Main Components of a Computer System

BSA Troop 780

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Introduction

If you use a desktop computer, you might already know that there isn't any single part called the "computer." A computer is really a system of many parts working together. The physical parts, which you can see and touch, are collectively called hardware. (Software, on the other hand, refers to the instructions, or programs, that tell the hardware what to do.)

The illustration below shows the most common hardware in a desktop computer system. Your system may look a little different, but it probably has most of these parts. A laptop computer has similar parts but combines them into a single notebook-sized package.

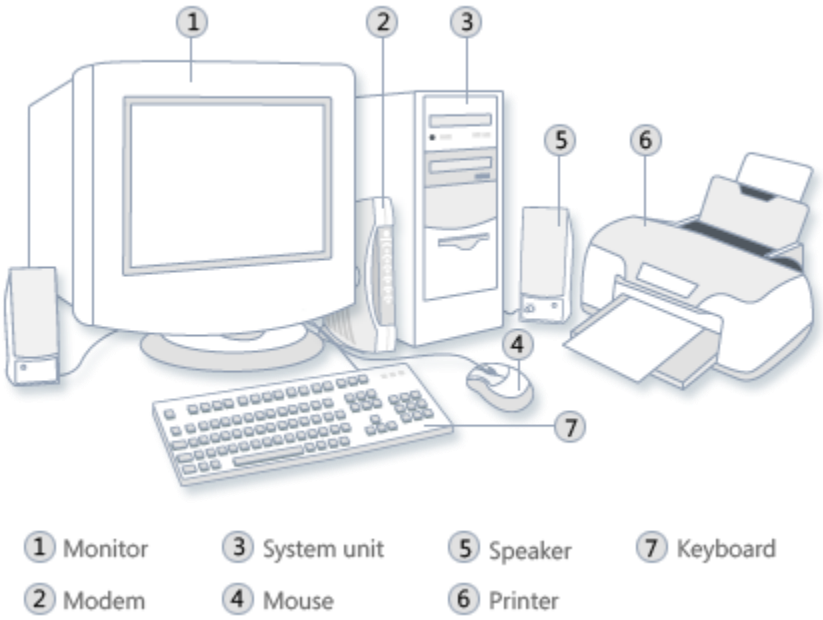


Figure - Typical Computer System

System unit

The system unit is the core of a computer system. Usually it's a rectangular box placed on or underneath your desk. Inside this box are many electronic components that process information. The most important of these components is the central processing unit (CPU), or microprocessor, which acts as the "brain" of your computer. Another component is random access memory (RAM), which temporarily stores information that the CPU uses while the computer is on. The information stored in RAM is erased when the computer is turned off.

Almost every other part of your computer connects to the system unit using cables. The cables plug into specific ports (openings), typically on the back of the system unit. Hardware that is not part of the system unit is sometimes called a peripheral device or device.

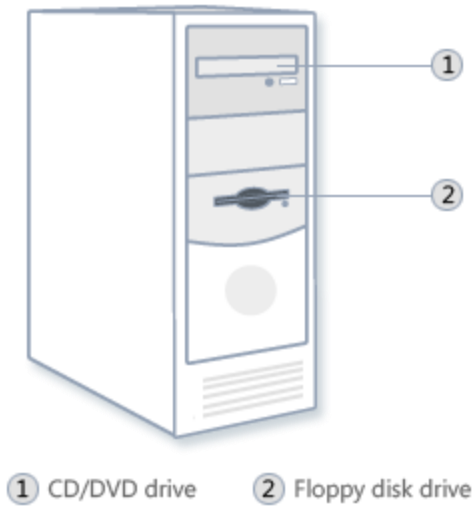


Figure - System Unit or Computer Housing

Storage

Your computer has one or more disk drives—devices that store information on a metal or plastic disk. The disk preserves the information even when your computer is turned off.

Hard disk drive

Your computer's hard disk drive stores information on a hard disk, a rigid platter or stack of platters with a magnetic surface. Because hard disks can hold massive amounts of information, they usually serve as your computer's primary means of storage, holding almost all of your programs and files. The hard disk drive is normally located inside the system unit.

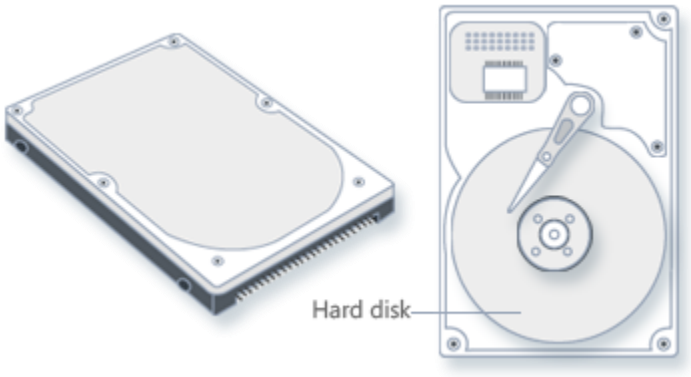


Figure - Hard Disk or Hard Drive

CD and DVD drive (Compact Disk/Digital Video Disk)

Nearly all computers today come equipped with a CD or DVD drive, usually located on the front of the system unit. CD drives use lasers to read (retrieve) data from a CD, and many CD drives can also write (record) data onto CDs. If you have a recordable disk drive, you can store copies of your files on blank CDs. You can also use a CD drive to play music CDs on your computer.

Figure - CD/DVD

DVD drives can do everything that CD drives can, plus read DVDs. If you have a DVD drive, you can watch movies on your computer. Many DVD drives can record data onto blank DVDs.

If you have a recordable CD or DVD drive, periodically back up (copy) your important files to CDs or DVDs. That way, if your hard disk ever fails, you won't lose your data.

Floppy disk drive

Floppy disk drives store information on floppy disks, also called floppies or diskettes. Compared to CDs and DVDs, floppy disks can store only a small amount of data. They also retrieve information more slowly and are more prone to damage. For these reasons, floppy disk drives are less popular than they used to be, although some computers still include them.

Figure - Floppy Disk

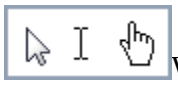
Why are floppy disks "floppy"? Even though the outside is made of hard plastic, that's just the sleeve. The disk inside is made of a thin, flexible vinyl material.

Mouse

A mouse is a small device used to point to and select items on your computer screen. Although mice come in many shapes, the typical mouse does look a bit like an actual mouse. It's small, oblong, and connected to the system unit by a long wire that resembles a tail. Some newer mice are wireless.

Figure - Wired Mouse

A mouse usually has two buttons: a primary button (usually the left button) and a secondary button. Many mice also have a wheel between the two buttons, which allows you to scroll smoothly through screens of information.

 When you move the mouse with your hand, a pointer on your screen moves in the same direction. (The pointer's appearance might change depending on where it's positioned on your screen.) When you want to select an item, you point to the item and then click (press and release) the primary button. Pointing and clicking with your mouse is the main way to interact with your computer.

Keyboard

A keyboard is used mainly for typing text into your computer. Like the keyboard on a typewriter, it has keys for letters and numbers, but it also has special keys:

Figure - Keyboard

- The **function keys**, found on the top row, perform different functions depending on where they are used.
- The **numeric keypad**, located on the right side of most keyboards, allows you to enter numbers quickly.
- The **navigation keys**, such as the arrow keys, allow you to move your position within a document or webpage.

Whether you're writing a letter or entering numerical data, your keyboard is the main way to enter information into your computer. But did you know you can also use your keyboard to control your computer? Learning just a few simple keyboard commands (instructions to your computer) can help you work more efficiently. This article covers the basics of keyboard operation and gets you started with keyboard commands.

How the keys are organized

The keys on your keyboard can be divided into several groups based on function:

Typing (alphanumeric) keys

These keys include the same letter, number, punctuation, and symbol keys found on a traditional typewriter.

Control keys

These keys are used alone or in combination with other keys to perform certain actions. The most frequently used control keys are CTRL, ALT, the Windows logo key , Apple and Macintosh Keys — and ESC.

Function keys

The function keys are used to perform specific tasks. They are labeled as F1, F2, F3, and so on, up to F12. The functionality of these keys differs from program to program.

Navigation keys

These keys are used for moving around in documents or web pages and editing text. They include the arrow keys, HOME, END, PAGE UP, PAGE DOWN, DELETE, and INSERT.

Numeric keypad

The numeric keypad is handy for entering numbers quickly. The keys are grouped together in a block like a conventional calculator or adding machine.

The following illustration shows how these keys are arranged on a typical keyboard. Your keyboard layout may differ.

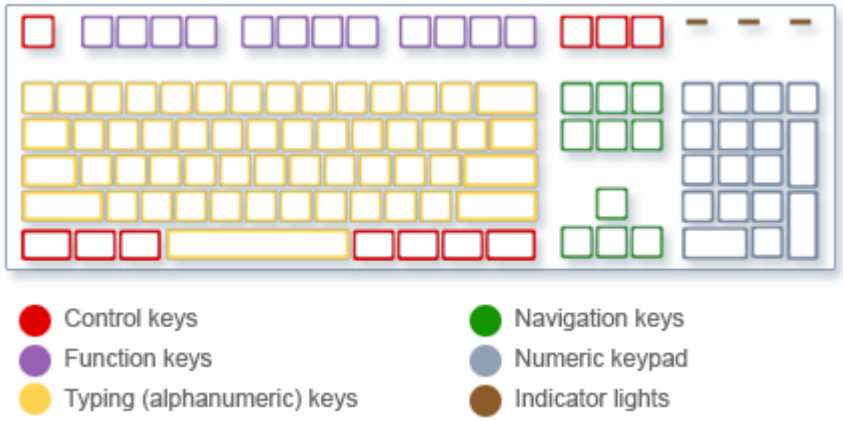


Figure - Keyboard Layout

Monitor

A monitor displays information in visual form, using text and graphics. The portion of the monitor that displays the information is called the screen. Like a television screen, a computer screen can show still or moving pictures.

There are two basic types of monitors: CRT (*cathode ray tube*) monitors and LCD (*liquid crystal display*) monitors. Both types produce sharp images, but LCD monitors have the advantage of being much thinner and lighter. CRT monitors, however, are generally more affordable.

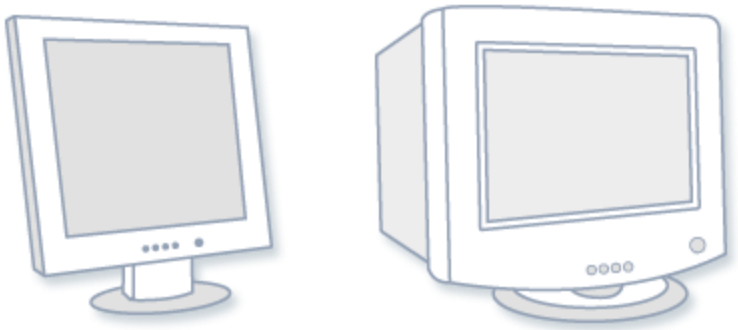


Figure - LCD monitor (left); CRT monitor (right)

Printer

A printer transfers data from a computer onto paper. You don't need a printer to use your computer, but having one allows you to print e-mail, cards, invitations, announcements, and other materials. Many people also like being able to print their own photos at home.

The two main types of printers are inkjet printers and laser printers. Inkjet printers are the most popular printers for the home. They can print in black and white or in full color and can produce high-quality photographs when used with special paper. Laser printers are faster and generally better able to handle heavy use.

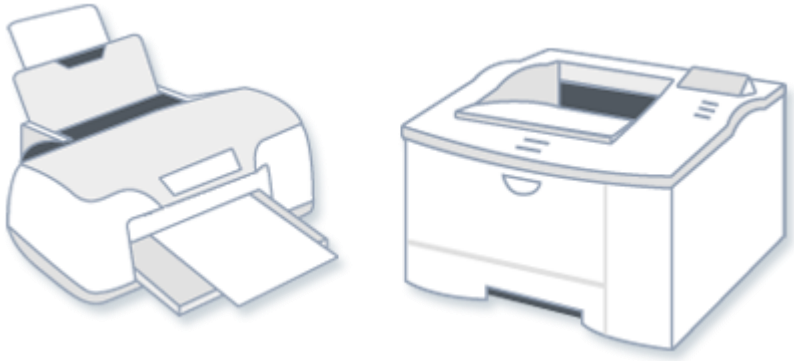


Figure - Inkjet printer (left); laser printer (right).

Speakers

Speakers are used to play sound. They may be built into the system unit, built in or attached to your monitor or connected with cables. Speakers allow you to listen to music and hear sound effects from your computer.

Figure - Computer Speakers

Modem

To connect your computer to the Internet, you need a modem. A modem is a device that sends and receives computer information over a telephone line or high-speed cable. Modems are sometimes built into the system unit, but higher-speed modems are usually separate components.

Figure - Cable Modem