

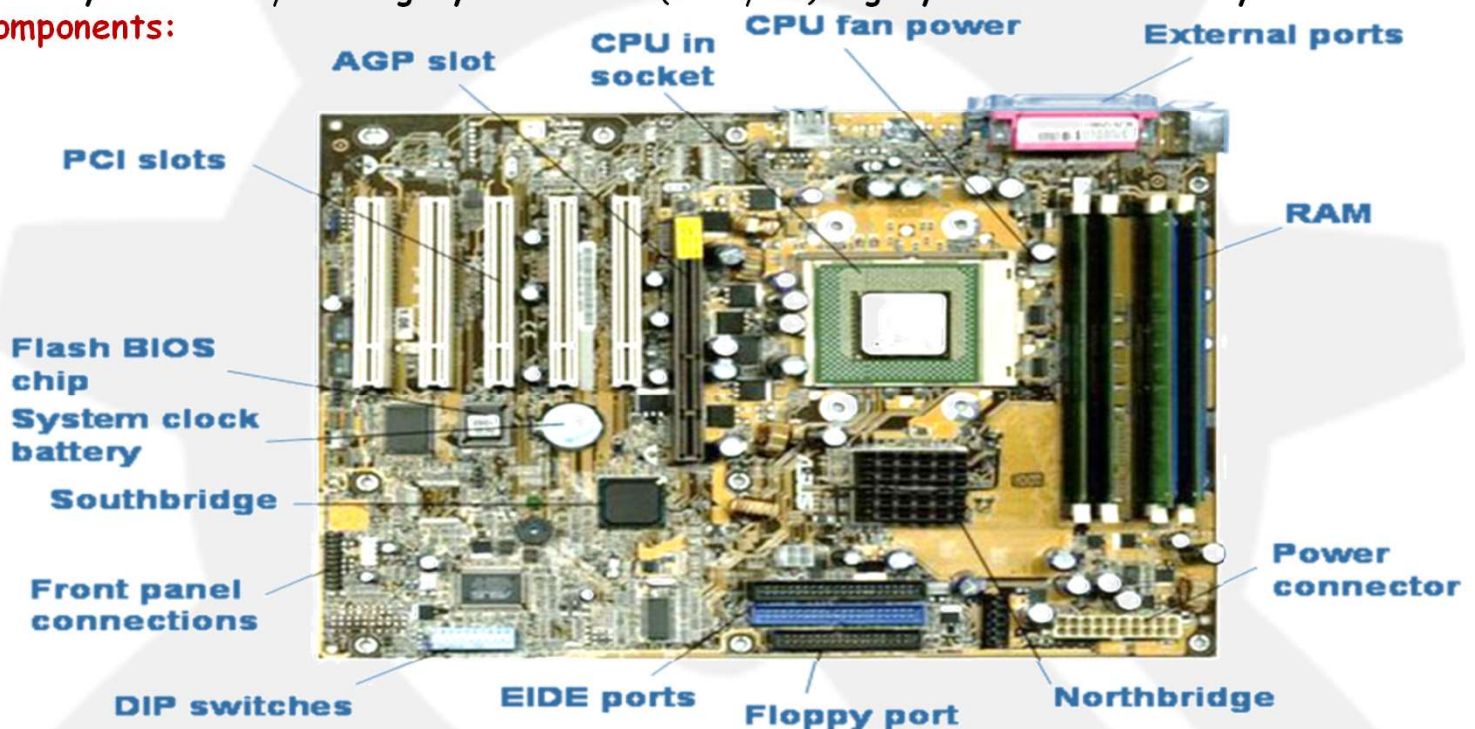


Computer Components Glossary:

With the comment that if you just wanted the meaning a list of 'techie' words then just ask your favourite search engine, or look on the back page of the PC Magazine. Instead of an alphabetic list of terms, in idea of where they fit into the computing universe. The start of this journey are terms used when you want to buy a new computer ...

- **Motherboard** - The circuit board the components are soldered on to
- **Bus** - A set of parallel connectors (wires) that join the components together.
- **Parallel** - Computing is based on '0' and '1' (off and on) a binary digit **BIT**, eight of these bits are called a **Byte**. Groups of 8 bits can represent an instruction, a number or a character (10101010 = 'a'). Sending groups of on's and off's down a wire (in **Serial**) is inefficient, so **parallel** connectors are used
- **Kilobyte** - 1024 bytes. **Megabyte** - 1024Kb (Kilobytes). **Gigabyte** - 1024Mb. **Terabyte** - 1024Gb ...

Components:






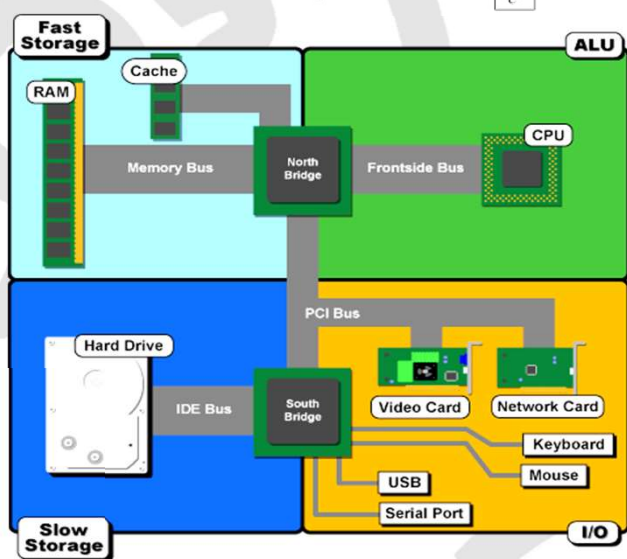
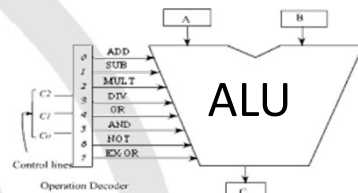
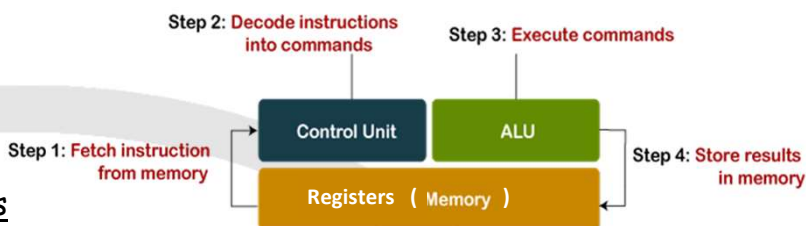
- **CPU** - Central Processing Unit (its in the middle and there are others ...)
- **GPU** - Graphics Processing Unit. Makes pictures look great. Plugs into the **AGP (Accelerated Graphic Processor)** slot.
- **Northbridge and Southbridge** - see over, its all about getting information to/from the CPU
- **PCI** - Peripheral component Interface. Another set of **parallel** slots to plug in peripherals, like video, network and sound cards ...
- **EIDE / SATA** - **Extended Integrated Drive Electronics** (parallel connector) and **Serial Advanced Technology Attachment** (serial) slots are both ways to connect your **HDD Hard Disk Drive** to the motherboard. HDD's can either be spinning magnetic disks or solid state devices (**SSD**) which stores data on memory chips
- **RAM and ROM** - **Random Access or Read Only Memory**. Random access, you put it in and take it out. Whereas read only is burnt (**Flashed**) in during manufacture. Often called **Firmware** as it is 'fixed' rather than **Software** which in written and can be changed.
- **BIOS** - **Basic Input/Output System**. Lives on a ROM chip. When your computer starts, the BIOS is investigated to see where the **Operating System*** (instructions to make it a computer work -ie Windows/iOS) is resident, and directs it to the correct **Boot** disk, memory stick (or **Floppy**) port.
- **Clock** - used to coordinate all of the computer's components, it's speed is measured in **Hertz** (cycles per second, ie **1GHz= 1 Billion Cycles per Second**) and governs how fast your computer works.



Components Glossary - techie bit

Computing is all about distance and speed...

- The **Clock** effectively governs the **Speed** where each 'tick' performs a single step:
- The aim is to get the data and instructions closer to the **CPU** by the quickest route.
- **Northbridge** - is the high speed connections between **RAM** memory (and **cache memory** [temporary]) and the **CPU**. Slow data is moved from disk to fast **RAM**
- **Control Unit** and **ALU** (Arithmetic Logic Unit). Control; translates instructions to move data and perform actions like Add, Multiply ... which occur in the ALU. Once actioned data is moved back to **RAM**.
- **Southbridge** - Looks after the slow data transfers that occur (relatively speaking) a long long way away. Like **Disk** data (ask disk for data, spin disk, move disk head, read data and send it back). Or **Screen / Keyboard** (wait for user to read the information and then type something).
- **USB - Universal Serial Bus**. The 0's and 1's are sent sequentially down the wire (**serial**) to other devices (mouse, keyboard, graphics tablet etc.). This is the most common interconnect mechanism used today.
- **USB - Type A** (Two main 'flavours'- Old: V2 New V3) Both look the same, but V2 has a lower data speed, and carries less power (to charge or run stuff) than V3 (like a cd reader).
- **USB - Type C** Newer (2014 +)  Smaller and faster than Type A 
- **Lightning Connector** - Apples variant of USB 



SOFTWARE

- **Operating System** - A series of programs that turns your box of wires and chips into a computer. Examples include **Microsoft's Windows**, **Apple's IOS**, **Android** and **UNIX**
- **GUI - Graphical User Interface**. The images and icons that you interact with to control your computer, as opposed to a **CLI - Command Language Interface** where the operator types commands into a terminal to tell the computer to perform.
- **App or Program** - Used interchangeably, but strictly an **App** requires a **GUI** to run. A program is a list of instructions that can be run by the machine itself - often in **Batch** mode. In which a list of programs is queued up by the computer and run either sequentially or by a predefined event; like automatic backups every Tuesday at 10.00pm.
- **Update** - A set of programs sent by the software manufacturer to improve, or fix bugs
- **Bug** - Originating from valve and relay powered American computers where insects became trapped between the relay contacts causing 'software' errors. ☺
- **File** - A collection of data, or instructions (programs). Held in groups called **Folders** or **Directories**

NETWORKING

- **ISP - Internet Service Provider**. For example BT, EE, Sky etc. Who connect you to the Internet
- **Router** - The box (usually provided by your ISP) that 'routes' your requests to the Internet.
- **MBPS - Megabytes per Second** - A measure of your connection (to the Internet) speed.
- **Internet** - The collection of wires that connect systems together, **Web** connection of pages of information written in HTML and accessed by **Web Browser**, as catalogued by **Search Engines**.

