

## Computer Hardware and Software

Looking to buy a new desktop personal computer system? Owing to the changing nature of the PC Hardware industry and declining prices, it makes it all that much more difficult. Here come many of the basic items to examine when comparing desktop computer systems so that you can make an informed purchasing decision. Most PC Dealer bundle the configuration you require.

A PC is made up of the CPU (Central Processing Unit or Processor, as we know) and the Mother Board (MB) on which it fits into. MB supports many other hardware, either inbuilt or add-ons. It has slots for RAM (usually called Memory) and for other cards such as Modem, Video-graphics card, Sound Card etc. It also has lots of ports to support input, output and storage devices, peripherals and what not.

For Processors there are two basic choices, brand and speed. A lot of change is happening in the market. Both Intel and AMD are starting to produce dual core processors, but they aren't required for most people. Budget CPUs can be found around the 2.4 to 3.0 GHz (PR of 3000+ and below) range, mid-range at 2.8 to 3.2 GHz (PR of 3200+ to 3800+) and high-end processors at or above 3.4 GHz (PR above 4000+).

**Budget Processors:** these are on the verge of phasing out but are good for low end purposes such as word-processing etc. They are AMD Athlon 64, AMD Sempron 64, Intel Celeron D 300 Series, Intel Pentium 4 (Socket T), Intel Pentium D 805 Through 820

**Middle Processors:** This is the segment of the market that is probably the best overall value for your computing dollar. The range is AMD Athlon 64 X2 3800+ to 4600+ (Socket AM2), Intel Pentium D 900 Series, Intel Core 2 Duo E6300 to E6700

**Top of the Line Processors:** This is the cream of the crop when it comes to processing power. If you absolutely must have the best thing out there for your new computer than this is what you want to look at. AMD Athlon 64 FX-60 and higher, AMD Athlon 64 X2 5000+ and higher, Intel Core 2 Extreme X6800, QX6700 and higher

RAM is important because to run your system optimally. The minimum of 512MB PC2100 DDR or PC2700 DDR RAM should be there even for budget systems. Though 1GB of RAM provides much better performance. DDR2 PC3200 can be found on newer Intel systems. When buying memory, try to buy as few DIMMs as possible to allow for future memory upgrades if needed.

Hard drives is for storage. Most hard drives available now will provide you with more than enough storage. Look for atleast 80 GB 7200 rpm drive as the minimum. If you really want performance, look for drives with 8MB or 16MB of cache. Drives will either be Serial ATA or IDE but performance levels are roughly the same.

**Optical Drives.** Most systems, including budget systems, sold now feature multiformat DVD burners that can support both the +R/RW and -R/RW formats and 16x for the recordable speed as well as Dual or Double Layer media support. If you don't need a DVD burner, try to at least get a CD-RW/DVD combo drive of 24x recording speed to allow for CD media storage and DVD playback.

### Video Card

Owing to rapid change in technology it is difficult to choose the right one. Card that supports DirectX 9 future capability, with 128MB of memory is the best. DVI connectors for digital LCD panels and multi-monitor support are the need of future. Otherwise there is wide range to fit your requirement. New systems should use PCI Express graphics cards over the previous AGP interface.

### External Connectors

Many I/O devices, upgrades and peripherals to computers now connect through external interfaces instead of internal cards. Look for systems that have at least six USB 2.0 and one IEEE 1394 or FireWire ports.

### Monitors

Choose least a 17 inch i.e 1280 by 1024 pixels resolution monitor. Choice is between bulky CRT or Sleek LCD monitors. CRTs provide a wide range of capabilities at a good price. LCDs take up less desk space but cost more and have limited capabilities.

### Software

Goes with the PC are the set of software you require to work on it. Try only the reliable and widely used operating systems and software, anti virus solutions and firewalls. Not only the support is readily available, the Help (F1) is also handy. Microsoft offers most value-for-the-money readymade yet customizable solution. But assess your requirement first. Do not overload your system with unnecessary stuff. It will be pain-in-the-ass every now and then. Oracle, Adobe, Sun Micro, Symantec, IBM etc. are also proving reliable solutions. You can go in for the custom made software, if security and confidentiality is your prime need.

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