INT 13H 08H: Get Drive Parameters

```
Expects:  AH    08H
          DL    drive: 80H-81H=hard disk
```

```
Returns:  AH    BIOS disk error code if CF is set to CY
          CX    maximum value for cylinder and sector (see below)
          DL    number of hard disks on first controller
          DH    maximum value for head
          ES:DI vendor specific ! (address of Hard Disk Parameter Table)
```

```
    Info: Returns information about a drive.  These values are initially
          set from a table in ROM, determined by the disk-type code stored
          in CMOS Memory.

       CX Bits 6-7 of CL are the high two bits of the 10-bit value whose
          low 8 bits are in CH.  See INT 13H 02H for details.
```

Hard Disk Parameter Table

This 16-byte structure can be found at the vector address of INT 41H (the
4-byte address at 0:0104).

The parameters for a second hard disk (if any) are found at the vector for
INT 46H. These tables specify a variety of critical variables for hard
disk drive operations.

```
        XT The switches on the controller board select one of four drive
           types for each hard disk drive.  At boot time, the BIOS sets
           INT 41H and INT 46H as indicated on these switches.

        AT The INT 41H and INT 46H vectors are set according to the
           AT Drive Type value which is a CMOS Memory variable stored by
           the "Setup" program.
```

```
HardDiskParmRec
  Offset Size Contents
```

```
   +0      2  wMaxCyls     maximum number of cylinders
   +2      1  bMaxHds      maximum number of heads
   +3      2  wRWCyl       starting reduced-write current cylinder
   +5      2  wWPCyl       starting write precompensation cylinder
   +7      1  bECCLen      maximum ECC data burst length
   +8      1  rOptFlags    drive step options:
                             bits 2-0: drive option
                             bit    7: disable retries
                             bit    6: disable ECC
   +9      1  bTimeOutStd  standard timeout value
  +0aH     1  bTimeOutFmt  timeout value for format drive
  +0bH     1  bTimeOutChk  timeout value for check drive
  +0cH     4  res          (reserved)
```

```
          16               length of a HardDiskParmRec
```

INT 13H 08H: Get Drive Parameters

```
Expects:  AH    08H
          DL    drive: 0-3=diskette
```

```
Returns:  AH    BIOS disk error code if CF is set to CY
          CL    maximum value for sector
          CH    maximum value for cylinder
          BL    drive type (AT/PS2 floppies only) (see below)
          DL    number of diskette drives
          DH    maximum value for head
          ES:DI address of Diskette Parameter Table
```

```
   Info: Returns information about a drive.  These values are initially
         set from a table in ROM, determined by the disk-type code stored
         in CMOS Memory.
```

```
Values for diskette drive type:
     01h    360K
     02h    1.2M
     03h    720K
     04h    1.44M
     05h    ??? (reportedly an obscure drive type shipped on some IBM machines)
            2.88M on some machines (at least AMI 486 BIOS)
     06h    2.88M
     10h    ATAPI Removable Media Device
```

Diskette Parameter Table

A series of these 11-byte structures can be found at the vector address of
INT 1eH (the 4-byte address found at 0:0078). The list is also known as
the "Disk Base Table."

It specifies a variety of critical variables for diskette drives only.
The table is set to default values by the ROM-BIOS and may be modified by
DOS to improve diskette performance or increase battery life on a laptop.

```
DisketteParmRec
  Offset Size Contents
```

```
   +0      1   rSrtHdUnld   bits 0-3: SRT step rate time
                            bits 4-7: head unload time
   +1      1   rDmaHdLd     bit    0: 1=use DMA
                            bits 2-7: head load time
   +2      1   bMotorOff    55-ms increments before turning disk motor off
   +3      1   bSectSize    sector size (0=128, 1=256, 2=512, 3=1024)
   +4      1   bLastTrack   EOT (last sector on a track)
   +5      1   bGapLen      gap length for read/write operations
   +6      1   bDTL         DTL (Data Transfer Length) max transfer when
                            length not set
   +7      1   bGapFmt      gap length for format operation
   +8      1   bFillChar    fill character for format (normally F6H)
   +9      1   bHdSettle    head-settle time (in milliseconds)
  +0aH     1   bMotorOn     motor-startup time (in 1/8th-second intervals)
```

```
          11               length of DisketteParmRec
```