

from <http://computer.howstuffworks.com/pc3.htm>

Summary of the boot process in a PC:

1. The power button activates the power supply in the PC, sending power to the motherboard and other components.
2. The *PC performs a power-on self-test (POST). The POST is a small computer program within the BIOS that checks for hardware failures.* A single beep after the POST signals that everything's okay. Other beep sequences signal a hardware failure. The **BIOS** software is **stored** on a non-volatile ROM chip on the motherboard. ... In modern **computer** systems, the **BIOS** contents are **stored** on a flash memory chip so that the contents can be rewritten without removing the chip from the motherboard.
3. The PC *displays information* on the attached monitor showing details about the boot process. These *include the BIOS manufacturer and revision, processor specs, the amount of RAM installed, and the drives detected.* Many PCs have replaced displaying this information with a splash screen showing the manufacturer's logo. You can turn off the splash screen in the BIOS settings if you'd rather see the text.
4. The *BIOS attempts to access the first sector of the drive designated as the boot disk. The first sector is the first kilobytes of the disk in sequence, if the drive is read sequentially starting with the first available storage address. The boot disk is typically the same hard disk or solid-state drive that contains your operating system.* You can change the boot disk by configuring the BIOS or interrupting the boot process with a key sequence (often indicated on the boot screens).
5. *The BIOS confirms there's a bootstrap loader, or boot loader, in that first sector of the boot disk, and it loads that boot loader into memory (RAM). The boot loader is a small program designed to find and launch the PC's operating system.*
6. *Once the boot loader is in memory, the BIOS hands over its work to the boot loader, which in turn begins loading the operating system into memory.*
7. *When the boot loader finishes its task, it turns control of the PC over to the operating system. Then, the OS is ready for user interaction.*

? How does the bios start? From <https://stackoverflow.com/questions/20861032/who-loads-the-bios-and-the-memory-map-during-boot-up>

At initial power on, the BIOS is executed directly from ROM. The ROM chip is mapped to a fixed location in the processor's memory space (this is typically a feature of the chipset). When the x86 processor comes out of reset, it immediately begins executing from 0xFFFFFFF0.

However, executing directly from ROM is quite slow, so usually one of the first things the BIOS does is to copy and decompress the BIOS code into RAM, and it executes from there. Of course, the memory controller must be initialized first! The BIOS takes care of that beforehand.