```
IIIIIIIII       OOOOOOOOO       SSSSSSSSSSS  UUU         UUU  PPPPPPPPPPP
IIIIIIIII       OOOOOOOOO       SSSSSSSSSSS  UUU         UUU  PPPPPPPPPPP
IIIIIIIII       OOOOOOOOO       SSSSSSSSSSS  UUU         UUU  PPPPPPPPPPP
   III         OOO     OOO  SSS              UUU         UUU  PPP       PPP
   III         OOO     OOO  SSS              UUU         UUU  PPP       PPP
   III         OOO     OOO  SSS              UUU         UUU  PPP       PPP
   III         OOO     OOO  SSS              UUU         UUU  PPP       PPP
   III         OOO     OOO  SSS              UUU         UUU  PPP       PPP
   III         OOO     OOO  SSS              UUU         UUU  PPP       PPP
   III         OOO     OOO    SSSSSSSSS      UUU         UUU  PPPPPPPPPPP
   III         OOO     OOO    SSSSSSSSS      UUU         UUU  PPPPPPPPPPP
   III         OOO     OOO    SSSSSSSSS      UUU         UUU  PPPPPPPPPPP
   III         OOO     OOO             SSS   UUU         UUU  PPP
   III         OOO     OOO             SSS   UUU         UUU  PPP
   III         OOO     OOO             SSS   UUU         UUU  PPP
   III         OOO     OOO             SSS   UUU         UUU  PPP
   III         OOO     OOO             SSS   UUU         UUU  PPP
   III         OOO     OOO             SSS   UUU         UUU  PPP
IIIIIIIII       OOOOOOOOO     SSSSSSSSSSS     UUUUUUUUUUUUUUU  PPP
IIIIIIIII       OOOOOOOOO     SSSSSSSSSSS     UUUUUUUUUUUUUUU  PPP
IIIIIIIII       OOOOOOOOO     SSSSSSSSSSS     UUUUUUUUUUUUUUU  PPP
IIIIIIIII       OOOOOOOOO     SSSSSSSSSSS     UUUUUUUUUUUUUUU  PPP
```

```
XX      XX  FFFFFFFFFF  DDDDDDDD    EEEEEEEEEE  FFFFFFFFFF
XX      XX  FFFFFFFFFF  DDDDDDDD    EEEEEEEEEE  FFFFFFFFFF
XX      XX  FF          DD      DD  EE          FF
XX      XX  FF          DD      DD  EE          FF
  XX  XX    FF          DD      DD  EE          FF
  XX  XX    FF          DD      DD  EE          FF
    XX      FFFFFFFF    DD      DD  EEEEEEEE    FFFFFFFF
    XX      FFFFFFFF    DD      DD  EEEEEEEE    FFFFFFFF
  XX  XX    FF          DD      DD  EE          FF
  XX  XX    FF          DD      DD  EE          FF
XX      XX  FF          DD      DD  EE          FF              ....
XX      XX  FF          DD      DD  EE          FF              ....
XX      XX  FF          DDDDDDDD    EEEEEEEEEE  FF              ....
XX      XX  FF          DDDDDDDD    EEEEEEEEEE  FF              ....

FFFFFFFFFF    000000    RRRRRRRR
FFFFFFFFFF    000000    RRRRRRRR
FF          00      00  RR      RR
FF          00      00  RR      RR
FF          00      00  RR      RR
FF          00      00  RR      RR
FFFFFFFF    00      00  RRRRRRRR
FFFFFFFF    00      00  RRRRRRRR
FF          00      00  RR  RR
FF          00      00  RR  RR
FF          00      00  RR    RR
FF          00      00  RR    RR
FF            000000    RR      RR
FF            000000    RR      RR
```

```
C
C Version:      'V04-000'
C
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C*****************************************************************************
C
C Modified by:
C
C       V03-001         Steve Beckhardt                 1-Jun-1982
C                       Corrected definitions for XF$M_IOS_CMDSTD and
C                       XF$M_IOS_DRVABT bits.
C
C Function Codes
C
        PARAMETER       XF$K_PKT_RD = 0 ,       !read device
        1               XF$K_PKT_RDCHN = 1,     !read device chained
        1               XF$K_PKT_WRT = 2,       !write device
        1               XF$K_PKT_WRTCHN = 3,    !write device chained
        1               XF$K_PKT_WRTCM = 4,     !write control message
        1               XF$K_PKT_SETTST = 6,    !set self test
        1               XF$K_PKT_CLRTST = 7,    !clear self test
        1               XF$K_PKT_NOP = 8,       !no-op
        1               XF$K_PKT_DIAGRI = 9,    !diagnstic read internal
        1               XF$K_PKT_DIAGWI = 10,   !diagnostic wrt internal
        1               XF$K_PKT_DIAGRD = 11,   !diagnostic read DDI
        1               XF$K_PKT_DIAGWC = 12,   !diag write control msg
        1               XF$K_PKT_SETRND = 13,   !set random enable
        1               XF$K_PKT_CLRRND = 14,   !clear random enable
        1               XF$K_PKT_HALT = 15      !set halt

C
C Interrupt Control Codes
C
        PARAMETER       XF$K_PKT_UNCOND = 0,    !unconditional interrupt
        1               XF$K_PKT_TMQMT = 64,    !int if TERMQ empty
        1               XF$K_PKT_NOINT = 128    !do not deliver int
```

```
C
C Command Control Codes
C
        PARAMETER       XF$K_PKT_NOTRAN = 0,    !no transmission
        1               XF$K_PKT_CB = 8,        !send only command byte
        1                                       !on Control Interconnect
        1               XF$K_PKT_CBDM = 16,     !send command byte and
        1                                       !device message
        1               XF$K_PKT_CBDMBC = 24    !send command byte,
        1                                       !dev msg, and byte count
C
C Other Modes Values
C
        PARAMETER       XF$K_PKT_SUPLEN = 32    !suppress length error
        PARAMETER       XF$K_PKT_INSHD = 256    !insert pkt at head
        PARAMETER       XF$K_PKT_INSTL = 0      !insert pkt at tail of q
C
C Masks for error bits set in the IO Status Block
C
        PARAMETER       XF$M_IOS_CIPE = '20000000'X,
        1               XF$M_IOS_CMDSTD = '2'X,
        1               XF$M_IOS_DDIDIS = '10'X,
        1               XF$M_IOS_DDIERR = '80'X,
        1               XF$M_IOS_DIPE = '40000000'X,
        1               XF$M_IOS_DRVABT = '2000'X,
        1               XF$M_IOS_FREQMT = '200'X,
        1               XF$M_IOS_FREQPK = '8'X,
        1               XF$M_IOS_INVDDI = '800'X,
        1               XF$M_IOS_INVPKT = '100'X,
        1               XF$M_IOS_INVPTE = '4'X,
        1               XF$M_IOS_LENERR = '1000'X,
        1               XF$M_IOS_LOG = '40'X,
        1               XF$M_IOS_NEXREG = '20'X,
        1               XF$M_IOS_NORMAL = 1,
        1               XF$M_IOS_PARERR = '80000000'X,
        1               XF$M_IOS_RDSERR = '2000000'X,
        1               XF$M_IOS_RNDENB = '400'X,
        1               XF$M_IOS_RNGERR = '40'X,
        1               XF$M_IOS_SBIERR = '1000000'X,
        1               XF$M_IOS_SLFTST = '20'X,
        1               XF$M_IOS_UNQERR = '80'X,
        1               XF$M_IOS_WCSPE = '10000000'X

C
C Masks for error bits set in DSL in packet
C
        PARAMETER       XF$M_PKT_CMDSTD = '2000'X,
        1               XF$M_PKT_DDIDIS = '10'X,
        1               XF$M_PKT_DDIERR = '80'X,
        1               XF$M_PKT_DRVABT = '2'X,
        1               XF$M_PKT_FREQMT = '200'X,
        1               XF$M_PKT_FREQPK = '8'X,
        1               XF$M_PKT_INVDDI = '800'X,
        1               XF$M_PKT_INVPKT = '100'X,
        1               XF$M_PKT_INVPTE = '4'X,
```

```
        1               XF$M_PKT_LENERR = '1000'X,
        1               XF$M_PKT_LOG = '40'X,
        1               XF$M_PKT_NEXREG = '20'X,
        1               XF$M_PKT_NORMAL = '1'X,
        1               XF$M_PKT_RNDENB = '400'X,
        1               XF$M_PKT_RNGERR = '40'X,
        1               XF$M_PKT_SLFTST = '20'X,
        1               XF$M_PKT_UNQERR = '80'X

C
C SHR$ Status Returns
C
        PARAMETER       SHR$_HALTED = '1270'X   !transfer is halted
        PARAMETER       SHR$_QEMPTY = '1280'X   !no packet on TERMQ
        PARAMETER       SHR$_NOCMDMEM = '1278'X .no cmd memory allocated
```

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