

Buying a Computer

Jason Sherman, Silver Spring PC, August 2007

After establishing your budget, one of the most important aspects you need to consider is what will be the computer's primary use. For example, Web surfing, online banking, and email take considerably less memory, speed, etc., than electronic photo or music storage, video games, or watching DVDs. Another key factor is expandability. If you think that your computer needs will grow and evolve, considering a computer with adaptability can be a good idea. There are several indicators that I have defined below to help you navigate purchasing the computer that best fits your need and your budget.

Processor (CPU)

The CPU is often considered the "brain" or "engine" of the computer. Processors come in different model with different speeds (Think car model and engine options). Economy models are good for basic stuff like surfing the internet. If you want multimedia capabilities (music, video, pictures, gaming) then you need a better model of processor. However, if you are going to be playing games or video editing then you will want to consider a higher end or "faster" processor (starting at 3GHz). Processors are not just about speed either. They come in different models that have different features which effect performance and price (see model below). **Please note, unlike other computer components that are easy to upgrade, it can be difficult to change processors, so it might be a good idea to get a little more power than you think you might need.** The primary manufacturers of desktop CPUs are Intel and AMD.

Model	CPU Speed	Performance
Intel® Celeron® Processor	1.6-3.6GHz	Hyundai
Intel® Pentium® 4 Processor	1.3-2.8GHz	Pontiac
Intel® Pentium® 4 Processor Supporting Hyper-Threading Technology	1.3-3.8GHz	Volkswagen
Intel® Pentium® D Processor	2.6-3.6GHz	BMW
Intel® Core™2 Duo Processor	1.8-3GHz	Porsche
Intel® Core™2 Extreme Processor	3.2-3.7GHz	Ferrari
AMD® Sempron®	1.6-2.2GHz	Hyundai
AMD® Athlon® 64	1.8-2.6GHz	Volkswagen
AMD® Athlon® 64 X2 Dual-Core	1.9-3.2GHz	BMW
AMD® Athlon® 64 FX	2.2-3GHz	Porsche

Operating System

The operating system is the primary software installed on your computer (It makes the computer work). Windows XP Home is what many home users use and it is a good option. If you are a business user, XP Professional may be a better way to go.

Windows Vista is the latest operating system from Microsoft an was released in January 2007. It comes in different versions (Basic, Premium, Ultimate, Business). I think Premium is a good option for most users and Basic if budget is a big issue. Either way if you get a new system get Vista! Keep in mind that you may have some compatibility

issues with old hardware and software and Vista. So you may be required to upgrade these or buy new versions.

Memory (RAM)

RAM is the computer's temporary memory where data is stored while it is being used. The more RAM your computer has, the better it can perform when running more than one program at a time. Usually 256 Megabytes is the minimum level, but it is recommended to start with 1 gigabyte (or 2 gigabytes if it is in the budget or you are using Vista). Memory is a component that can be upgraded so you can usually purchase additional RAM in the future as needed.

Hard Drive

The hard drive is where you store your programs, files, pictures and all other PC related stuff (much like all those boxes in your garage). Getting a large hard drive is a good idea because it will give you more space to save more files, pictures and music. A 250 Gigabyte hard drive is a good size to start with. Also, you can usually add additional hard drives to your PC depending on the size of the computer case that you have.

External Hard Drive

An external hard drive for backing up the information stored on your PC is an essential part of your computing needs. Much like a safe deposit box, it helps safeguards all the information (photos, documents, etc.) that might be lost if something goes wrong with your main hard drive. Although it poses an additional cost, there is nothing worse than losing everything you have worked on!

Drives

Drives on your desktop allow you to use CD-ROMs, DVDs, and floppy discs. Some computer cases allow you to have more than one drive installed. So you could have a CD burner/DVD reader drive, DVD burner/CD reader and floppy in the same machine.

When budget is an issue, get one drive with multiple capabilities such as a CD/DVD reader/DVD Writer. DVD burners hold a lot more information than a standard CD, and in addition to playing movies, it can act as another form of backup for your hard drive.

You can probably forgo the floppy drive unless you have old information you wish to access.

	Storage capacity
Floppy Drive	1.44 Megabytes
CD Burner/DVD reader	650 Megabytes
DVD Writer	4.7 Gigabytes

Video/Graphics Card

On lower end desktop PCs, the video will be built into the system and will do a good but basic job. If you plan on playing games or video editing then consider a higher end video

card (one with its own built in memory). This is something that can be added later so if you do not want to purchase a high end card now you can easily do so in the future.

TV Tuner

While not an essential part of the PC you can purchase a TV tuner for your PC. This will allow you to watch television on you PC while you work. You just need a cable TV connection wherever the computer will be set up. Most usually have a remote controll option and can also act as a TV recorder so you can record live TV for viewing at a later date.

Computer Case

The computer case, though just an external plastic or metal structure, is probably more important than you might think. A computer case somewhat defines your computer's capabilities by pure size alone. It is often better to either purchase a computer with everything you think you might need, or purchase a computer with a case that will allow you to add extra drives (DVD,CD or Hard Drive, etc.) and options (high end sound cards, etc.) as your computer needs grow.

Monitor

My word of advice here is to buy the biggest and best rated that your budget can handle. When you think about it...most people spend a lot of time in front of the computer...do your eyes a favor and get a good one! Check out reviews from sources like <http://www.newegg.com> and <http://www.maximumpc.com> .

Keyboard and Mouse

While not essential, an optical mouse is a good idea since it uses no moving parts. Cheaper mice rely on a mechanical system that uses a moving rubber ball that gets clogged with dust and requires cleaning. As for a keyboard, if you work on the computer a lot, you may want to consider an ergonomic keyboard.

Speakers

A free, somewhat low-end pair is usually included with the purchase of a computer system. For most needs, these should be quite adequate. However, if you intend to listen to music, watch movies, or play video games on your machine, you may want to consider purchasing a better pair. High quality speakers can start around \$100.00. Speakers can also be upgraded in the future as needed.