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.NLIST

.TITLE TSTSDTPREFIX - PREFIX MODULE FOR DTS/DTR
.IDENT 'V04-000'

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++
: FACILITY: DTS/DTR DECNET TEST PACKAGE

: ABSTRACT: PREFIX ASSEMBLY MODULE FOR DTS/DTR.

: ENVIRONMENT: DTS/DTR RUN IN USER MODE AND REQUIRE NETWORK PRIVILEGE.

: AUTHOR: JAMES A. KRYCKA, CREATION DATE: 23-JAN-78

: MODIFICATIONS:

:--

TS
VO

```
; .SBTTL DECLARATIONS

: INCLUDE FILES:
: .LIBRARY \LIBD$:[DTS/DTR.OBJ]DTS/DTR.MLB\
:
: MACROS:
:     NONE
:
: EQUATED SYMBOLS:
: K_LIST_MEB=0                      ; .LIST MEB OPTION: 1=YES; 0=NO
:
: OWN STORAGE:
:     NONE
:
: .LIST
:     .TITLE  TST$DTMACROS - MACRO DEFINITIONS FOR DTS/DTR
:     .IDENT  'V04-000'

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: ++
: FACILITY: DTS/DTR DECNET TEST PACKAGE
:
: ABSTRACT: MACRO DEFINITIONS USED BY DTS/DTR MODULES.
:
: ENVIRONMENT: DTS/DTR RUN IN USER MODE AND REQUIRE NETWORK PRIVILEGE.
:
: AUTHOR: JAMES A. KRYCKA,      CREATION DATE: 11-AUG-77
:
: MODIFICATIONS:
:
: --
```



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:++
: QBLOCK GENERATES A QUADWORD DESCRIPTOR BLOCK FOLLOWED BY THE
: CHARACTER STRING 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

```

```

:++
: SSB SETS A SINGLE BIT IN A FIELD.
:--

```

```

        .MACRO  SSB      POS,BASE,?DISPL
        BBSS    POS,BASE,DISPL
DISPL:
        .ENDM   SSB

```

```

:++
: CSB CLEARS A SINGLE BIT IN A FIELD.
:--

```

```

        .MACRO  CSB      POS,BASE,?DISPL
        BBCC    POS,BASE,DISPL
DISPL:
        .ENDM   CSB

```

```

:++
: FILLBUF FILLS A BUFFER WITH A SPECIFIED CHARACTER. ON COMPLETION
: R3 CONTAINS THE ADDRESS OF ONE BYTE BEYOND THE FILLED BUFFER. NOTE
: THAT THIS MACRO USES THE MOVCS INSTRUCTION WHICH DESTROYES R0 - R5!
: THE DEFAULT IS TO ZERO 512 BYTES (1 PAGE) AT THE SPECIFIED ADDRESS.
:--

```

```

        .MACRO  FILLBUF  DST=,SIZE=#512,CHAR=#^X00
        MOVCS   #0,,CHAR,SIZE,DST
        .ENDM   FILLBUF

```

```

:++
: CHECK_SS BRANCHES TO A SUBROUTINE THAT CHECKS THE STATUS CODE IN R0
: FOLLOWING A CALL TO A SYSTEM SERVICE.
:--

```

```

        .MACRO  CHECK_SS
        BSBW    TST$CHECK_SS
        .ENDM   CHECK_SS

```

```

:++
: CHECK_RMS BRANCHES TO A SUBROUTINE THAT CHECKS THE COMPLETION CODE IN R0

```

```

: FOLLOWING A CALL TO RMS.
:--

```

```

.MACRO CHECK_RMS
BSBW TST$CHECK_RMS
.ENDM CHECK_RMS

```

```

:++
: CHECK IOSB BRANCHES TO A SUBROUTINE THAT CHECKS THE STATUS CODE OF THE
: SPECIFIED I/O STATUS BLOCK FOLLOWING A CALL TO THE QIO SYSTEM SERVICE.
:--

```

```

.MACRO CHECK_IOSB ADDRESS
MOVAQ ADDRESS,RO
BSBW TST$CHECK_IOSB
.ENDM CHECK_IOSB

```

```

:++
: $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
:   (THE LIMIT OPERAND IS CALCULATED FROM THE # OF ENTRIES IN DISPL)
:   DISPL    = THE CASE DISPLACEMENT LIST
: NOTE THAT THE 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 LEVEL 2 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
:   (THE LIMIT OPERAND IS CALCULATED FROM THE # OF ENTRIES IN DISPL)
:   DISPL    = THE CASE DISPLACEMENT LIST
: NOTE THAT THE MACRO DEFINITION PLACES SELECTOR AND DISPL AHEAD OF BASE
: AND TYPE SO THAT THE LATTER 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 ***** ;

```

TABLE: .MEXIT
.ENDC
CASE TYPE SELECTOR,BASE,#<\$\$COUNT-1>
.IRP EP,<DISPL>
.WORD EP-TABLE
.ENDR
.ENDM \$CASE


```

:++
: EFNDEF DEFINES THE USE OF EVENT FLAGS BY DTS/DTR.
: NOTE: MANY OF THE FLAG VALUES SERVE A DUAL PURPOSE; THEY ARE ALSO USED
: A FUNCTION/INDEX CODES THAT ARE MAPPED INTO THE APPROPRIATE QIO REQUEST
: SYSTEM SERVICE CALLS.
:--

```

```

.MACRO EFNDEF GBL
$DEFINI EFN,GBL
$EQUAST EFN_K,GBL,0,<-
: EFN [AND FUNCTION/INDEX CODE] FOR:
: READ ASSOCIATED MAILBOX
: NSP CONNECT INITIATE
: NSP CONNECT ACCEPT (CONFIRM)
: NSP CONNECT REJECT
: NSP SYNCHRONOUS DISCONNECT
: NSP DISCONNECT ABORT
: NSP TRANSMIT DATA MESSAGE
: NSP TRANSMIT INTERRUPT MESSAGE
: NSP RECEIVE DATA MESSAGE
: TIMER AST
: SIGNALLING AN EVENT FROM AN AST
:
: <READ_MAIL,0>-
: <CONN_INIT,1>-
: <CONN_ACCE,1>-
: <CONN_REJE,2>-
: <DISC_SYNC,3>-
: <DISC_ABRT,4>-
: <XMIT_DATA,5>-
: <XMIT_INTE,6>-
: <RCV_DATA,7>-
: <TIMER,8>-
: <SIGNAL,9>-
>
$DEFEND EFN,GBL
.ENDM EFNDEF

```

```

:++
: FLGDEF DEFINES OFFSETS AND MASKS FOR COMMAND PARSE STATUS FLAGS.
:--

```

```

.MACRO FLGDEF GBL
$DEFINI FLG,GBL
_VIELD FLG,0,<-
: MEANING:
: PARSE ERROR DETECTED
: COMMAND LINE IS CONTINUED
: COMMAND PARAMETER FOUND
: COMMAND DELIMITER FOUND
:
: <PARSEERROR,,M>-
: <MULTILINE,,M>-
: <PARAMETER,,M>-
: <DELIMITER,,M>-
>
$DEFEND FLG,GBL
.ENDM FLGDEF

```

```

:++
: CMDDEF DEFINES COMMAND LANGUAGE SYMBOLS.
:--

```

```

.MACRO CMDDEF GBL
$DEFINI CMD,GBL

: DEFINE COMMAND PARAMETER VALUES (TST$GB_TEST).
:
$EQUAST VAL_K,GBL,0,<-
: TEST FUNCTION CODE:
: CONNECT TEST
: DATA TEST
: DISCONNECT TEST
: INTERRUPT TEST
: MISCELLANEOUS TEST
:
: <TEST_CONN,0>-
: <TEST_DATA,1>-
: <TEST_DISC,2>-
: <TEST_INTE,3>-
: <TEST_MISC,4>-
>

: DEFINE /[NO]PRINT QUALIFIER VALUES (TST$GB_PRINT).
:
$EQUAST VAL_K,GBL,0,<-
: FUNCTION MODIFIER CODE:
: NOPRINT
: <PRIN_NO,0>-

```



```

> <PRIN_YES,128>- ; PRINT (BIT7 = 1)
:
: DEFINE /TYPE QUALIFIER VALUES (TST$GB_TYPE).
:
:   SEQUALST VAL K_GBL,<- ; TEST SUBFUNCTION CODE:
:     <TYPE_REJE,0>- ; CONNECT REJECT
:     <TYPE_ACCE,1>- ; CONNECT ACCEPT (CONFIRM)
:     <TYPE_SINK,0>- ; SINK (NO CHECKING)
:     <TYPE_SEQU,1>- ; SEQUENCE CHECK
:     <TYPE_PATT,2>- ; SEQUENCE AND PATTERN CHECK
:     <TYPE_ECHO,3>- ; ECHO MESSAGE
:     <TYPE_SYNC,0>- ; SYNCHRONOUS DISCONNECT
:     <TYPE_ABRT,1>- ; DISCONNECT ABORT
:     <TYPE_NAME,0>- ; INVALID NODENAME
:
:   >
:
: DEFINE /[NO]RETURN QUALIFIER VALUES (TST$GB_RETURN).
:
:   SEQUALST VAL K_GBL,<- ; SUBFUNCTION MODIFIER CODE:
:     <RETU_NO,0>- ; NORETURN USERDATA
:     <RETU_STAN,2>- ; RETURN STANDARD USERDATA
:     <RETU_RECE,4>- ; RETURN RECEIVED USERDATA
:
:   >
:
: DEFINE /[NO]FLOW QUALIFIER VALUES (TST$GB_FLOW).
:
:   SEQUALST VAL K_GBL,<- ; FLOW CONTROL VALUE:
:     <FLOW_NO,0>- ; NOFLOW CONTROL
:     <FLOW_SEGM,1>- ; SEGMENT FLOW CONTROL
:     <FLOW_MESS,2>- ; MESSAGE FLOW CONTROL
:
:   >
:
: DEFINE /[NO]STATISTICS QUALIFIER VALUES (TST$GB_STAT).
:
:   SEQUALST VAL K_GBL,<- ; STATISTICS VALUE:
:     <STAT_NO,0>- ; NOSTATISTICS
:     <STAT_YES,1>- ; STATISTICS
:
:   >
:
: DEFINE /[NO]BACK QUALIFIER VALUES (TST$GB_BACK).
: DEFINE /[NO]DISPLAY QUALIFIER VALUES (TST$GB_DISPLAY).
: DEFINE /[NO]NAK QUALIFIER VALUES (TST$GB_NAK).
: EACH OF THESE ALSO TAKE EXPLICIT NUMERIC VALUES.
:
:   SEQUALST VAL K_GBL,<- ;
:     <BACK_NO,0>- ; NO BACK PRESSURE CONTROL
:     <DISP_NO,0>- ; NO DISPLAY
:     <NAK_NO,0>- ; NO NAK CONTROL
:
:   >
:
: DEFINE DEFAULT QUALIFIER VALUES.
:
:   SEQUALST DFT K_GBL,<- ; DEFAULT QUALIFIER VALUE FOR:
:     <BACK,VAL K_BACK_NO>- ; BACK PRESSURE CONTROL
:     <DISPLAY,VAL K_DISP_NO>- ; DISPLAY SIZE IN BYTES
:     <FLOW,VAL K_FLOW_MESS>- ; FLOW CONTROL
:     <NAK,VAL K_NAK_NO>- ; NAK CONTROL
:     <PRINT,VAL K_PRIN_NO>- ; PRINT
:     <RETURN_CO,VAL K_RETU_NO>- ; RETURN USERDATA (CONNECT)
:     <RETURN_DI,VAL K_RETU_NO>- ; RETURN USERDATA (DISCONNECT)
:     <RQUEUE_DA,1>- ; DTR QUEUE (DATA)
:     <RQUEUE_IN,1>- ; DTR QUEUE (INTERRUPT)

```

```

                                N 13
<SIZE_DA,128>-                : MESSAGE SIZE IN BYTES (DATA)
<SIZE_IN,16>-                  : MESSAGE SIZE IN BYTES (INTERRUPT)
>
$EQUATE DFT_K,GBL<-            : DEFAULT QUALIFIER VALUE FOR:
<SPEED,1000000>-              : LINE SPEED IN BAUD
<SQUEUE_DA,1>-                : DTS QUEUE (DATA)
<SQUEUE_IN,1>-                : DTS QUEUE (INTERRUPT)
<STAT_VAL_K_STAT_YES>-        : STATISTICS
<TIME_DA,030>-                : TIME IN SECONDS (DATA)
<TIME_IN,030>-                : TIME IN SECONDS (INTERRUPT)
<TYPE_CO,VAL_K_TYPE_ACCE>-    : TYPE (CONNECT)
<TYPE_DA,VAL_K_TYPE_SINK>-    : TYPE (DATA)
<TYPE_DI,VAL_K_TYPE_ABRT>-    : TYPE (DISCONNECT)
<TYPE_IN,VAL_K_TYPE_SINK>-    : TYPE (INTERRUPT)
<TYPE_MI,VAL_K_TYPE_NAME>-    : TYPE (MISCELLANEOUS)
>

```

```

:
: DEFINE MAXIMUM QUALIFIER VALUES FOR THOSE QUALIFIERS THAT ACCEPT NUMERIC
: QUALIFIER VALUES.
:

```

```

$EQUATE MAX_K,GBL<-            : MAXIMUM QUALIFIER VALUE FOR:
<BACK,128>-                   : BACK PRESSURE CONTROL
<DISPLAY,38>-                 : DISPLAY SIZE IN BYTES
<NAK,128>-                    : NAK CONTROL
<RQUEUE_DA,8>-               : DTR QUEUE (DATA)
<RQUEUE_IN,8>-               : DTR QUEUE (INTERRUPT)
<SIZE_DA,4096>-              : MESSAGE SIZE IN BYTES (DATA)
<SIZE_IN,16>-                : MESSAGE SIZE IN BYTES (INTERRUPT)
<SPEED,1000000>-             : LINE SPEED IN BAUD
<SQUEUE_DA,8>-               : DTS QUEUE (DATA)
<SQUEUE_IN,8>-               : DTS QUEUE (INTERRUPT)
<TIME_DA,360000>-            : TIME IN SECONDS (DATA)
<TIME_IN,360000>-            : TIME IN SECONDS (INTERRUPT)
>
$DEFEND CMD,GBL
.ENDM CMDDEF

```

```

:
: **
: VLDDEF DEFINE OFFSETS AND MASKS FOR VALID (PERMITTED) QUALIFIER FLAGS
: IN TST$GL_VALID.
:

```

```

.MACRO VLDDEF GBL
$DEFINI VLD,GBL
_VELD VLD,0,<-
<BACK,,M>-                : QUALIFIER:
<DISPLAY,,M>-             : BACK
<FLOW,,M>-                : DISPLAY
<HOURS,,M>-               : FLOW
<MINUTES,,M>-             : HOURS
<NAK,,M>-                 : MINUTES
<NOBACK,,M>-              : NAK
<NODENAME,,M>-            : NOBACK
<NODISPLAY,,M>-           : NODENAME
<NOFLOW,,M>-              : NODISPLAY
<NONAK,,M>-               : NOFLOW
<NOPRINT,,M>-             : NONAK
<NORETURN,,M>-            : NOPRINT
<NOSTAT,,M>-              : NORETURN
<PRINT,,M>-               : NOSTATISTICS
<RETURN,,M>-              : PRINT
<RQUEUE,,M>-              : RETURN
<SECONDS,,M>-             : DTR QUEUE
                                : SECONDS

```


<SIZE,,M>-
<SPEED,,M>-
<QUEUE,,M>-
<STAT,,M>-
<TYPE,,M>-

: SIZE
: SPEED
: DTS QUEUE
: STATISTICS
: TYPE
:

>
\$DEFEND VLD,GBL
.ENDM VLDDEF
.END

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