Power Supply   Processor (CPU)   Memory Stick

Video Card   Motherboard   Hard Disk Drive

Hardware inside the computer—1

Hard Drive

Nearly every desktop computer and server in use today contains one or more hard-disk drives. These hard disks do one thing well - they store changing digital information in a relatively permanent form. They give computers the ability to remember things when the power goes out.

A hard drive stores all your files and information in a permanent form unlike storing it in RAM (which is temporary). The larger your hard disk (drive) the more information and files you're able to store. Today's average hard drive is 40 GB although slowly 80 GB hard drives are becoming used more often.

CD-Rom

The CD-Rom is quite simple, it reads CD's. CD-Rom completely stands for Compact Disk Read Only Memory. The revolution of CD's is that they hold much more data than a floppy disk, although are not as flexible when it comes to rewriting and storing personal data. Using CD-RW you can make your own CD's and use them more like a floppy disk. These are becoming more and more popular although you still need a CD-Rom to read them.

Floppy Drive

A floppy drive reads the popular floppy disk. Floppy disk is easy to use, rewritable, compact, and great for storing information. The floppy drive is simple and allows you to read, write to, and write over information stored on a floppy disk.

Power Supply

The power supply is vital to the computer as it is the source of power. The power supply is usually a small metal box in the top corner of a case (tower). You can see the power supply in both diagrams. How the power supply works isn't too important, but if you wish to know you can visit howstuffworks.com (external link).
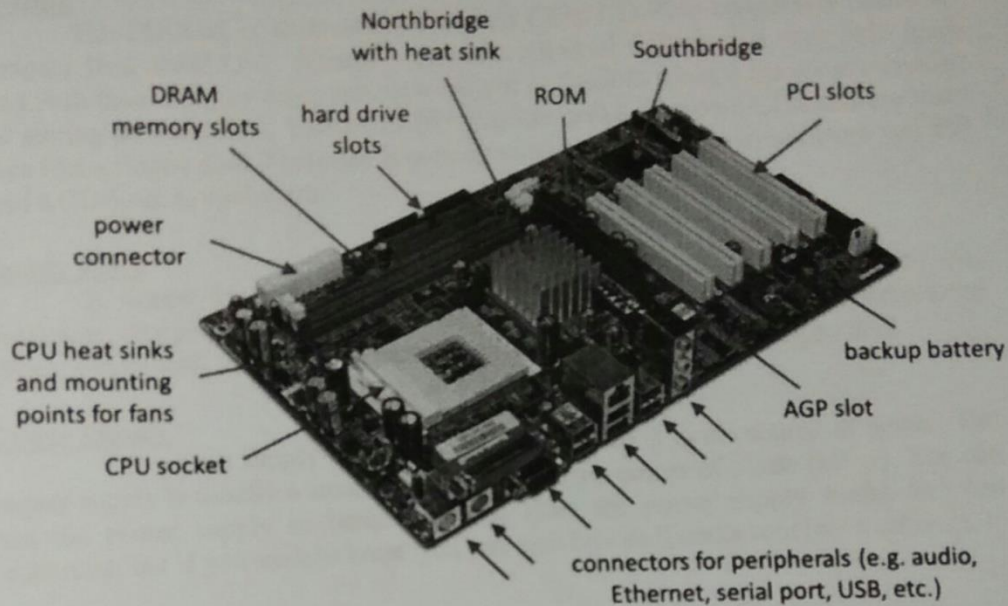
Access Slots

Access slots or expansion slots are openings in a computer where a circuit board can be inserted to add new capabilities to the computer. Examples of drives that may go here would be modems; USB drives, networking cards, video adapters, and sound cards. These expansions are easy to install along with being very useful to your computer to allow you to do new things, such as network computers together.

Hardware inside the computer—2

Motherboard

The motherboard has been an integral part of most personal computers for more than 20 years. The motherboard contains various circuit cards performing various functions all plug into many similar sockets on a common circuit board. Each circuit card performs a unique function in the computer and gets its power from the socket.

The motherboard contains many circuits and slots, but let's focuses on some of the important ones. The motherboard is home to the processor (CPU) along with the access slots and RAM.

Northbridge with heat sink — Southbridge — DRAM memory slots — hard drive slots — ROM — PCI slots — power connector — CPU heat sinks and mounting points for fans — backup battery — AGP slot — CPU socket — connectors for peripherals (e.g. audio, Ethernet, serial port, USB, etc.)

CPU

The CPU, or processor, is the heart of your computer no matter what type (PC, Server, and Laptop). There are many brands for processors such as Intel and Athlon all with different processors for your computer. The CPU processes everything that your computer does, therefore the better the processor, the faster the computer.

RAM

Random Access Memory (RAM) is the form of memory contained in most computers. RAM is considered "random access" because you can access any memory cell directly if you know the row and column that intersect at that cell. When an application is running it stores its information in the RAM. When you close the application the information is deleted from the RAM. This is why you need certain amounts of RAM to run applications. The more RAM you have the faster your computer will be, and the more applications you'll be able to run without losing speed.

RAM Slots

The main system memory of your computer will be inserted into the RAM slots. There are Pentium 4 motherboards supporting RDRAM, SDRAM and DDR-SDRAM. Examine the instruction manual for your motherboard to confirm which type of RAM it supports before performing an upgrade. Remember that RDRAM must always be inserted in matched pairs.

Drive Connectors

Any hard drives, optical drives and floppy drives in your computer will be connected to the drive connectors. All of these devices additionally require power to operate, so they will also be connected to the computer's power supply.

Power Supply Connector(s)

As the name implies, the leads coming from your computer's power supply will be inserted into the power supply connector. Examine your motherboard for an additional 4-pin connector, as well; many Pentium 4 CPUs require auxiliary power from this 4-pin connector in order to operate properly. Ensure that both the main and auxiliary connectors are properly inserted before attempting to power your computer on.

Expansion Slots

If your computer has any expansion cards, such as video, sound or wireless networking cards, they will be inserted into the expansion slots. For added stability, each expansion card will also be screwed into the computer chassis. Ensure that any expansion cards that you install are screwed into the chassis before powering the computer on.

Rear Ports

The rear ports will be visible on the back of the computer when the chassis is closed. Depending on your particular motherboard model, these may include ports for video, sound, a printer, USB devices and more. These ports are used by your computer to communicate with all of the external devices that you may use.

Processor:

The CPU, or the central processing unit, also known as a processor for short, is the brain of every computer. The CPU executes any calculation or process made by the computer. The processor uses bits that have either a value of 0 or 1 for all of its calculations ("bit" is short for "binary digit"). Computers store, process and retrieve information by using strings of bits, such as, for example "1011001." All computer programs like Internet browsers, word processors and image manipulation software must be processed by CPUs.

Parts of a Mother Board--4