

5.2 How A Computer Works

The personal computer is a complex piece of machinery. In this section, I will describe at a high level how a computer works. This is not meant to be a full discourse on the topic, just something to give you a flavor of the technologies and concepts involved.

5.2.1 Definition Of A Computer

What is a computer? Well, I'd define a computer as a machine for processing information. Information is fed into the computer, gets processed and is then output from the computer.

5.2.2 Basic Functions Of A Computer

The computer servers four basic functions:

- **Input.** The computer takes input data from the user with the aim of processing that data to create something useful.

How do we input data to a PC? Well, the obvious ways are to key in data using the keyboard or mouse. Other ways include copying data into the computer from a CD or DVD, or perhaps a USB flash drive. You can record sounds, import pictures from a digital camera or bring in videos from a digital camcorder.

- **Processing.** The computer takes input data and performs some processing function on that data. For example, it might update a file, perform some calculations, or otherwise manipulate the data.

When a computer processes data, it takes in the input data and performs some change, update or calculation. Usually, processing is done by the brain of the PC (i.e. the CPU) - it could also be done by "dedicated" components like chips on the video card and sound card.

When we talk about processing, it is useful to understand how a computer represents information. Computers represent information using bits. A bit has a value of either one or zero. 8 bits make up 1 byte. 1000 bits is equivalent to 1 megabyte. 1000 megabytes make up 1 gigabyte, 1000 gigabytes make up 1 terabyte.