



Computer Components for Idiots

by: Ron King

There are many fancy add-ons for computers, but the basic components of the computer are simple and universal. If 1 of these main components is missing, it's not a computer.

The 4 essentials of every computer system are: a motherboard, a Central Processing Unit (CPU), memory, and a hard drive. These components are installed in a case to which are attached a monitor, a keyboard and a mouse. That's your basic computer.

Mother WHAT?

The motherboard ("mobo" for short) is the foundation. Everything attaches to the mobo -- the CPU, memory, hard drive, monitor, mouse, keyboard, add-on cards, even additional peripherals like printers, scanners, and speakers. The motherboard is like the nervous system and skeleton of the human body -- it provides support for the internal components and also passes information between the computer parts.

CPU

If the motherboard is the nervous system, then the CPU is the brain. Most of the mathematical manipulations that make computers operate are done by the CPU. Other components may also have their own processors, but their results still have to be passed through the CPU.

The speed of the computer is usually measured by the speed of the CPU. Even though other factors also affect overall speed, the CPU rating is generally seen as the single most important measure of performance.

Modern CPUs are usually rated between 2.0 GHz and 3.0 GHz, although each passing month will see increasing performance. This measurement refer to the number of calculations the processor can make in 1 second. The higher the number, the faster (better) the computer.

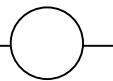
CPUs generate a lot of heat doing this work, so they need a heat sink and fan to keep them from overheating. Heat is a major enemy of the computer and directly affects its life span.

Computer Memory

RAM (Random Access Memory) is the part of the computer that stores information the computer needs while it is operating. It is Random Access because the computer can get the data in any order, not necessarily the order in which it is stored. Generally speaking, the more RAM the better. 512 to 1024 megabytes is common for memory.

The most common type of RAM these days is DDR-SDRAM, which stands for double-data-rate synchronous dynamic random access memory. We already know what the RAM part means. DDR means that the data is accessed twice as fast as ordinary RAM.

The latest type of RAM is DDR2. It offers even faster access rates and is quickly becoming the standard for computer memory.



Hard Drive

All the data contained in RAM is lost when the computer is turned off, so there has to be a place to store it permanently. This is what the hard disk is for.

It holds the computer's operating system. An operating system like Windows uses around 4 gigabytes of hard drive space. The extra space is used to install computer programs and to store your personal data.

80 gigabyte hard drives are common, but 400 GB units are available. Furthermore, you can install more than 1 in a computer case for added security and convenience.

Peripherals

All you need to complete the basic computer system is a monitor, keyboard and mouse.

Accessories like a printer or scanner are useful for office work, and gamers will probably want to add speakers and joystick controls.

So there you have it. The basic computer needs just 7 major components. For the best performance, these components must integrate well. The motherboard is the most important component for determining the type and specification of the other parts. Choosing an appropriate mobo for your computer needs is the first step and may require a quick call to your local geek.

Soon YOU will be considered the local geek!

About the author:

Ron King is a full-time researcher, writer, and web developer. Visit <http://www.build-computer-now.com> to learn more about this fascinating subject.

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