Reading

Inside the System

1. Read the text below to enrich your knowledge about the inside of PC System!

What is Processing Unit

The nerve centre of a PC is the processer, also called the CPU, or central processing unit. This is built into a single chip which executes program instructions and coordinates the activities that take place within the computer system. The chip itself is a small piece of silicon with a complex electrical circuit called an integrated circuit.

The processor consists of three main parts:

- The control unit examines the instructions in the user's progam, interprets each instruction and causes the circuits and the rest of the components – monitor, disk drives, etc – to execute the functions specified.
- The arithmetic logic unit (ALU) performs mathematical calculations (+, -, etc.) and logical operations (AND, OR, NOT).

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- The registers are high-speed units of memory used to store and control data. One of the register (the progam counter, or PC) keeps track of the next instruction to be performed in the main memory. The other (the instruction register, or (R) holds the instruction that is being executed (see Fg 1 on page 13).

The power and performance of a computer is partly determined by the speed of its processor. A system clock sends out signals at fixed intervals to measure and synchronize the flow of data. Clock speed is measured in gigahertz (GHz). For example, a CPU running at 4GHz (four thousand milion hertz, or cycles, per second) will enable your PC to handle the most dernanding applications.

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RAM and ROM

The programs and data which pass through the processor must be loaded the main memory in order to be processed.
ROM (read only memory) is non – volatile, containing instructions and routines for the basic operations of the CPU. The BIOS (basic input/output system) uses ROM to control communication with peripherals.
RAM capacity can be expanded by adding extra chips, usually contained in small cicuit boards called dual line memory modules (DIMMs).

A RAM chip

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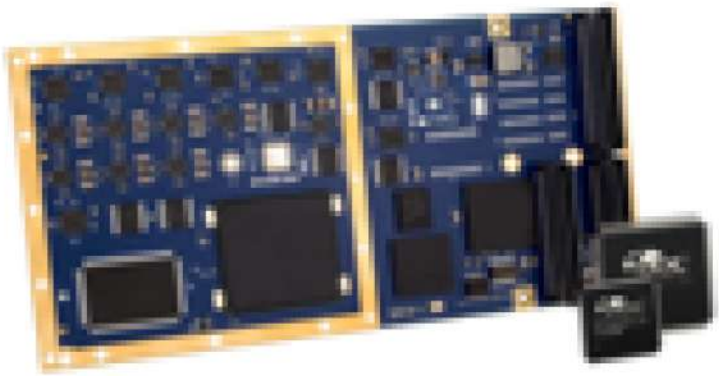
Buses and cards

The main circuit board inside your system is called the motherboard and contains the memory chips, expansions slots, and controllets for peripherals, connected by buses – electrical channels which allow devices inside the computers to communicate with aech other. For example, the front side bus carries all data that passes from the CPU to other divices.
The size of a bus, called bus width, determines how much data can be transmitted it can be a compared to the number of lanes on a moctorway – the large the width, the more data can travel along the bus. For example, a 64-bit bus can transmit 64 bits of data.
Expansion slots allow users to install expansion card, adding featurs like sound, memory and network capabilitles.



A data bus

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2. After you read the text above, answer the questions below!

1. What are the main parts of the CPU?
2. What does ALU stand for? What does it do?
3. What is the function of the system clock?
4. How much is one gigahertz?
5. What type of memory is temporary?
6. What type of memory is permanent and includes instructions needed by the CPU?
7. How can RAM be increased?
8. What term is used to refer to the main printed circuit board?