Computers, Computers, Computers

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Part of the fear of using or understanding computers is simply not knowing what all of the parts of a computer and the terms that describe them and their function are. This lesson attempts, on a very basic level, to explain some of the more routine terms and descriptions in order for the participants to begin to fathom the world of computers and the difference between hardware and software.

Suggestions- If at all possible have a desktop machine available to show participants the various parts. If this is not possible, even photos will help and you should be able to find them in catalogs, magazines, etc. You also might want to check with a local computer store. A representative might be more than willing to give a demonstration of a computer's capabilities.

You may be able to gather some other items like floppy diskettes or circuit boards used in a computer. Some computer stores may have these available for loan (from an old computer that no longer works or has been upgraded) and can show you how they go together in a computer. The best example is a motherboard and an expansion card. The computer store or individual who has these items can show you how they plug into each other.

Please note that the goal here is to make people feel at least a little more at ease with the odd terms used in conjunction with a computer.

Terminology

Motherboard

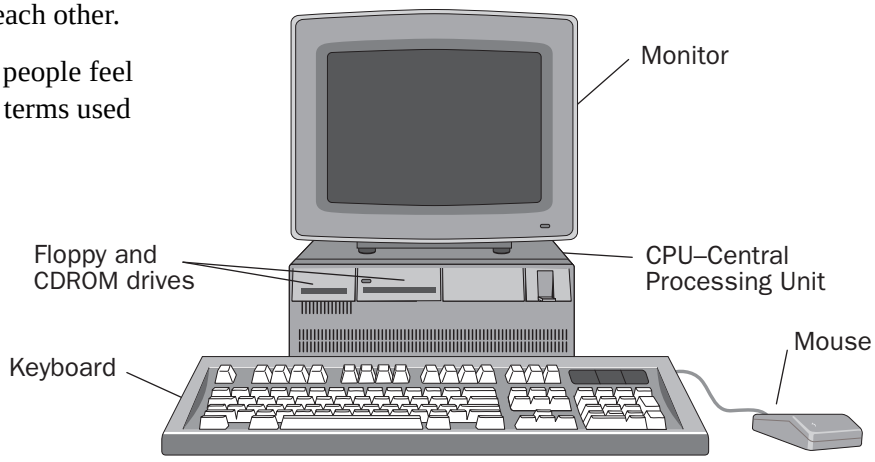
A board inside the main computer that generally contains the main processor chip. What is a board? It is simply a thin composite sheet with tiny wires imbedded in it that connect the various parts of a computer together into a single operating unit. In other words, everything plugs into or is connected to the motherboard. In addition, IBM-compatible computers have motherboards that will accept additional plug-in boards. These additional boards usually are much smaller and may add memory or an accessory or in some way improve the computer's functionality.

Input Device

Any way of entering data into the computer. This can consist of the keyboard, a mouse, a scanner, a disk drive, a light pen, or a bar code reader.

Output device

Any way of viewing data contained in a computer. Most often this is the printer or the monitor.



XGA (CGA, EGA, VGA, SVGA, etc.)

The type of graphic adapter card plugged into the motherboard. The evolution of computers started with monochrome monitors then graduated to the Composite Video Adapter or CGA. Each adapter since then until the currant SVGA simply added clarity, resolution, and colors.

Hard Drive, hard disk, fixed drive, fixed disk, Winchester drive

This is the storage part of a computer and cannot be removed. Average computers now have two-gigabyte (GB) hard drives. Large machines have drives equaling several gigabytes (1,000 megabytes). We used to laugh at the term "gigabyte" because most computer folks never thought we would see that large a drive. But predictions are that within a year or two the average computer will have at least one "terabyte" or 1,000 gigabytes. No one laughs anymore. The original IBM PC that came out in 1980 had only floppy drives that would hold 128 kilobytes or 128,000 bytes. Very soon we will be measuring our "bytes" on a lowly PC by the billions.

Drives on computers are all identified by alphabetical letters. Drives A and B are reserved for floppy drives and drive letters C and up are for all other drives. All computers have a drive A and a drive C. Many computers will have an A floppy drive, a C hard drive, and a D CDROM drive. This is pretty much the standard configuration for a basic computer today.

Eight bits equals a byte, 1024 bytes equals 1 kilobyte or 1k., and 1000k equals one megabyte or 1mb. To further explain, each byte is essentially equal to one letter in the alphabet or a number. A single megabyte can store two medium-size novels of straight text. Graphics take large amounts of storage space.

Compression

Much has been made of disk compression. Compression can as much as double the size of your hard disk, but it will slow your hard drive and data access times and can pose other confusing problems. The future of live video on the Internet, video phones, and other massive data transmission will depend on how much and how fast we can compress data on one end and do the opposite on the other end of a phone line or cable.

RAM-Random Access Memory

Your computer programs including DOS need memory to operate. This is general-purpose memory. Once it is filled, a new keyboard instruction forces something out of the memory to allow the new process to take place.

Base Memory

Memory that is recognized by DOS; it can be up to 640K.

Extended/expanded/video memory- Memory located above the base memory. Different programs need different kinds and amounts. Special memory management commands allow this memory to be used since DOS only recognizes up to 640K. A typical computer today needs at least 16 megabytes of memory. The more memory the better.

ROM

Read only memory. ROM contains built-in instructions that come with a computer to tell it what to look for when dealing with DOS and RAM. You don't generally mess with ROM unless you really know what you are doing and like to live dangerously.

Note: Many people get MEMORY mixed up with STORAGE capacity. The floppy and hard disks provide the STORAGE, while memory is simply electrons going through many switches to provide a very fast, temporary work area.

Another way to look at it is that STORAGE is like a filing cabinet and MEMORY is your brain. Every now and then your brain needs to access something in the filing cabinet and by so doing "loads" certain information into your brain. You and your brain then study that information and act on it accordingly. Simple!

Floppy-floppy drive

Many people refer to a floppy as either a drive or the media, which the drive will accept. A floppy disk is the media. They're several types but two are primarily used today. The 5-1/4 inch floppy is the true "floppy" because it bends easily or flops. It is primarily configured as a DS (Double Sided)

HD (High Density) 1.2-megabyte capacity disk. The second is the 3-1/2 inch drive, which is housed in hard plastic. Even though it is still called a "floppy," it does not "flop." It is generally configured in one of two sizes—a 720K DS (Double Sided) DD (Double Density) or a DS HD (Double Sided High-Density) 1.4-megabyte capacity drives.

Confusing isn't it?

Hardware

The physical machine that makes up a computer and any devices attached to it. You can touch it, kick it, or bang on it.

Software

The instructions that make the hardware do what you want it to, at least in theory. You can love it, use it, or cuss it.

Directory

A section of a floppy or hard drive set aside for what is we hope is related information or a particular piece of software. The user has the discretion of setting up as many of these as needed. I might set up a directory called taxes and then subdirectories for each year. For some reason, this is a very difficult concept for some people to understand. Think of it as a filing cabinet divided by categories, with subcategories and files in each one. Directories (called **folders** in Windows 95) are simply an electronic filing cabinet organization. It is necessary to create directories/folders because you will eventually have hundreds or even thousands of files. If you don't keep them organized in some way it will slow you and your computer down.

Root Directory

This is the base directory for all other directories. It is also the place where your **config.sys** and **autoexec.bat** files are stored. You can always reach the ROOT by typing the drive letter, a colon, and a backslash followed by the <ENTER> key. Example C:\ <ENTER> takes you to the ROOT directory of drive C.

Boot

(as in "I booted up my computer" or "I had to reboot") This means to turn your computer on or to reset your computer. You do this by turning it off and then turning it back on **(cold Boot)** or by using **Ctrl-Alt-Del** keys or reset button **(warm Boot).**

RS232 Port

Serial port on your computer. Most computers have two of these on the back. You can plug in your printer or any number of other devices like modems, mice, or game devices into your serial or RS232 port. Serial ports are required for certain types of hardware, but they are generally slower than parallel ports because serial data travels only one way at a time.

Parallel Port

Generally, you hook your printer to the parallel port. Since your printer and computer communicate or "talk" to each other constantly, this port is faster than a serial port. This is also on the back of your computer. Most computers have only one but it sure doesn't hurt to have two.

ASCII

(pronounced "Askey" and standing for American Standard Computer Interactive Interface)
Is the common text that most computer software can read. Word documents may not be readable in the WordPerfect program but both can read and show you ASCII text.

LAN

The Local Area Network has been the hottest new development in computing of late. Used mostly in office settings, a network makes each individual computer much more powerful and gives it many more options. The biggest use of a LAN is its ability to share printers; however, software access, and file distribution are its most important uses.

Online Services

CompuServe, Prodigy, America On-line, and the ever-famous Internet are examples of these. Using a **Modem** (stands for modulator/demodulator), a computer has access to various services including research capabilities, communications and, of course, shopping.

This one area may be the single most important development in using a computer. It provides equal access to the knowledge of the world.

Multimedia

A catch word for a computer that can do many things including music, video, audio, CDROM, voice mail, telephone services, etc. Most computers being touted for home use are multimedia machines that come with all of the accessories needed to handle these nifty things.

Mouse

A mouse is a pointing and selecting device. It operates by being moved around on top of a desk or table, which turns a small ball underneath. This, in turn, moves the pointer around on the screen. Once you are pointing at something you want to do or software you want to activate, you click or double click one of two or three buttons on the mouse. While this sounds very easy, it may take some practice to learn to control a mouse properly.

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