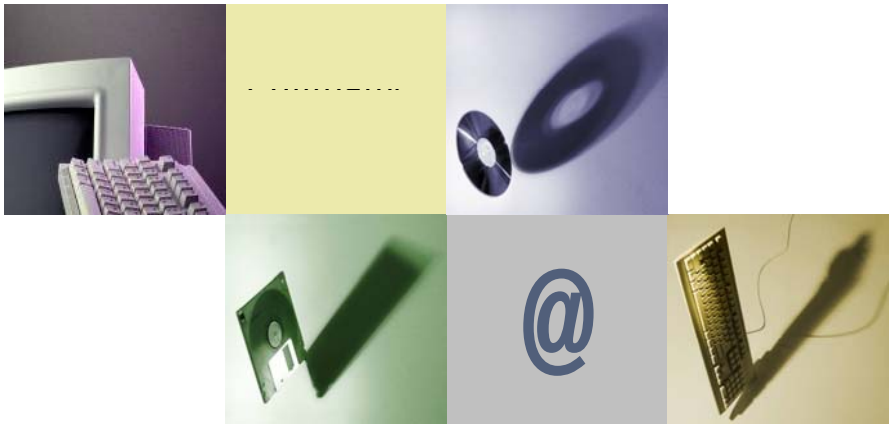
Desktop Computer



Digital Computer Concept and Practice

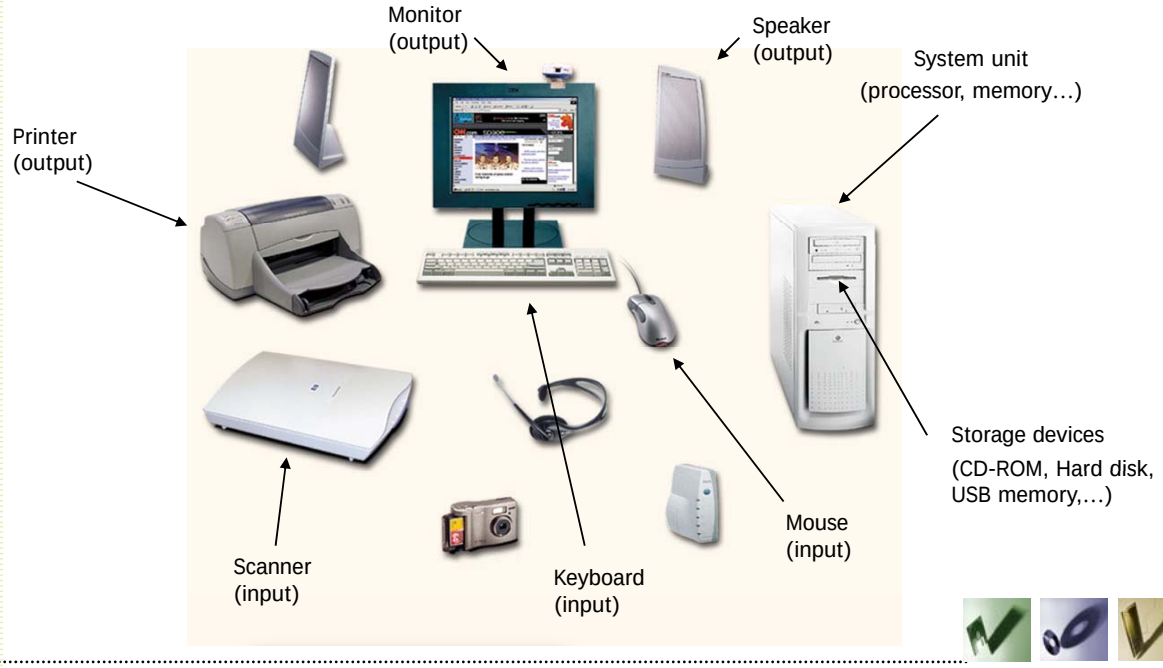
Sources: danawa.com, kbench.com, wikipedia.org

What is a Computer?

- A machine for automatically performing calculations
- A computer is an electronic device that can accept data (input), manipulate data (process), and produce information (output) from the processing.

Hardware

Input devices + Processor (CPU) + Output devices



PC Components

- Input unit
  - Keyboard, mouse, scanner, …
- Central Processing Unit (CPU)
- Output unit
  - Monitor, printer, speaker, …
- Storage unit (secondary storage)
  - Holds data for future use
  - CD-ROM (DVD), hard disk, USB memory (CF, SD), …

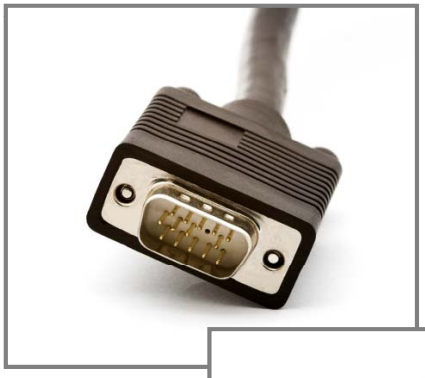
Software

- How does a computer know what to do?
  - It must be given a detailed list of instructions (computer program or software) that tells it exactly what to do.
- Software
  - MS Windows, MS Word, V3, Windows Live Messenger, iTunes, Nateon, Skype, etc.

Where Do We Connect Them?

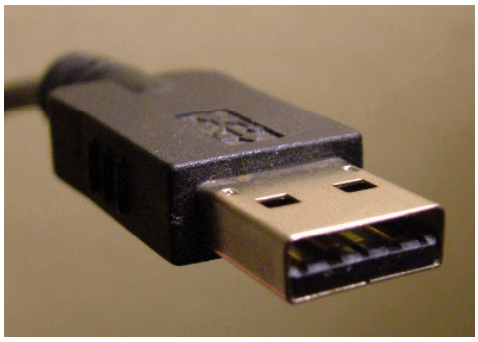
Video (or VGA) Cables

- D-SUB (D-subminiature)
- DVI (Digital Visual Interface)
- HDMI (High-Definition Multimedia Interface)



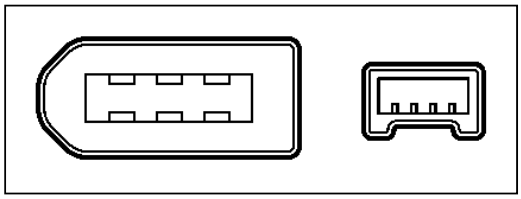
USB Cables

- USB: Universal Serial Bus
- Currently replacing old-style connectors such as PS/2 connectors, serial ports and parallel ports
- Mice, keyboards, scanners, digital cameras, printers, MP3 players, flash drives, and many more

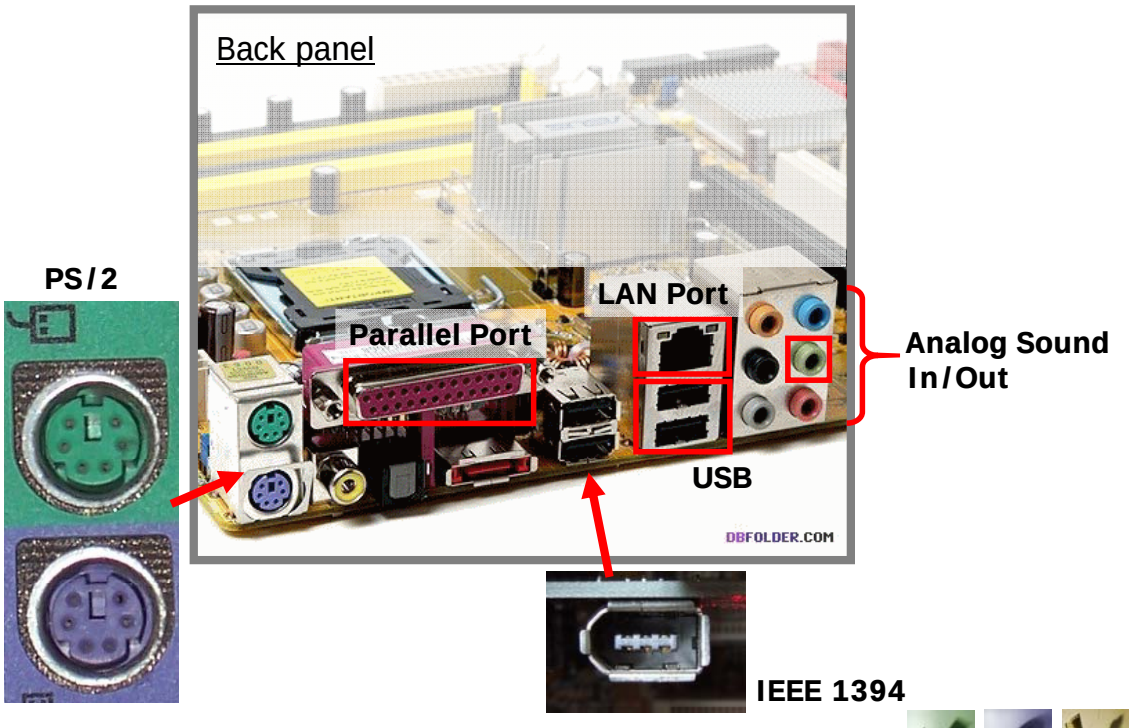


IEEE 1394 Cables

- IEEE 1394 = FireWire (Apple) = i.Link (Sony)
- Camcorders, professional A/V devices, computers (particularly, Sony laptops)

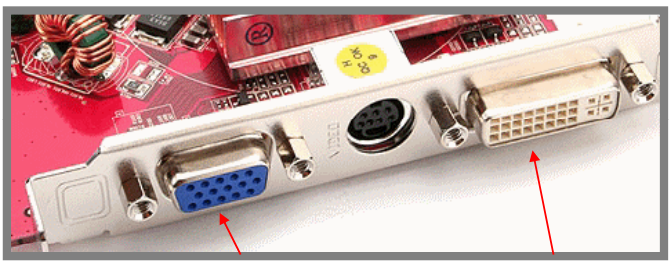


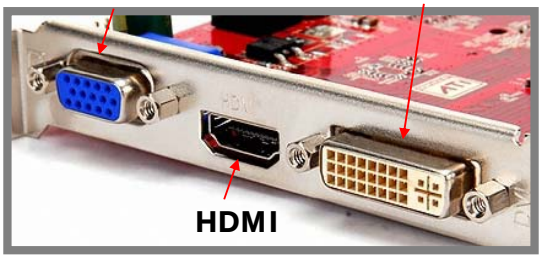
Input, Output Connectors



Video Connectors

Back panel

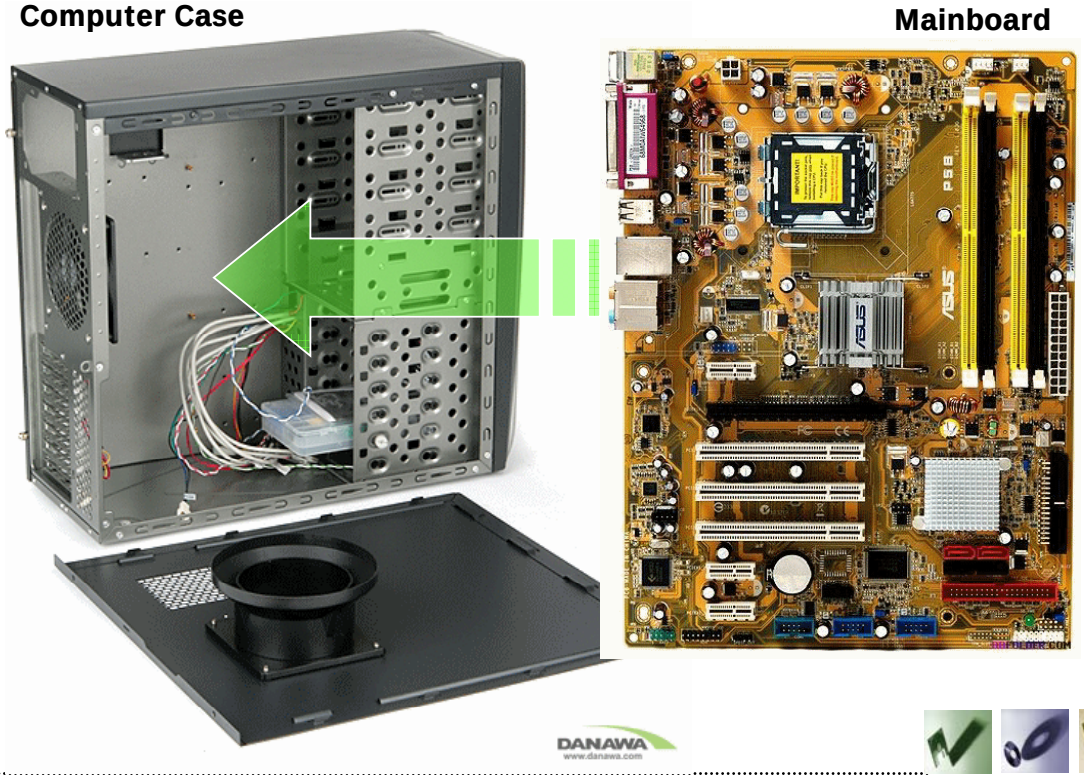




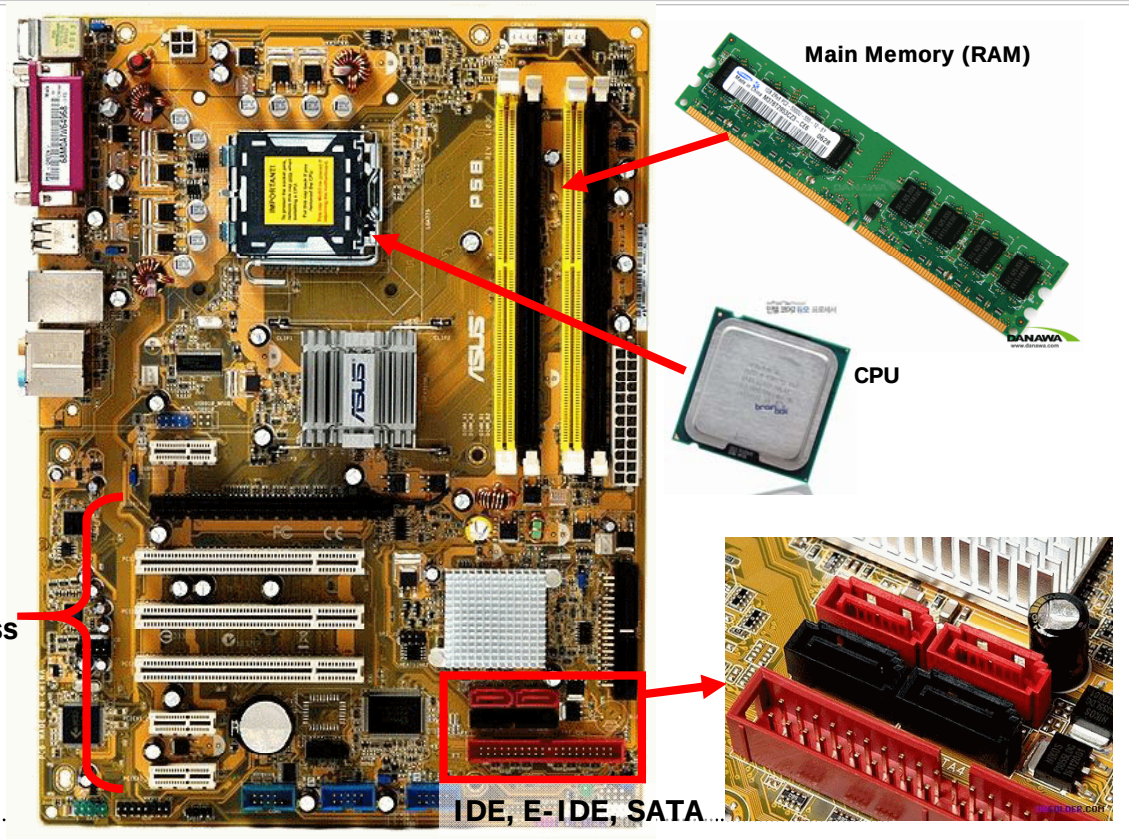
Inside PC

Computer Case

Mainboard

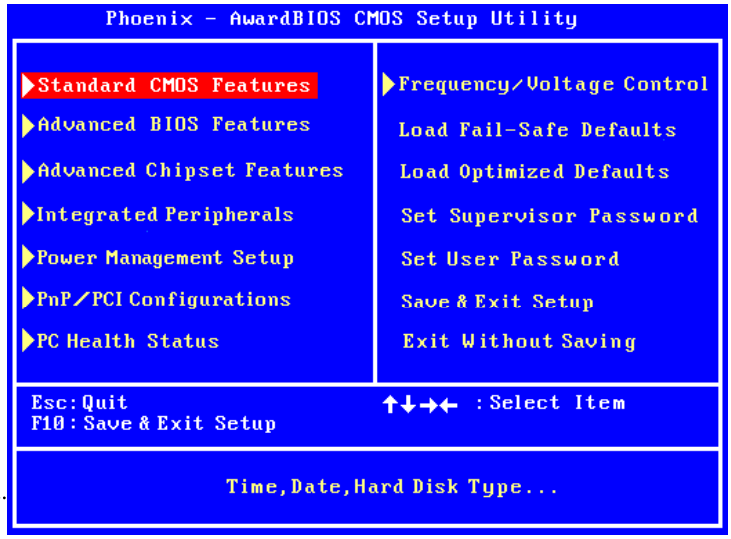


Mainboard (or Motherboard)



Booting

- Turning on a computer → Booting
- BIOS (Basic Input/Output System)
  - Built-in program to identify and initialize the system components such as the CPU, video card and hard disk.
  - Prepare loading software programs, i.e. OS.

BIOS Setup

- BIOS or CMOS setup
  - Changing hardware configurations
  - Press a hotkey right after booting
    - Usually, one of <F1>, <F2>, <DEL>, <ESC>, <F10>