

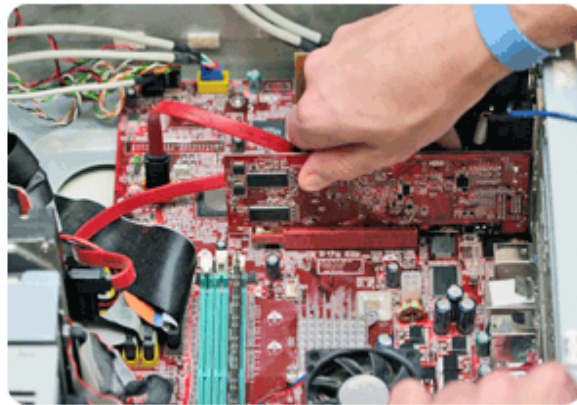
HOW TO BUILD A COMPUTER – IV :

CHOOSING COMPUTER COMPONENTS

Note: This is part four of a multipart series on choosing the components for and building a computer.

This week, we are continuing our series on how to build a computer with choosing the best components for your custom computer system. So far in the series, we have covered the components shown in *italics* below. Today, we will cover the cables and cards shown in **bold**.

- *Chassis/case*
- *Power supply*
- *CD drives*
- *DVD drives*
- *Floppy Drive**
- *Hard Drive(s)*
- *RAM (random access memory)*
- *Motherboard*
- *CPU (central processing unit)*
- *CPU heat sink/fan*
- *Thermal paste*
- **Hard drive cable**
- **Floppy drive cable***
- **CD/DVD drive cable**
- **Video card (graphics card)***



(optional if your motherboard has onboard graphics)

- **Sound card*** (optional if your motherboard has onboard sound)
- Monitor (display)
- Input – Keyboard/Mouse
- Speakers*
- Operating system software

Hard Disk Drive (HDD) Cable



If you bought a new motherboard for your project, it likely came with a hard drive cable. The cables for the HDD and the compact disk (CD) or digital video disk (DVD) drive look very similar. However, the cable for the HDD has more wires in it than optical drive cables. One glance at the two and you will see the difference.

If you are using SATA (serial ATA: advanced technology attachment) drives, the cable will be a little different as well. Most retail-boxed hard drives will ship with a SATA cable. If your motherboard has SATA ports, it probably came with cables you can use rather than having to purchase new ones.

When using Integrated Drive Electronics (IDE) hard drives, you can use rounded cables over the older ribbon-style cables. The rounded cables look much better, which is important in windowed cases, and helps cool by not restricting air flow as much. You can typically get both rounded and ribbon cables that will connect two drives per cable. I also want to mention that it is important to keep your hard drive on a separate IDE channel than your optical drive, and make your faster hard drive the master drive. This will help to ensure you get the fastest speed from your drives.

Floppy Drive Cable

If you choose not to use a floppy drive in your system, you obviously will not need a floppy drive cable. However, if you are using a floppy drive, you want to be sure that you use the correct cable and install it correctly. Unlike IDE drives and SATA



cables, floppy disk drive (FDD) cables are not keyed. This means that you can easily install the cable incorrectly and ruin any floppy disk you try to boot from. Funny thing is that it's possible

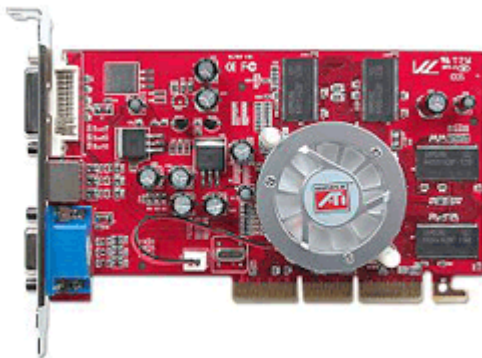
to not realize that a floppy cable is installed incorrectly, making you wonder why you are unable to read floppies created by that computer in any other computer and vice-versa. It could leave you puzzled for days!

Much like the HDD cables, floppy cables are available in both ribbon style and rounded cables. Again, the rounded cables tend to be better from a cooling standpoint as they help promote better airflow. However, both rounded and ribbon-style cables will perform the same in practical use.

CD/DVD Drive Cable

This cable is required for your system if you intend to use a CD/DVD drive on your computer. Again, you can get both rounded and ribbon-style CD/DVD drive cables. A few manufacturers also offer SATA optical drives now. The type of cable you choose will depend on the type of drives you purchase and your cable preference. Most cables will support two optical drives.

Video Cards



This is the component most gamers spend the most on along side their CPU. Your video, or graphics, card will have a huge effect on how well your computer performs in games. The video card is optional on some boards. However, it is only optional on motherboards that have on-board graphics.

The vast majority of high performance motherboards will not have on-board graphics and you will still on occasion come across older motherboards that may need an accelerated graphics port (AGP) card. However, if you are buying a new CPU and motherboard, you will likely be looking to buy a peripheral component interconnect (PCI) Express video card. Be sure that you buy the correct graphics card interface to match the interface on your motherboard and you will be fine.

Sound Cards

Sound cards are optional in this day when the vast majority of motherboards come with on-board sound, however, there is a lot to be said for some of the aftermarket sound cards. For example, if you want to



run 5.1 or 7.1 Dolby sound, odds are you will need an aftermarket card. Hardcore gamers will likely want to look at something like the Creative X-Fi series, as the difference in sound quality with the X-Fi series is impressive. However, if you are on a budget, you can save your cash if your board has built-in sound.

manufacturer for instructions for applying the thermal paste.

Source : <http://www.geeks.com/techtips/2006/techtips-27july06.htm>