

Computer parts:

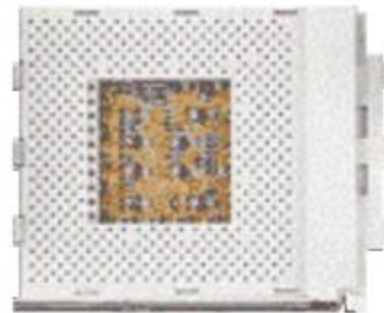
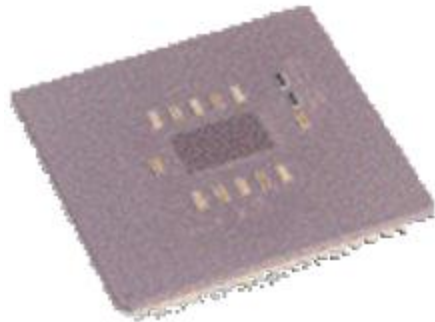
- ▶ Motherboard
- ▶ Central Processing Unit
- ▶ Computer Memory
- ▶ Ports
- ▶ Power Supply
- ▶ Expansion Card
- ▶ CD Drive
- ▶ DVD Drive
- ▶ Floppy Drive
- ▶ Fan
- ▶ Heatsink

- ✘ **Motherboard** - A circuit board where most of the electronics including the CPU are mounted. It allows the CPU to interact with other parts of the computer.



The central processing unit

- ▶ **Central Processing Unit- CPU** or Processor. The brain of a computer. Approximately 1.5 in X 1.5 in. Does all the computation/work for the computer



▶ **The Central Processing Unit (CPU)**

- ▶ Often referred to as the “brain” of the computer.
- ▶ Responsible for controlling all activities of the computer system.
- ▶ The two major components of the CPU are:
 1. **Arithmetic and logic Unit (ALU)**
(Computations performed)
 2. **Control Unit (CU)**(is circuitry that control and directs operations within a computer's processor)

- ▶ When the CPU receives and carries out an instruction, it has completed one **cycle**.
- ▶ **Computer's speed = number of cycles completed in one second**
- ▶ Cycles are measured in:
 - Megahertz (MHz) = millions of cycles per second
 - Gigahertz (GHz) = billions of cycles per second
- ▶ It determines how fast your computer will run and is measured by its MHz speed.

computer memory and storage

Memory

- ✓ Its mean "How the processor stores and uses immediate data“
- ✓ we have a two types of memory
- ▶ **Random Access Memory- (RAM).** Where information is stored temporarily when a program is run. Information is automatically pulled into memory, we cannot control this. RAM is cleared automatically when the computer is shutdown or rebooted. RAM is volatile (non-permanent).
- ▶ **Read Only Memory-(ROM).** More permanent than RAM. Data stored in these chips is nonvolatile -- it is not lost when power is removed. Data stored in these chips is either unchangeable or requires a special operation to change.

► When Do I Use RAM and ROM?

When you use your computer to perform any type of task, you are using two types of memory:

Type of Memory	What Does It Do?	When Is It Used?
Read-only memory (ROM)	Stores permanent information like telling the computer how to start up	When you turn a computer on or off
Random-access memory (RAM)	Stores temporary information when you are working in a file	When you start and use software

► How Is Information Stored?

When you save a file, you move the information from RAM to a **storage device**. The type of storage device depends on how much space is needed. Music and video files require more storage space than text files.

How Computer Memory Is Measured?

1- Bit

All computers work on a binary numbering system, i.e. they process data in one's or zero's. This 1 or 0 levels of storage is called a bit.

2- Byte

A byte consists of eight bits.

3- Kilobyte

A kilobyte (KB) consists of 1024 bytes.

4- Megabyte

A megabyte (MB) consists of 1024 kilobytes.

5- Gigabyte

A gigabyte (GB) consists of 1024 megabytes

Storage Devices

- ▶ Its means “How it saves data and programs“.
- ▶ We have four types of storage devices :-
 1. Hard disks
 2. Diskettes (Floppy Disks)
 3. CD-ROM Disks
 4. DVD Drives



▶ The four most important characteristics of storage devices:

- ▶ Speed and access time
- ▶ Cost
- ▶ Capacity

Storage Devices

1- Hard disks :A hard drive is the hardware component that stores all of your digital content. Your documents, pictures, music, videos, programs, application preferences, and operating system represent digital content stored on a hard drive. Hard drives can be external or internal.

Speed:

Very fast! The speed of a hard disk is often quoted as "average access time" speed, measured in milliseconds. The smaller this number the faster the disk.

Capacity:

Enormous! Often 40GB to 100GB or more

Cost:

Hard disks costs are falling rapidly and normally represent the cheapest way of storing data.



Storage Devices

2- Diskettes (Floppy Disks)

Speed:

Very slow!

Capacity:

Normally 1.44 Mbytes.

Cost:

Very cheap.



Storage Devices

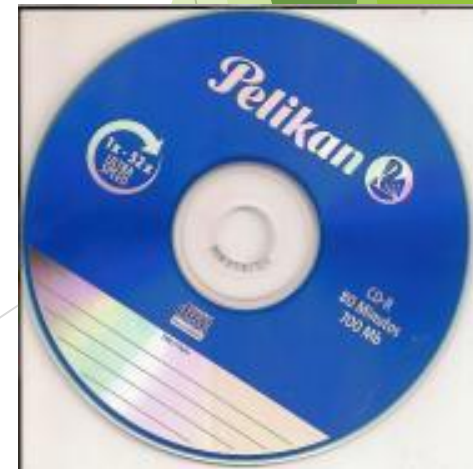
3- CD-ROM Disks

Speed:

Much slower than hard disks. The original CD-ROM specification is given a value of 1x speed.

Capacity:

Around 650 Mbytes and more



Storage Devices

4- DVD Drives

Speed:

Much faster than CD-ROM drives but not as fast as hard disks.

Capacity:

Up to 17 Gbytes. Cost: Slightly higher than CD-ROM drives.