

Chapter 2

SYSTEM UNIT



SYSTEM UNIT

A case that contains the electronic components of the computer used to process data.

The case of the system unit, or chassis, is made of metal or plastic and protects the electrical components inside.

The trend is towards a smaller form factor, or size and shape, of desktop computers.

Comes in a variety of shapes and sizes



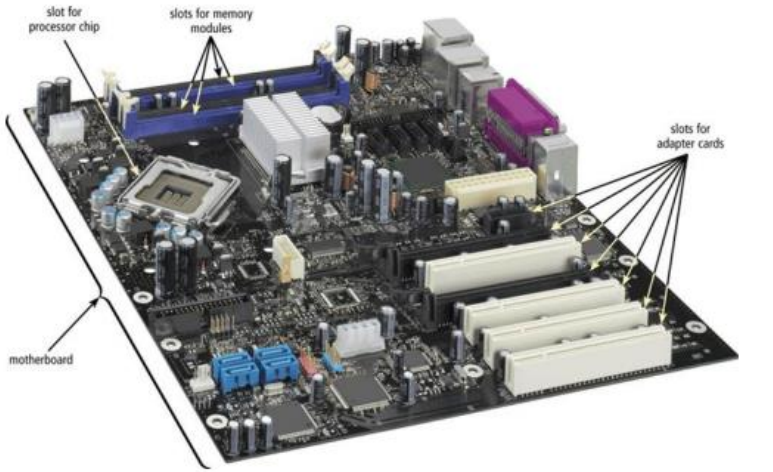


MOTHERBOARD

Also called the system board, is the main circuit board of the system unit.

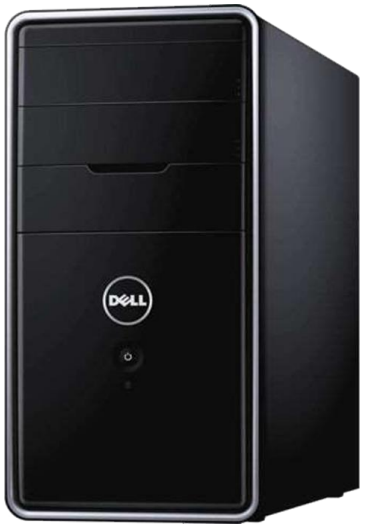
Many electronic components attach to the motherboard and others are built into it.

Slots for adapter cards, the processor, and Memory.





CPU (Central Processing Unit)

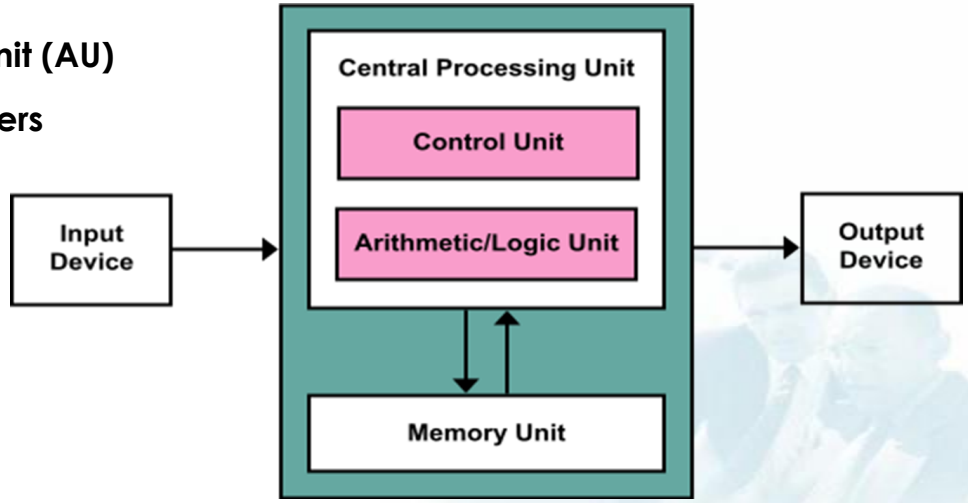


A central processing unit is the electronic circuitry within a computer that caries out the instructions of a computer program by performing the basic arithmetic, logical, control and input/output operations specified by the instructions.



COMPONENTS OF CPU

- Control Unit(CU)
- Arithematic Logic Unit (AU)
- A Number Of Registers





CONTROL UNIT (CU)

- Control Unit controls operations of other parts of CPU as well as all parts of computer by sending a control signal control sequence of instruction to be executed control flow of data among all parts of computer interpret instructions regulate timing of processor send control single to and receive control single from peripheral devices

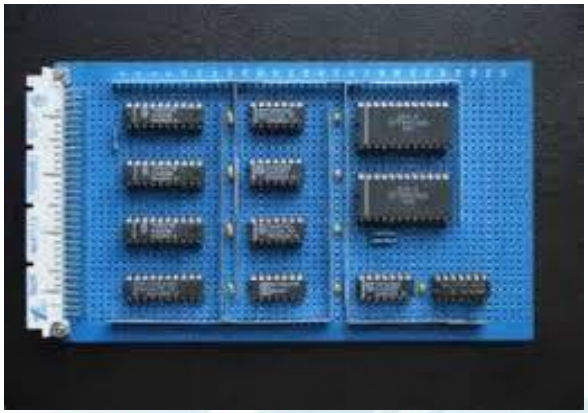




ARITHMETIC AND LOGIC UNIT (ALU)

❖Arithmetic and Logic Unit consists of a complicated set of logic circuit and accumulator. It is mainly responsible for :

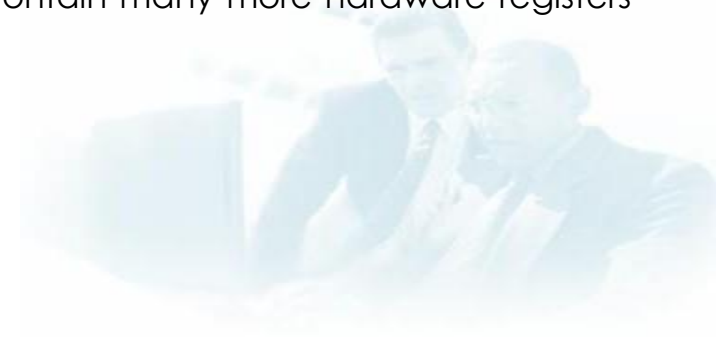
- ✓Calculation
- ✓Logical comparison and
- ✓Decision





REGISTERS

- The term is often used to refer only to the group of registers that can be directly indexed for input or output of an instruction, as defined by the instruction set. More properly, these are called the "*architected registers*". For instance, the x86 instruction set defines a set of eight 32-bit registers, but a CPU that implements the X86 instruction set will contain many more hardware registers than just these eight.





There are several other classes of registers:

- (a) **Accumulator**: It is most frequently used register used to store data taken from memory. Its number varies from microprocessor to microprocessor.
- (b) **General Purpose registers**: General purpose registers are used to store data and intermediate results during program execution. Its contents can be accessed through assembly programming.
- (c) **Special purpose Registers**: Users do not access these registers. These are used by computer system at the time of program execution. Some types of special purpose registers are given below:



RANDOM ACCESS MEMORY (RAM)

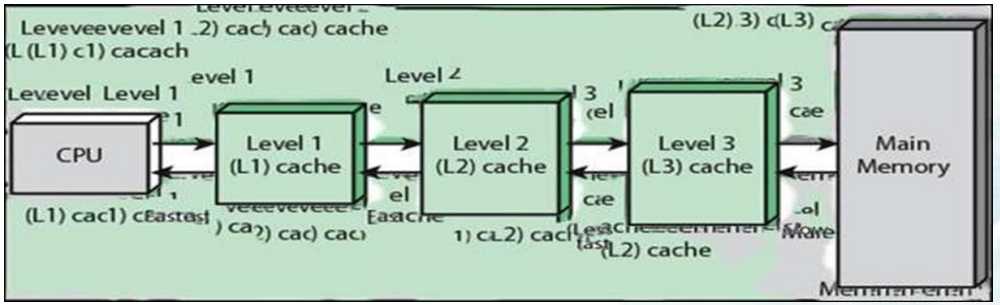
- RAM (random access memory) is the place in a computing device where the operating system (OS), application programs and data in current use are kept so they can be quickly reached by the device's processor.





CACHE MEMORY

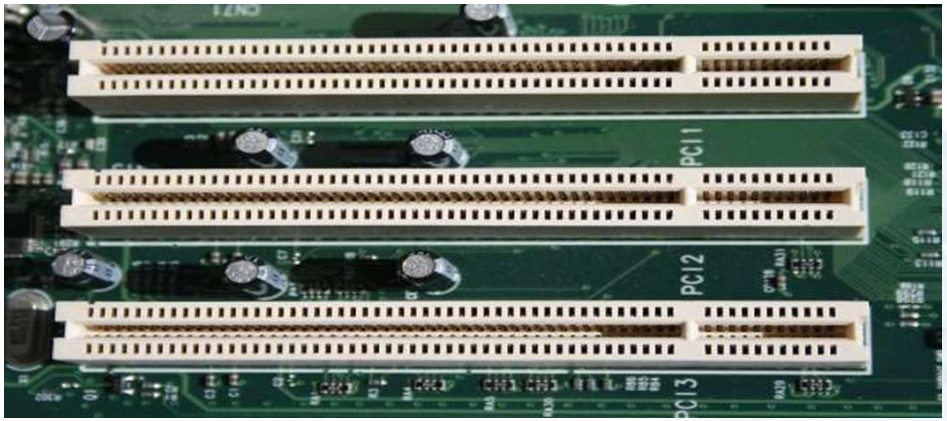
- Cache memory, also called CPU memory, is random access memory (RAM) that a computer microprocessor can access more quickly than it can access regular RAM. This memory is typically integrated directly with the CPU chip or placed on a separate chip that has a separate bus interconnect with the CPU.





EXPANSION BUS

- An expansion bus is an input/output pathway from the CPU to peripheral devices and it is typically made up of a series of slots on the motherboard. Expansion boards (cards) plug into the bus.





THANK YOU

SYSTEM UNIT