

## Microprocessor

Microprocessor is the minute, inexpensive central processing unit (CPU) of a small computer, which can also be used independently in a wide range of applications. A microprocessor is built on to a single piece of silicon called a wafer or chip that is commonly no longer than 0.5 cm (0.2 inch) along one side and no more than 0.05 cm (0.02 inch) thick. Despite its small size, a microprocessor may be programmed to perform a great number of information-handling tasks. It can serve as a general-purpose computing machine for tutoring or word-processing use, for controlling other machines or industrial processes, for monitoring hospital patients, and for hand-held calculators. The advent of the microprocessor was made possible by the progressive miniaturization of integrated circuits and advances in semiconductor technology.

A microprocessor may function by itself in a wide range of applications, incorporating as few as 1,000 or as many as several hundred thousand elements on a single chip.

A microprocessor chip typically contains a read-only memory (**ROM**)-that is, a memory that can be read repeatedly but cannot be changed- but it may also have some random-access memory (**RAM**) for holding transient data. Also present are a register for holding computing instructions, a register for holding the “address” of each instruction in turn, similar data registers, and a logic unit. It also has interfaces for connecting with external memories and other systems as needed.

Microprocessors are classified in terms of the number of “bits” of information that can be transferred in parallel and held in their registers. This number has been steadily increasing with the growth of circuit technology. 32-bits and 64-bits microprocessors are now common.

### Vocabulary:

- **Microprocessor:** the central processing unit that performs the basic operations in a microcomputer. It consists of an integrated circuit contained on a single chip. Also called processor (*Fr. microprocesseur*).
- **Minute:** very small: extremely small in size or scope (*Fr. tout petit*)
- **Silicon:** brittle non-metallic chemical element (*Fr. silicon*)

- **Chip:** a small wafer of semiconductor material, usually silicon, forming the base on which an integrated circuit is laid out, or such a wafer together with its integrated circuit (*Fr. chip*)
- **Inch:** measurement unit of length: a unit of length equal 2.54 cm (*Fr. pouce*)
- **Task:** any job to be done: a piece of work or assignment, especially one that is important (*Fr. Tâche*)
- **Miniaturization:** (to miniaturize) make something in a small size. to make a version of something in a much smaller size or on a greatly reduced scale (*Fr. miniaturiser*)
- **Integrated circuit:** tiny electronic circuit used to perform a specific electronic function, such an amplification, it is usually combined with other components to form a more complex system (*Fr. circuit Intégré*)
- **Semiconductor:** material able to conduct electricity at room temperature more readily than an insulator (a material or device that prevents or reduces the passage of heat, electricity, or sound) but less easily than a metal. Such metals as copper, silver, and aluminum are excellent conductors, but such insulators as diamond and glass are very poor conductors. (*Fr. semi-conducteur*)
- **Transient:** short in duration: lasting for only a short time and quickly coming to an end, disappearing, or changing (*Fr. transitoire*)
- **Bit:** unit of information in computer: the smallest unit of information storable in a computer or a peripheral device, expressed as 0 or 1. Eight bits make a byte, the common measure of memory or storage capacity. (*Fr. bit*)

### Understanding the text:

- Find the opposite (antonyms) of the following words:

**Enormous, costly, narrow, smaller, tiny, acute, enlargement, decline, many, permanent, separating, decreasing, decay.**

- Write sentences using the above words (some sentences of general English and others of specific English)
- Match the words in the list (A) with their synonyms in the list (B).

**List (A):** enormous, costly, smaller, tiny, enlargement, decline, permanent, decreasing.

**List (B):** stable, fall, huge, slighter, precious, widening, minute, declining.

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