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Title:
What is an EPROM?

Word Count:
270

Summary:
EPROM or Erasable Programmable Read Only Memory is rewritable memory chip that can hold its data without power.

Keywords:
EPROM

Article Body:
EPROM or Erasable Programmable Read Only Memory is rewritable memory chip that can hold its data without power. A programmed EPROM can keep its data for up to twenty years and can be read indefinite number of times. An Israeli engineer, Dov Frohman invented the EPROM chip in 1971.

EPROM chips are embedded on an external programming device before being used on the circuit board. The EPROM chip requires a costly ceramic chip package with a small quartz window that is sheltered with opaque, sticky tape. For reprogramming, the chip is extracted from the circuit board, the tape is detached and it is placed below a concentrated ultraviolet (UV) light of wavelength 235nm light for approximately 20 minutes.

Some microcontrollers, before the era of EEPROMs and flash memory, used EPROM to store their program. Such microcontrollers include some versions of the Intel 8048, and the "C" edition of the PIC microcontroller. Similar to EPROM chips, such microcontrollers came in windowed (expensive) versions that were handy for debugging and program development. Leaving the die of such a chip exposed to sunlight can change its behavior in unexpected ways.

EPROMs come in several sizes with regard to both packaging and storage capacity. Parts of the same type of EPROM from different manufacturers are intercompatible as long as they're only being read, there are subtle differences in the programming process.

Most EPROMs can be identified by the programmer by forcing 12V on pin A9 and reading the two bytes of data. However, programmer software would allow manual setting of the chip to ensure proper programming.

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EPROMs are the forerunners of the modern EEPROMs and flash memory.