

**List of Computer Hardware**

Here are some common individual computer hardware components that you'll often find *inside* a modern computer. These parts are almost always found inside the [computer case](https://www.lifewire.com/what-is-a-computer-case-2618149), so you won't see them unless you open the computer:

* [Motherboard](https://www.lifewire.com/motherboards-system-boards-and-mainboards-2618154)
* [Central Processing Unit](https://www.lifewire.com/what-is-a-cpu-2618150) (CPU)
* [Random Access Memory](https://www.lifewire.com/what-is-random-access-memory-ram-2618159) (RAM)
* [Power Supply](https://www.lifewire.com/power-supply-unit-2618158)
* [Video Card](https://www.lifewire.com/what-is-a-video-card-2618161)
* [Hard Drive](https://www.lifewire.com/what-is-a-hard-disk-drive-2618152) (HDD)
* [Solid-State Drive](https://www.lifewire.com/solid-state-drive-833448) (SSD)
* [Optical Drive](https://www.lifewire.com/what-is-an-optical-disc-drive-2618157) (e.g., BD/DVD/CD drive)
* Card Reader (SD/SDHC, CF, etc.

TYPES OF RAM :

**What are internal computer hardware components?**

Internal components collectively process or store the instructions delivered by the program or operating system ([OS](https://whatis.techtarget.com/definition/operating-system-OS)). These include the following:

* [**Motherboard**](https://whatis.techtarget.com/definition/motherboard)**.** This is a printed circuit board that holds the central processing unit ([CPU](https://whatis.techtarget.com/definition/processor)) and other essential internal hardware and functions as the central hub that all other hardware components run through.
* **CPU.** The CPU is the brain of the computer that processes and executes digital instructions from various programs; its [clock speed](https://whatis.techtarget.com/definition/clock-speed) determines the computer's performance and efficiency in processing data.
* [**RAM**](https://searchstorage.techtarget.com/definition/RAM-random-access-memory)**.** RAM -- or dynamic RAM -- is temporary [memory](https://whatis.techtarget.com/definition/memory) storage that makes information immediately accessible to programs; RAM is [volatile memory](https://whatis.techtarget.com/definition/volatile-memory), so stored data is cleared when the computer powers off.
* **Hard drive.** [Hard disk drives](https://searchstorage.techtarget.com/definition/hard-disk-drive) are physical storage devices that store both permanent and temporary data in different formats, including programs, OSes, device files, photos, etc.
* **Solid-state drive (**[**SSD**](https://searchstorage.techtarget.com/definition/SSD-solid-state-drive)**).** SSDs are solid-state storage devices based on NAND flash memory technology; SSDs are non-volatile, so they can safely store data even when the computer is powered down.
* [**Optical drive**](https://searchstorage.techtarget.com/definition/optical-storage)**.** Optical drives typically reside in an on-device drive bay; they enable the computer to read and interact with nonmagnetic external media, such as compact disc read-only memory or digital video discs.
* **Heat sink.** This is a passive piece of hardware that draws heat away from components to regulate/reduce their temperature to help ensure they continue to function properly. Typically, a heat sink is installed directly atop the CPU, which produces the most heat among internal components.
* [**Graphics processing unit**](https://searchvirtualdesktop.techtarget.com/definition/GPU-graphics-processing-unit)**.** This chip-based device processes graphical data and often functions as an extension to the main CPU.
* **Network interface card (**[**NIC**](https://www.techtarget.com/searchnetworking/definition/network-interface-card)**).** A NIC is a circuit board or chip that enables the computer to connect to a network; also known as a *network adapter* or [*local area network*](https://www.techtarget.com/searchnetworking/definition/local-area-network-LAN)*adapter*, it typically supports connection to an Ethernet network.

Other computing components, such as USB ports, power supplies, transistors and chips, are also types of internal hardware.

This computer hardware chart below illustrates what typical internal computer hardware components look like.

**What are external hardware components?**

External hardware components, also called *peripheral components*, are those items that are often externally connected to the computer to control either input or output functions. These hardware devices are designed to either provide instructions to the software (input) or render results from its execution (output).

Common input hardware components include the following:

* [**Mouse**](https://whatis.techtarget.com/definition/mouse)**.** A mouse is a hand-held pointing device that moves a cursor around a computer screen and enables interaction with objects on the screen. It may be wired or wireless.
* [**Keyboard**](https://whatis.techtarget.com/definition/keyboard)**.** A keyboard is an input device featuring a standard QWERTY keyset that enables users to input text, numbers or special characters.
* [**Microphone**](https://whatis.techtarget.com/definition/microphone)**.** A microphone is a device that translates sound waves into electrical signals and supports computer-based audio communications.
* **Camera.** A camera captures visual images and streams them to the computer or through a computer to a network device.
* [**Touchpad**](https://searchmobilecomputing.techtarget.com/definition/touch-pad)**.** A touchpad is an input device, external or built into a laptop, used to control the pointer on a display screen. It is typically an alternative to an external mouse.
* [**USB flash drive**](https://searchstorage.techtarget.com/definition/USB-drive)**.** A USB flash drive is an external, removable storage device that uses flash memory and interfaces with a computer through a USB port.
* [**Memory card**](https://searchstorage.techtarget.com/definition/memory-card)**.** A memory card is a type of portable external storage media, such as a [CompactFlash card](https://searchstorage.techtarget.com/definition/CompactFlash-card), used to store media or data files.

Other input hardware components include [joysticks](https://whatis.techtarget.com/definition/joystick), styluses and [scanners](https://whatis.techtarget.com/definition/scanner).

Examples of output hardware components include the following:

* [**Monitor**](https://whatis.techtarget.com/definition/monitor)**.** A monitor is an output device similar to a TV screen that displays information, documents or images generated by the computing device.
* [**Printer**](https://whatis.techtarget.com/definition/printer)**.** Printers render electronic data from a computer into printed material.
* **Speaker.** A speaker is an external audio output device that connects to a computer to generate a sound output.
* **Headphones, earphones, earbuds.** Similar to speakers, these devices provide audio output that's audible only to a single listener.

Working of computer hardware:

* CPU- central processing unit inevitable referred to as the “brains” of the computers. The CPU does the active “running “of code, manipulating data while the other components have a more passive role such as storing data
* RAM – “Random access memory “or just “memory RAM is a large storage space of “bytes” under the control of the CPU . RAM is temporary memory and relatively fast able to retrieve the value of any byte in a few seconds or nano seconds. The other main function of ram is that it only keeps its state so long as it supplied with power
* HARD DISK -It is a “persistent” storage. It stores the data permanently in this case the storage is persistent even when the power is off.
* Registers-Registers are type of computer memory use to quickly accept store and transfer data and instruction that are used immediately by the CPU. The computer need processor register for manipulating data and a resister for holding a memory address. They are used while the processor to store small amount of data that are needed during process.
  1. Volatile and Non-Volatile Memory- RAM is a volatile memory that temporarily stores the files you are working on. ROM is a nonvolatile memory that permanently store the instruction for your computer. Primary memory can be directly access by CPU, whereas the CPU cannot directly access the secondary memory.
* Memory-memory is a device or system that is used to store information for intermediate use in a computer or related computer or related computer hardware. the term memory is alike with the term primary memory or main memory.
* COMPUTER BUS – A bus is high speed internet connection. There are three types of bus are used.
  1. Address Bus- It carries memory address from the processor to other component such as primary storage. This bus is unidirectional. Bus carries data between a CPU and the system memory via the motherboard.
  2. Data Bus- A data bus is a system within a computer or device consisting of connector or set if wires that provides transportation of data. It carries the data between the processor and other component. It is bidirectional in nature.
  3. Control Bus- It carries control signal or given power from the processor to the other component to works.
* Cache Memory- It temporarily stores frequently used instruction and data for quicker processing by the CPU.
* Virtual Memory- It increase the capacity of main memory by storing or executing programs of larger size than the main memory in the system.
* Ranking of memories according to the most closely connected to the CPU.
  1. Cache Memory
  2. Register
  3. RAM
  4. ROM