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Basics of Personal Computer Hardware

The personal computer (PC) is one complex piece of machinery. Its made up of many individual components that will baffle the uninitiated. To learn about PCs, one has to have a desire to learn and experiment - it took me at several years before I got comfortable with building and maintaining my own computers.

This is not to say that PC technology is terribly hard to learn. All you need to know is the how a basic PC is set up, and what components are required.



Various components that go into a personal computer

After learning the basics, its a matter of self experimentation and reading - with time, you'll be one of the pros! This article aims to provide you with at least some basic knowledge of PCs so that you can move on to learn more if you wish.

The Motherboard

The motherboard is one of the most important components in your PC. The motherboard is the glue that brings all the separate PC components together. There are several factors you need to look at when choosing motherboards, like the form factor (usually ATX), supported CPU, bus speed, supported RAM, form factor, built-in sound/video/LAN. You can learn more about how to select good motherboards in [my motherboard guide](#).

The CPU

The CPU is another important component, since it is the 'brain' of your PC. You'll

want to look at either Intel or AMD CPUs. The latest CPU from Intel is the Pentium 4, while that from AMD is the Athlon 64. Both are excellent processors. For further reading, you may also want to check out [my CPU guide](#) here.

The Computer Case

The computer case is your computer's housing. You need this to store your components, the largest of which is your motherboard. These days, the PC cases out there come in ATX form, which means they can accommodate ATX motherboards. Learn [how to choose a good computer case](#) here.

Computer Memory

Computer memory is also called RAM (Random Access Memory) - think of it as the storage area in the computer's brain. Typically, RAM sizes nowadays come up to 512 MB to 1 GB on average. Computers which are run as full servers typically have memory in the range of 4 GB or more. What are the factors to consider when selecting computer memory? You'll find out in [this article on computer memory](#).

The Monitor

The monitor will be the most expensive component in your system. Newer monitors tend to have large 17-inch or 19-inch LCD screens which are easy on the eyes. There are also conventional CRT monitors which are bulkier but cost much less. If you want to know more about the difference between CRT and LCD monitors, [this article on computer monitors](#) will be of help to you.

Hard drives and Floppy Drives

A hard drive is essential for storing your system's data, including the operation system software. Hard drives are extremely sensitive devices and prone to failure, so get your hard drives from respected brands like Seagate, Maxtor and IBM. Floppy drives are important for reading 5.25 inch diskettes - these are fast becoming obsolete with the increasing commercial adoption of USB storage devices like Pen Drives. Still, for a basic computer, I'd still say the floppy drive is necessary. You'll also want to read more about [selecting a good hard drive](#) here.

CD-ROM Drives

A CD-ROM drive used to be an 'optional extra' in computers - it is no longer so. Most software packages come in CD format, so you must have a CD-ROM drive to read them. Typically, CD-ROM drives today need to be at least 24X speed to keep up with the newer software applications out there.

The Video Card

Unless you have built-in video on your motherboard, the video card is a must have component because it displays images on your monitor. The latest video cards support 3D graphics rendering and games - they are also the fastest changing technology in the PC world. Learn more about [selecting video cards](#) here.

The Keyboard and Mouse

These two input devices are obviously needed, otherwise you can't interact with the computer system. These components are fairly standard stuff and can be purchased at pretty cheap prices.

Optional Components

Next, there are the optional hardware components that need not be in every computer setup. These include: the sound card, the LAN card, as well as CD writers and DVD writers. Without them, the computer system will still be able to function.

The Sound Card

Some may argue that the sound card is an essential component in the PC, since it translates digital signals into analog audio for your listening pleasure. Well, that's true, if you want to play games or run multimedia applications in your PC. Otherwise, it may not be necessary, especially in business environments. The one brand that stands out for sound cards is Creative Labs, I'd recommend you get one of those. And guess what, I've got a guide on choosing sound cards too! [Read it here.](#)

The LAN Card

Also known as the NIC (Network Interface Card). Once used only in corporate environments, the LAN card is now increasingly used at home for connecting various computer together to form a network. Many motherboards now also feature built-in LAN ports so you don't have to buy a separate card.

The CD Writer and DVD Writer

These two devices, especially the DVD writer, are selling like hotcakes in the market. Essentially CD writers allow you to burn images of your data into a 600 MB to 700 MB CD, which is really handy for performing data backups. DVD writers are even better, since they allow you to burn data onto a 4.7 GB DVD.

Conclusion

Wow, that's a lot of components we've covered! Considering the huge array of computer products out there, it can prove to be very confusing to the beginner. I hope this article sums up the types of PC hardware available in the market and gives you some idea of what you will and will not need to buy.

Want To Upgrade to A 19" LCD Monitor?



The [Planar PE1901](#) is a 19 inch LCD monitor that features an ultra-thin design and exceptional visual performance. If you're thinking of stepping up to a 19-incher, the Planar PE1901 stands above the rest in image quality and value. This monitor also includes the eTrust Internet Security Suite software which provides protection against viruses and other online threats.

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