

# UNIT - 1

## hardware

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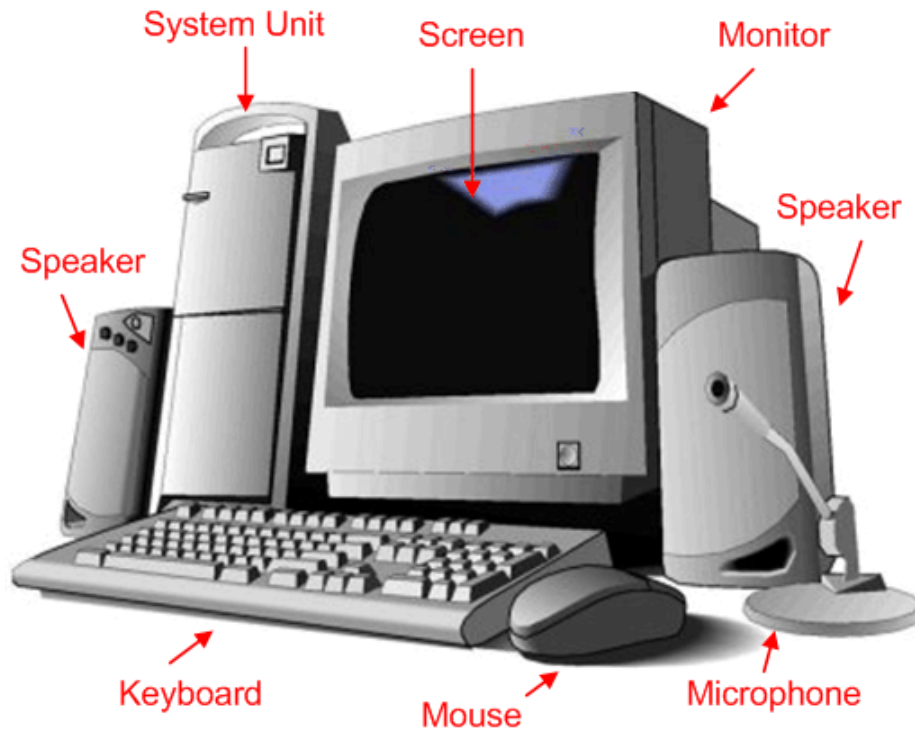
Veer Bahadur Singh Purvanchal University,  
Jaunpur

# Objectives

- Description of Hardware components
- Input hardware devices
- Output hardware devices
- Processing hardware devices
- Other hardware devices

# BASIC PC HARDWARE

- HARDWARE is the tangible part of a computer system.

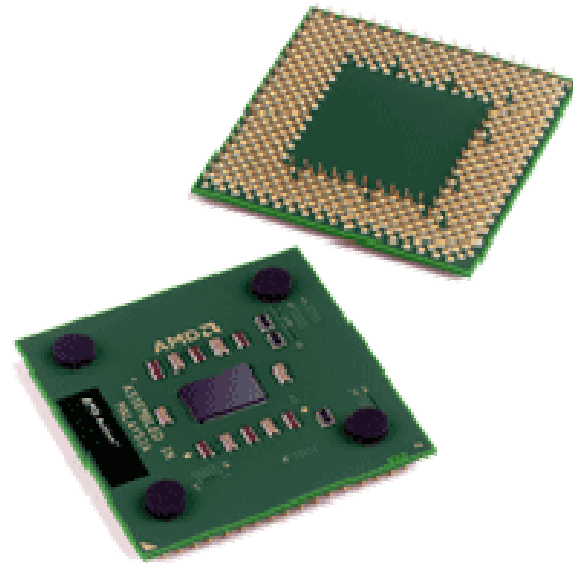


# Basic hardware of a PC system

- Central Processing Unit (CPU)
- Memory Unit
- Input Devices
- Output Devices
- Secondary Storage Devices

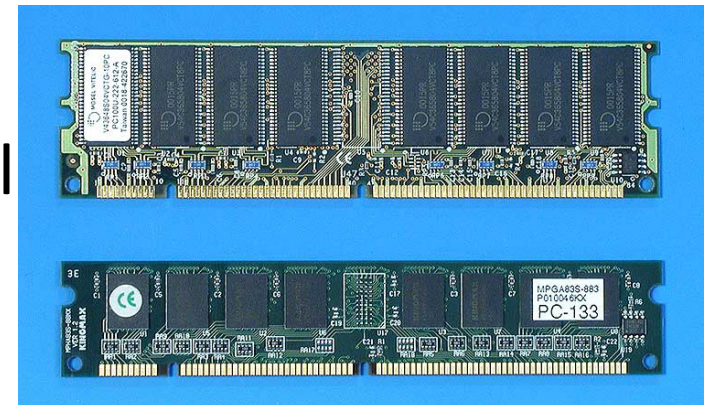
# 1. Central Processing Unit

- Brain of the computer.
- It directs and controls the entire computer system and performs all arithmetic and logical operations.



## 2. Memory Unit

- Where the programs and data are stored .
  - READ ONLY MEMORY (ROM) contains the pre-programmed computer instructions such as the Basic Input Output System (BIOS).
  - RANDOM ACCESS MEMORY (RAM) is used to store the programs and data that you will run. Exists only when there is power.



### 3. Input Devices

- Allows data and programs to be sent to the CPU.
  - Keyboard
  - Mouse
  - Joystick
  - Microphone
  - Webcam
  - Scanner
  - Monitor



# Keyboard

- Traditional keyboards
- Flexible keyboards
- Ergonomic keyboards
- Wireless keyboards
- PDA keyboards



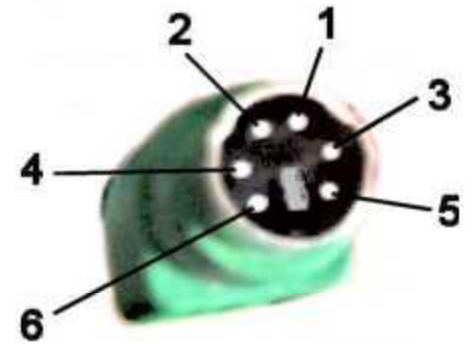
# Two Types of Mouse

- **Mechanical** - a type of computer mouse that has a rubber or metal ball on its underside and it can roll in every direction.
- **Optical:** This type uses a laser for detecting the mouse's movement.



# How a Mouse Hooks Up to a PC

- PS/2 Mouse



- Serial Mouse



- USB/Cordless Mouse

# Other Pointing Devices

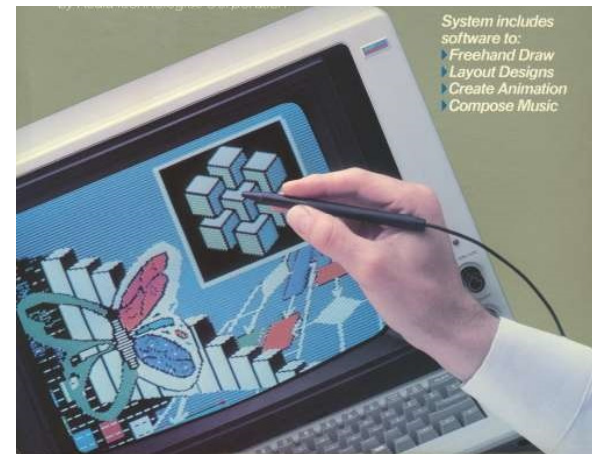
- Trackball
- Track point
- Touch pad
- Touch Screen



- Joystick – input device for computer games



- Light Pens – light-sensitive penlike device



- Stylus – penlike device commonly used with table PCs and PDAs.



# Scanning Devices

- Optical scanners
- Card readers
- Bar code readers
- Character and mark recognition devices



# Image Capturing Devices

- Digital Cameras



- Digital Video Cameras

## 4. Output Devices

- Media used by the computer in displaying its responses to our requests and instructions.
- Monitor
- Audio Speakers
- Printer

# Types of Monitor

- Cathode Ray Tube (CRT)
- Liquid Crystal Display (LCD)





# Printers

- IMPACT PRINTERS use pressure by physically striking the paper. Ex. Daisy wheel printers, line printers, dot matrix printers & band printers.
- NON-IMPACT PRINTER does not apply pressure on the paper but instead produces character by using lasers, ink spray, photography or heat.

## 5. Secondary Storage Devices

- Attached to the computer system to allow you to store programs and data permanently for the purpose of retrieving them for future use.
- Floppy disk, Hard disk, CD Rom

# Floppy Disk

- The most common secondary storage device
- 3.5" disk – 1.44MB



# High-Capacity Floppy Disks

- Floppy disk cartridges
- 3 ½ inches in diameter
- Stores more information
- Zip disks



# Hard Disk Drive or Hard Disk

- Made of rigid materials unlike floppy disks
- Holds a greater amount of data



# Optical Discs

- A standard part of modern desktop machines, especially used for multimedia purposes and preferred in loading applications.



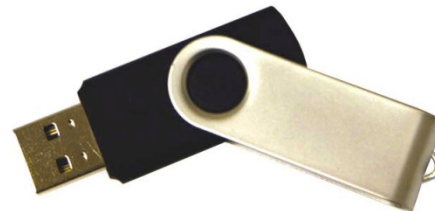
# Kinds

- Blue Ray Disk – 40G
- Digital Versatile Disk
  - DVD-R – write once, 3.95G
  - DVD RW – rewritable, 3G
  - Single Layer and Double Layer
- Compact Disk
  - CD-R – write once, 650MB
  - CD-RW – rewritable, 700MB



# Other Secondary Storage

- Solid-State Storage
  - No moving parts
  - Flash memory cards
  - USB flash drives





# Parts that Build Up A System Unit

- Casing or cover
- Power Supply
- Motherboard
- Microprocessor
- Memory
- Video Card
- Sound card
- Floppy disk drive
- Hard disk drive
- CD-ROM drive
- MODEM

# Casing or co

- The box or outer shell that houses most of the computer, it is usually one of the most overlooked parts of the PC.
- Protects the computer circuits, cooling and system organization.



# Power Supply

- Responsible for powering every device in your computer.
- Parts of a Power supply:
  - Disk drive connectors
  - Motherboard connector
  - Power supply fan
  - Power switch
  - Input voltage selector
  - Cover
  - Power plugs receptacle



# Motherboard

- The physical arrangement in a computer that contains the computer's basic circuitry and components.
- Components are:
  - Microprocessor
  - (Optional) Coprocessors
  - Memory
  - Basic Input/Output System (BIOS)
  - Expansion Slot
  - Interconnecting circuitry