

Waterfields Guide™

— to — Computer Terms

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Just the information you need.™

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MIPS (million instructions per second)

microprocessor A microprocessor is an integrated circuit that contains all the parts of the CPU on a single small chip of silicon. Not all CPUs are on a single chip—some (in larger computers) have the control unit and the arithmetic and logic unit (ALU) on separate chips. See *arithmetic and logic unit (ALU)*, *central processing unit (CPU)*, and *control unit*.

Microsoft Windows Microsoft Windows 3.0 and 3.1 are operating environments. An operating environment cannot function as a stand-alone operating system but instead works with an operating system and provides an interface between the operating system and the user. Windows not only functions as an operating environment with its graphical user interface (GUI), it also is capable of multitasking and can take advantage of large amounts of extended memory. The GUI and memory-handling capability have made Windows very successful, and today nearly all of the powerful programs for PCs are Windows-based programs.

Windows NT, a newer version of Windows, is a powerful, complete 32-bit operating system and often is used for networks. Versions of single-user Windows after Windows 3.1x also will be stand-alone operating systems.

All of this capability has a price. You need at least an Intel 80386 CPU and 4 MB of RAM (many say 8 MB minimum) to effectively run Windows. And, the software takes a lot of room: expect to need a hard disk with at least 200 MB of space (350 MB or more is better) if you are going to use more than a couple programs. See *GUI (graphical user interface)*, *multitasking*, *operating environment*, and *operating system*.

minicomputer A minicomputer is one that is more powerful than a microcomputer but less so than a mainframe. It generally will be used as a file server for a network of ten to one hundred users simultaneously. The IBM AS400 is an example of a minicomputer. See *mainframe*, *microcomputer*, and *network*.

MIPS (million instructions per second) MIPS is a measure of the speed of CPUs. A CPU rated at 40 MIPS can carry out forty million instructions in a second. MIPS is a measure often used for microcomputers,

and BIPS is used for supercomputers. See *BIPS (billion instructions per second)*.

modem A modem is a device that allows one computer to connect to another through telephone lines. To send data to another computer, a modem converts the computer's digital signals to analog ones used by telephone lines through a process called modulation. The analog signals then are transmitted over the telephone line. When the modem at the other end receives the signals, it converts the analog signals to digital by a process called demodulation. A modem is a *modulator/demodulator*.

External modems attach to the serial port on a computer. Internal modems fit into an available expansion bus slot on the motherboard and have their own port into which you connect telephone lines. Either way, modems work with serial transmission of data. Serial ports allow for two-way, asynchronous communications (which means data is sent at irregular intervals). See *internal modem* and *serial port*.

monitor A computer monitor is like a television set attached to a computer—it is an output device used to see the results of the computing process. There are two types of monitors for computers. Laptop computers have monitors that use liquid crystal display technology. These monitors are part of the computer, and the only way to upgrade them is to buy a different laptop computer. All other computers have monitors that use cathode ray tubes.

Computer monitors that use cathode ray tubes are similar to television sets in the way they work and look. Both have electron guns that shoot electrons at a phosphors-coated screen. With both TVs and computer monitors, when the electrons hit the phosphors on the screen, the phosphors glow, and an image is produced. However, computer monitors are more precise than TVs in the images they reproduce.

When buying a cathode ray-type monitor, look for a noninterlaced one with a refresh rate of about 72Hz (hertz, or cycles per second). A monitor with these specifications will not flicker as others may. Also, if you are buying a high-resolution monitor (that is, one with a resolution of 1024×768 or better), the minimum acceptable size is fifteen inches, and sixteen inches or greater is better. See *dot pitch (dp)*, *interlaced*, *refresh rate*, and *resolution*.