

BIOS

BIOS stands for Basic Input/output System, the BIOS (pronounced bye-oss) is a ROM chip located on all motherboards that allows you to access and set up your computer system at the most basic level. It is also known as **CMOS** stands for complementary metal-oxide semiconductor. It stores configuration information of computer.

The BIOS includes instructions on how to load basic computer hardware and includes a test referred to as a POST (Power On Self-Test) that helps verify the computer meets requirements to boot up properly. If the computer does not pass the POST, you will receive a combination of beeps indicating what is malfunctioning within the computer.

The four main functions of a PC BIOS

- **POST** - Test the computer hardware and make sure no errors exist before loading the operating system. Additional information on the POST can be found on our POST and Beep Codes page.
- **Bootstrap Loader** - Locate the operating system. If a capable operating system is located, the BIOS will pass control to it.
- **BIOS drivers** - Low level drivers that give the computer basic operational control over your computer's hardware.
- **BIOS or CMOS Setup** - Configuration program that allows you to configure hardware settings including system settings such as computer passwords, time, and date.

UEFI

Short for Unified Extensible Firmware Interface, UEFI is a specification that defines a more modernized model for the interface between computer operating systems and platform firmware during the boot, or start-up, process. UEFI originated as the Intel Boot Initiative in the late 1990s before being turned over to the Unified EFI Forum, and today the forum and specification remain the result of a collaborative effort between computer processor manufacturers like AMD and Intel and software operating system companies like Microsoft and Apple.

In many ways, UEFI serves as a software-driven, bare-bones operating system that can sit on top of the legacy BIOS boot process, and like BIOS, UEFI is responsible for initializing the hardware of a device or computer before passing control of the hardware to the operating system. Most newer computer platforms support both UEFI and legacy BIOS booting in order to ease the transition to UEFI and accommodate older operating systems that don't have built-in UEFI support.

The UEFI specification offers advanced features over BIOS such as secure boot, low-level cryptography, network authentication and universal graphics drivers. The Secure Boot functionality in UEFI provides the basis for the Microsoft Secure Boot feature in Windows 8 that enables the OS to detect rootkits and similar malware attacks.