

# The New Computer Buyers Guide

&nbsp;-What to look for when buying a New Desktop Computer

17 Important points to consider

## Processor

The processor is also known as the CPU (Central Processing Unit). The processor is the main engine of the computer system, it does all the work involved in making everything else run. The processor is the main component that determines your computers performance. Processor speed is measured in Gigahertz (Ghz). Generally speaking the bigger the processor the faster your computer system will run (although many other factors will effect a computer system's performance). This is where your money is spent, by far the processor is the most expensive component inside the computer system. Shop wisely when looking at the type & speed of processor, it is possible to upgrade the processor later on, however this normally is a costly exercise. The two main players in the processor market today are Intel & AMD, both companies make fine processors & its far too difficult to say which is the best, as they both make processors that have their weaknesses and their strengths. Ask your sales representative which type of processor would best suit your personal or business needs. Different models of popular desktop processor's include: Intel Xeon, Intel Extreme, Intel Pentium 4, Intel Pentium 3, Intel Pentium 2, Intel Pentium, Intel Celeron, AMD Opteron, AMD Athlon64, AMD Athlon XP & AMD Duron.

## Cache

Another form or type of memory, the Cache is stored within the CPU (Central Processing Unit). Although not talked about much cache is very important. Cache enhances the processor's performance by temporarily storing instructions and data. High-performance processors include larger caches, which are divided into Level 1 and Level 2. In general the bigger the better! Cache is measured in Kilobytes (Kb) & Megabytes (Mb). The more cache you have in your processor the better your computer will perform. For example if you were to open up a recently accessed document in your computer system it (along with others) will most likely still be stored in the computer system's cache (short term memory). Thus you will be able to access it quicker than if it had not have been stored within the cache. The more cache means the more information that can be stored in the computer's short term memory.

## Hard drive

Probably one of the most essential computer components, the Hard drive (Hard Disk) provides you with space to store your programs and personal files. These days the capacity of the Hard drive (Hard Disk) is measured in Gigabytes (Gb). Depending on your storage needs you can remember one thing, the bigger the better! You may never need the amount of space that todays large capacity hard drives (Hard Disk) contain, however you can't be too sure & its nice to know that you have plenty of room for all your information. The speed at which the hard drive (Hard Disk) rotates is also a very important factor to consider when choosing which hard drive (Hard Disk). The speed of the hard drive (Hard Disk) is measured in revolutions per minute (rpm), This indicates how quickly the drive can access stored programs and files. Most users will be happy enough with todays standard 7,200rpm although higher end users will look at the faster 10,000rpm and faster drives. Different makes of popular desktop hard drives (Hard Disk) include: Seagate, Maxtor, Western Digital, Samsung & IBM.

## Memory

System Memory is also called RAM (Random-Access Memory). Memory is where the computer system stores its software applications and data that are currently in use. Memory is measured in Megabytes (Mb) & Gigabytes (Gb). The greater the amount of memory that you have in your computer system the better you will be able to perform multiple tasks. For instance the more memory you have equates to the more software applications that you can run at once. Some people don't need much memory as they only ever do one thing at once when using a personal computer system, however as your computer skills increase you will soon find yourself needing more and more memory, so its a good idea to get enough to start with. Different types of memory supplied today include: DDR RAM (Double Data Rate RAM), SD RAM (Synchronous Dynamic RAM) & RD RAM (Rambus Dynamic RAM). DDR RAM is todays most common standard. Popular manufacturers of memory modules include Corsair & Kingston.

## Optical drive

Optical drive refers to the various types of CD drives that are available in the marketplace today. Optical drives are used for reading & writing data using either CDs or DVDs. Read only memory drives or ROM drives are used as the name suggests to only read the media that is inserted.

These drives are CD ROM Drives & DVD ROM Drives. Other Drives allow you to record onto CD & DVD media, these drives are CDRW & DVDRW also called CD Burner & DVD Burner respectively. CD Burners & DVD Burners more highly favored as they can also perform the functions of the ROM drives making them very versatile. Although the RW drives are more expensive we highly recommend you have either one or both included in your next computer system. A cost effective way is to combine a DVD ROM & a CD Burner, this gives you the ability to Watch DVDs & Burn data, music, photos etc. onto your CDs. In today's marketplace there is a huge variety of optical drive manufacturers, some of them include: Asus, Benq, Liteon, Samsung, Sony, 4-Kus, Pioneer & Panasonic.

#### Monitor

Along with your graphics adapter, the monitor determines the quality of the image displayed. Today There are two basic types of monitor, CRTs (Cathode-Ray Tube) and flat-panels. CRTs are much less expensive, however they are bulky & take up a large portion of your desktop space. It is important to know the measurements that are used to determine the size of monitors viewable area. CRT type monitors are measured to include the portion of the screen hidden behind the bezel. Thus a 19 inch CRT monitor will actually measure less than 18 inches because some of the viewable area is actually hidden. Flat-panel monitors on the other hand measure true, so if you receive a 17 inch flat-panel monitor you know your getting the whole 17 inches of viewable area. Flat-panel monitors are compact & consume less power than that of CRT's. Although Flat-panel technology is improving CRT's are still favored in the gaming & graphic design community. The reason for this is because CRT monitors produces more accurate colours and this is important for graphics work & gaming, CRT monitors also handle moving images far better than flat-panel monitors, which can improve the viewing of DVD movies & running hi-end graphical games.

#### Graphics Adapter

Along with your monitor, the graphics adapter determines the quality of the image displayed. Cheaper lower end computer systems will come with the graphics adapter built into the motherboard (mainboard). While this is fine for most, having the graphics adapter built-in drains the computer system of memory, which slows down performance. Getting a separate graphics card with its own memory is best for serious users. The graphics card will fit into the motherboard's AGP expansion slot. Having the video memory independent of the motherboard is best for hi-performance computer games.

#### Audio Adapter

Together with the speakers, the audio adapter determines a computer system's ability to reproduce quality sound for watching DVD movies, listening to music & realistic game sound effects. The quality of the sound adapter will also dictate its ability to produce quality surround sound. Often times the sound adapter will come integrated or attached to the motherboard (mainboard), & this is fine for most users. For serious sound buffs a separate sound card in a PCI expansion slot offers better sound quality, more features and better performance.

#### Speakers

The speaker system is important if you intend using your computer for watching DVD movies, listen to music & do a lot of gaming. The preferred option is to get the popular sub woofer speaker system. Sub woofer speaker system's normally consist of one sub woofer & two to four smaller satellite speakers. These sound systems are great for that deep bass sound that you often need with music & video playback. The less expensive alternative is the standard multimedia speakers that are bundled with most computer systems. These are fine if all you need is a basic sound.

#### Modem

Your modem lets you access the Internet for browsing web pages & accessing emails. An internal 56K & V.90 / V.92 modem is the standard today. Dial-up modems normally come as standard issue with computer systems, the more expensive DSL or ADSL (Broadband) modems are normally added later if the user decides to get the faster broadband Internet connection.

#### Network adapter

If you ever need to connect your computer to other computers to transfer information or share an Internet connection it is recommended that you get a Network Interface Card (Network adapter). Network adapters are standard accessories with most computer's, however if one is not included in your package the cost to add one later on is a very minimal expense.

#### The Main System Board

## Bus speed

The Bus speed or Front side Bus (FSB) is essential to fast computer performance. The bus speed is how fast data & information will travel between two points within your computer system. Ask about the bus speed when purchasing a new computer system.

## Expansion Slots

Expansion slots are very important. The two most common expansion slots these days are the PCI & AGP slots. The industry standard PCI slot lets you add various adapters to your computer. In general the more expansion slots the better. If you plan to upgrade your system later on you will want to make sure the system comes with at least two to three free PCI slots. The AGP slot is used for your graphics card. If your system has a separate graphics card then the motherboard (mainboard) will have an AGP slot. Unlike PCI slots you only need one AGP slot.

## Connectivity

USB, Firewire, PS2, Serial & Parallel ports provide you with a standard method to connect peripherals & accessories such as Printers, Scanners, Keyboards, Mice, Digital cameras etc. Normally every computer will come standard with USB, PS2, Serial & Parallel ports. Try to get between two to four USB ports as these tend to be the most popular these days & you will find that you use this form of connectivity often. USB comes in two speeds USB 1.1 & USB 2.0 try to land for the latter as this can help data transfer rates (saving you time!). A desktop computer can also include firewire (IEEE 1394) ports, although not everyone will use this newer firewire (IEEE 1394) interface, we strongly recommend that you get these firewire (IEEE 1394) ports if you have a digital video camera. If the computer system you choose doesn't include it firewire (IEEE 1394) ports you can add them in later via an expansion card, the upgrade is normally fairly inexpensive.

## Operating system

The operating system is very important indeed, its main purpose is to run all the other software programs & applications. Microsoft's Windows XP is very popular & can be run on all computers with sufficient system resources. Windows XP comes in Home and Professional editions. If you're planning on connecting to a local or wide area network (for business or commercial use), consider Windows XP Professional. If you are using your computer at home then the cheaper Home Edition of Windows XP will do the job sufficiently for you. Other Microsoft operating systems include: Windows 2000, Windows Millennium (ME), Windows 98 Second Edition, Windows 98.

## Software

Software in this case refers to the bundled or OEM software that is included on your new computer. Many different software bundles are normally offered by various computer companies. At the very least however you will need a productivity suite to get you started, which normally consists of a Word Processor, Spreadsheet & Drawing Program. Some systems also include many more applications and utilities. Do be aware however that some computer companies will add freely available downloads with the software bundle to try to make the package go further, for example application readers, zipping utilities, media players & the like.

## Support & Service

This would have to be the most important factor to consider when making your computer purchase. If something goes wrong with your computer system or you can't work out how to use a particular feature, customer support should be your safety net. Although you can still find computer vendors who offer three-year on-site warranties, one year return to base (RTB) warranties are the industry standard these days. Ask a manufacturer or seller about its policies & whether they do an on-site service.

## About the Author

Sam J Wilkinson is a technical adviser & webmaster who enjoys helping others by writing useful & informative articles. Sam invites you to read other tech related articles that he has written which can be found here at <http://www.citylinkpcs.com.au>. Articles include computer help tutorials, computer buyers guides along with other PC, Hardware & software reference material.