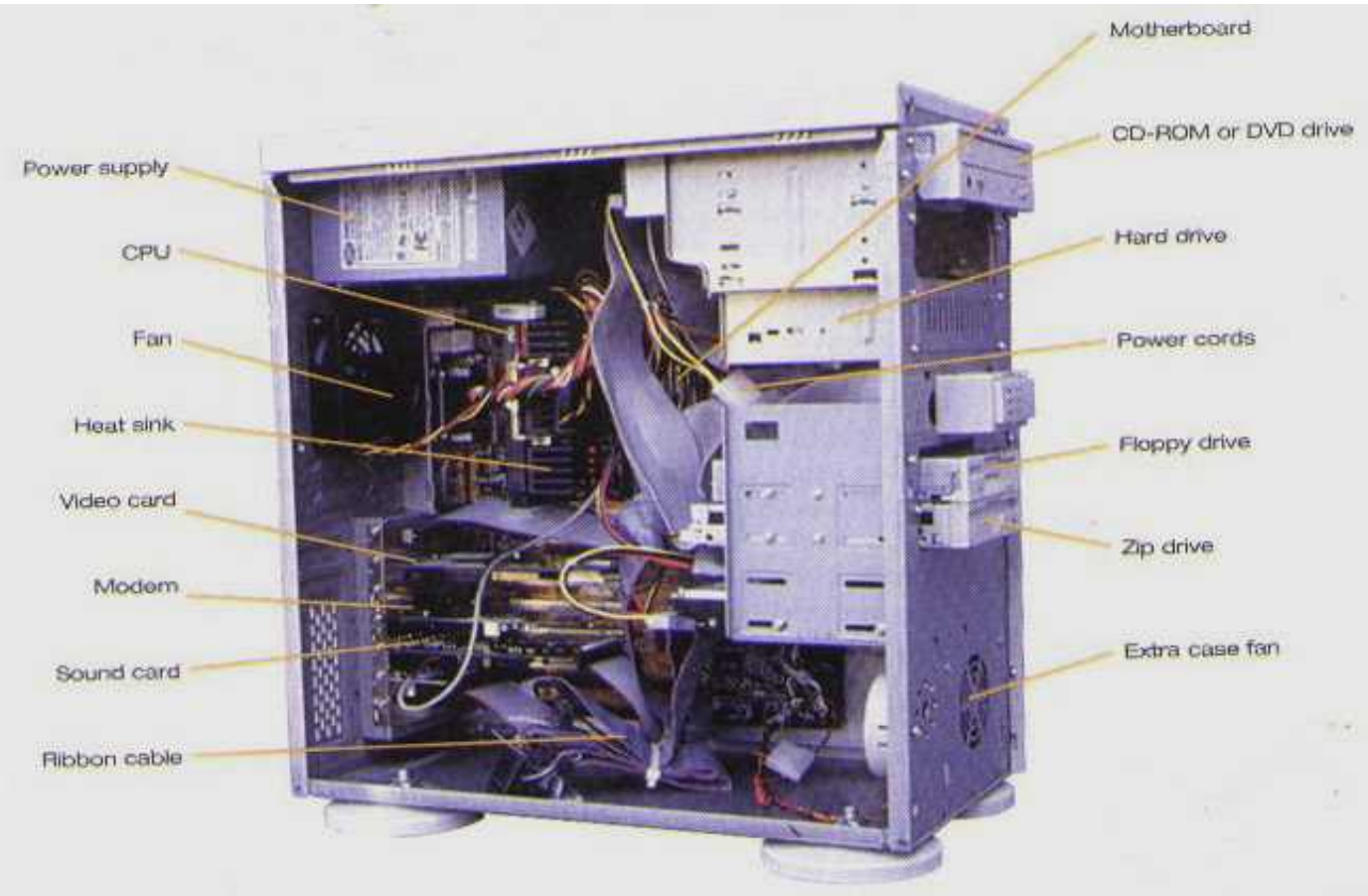
Components of a System Unit



1. ATX Power Supply - The most common computer power supplies are built to conform to the ATX form factor. This enables different power supplies to be interchangeable with different components inside the computer. ATX power supplies also are designed to turn on and off using a signal from the motherboard, and provide support for modern functions such as the standby mode available in many computers. The most recent specification of the ATX standard PSU as of mid-2008 is version 2.31.

2. Central Processing Unit (CPU) - is the portion of a computer system that carries out the instructions of a computer program, and is the primary element carrying out the computer's functions. The central processing unit carries out each instruction of the program in sequence, to perform the basic arithmetical, logical, and input/output operations of the system.


3. CPU Fan – used for cooling purposes, and may refer to fans that draw cooler air into the case from the outside, expel warm air from inside, or move air across a heatsink to cool a particular component.



4. CPU Heat Sink - is a term for a component or assembly that transfers heat generated within a solid material to a fluid medium, such as air or a liquid. Examples of heat sinks are the heat exchangers used in refrigeration and air conditioning systems and the radiator (also a heat exchanger) in a car. Heat sinks also help to cool electronic and optoelectronic devices, such as higher-power lasers and light emitting diodes (LEDs).




5. Video Card - A **video card**, **video adapter**, **graphics accelerator card**, **display adapter**, or **graphics card** is an expansion card whose function is to generate output images to a display. Many video cards offer added functions, such as accelerated rendering of 3D scenes and 2D graphics, video capture, TV-tuner adapter, MPEG-2/MPEG-4 decoding, FireWire, light pen, TV output, or the ability to connect multiple monitors (multi-monitor). Other modern high performance video cards are used for more graphically demanding purposes, such as PC games.

Kinds of Video Card:

a. **Industry Standard Architecture** (**ISA**) - is a computer bus standard for IBM compatible computers.

16-bit and one 8-bit ISA card

b. **Micro Channel Architecture** - a 16- or 32-bit parallel computer bus created by IBM in the 1980s for use on their new PS/2 computers.

32-bit Graphics Card IBM XGA-2

c. **VESA Local Bus** (**VL-Bus** or **VLB**) - it is used in personal computers. VESA (**Video Electronics Standards Association**) Local Bus worked alongside the ISA bus; it acted as a high-speed conduit for memory-mapped I/O and DMA, while the ISA bus handled interrupts and port-mapped I/O.

Multi-I/O-Controller with 1×IDE/SCSI-2/FDD/parallel/2×RS232/Game

d. **Peripheral Component Interconnect (PCI) -** is a computer bus for attaching hardware devices in a computer. These devices can take either the form of an integrated circuit fitted onto the motherboard itself, called a *planar device* in the PCI specification, or an expansion card that fits into a slot.

A typical 32-bit, 5 V-only PCI card, in this case a SCSI adapter

e. **Accelerated Graphics Port** (**AGP**) - is a high-speed point-to-point channel for attaching a video card to a computer's motherboard, primarily to assist in the acceleration of 3D computer graphics. Since 2004, AGP has been progressively phased out in favor of PCI Express.

f. **PCI-X** - is a computer bus and expansion card standard that enhances the 32-bit PCI Local Bus for higher bandwidth demanded by servers. It is a double-wide version of PCI, running at up to four times the clock speed, but is otherwise similar in electrical implementation and uses the same protocol. It has been replaced in modern designs by the similar-sounding PCI Express, which features has different logical design, most notably being a "narrow but fast" serial connection instead of a "wide but slow" parallel connection. PCI-X stands for "PCI-eXtended".

g. **PCI Express** (**Peripheral Component Interconnect Express**), officially abbreviated as **PCIe** (or **PCI-E**, as it is commonly called) - is a computer expansion card standard designed to replace the older PCI, PCI-X, and AGP standards. PCIe 2.1 is the latest standard for expansion cards that is available on mainstream personal computers.

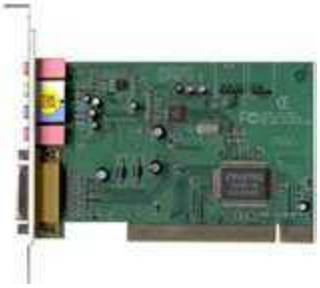
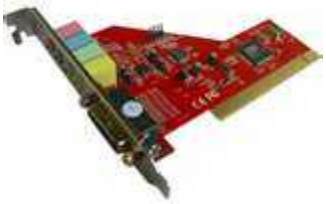
h. **PCI Express 2.0** - a standard doubles the per-lane throughput from the PCIe 1.0 standard's 250 MB/s to 500 MB/s. This means a 32-lane PCI connector (x32) can support throughput up to 16 GB/s aggregate. The PCIe 2.0 standard uses a base clock speed of 5.0 GHz, while the first version operates at 2.5 GHz.

6. RAM – random-access memory: the most common computer memory which can be used by programs to perform necessary tasks while the computer is on; an integrated circuit memory chip allows information to be stored or accessed in any order and all storage locations are equally accessible.



7. Modem - is a device that modulates an analog carrier signal to encode digital information, and also demodulates such a carrier signal to decode the transmitted information. The goal is to produce a signal that can be transmitted easily and decoded to reproduce the original digital data. Modems can be used over any means of transmitting analog signals, from driven diodes to radio.


8. Sound Card or Audio Card is a computer expansion card that facilitates the input and output of audio signals to and from a computer under control of computer programs. Typical uses of sound cards include providing the audio component for multimedia applications such as music composition, editing video or audio, presentation, education, and entertainment (games). Many computers have sound capabilities built in, while others require additional expansion cards to provide for audio capability.

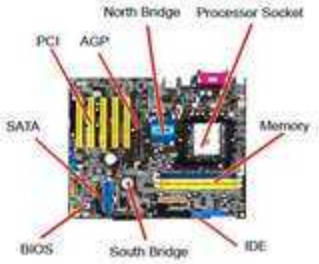

9. Ribbon Cable - (also known as a multi-wire planar cable) is a cable with many conducting wires running parallel to each other on the same flat plane. As a result the cable is wide and flat. It is commonly seen for internal peripherals in computers, such as hard drives, CD drives and floppy drives. On some older computer systems (such as the BBC Micro) they were commonly used for external connections as well. Unfortunately the ribbon-like shape makes them awkward to handle, especially when there are a lot of them, and so round cables have almost entirely replaced ribbon cables for external connections.

10. SATA Cable **(Serial Advanced Technology Attachment**) - is a computer bus interface for connecting host bus adapters to mass storage devices such as hard disk drives and optical drives. Serial ATA was designed to replace the older ATA (AT Attachment) standard (also known as EIDE). It is able to use the same low level commands, but serial ATA host-adapters and devices communicate via a high-speed serial cable over two pairs of conductors. In contrast, the parallel ATA (the redesignation for the legacy ATA specifications) used 16 data conductors each operating at a much lower speed.

    SATA offers several advantages over the older parallel ATA (PATA) interface: reduced cable-bulk and cost (reduced from 80 wires to seven), faster and more efficient data transfer, and hot swapping.

    The SATA host adapter is integrated into almost all modern consumer laptop computers and desktop motherboards. As of 2009, SATA has replaced parallel ATA in most shipping consumer PCs. PATA remains in industrial and embedded applications dependent on CompactFlash storage although the new CFast storage standard will be based on SATA.

11. Motherboard - is the central printed circuit board (PCB) in many modern computers and holds many of the crucial components of the system, while providing connectors for other peripherals. The motherboard is sometimes alternatively known as the **main board**, **system board**, or, on Apple computers, the logic board.



12. DVD (**Digital Video Disc** or **Digital Versatile Disc)** ROM Drive - is an optical disc storage media format, and was invented and developed by Philips, Sony, Toshiba, and Time Warner in 1995. Its main uses are video and data storage. DVDs are of the same dimensions as compact discs (CDs), but are capable of storing almost seven times as much data.

13. Hard Disk Drive - is a non-volatile storage device for digital data. It features one or more rotating rigid platters on a motor-driven spindle within a protective enclosure. Data is encoded magnetically by read/write heads that float on a cushion of air above the platters.