Day 2	**Central Processing Unit (CPU)** **+** **Input Devices** **+** **Output Devices**	**4-10-2015** **5-10-2015**

Central Processing Unit (CPU)
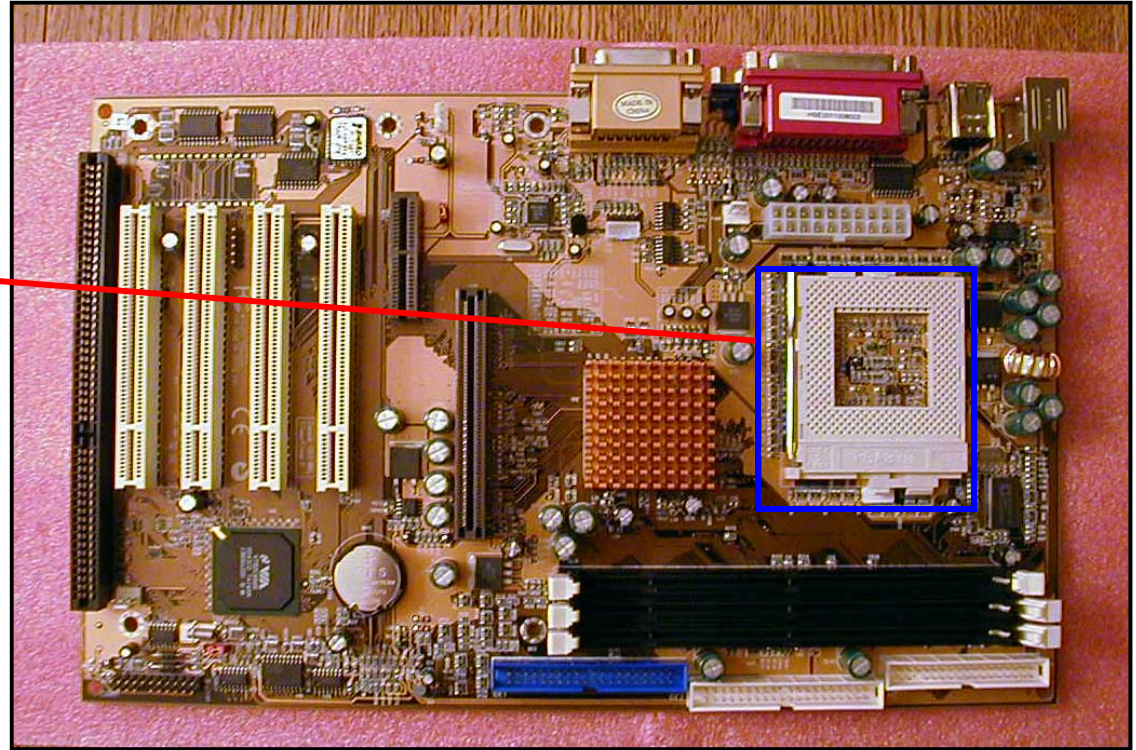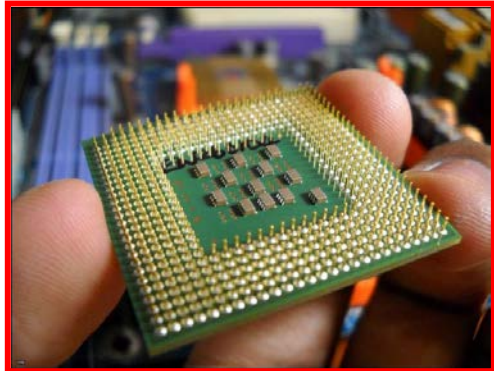
Central Processing Unit (CPU) of a PC

- The **C**entral **P**rocessing **U**nit (**CPU**) is the part of the computer that performs the work. It carries out the core processing, logic control and calculation work on the electronic data. "is the **brain** of the computer"

- A **CPU** that is constructed on a single chip is called a **microprocessor**.

- The **CPU** is responsible for processing the data inside the computer system. It is also responsible for controlling all other components of the system.

Central Processing Unit (CPU) of a PC

- The speed at which a CPU can process information is known as its **clock speed**.

- This is measured in megahertz (**MHz**) or gigahertz (GHz). **Mega** refers to a million and **hertz** refers to cycle per second, therefore a 500MHz processor would be capable of operating at 500 million cycles per second. Giga refers to a thousand million (billion), therefore a 2.4GHz processor would be capable of 2,400,000,000 cycles per second.

- The **clock speed** of the **CPU** is one of the limiting factors which determine how quickly a PC can perform tasks, the higher the clock speed of the processor, the faster and more expensive the PC will be.

- The **CPU** has many versions.

Input Devices

An input device is any device that allows information to be entered into a PC

Keyboard	Numeric Keypad	Pointing Device	Remote Control
Joystick	Touch Screen	Scanner	Graphics Tablet
Microphone	Digital Camera	Webcams	Light Pens

Examples of Input Devices

1. **Touchpads** and **trackballs** are often found built into laptop computers and perform the same function as the mouse. A **touchpad** senses the movement of a fingertip being dragged across it and moves the mouse pointer on the screen accordingly. A **trackball** is, effectively, a stationary, upturned mouse, where the ball is exposed and rotated by the fingertips rather than movement across a flat surface.

2. **Joysticks** can be used to perform manoeuvres المناورات more quickly and effectively when playing games on the PC.

3. A **graphics tablet** is a touch sensitive pad, which is used with a light pen to allow freehand drawing or writing to be entered into a PC in digitised format. Anything created on the pad with the pen appears on the monitor.

Examples of Input Devices (continued)

4. **Scanners** allow printed material to be converted into digitised formats suitable for importing into appropriate application software. To import printed text into a PC via a scanner, special applications software known as Optical Character Recognition software (OCR) is required. This allows hard copy text to be converted into text files within word processing applications.

Examples of Input Devices (continued)

5. **Digital Cameras** store photographic images in digital formats, directly on to memory or magnetic media. These images can then be downloaded into a PC.

6. **A Microphone** in conjunction with Voice recognition software allows speech to be converted into text. An operator speaks into a microphone linked to a PC and appropriate software is able to translate the audio signals into digitised text. This has implications for the visually or physically impaired.
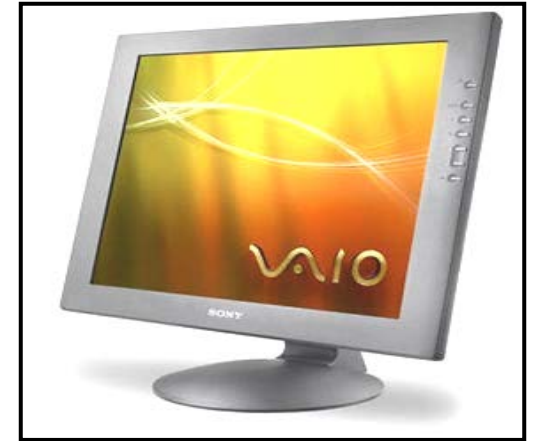
Output Devices

An output device is any device that allows the results of a PC's processing activity to be seen or heard.

CRT Monitor	TFT Monitor	Laser Printer	Inkjet Printer

Dot Matrix Printer	Speakers

Plotters	Multimedia Projectors

Examples of Output Devices

1. The **Visual Display Unit** (**VDU**) or **Monitor** is the most common form of output device with virtually all PCs being equipped with one.

2. **Printers** are used to produce paper copies of any text, numerical or graphics material processed by the PC.

Examples of Output Devices (continued)

3. **Speakers** attached to a PC act in exactly the same way as speakers attached to any stereo system. As the standard PC system becomes ever more sophisticated, more are being sold as multimedia systems, i.e. they have the capability to act as stereo, audio-visual recording and playback systems.

Speakers may be self powered with their own small amplifier built in and they usually require a soundcard to be fitted inside the computer, to which the speakers are then connected.

4. A **Plotter** is a more specialised type of printer that uses computer software to control a pen, moving in two dimensions over the paper. They are ideally suited to produce larger, more complex prints, e.g. technical drawings, engineering or architectural plans and maps.

5. **Touchscreens** are **screens** (monitors or wall mounted screens) that not only display information, but can react to touch, e.g. the latest generation of pub tills, cash dispensers. These and certain other devices such as modems, can be classed as Input/Output devices.