

Memory Outside the CPU

In carrying out its duties, the CPU must interact with two other types of memory:

Primary

Primary Storage is a type of memory that can be accessed quickly and store larger amounts of data or instructions than can the CPU on its own. There are two main types of primary storage: ROM and RAM.

- **ROM** Read Only Memory is primarily used for storing instructions that allow the computer to startup each time the power is turned on. Also, these instructions are used by the Operating System to communicate with devices such as the keyboard, monitor, ports etc. These instructions called the BIOS (Basic Input Output System) are found in ROM and are in a more permanent area that is not erased or cleared.
- **RAM** Random Access Memory is a location that the CPU uses to keep data, instructions, and programs while we work on them. This is necessary because the CPU can only keep track of a very small amount at once. So, it sends information to RAM for "safekeeping" until it needs it again. The one downside to RAM is that it is lost when the power is lost. For example, if you are typing your assignment, and the power goes out, unless you sent it to disk with a "save" you are out of luck.

Secondary

So you don't lose valuable data and programs, secondary storage is utilized to maintain more permanent forms of information. These fall into several categories and vary in how "permanent" they really are:

- magnetic disks
 - floppy drives
 - hard drives
 - tape drives
- optical disks
 - CD
 - DVD
 - Blu-ray
- solid state drives
 - USB Flash drives
 - SmartMedia
 - CompactFlash

