

# What is CMOS and what is it used for?

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Most of us have heard of CMOS via Clear CMOS operation (or reset BIOS), which is to bring BIOS settings to the default state. This is very simple and is often used to solve many computer errors.

Note: CMOS sensor is different, it is used by digital cameras to convert images into digital data.

## Other names of CMOS

CMOS is also called Real-Time Clock (RTC), CMOS RAM, Non-Volatile RAM (NVRAM - Static RAM), Non-Volatile BIOS memory or Complementary-Symmetry Metal-Oxide-Semiconductor (COS-MOS - roughly translated) is a symmetric metal oxide semiconductor.

## How does BIOS and CMOS work together?

The BIOS is a computer chip that sits on the same board as CMOS, except that its purpose is to let the processor and computer hardware such as hard drive, USB port, sound card, graphics card . communicate with together. Computers without BIOS will not understand how these components work together.

1. BIOS - Basic information for beginners
2. 5 tips for using the BIOS to help you master your computer

CMOS is a computer chip located on a circuit board or more specifically a RAM chip, meaning that it will often lose stored settings when the computer is turned off. However, CMOS batteries are used to provide stable power for the chip.

When the computer first starts up, the BIOS gets information from CMOS to understand the hardware settings, time .

## What is CMOS battery?

CMOS usually runs on CR2032 batteries, or CMOS batteries. Most have lifespan, up to 10 years but sometimes have to be replaced. Incorrect system time, date, or loss of BIOS settings are indications that CMOS batteries have been / are "dead". Replacing them is also very simple, just remove and install the new one.



*CMOS batteries are very familiar to non-tech users*

### **More information about CMOS and CMOS batteries**

Most motherboards have a separate place for CMOS batteries, but some small computers like laptops and tablets have an additional part to place CMOS batteries, connecting to the board with small wires.

Some devices use CMOS as microprocessor, microcontroller or static RAM (SRAM).

It should be noted that CMOS and BIOS are not two interchangeable terms. Although working together to perform some functions on computers, they are completely separate components.

When the new machine starts, there is the option to boot the machine from BIOS or CMOS. Opening the CMOS setup section will help change the settings here such as time, date, and how computer components start. You can also open CMOS to enable / disable some hardware on your device.

CMOS is often used on battery-powered devices because they use less electricity than other chips. Although using both positive and negative polarization circuits (NMOS and PMOS), at one point, only one of the two types is used.

See more:

1. Instructions for setting up BIOS and UEFI passwords to protect data on your Windows 10 computer safely
2. 4 ways to reset the Windows computer to its original state
3. Instructions for entering BIOS on different computers
4. Why Intel killed the BIOS, switched to UEFI?

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