

Glossary of Computer Terms

(from the website computer.howstuffworks.com/pci.html)

0. **Central processing unit (CPU)** - The microprocessor "brain" of the computer system is called the central processing unit. It's a chip that holds a complete computational engine. It uses assembly language as its native language. Everything that a computer does is overseen by the CPU.
- . **Memory** - This is very fast storage used to hold data. It has to be fast because it connects directly to the microprocessor. There are several specific types of memory in a computer:
 - . **Random-access memory (RAM)** - Used to temporarily store information with which the computer is currently working
 - . **Read-only memory (ROM)** - A permanent type of memory storage used by the computer for important data that doesn't change
 - . **Basic input/output system (BIOS)** - A type of ROM that is used by the computer to establish basic communication when the computer is first powered on
 - . **Caching** - The storing of frequently used data in extremely fast RAM that connects directly to the CPU
 - . **Virtual memory** - Space on a hard disk used to temporarily store data and swap it in and out of RAM as needed
 - . **Flash memory** - a solid state storage device, Flash memory requires no moving parts and retains data even after the computer powers off
- . **Motherboard** - This is the main circuit board to which all of the other internal components connect. The CPU and memory are usually on the motherboard. Other systems may be found directly on the motherboard or connected to it through a secondary connection. For example, a sound card can be built into the motherboard or connected through an expansion slot.
- . **Power supply** - An electrical transformer regulates the electricity used by the computer.
- . **Hard disk** - This is large-capacity permanent storage used to hold information such as programs and documents. Traditional hard drives contain moving parts -- the drive has platters on which it stores data. The drive spins the platters to record and read data. But some newer hard drives are flash-based with no moving parts. These drives are called solid-state drives.
- . **Operating system** - This is the basic software that allows the user to interface

with the computer.

0. **Integrated Drive Electronics (IDE) Controller** - This is the primary interface for the hard drive, CD-ROM and floppy disk drive.
- . **Accelerated Graphics Port (AGP)** - This is a very high-speed connection used by the graphics card to interface with the computer.
- . **Sound card** - This is used by the computer to record and play audio by converting analog sound into digital information and back again.
- . **Graphics card** - This translates image data from the computer into a format that can be displayed by the monitor. Some graphics cards have their own powerful processing units (called a GPU -- graphics processing unit). The GPU can handle operations that normally would require the CPU.
- . **Ports** - In computer hardware terms, a port is an interface that allows a computer to communicate with peripheral equipment.
- . **Real-time clock** - Every PC has a clock containing a vibrating crystal. By referring to this clock, all the components in a computer can synchronize properly.
- . **Complementary Metal-oxide Semiconductor** - The CMOS and CMOS battery allow a computer to store information even when the computer powers down. The battery provides uninterrupted power.
- . **Fans, heat sinks and cooling systems** - The components in a computer generate heat. As heat rises, performance can suffer. Cooling systems keep computers from overheating.

In the next section, we'll look at how your computer connects to the outside world.

PC Connections

A typical computer connects to the world around it in three different ways: input/output devices, ports and networking.

No matter how powerful the components inside your computer are, you need a way to interact with them. This interaction is called **input/output (I/O)**. The most common types of I/O in PCs are:

- . **Monitor** - The monitor is the primary device for displaying information from the computer.
- . **Keyboard** - The keyboard is the primary device for entering information into the computer.
- . **Mouse** - The mouse is the primary device for navigating and interacting with the

computer.

0. **Removable storage** - Removable storage devices allow you to add new information to your computer very easily, as well as save information that you want to carry to a different location. There are several types of removable storage:
 - . **CD-ROM** - CD-ROM (compact disc, read-only memory) is a popular form of distribution of commercial software. Many systems now offer **CD-R** (recordable) and **CD-RW** (rewritable), which can also record. CD-RW discs can be erased and rewritten many times.
 - . **Flash memory** - Based on a type of ROM called **electrically erasable programmable read-only memory** (EEPROM), Flash memory provides fast, permanent storage. CompactFlash, SmartMedia and PCMCIA cards are all types of Flash memory.
 - . **DVD-ROM** - DVD-ROM (digital versatile disc, read-only memory) is similar to CD-ROM but is capable of holding much more information.

You may use Bluetooth or Wi-Fi to sync your music player or print driving directions, but many computers still have ports to help you connect to a wide selection of peripherals. While there have been others, two are most commonly found on newer computers:

- . **Universal Serial Bus (USB)** - The most popular external connection, USB ports offer power and versatility and are incredibly easy to use.
- . **FireWire (IEEE 1394)** - FireWire is a very popular method of connecting digital-video devices, such as [camcorders](#) or [digital cameras](#), to your computer.

Networking, especially to the Internet, is very important to today's computer users.

Your computer can probably use one or more of these methods:

- . **Modem** - This is the standard method of connecting to the [Internet](#).
 - 0. **Local area network (LAN) card** - This is used by many computers, particularly those in an [Ethernet](#) office network, to connect to one another.
 - . **Cable modem** - This type of modem uses the cable system in your home, like the kind you might use to subscribe to cable TV, to connect to the Internet.
 - . **Digital Subscriber Line (DSL) modem** - This is a high-speed connection that works over a standard [telephone](#) line.
- Very high bit-rate DSL (VDSL) modem** - A newer variation of DSL, VDSL requires that your phone line have [fiber-optic cables](#). An even faster version called the gigabit per second DSL (GDSL) may follow [source: [Cioffi, et al.](#)].