



# Tech Info Library

## ProDOS 8: Finding Volume Size using Assembly Language

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You can determine the number of blocks on a ProDOS-compatible device from assembly language.

On a ProDOS volume, the total number of blocks available is stored on block 2, bytes \$29 and \$2A. The number is in low byte/high byte format: for example, an 800K floppy will have \$40 at byte \$29 and \$06 at byte \$2A.

Byte \$2A contains the first two digits and byte \$29 contains the last two digits. \$0640 is equal to 1600 decimal, which is the total number of blocks on an 800K ProDOS disk.

If you need to determine the number of blocks on a device from the hardware, that information can be obtained regardless of whether or not block 2 is intact.

Check memory locations \$Cs01, \$Cs03, \$Cs05 (s = slot number) for \$20, \$00, and \$03, respectively. If these values are found, then the card in the slot is a disk controller.

Check memory location \$CsFF. If the value is \$00 or \$FF, assume that an Apple Disk II disk controller card is installed (\$00 is 16-sector, \$FF is 13-sector).

Otherwise, check memory location \$Cs07. If the value does not equal \$00, the device is not a SmartPort device, and the total number of blocks for the drive are stored at memory locations \$CsFC and \$CsFD in low-byte/high-byte order.

If the total number of blocks is 0, contact the card manufacturer for details on how to determine the number of blocks.

(NOTE: We do not know of any disk controller that does not store the total number of blocks at memory locations \$CsFC and \$CsFD.)

If the value at memory location \$Cs07 is \$00, the drive is a SmartPort device. To find the number of blocks on the drive, you must make SmartPort status call \$03 (get DIB). This call is documented in the "Apple IIGS Firmware Reference Manual" (Apple # 030-3121-A) on pages 114 through 125, with the most specific information starting on page 121.

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