

## THE LANGUAGE OF COMPUTER EXPERTS

This list will decipher the arcane terms, epigrammatic abbreviations, and weird words used in the industry.

### **Audio Card**

Also called a "sound card," a "sound board," or "audio adapter," it is a personal computer expansion board that records and plays back sound, providing outputs directly to speakers or an external amplifier.

### **Bus Speed**

The speed that data travels along the wires that connect the processor to all other parts of the computer. Bus speed is measured in megahertz (MHz)--millions of cycles per second or gigahertz (GHz)—billions of cycles per second. Most computers have bus speeds of 1.6 to 2.4 GHz. A faster bus speed can lead to improved performance, but is usually closely tied to the speed of the processor. For example, Celeron processors use a 1.6 GHz bus, while Pentium IVs use a 2.4 GHz bus.

### **Cache** (pronounced "cash")

A small amount of very fast memory used by a processor for most operations. The idea behind a memory cache is that the processor frequently needs a small amount of data for the next processing cycle. Since the data required is fairly predictable (based on the most recent processing cycle), the cache can be pre-filled with the most likely needed bits of data. Most computers have the fastest type of cache, called Level 1 (L1), built into the processor itself. A second, larger amount of cache, called Level 2 (L2), is used when the necessary data is not found in the L1 cache. By increasing L2 cache, computer manufacturers (or, more recently, processor manufacturers) can significantly increase the actual speed of processing.

### **Central Processing Unit (CPU, Processor)**

A chip inside the computer that essentially functions as the brain of the computer. It is the single greatest determinant of a computer's power and speed.

### **Clock Speed**

The number of instructions a processor can execute per second. Clock speed is measured in billions of instructions per second (gigahertz, or GHz). It is a good indicator of performance only when comparing the same type of chip.

### **DIMM** (pronounced "dim")

Dual in-line memory module. A form of memory that can be added to a computer. DIMMs are used on all current Macintosh models, as well as some brands of PCs. See also "SIMM".

### **Docking Station**

A unit designed to convert a notebook computer into a full desktop computer system. Docking stations typically contain connections for peripherals, monitors, printers, and a keyboard, and some even contain additional hard drives or memory.

### **DOS** (pronounced "doss")

Disk operating system. A program that controls the basic operation of many PCs. DOS was originally used on the IBM PC, and was the standard operating system on most other brands until quite recently. DOS used text commands, which can make it more difficult to use than newer graphical interfaces such as Windows 98, ME, or XP.

**DVD Drive**

Reads the data on a DVD disc.

**DVD**

DVD stands for digital versatile disk. It is a relatively new storage standard for data and video images, capable of storing up to 17 gigabytes (GB) on a single disk. DVD drives are increasingly being installed in PCs in place of CD-ROM drives. Although very few computer programs are currently available on DVD, all DVD drives are backwards-compatible with CD-ROMs.

**Ethernet** Ethernet is a popular type of computer network, particularly the variant called 10baseT. As a result, many business PCs come equipped with an Ethernet connection built in, which allows the computer to connect directly to an Ethernet network through a plug in the back. You can also choose to add Ethernet to any computer that is not so equipped; the cost of an Ethernet interface card is typically less than \$50.

**Firewire**

A new technology for transferring data between a computer and peripherals. Firewire is very fast, and is typically used for connecting a computer to data-intensive peripherals such as a video camera or an external hard drive. Firewire is also hot-swappable, so peripherals can be attached and removed without restarting the computer. Firewire is available on all professional Macs (Apple invented the standard) as well as some PCs. It is also called IEEE 1394.

**Gigabyte (GB)**

One thousand megabytes of data. A gigabyte is equivalent to about one billion words.

**Hard Drive** A vacuum-sealed device typically consisting of two laser disks and four read-write heads. Modern hard drives can store 6-80 gigabytes of data—the operating system, computer programs, and saved photos, documents, and other data that is stored for re-use on a computer. Data saved on the hard drive does not erase when the computer is turned off. The hard drive is commonly designated as the **C: Drive** because the A: and B: drives were floppy disk drives (removable storage). The D: drive is commonly the first CD or DVD drive, but when a hard drive is "partitioned," it may consist of both C: and D: drives, often on the same device.

**High Capacity Floppy Drive**

Floppy disk drives that record data onto disks that can hold 100 MB or more of data. Examples are the Zip and Jaz drives manufactured by Iomega Corporation.

**Hot Swapping**

The ability to connect and disconnect peripherals from a computer without restarting the computer. Newer standards such as Firewire and USB allow hot swapping, while older standards such as SCSI and parallel ports do not.

**IDE**

The most common way to connect a hard drive to a PC. IDE drives are used on almost all PCs, and newer Macs primarily use the IDE standard. IDE is reliable and fairly fast, although high-end users will find the fastest variants of SCSI to offer better performance.

**ISA**

A standard slot in most PCs used to connect peripherals to the computer. ISA slots are relatively slow, and are primarily used for peripherals such as modems and serial ports where speed is not a major issue.

**Megabyte (MB)**

One million bytes of data. A megabyte is equivalent to about one million words.

**Network Computer (NC) (also called "slaves" or "terminals")**

An alternative to the stand-alone PC. Network computers do not store information locally on a hard drive or disk drive, but rather download programs from a network. This configuration is said by proponents to lower the cost of the machines, and dramatically reduces the cost of ownership.

**Operating System**

A basic program controlling how you can use and operate the computer. All Macs use the MacOS. PCs can work with a much greater range of operating systems. Older operating systems include DOS, Windows 3.1, Windows 95, and Windows 98, while newer ones include Windows ME and Windows XP. There are also a number of less popular operating systems for technical users, including Linux and OS/2.

**PC**

Personal computer. PC generally is used to mean computers that use the same processors, operating systems and software used by IBM PCs. Most PCs are now sold with either the Windows XP Home or Windows XP Professional operating system.

**PC Card (PCMCIA)**

A common notebook interface for adding modems or network interfaces to a notebook computer. A PC Card is the size of a thick credit card and slides into a slot on the side of many notebooks. PC Cards can also be used to transfer data between other digital devices (such as a digital camera) and a computer.

**PCI**

Peripheral Connect Interface. An interface, developed by Intel, for connecting peripheral cards such as network interfaces and video drivers to a computer. PCI slots operate at a much higher speed than the older ISA standard.

**Processor**

Also called a CPU (Central Processing Unit), it's the computing part of the computer. A personal computer CPU is a single microprocessor chip. A minicomputer CPU is contained on one or more printed circuit boards. A mainframe CPU is made up of several boards.

**RAM**

Random Access Memory. A temporary form of memory used to hold applications that are being accessed by the processor. Adding memory is often a very effective way to increase the working speed of the computer, since it decreases the need for the processor to read data off of the (comparatively) much slower hard drive. RAM for modern computers typically ranges from 256 to 1024 MB.

**Resolution**

The number of dots of light that appear on a monitor or the dots of ink that appear on a printed photo or page. A higher screen resolution means that more dots appear on the screen, allowing a large image to be displayed on a smaller monitor. Lowest screen resolution is currently 800 x 600 dots = 480,000 dots on your screen. Medium screen resolution is 1024 x 768 dpi, and high resolution is 1280 x 1024 dpi.

Contrary to most people's first guess, the higher the resolution, the smaller the icons and text will appear on your screen. A low screen resolution (800 x 600) makes icons and text appear larger.

For scanning of photos or documents to be digitized, choose a resolution of 72 dpi for simple copying and display on screen, while printing of quality photos requires 200 dpi or 300 dpi resolution.

**SCSI**

Small Computer System Interface. (pronounced "skuzzy") SCSI is a relatively old standard for attaching hard drives and other peripherals to a computer that has been continually improved to remain a top performer. The bad part about SCSI is that it tends to be somewhat temperamental, requiring the computer to be restarted each time a peripheral is added or removed, and sometimes refusing to work at all unless peripherals are reordered on the SCSI connector. However, the fastest SCSI variant (Ultra 2 SCSI) offers hard drive transfer speeds exceeding any competing IDE or Firewire capability. For this reason, SCSI is still offered on many high-performance computers.

**Server**

A powerful computer that serves as a central repository for applications, print jobs, or other network traffic. Servers are often the same hardware as an ordinary PC, but with a more stable operating system, more memory, and greater expandability.

**SIMM**

Single in-line memory module. A common form for adding memory to a PC. SIMMs insert into slots within a computer. See also "DIMM".

**STN**

Another term for dual-scan screen. Dual scan screens are not as bright as active matrix screens and must be viewed nearly head-on to see a clear image. STN screens, however, use less power than active matrix models and are several hundred dollars less expensive.

**Swappable Drive Bay**

An area of reserved space in a personal computer where hard or floppy disk drives (or tape drives) can be easily swapped in and out.

**Tape Backup**

The use of magnetic tape for storing duplicate copies of hard disk files.

**USB**

Universal Serial Bus. A new standard for connecting relatively slow peripherals such as keyboards, scanners, modems and printers to a computer. USB is very simple to use, and allows peripherals to be added or removed without turning the computer off (hot swapping). USB can also handle up to 127 peripherals on a single port. All Macs are equipped with USB, and PCs are increasingly offered with this interface standard.

**VRAM** (pronounced vee – ram)

A high-speed form of memory used on some high-end video cards. VRAM is faster than standard DRAM, which will allow complex images to appear more rapidly on the screen.

**Windows**

A graphical user interface developed by Microsoft. Earlier versions of Windows (such as 3.1) required the DOS operating system in order to work. The newer versions of Windows such as Windows 95, 98 and XP do not require a separate DOS installation.

**Zip Drive**

A popular type of removable media that holds many gigabytes of data on a \$10-\$20 disk. A Zip drive is not nearly as fast as a hard drive (or even most other types of removable media), but is much faster and more capacious than an old fashioned floppy drive. A similar, but incompatible, technology is the SuperDisk, which holds 2 gigabytes on a floppy-sized disk.