        33
DD      DD      TT      EE                      DD      DD  FF          0000    00          33
DD      DD      TT      EE                      DD      DD  FF          0000    00          33
DD      DD      TT      EE                      DD      DD  FF          00      00  33      33      ....
DD      DD      TT      EE                      DD      DD  FF          00      00  33      33      ....
DDDDDDDD        TT      EEEEEEEEEE  ----------  DDDDDDDD    FF            000000      333333        ....
DDDDDDDD        TT      EEEEEEEEEE  ----------  DDDDDDDD    FF            000000      333333        ....

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  DTE_DF03 - Sample SET HOST/DTE dialer module
        .IDENT  'V04-000'

;
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;

;++
; FACILITY:
;
;       SET HOST/DTE
;
; ABSTRACT:
;
;       Provide modem-specific support for autodialing on a DF03, and
;       serve as example for other modem types.  Activated as a sharable
;       image when SET HOST ttcn: /DTE /DIAL=(number:string,MODEM_TYPE=DF03)
;       is run.
;
; ENVIRONMENT:
;
;       VAX/VMS, user mode.
;
;--
;
; AUTHOR: Jake VanNoy, CREATION DATE: 11-Apr-1984
;
; MODIFIED BY:
;
;**


        .SBTTL  DECLARATIONS
;
```

```
; INCLUDE FILES:
;
        $SHRDEF                          ; shared messages
        $STSDEF                          ; status fields

;
; MACROS:
;

;
; EQUATED SYMBOLS:
;
REM$_FACILITY   = ^X1FE
REM$_BADVALUE   = SHR$_BADVALUE!<REM$_FACIL'TY@16>
CR = 13
LF = 10

;
; OWN STORAGE:
;

CTRLB_DESC:     .LONG           1                ; length
                .LONG           0                ; will get filled in by code

CTRLB_STR:      .LONG           2                ; "2" is ^B

CONN_DESC:      .LONG           CONN_STR_LEN     ; length
                .LONG           0                ; will get filled in by code
CONN_STR:       .ASCII          <CR><LF>/Connection made to remote port/<CR><LF>
CONN_STR_LEN = .-CONN_STR

FAIL_DESC:      .LONG           FAIL_STR_LEN     ; length
                .LONG           0                ; will get filled in by code
FAIL_STR:       .ASCII          <CR><LF>/Failed to connect to remote port/<CR><LF>
FAIL_STR_LEN = .-FAIL_STR

READ_BUFFER:    .BLKB           10               ; read buffer
IOSB:           .LONG           0,0              ; I/O status
READ_STATUS:    .LONG           0                ; completion status

USER_CHAN:      .LONG           0                ; command channel own storage
```

```
        .SBTTL  DTE_DF03 - DF03 autodial routine

;++
; FUNCTIONAL DESCRIPTION:
;
;       Perform the necessary autodial protocol on a DF03-AC modem.
;
; CALLING SEQUENCE:
;
;       DIAL_ROUTINE (number_desc, port_chan, command_chan)
;
; INPUT PARAMETERS:
;
;       4(AP)   - descriptor of string specified in NUMBER:string
;       8(AP)   - channel number of port DF03 is connected to
;      12(AP)   - channel number of user's terminal
;
; IMPLICIT INPUTS:
;       NONE
;
; OUTPUT PARAMETERS:
;       NONE
;
; IMPLICIT OUTPUTS:
;       NONE
;
; COMPLETION CODES:
;
;       R0 - status
;
; SIDE EFFECTS:
;       NONE
;
;--

number          = 4
port_chan       = 8
command_chan    = 12

        .TRANSFER       DIAL_ROUTINE
        .MASK           DIAL_ROUTINE
        BRW     DIAL_ROUTINE+2

        .ENTRY  DIAL_ROUTINE,^M<R2,R3,R4>

        MOVZWL  command_chan(AP),user_chan      ; save for later
        MOVL    number(AP),R2                   ; fetch address of descriptor
        MOVZWL  (R2),R3                         ; length of string
        MOVL    4(R2),R4                        ; address
        ;
        ; Loop through string to check for illegal characters
        ;
10$:
        CMPB    #^A/=/,(R4)                     ; "=" is pause character
        BEQL    20$                             ; branch if match
        CMPB    #^A/0/,(R4)                     ; check for number
        BGTRU   30$                             ; Branch if less than legal
        CMPB    #^A/9/,(R4)                     ; check for number
        BLSSU   30$                             ; Branch if more than legal
20$:    INCL    R4                              ; next character
        SOBGTR  R3,10$                          ; legal character, loop
        BRB     40$                             ; continue, number ok
        ;
        ; error in number string
        ;
30$:    PUSHL   number(AP)                      ; signal error
        PUSHL   #1                              ; number of FAO args
        PUSHL   #REM$_BADVALUE                  ; error type
        CALLS   #3,G^LIB$SIGNAL                 ; error
        MOVL    #REM$_BADVALUE!STS$M_INHIB_MSG,R0 ; return status
        RET                                     ; return
40$:
        ;
        ; number string ok, continue.
        ; queue read for character
        ;
        BSBW    READ_CHAR                       ; read status character
        BLBC    R0,100$                         ; exit on error
        ;
        ; Write string to modem
        ;
        MOVAB   CTRLB_STR,CTRLB_DESC+4          ; set address
        MOVAB   CTRLB_DESC,R2                   ; ^B initiates dial
        BSBW    WRITE_STR                       ; write string
        BLBC    R0,100$                         ; exit on error

        MOVL    number(AP),R2                   ; fetch address of descriptor
        BSBW    WRITE_STR                       ; write number string
        BLBC    R0,100$                         ; exit on error

        $HIBER_S                                ; wait for read to complete

        MOVL    READ_STATUS,R0                  ; set status
100$:
        RET
```

```
.SBTTL  WRITE_STR - write string to port channel
;++
; FUNCTIONAL DESCRIPTION:
;
;       write a string to the DTE port
;
; CALLING SEQUENCE:
;
;       BSBW    WRITE_STR
;
; INPUT PARAMETERS:
;
;       R2 - address of descriptor to write
;
; COMPLETION CODES:
;
;       R0 - status
;
;--
WRITE_STR:

        $QIOW_S -
                CHAN = port_chan(AP),-                  ; channel
                FUNC = #IO$_WRITEVBLK!IO$M_NOFORMAT,-   ; write no format
                P1   = @4(R2),-                         ; address
                P2   = (R2)                             ; length
        RSB
```

```
.SBTTL  READ_CHAR - read status character from port
;++
;
; FUNCTIONAL DESCRIPTION:
;
;       Read the status character from the DF03, allowing a maximum
;       of 60 seconds for the event to occur.
;
; CALLING SEQUENCE:
;
;       BSBW    READ_CHAR
;
; INPUT PARAMETERS:
;       NONE
;
; COMPLETION CODES:
;
;       R0 - status
;
;--
READ_CHAR:

        $QIO_S -
                CHAN = port_chan(AP),-                  ; channel
                FUNC = #IO$_READVBLK!IO$M_TIMED!IO$M_PURGE,-
                -                                       ; read timed, purge
                IOSB = IOSB,-                           ; I/O status
                ASTADR = READ_DONE,-                    ; ast routine
                P1    = READ_BUFFER,-                   ; address
                P2    = #1,-                            ; length
                P3    = #60                             ; timeout
        RSB                                             ; exit with status
```

```
.SBTTL  READ_DONE - ast for read completion
;++
; FUNCTIONAL DESCRIPTION:
;
;       Check for timeout or status character
;
; CALLING SEQUENCE:
;
;       CALLed as AST routine
;
; INPUT PARAMETERS:
;       NONE
;
; COMPLETION CODES:
;
;       R0 - status
;
;--

        .ENTRY  READ_DONE,^M<R2>

        MOVZWL  IOSB,R0                 ; get status of read
        BLBC    R0,100$                 ; branch if timeout

        MOVZBL  READ_BUFFER,R2          ; fetch data
        CMPB    #^A/A/,R2               ; status ok?
        BNEQ    10$                     ; branch if not
        MOVAB   conn_desc,R2            ; set up string
        MOVAB   conn_str,4(R2)          ; set up string
        BSBW    WRITE_STR_TO_USER       ; tell user, ready
        BLBC    R0,100$                 ; exit on error
        MOVL    #SS$_NORMAL,R0          ; ready
        BRB     100$                    ; exit
10$:
        MOVAB   fail_desc,R2            ; set up string
        MOVAB   fail_str,4(R2)          ; set up string
        BSBW    WRITE_STR_TO_USER       ; tell user, ready
        MOVZWL  #SS$_HANGUP,R0          ; status

100$:   MOVL    R0,READ_STATUS          ; save status
        $WAKE_S                         ; wake main stream

        RET
```

```
.SBTTL  WRITE_STR_TO_USER - write string to command channel
;++
; FUNCTIONAL DESCRIPTION:
;
;       write a string to the user terminal channel
;
; CALLING SEQUENCE:
;
;       BSBW    WRITE_STR_TO_USER
;
; INPUT PARAMETERS:
;
;       R2 - address of descriptor to write
;
; COMPLETION CODES:
;
;       R0 - status
;
;--

WRITE_STR_TO_USER:

        $QIOW_S -
                CHAN = user_chan,-                      ; channel
                FUNC = #IO$_WRITEVBLK,-                 ; write
                P1   = @4(R2),-                         ; address
                P2   = (R2)                             ; length
        RSB

        .END
```

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VAX/VMS V4.0

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