

Input Devices

Input devices are used to enter data into the computer.

Keyboard

This is the most common input device used with all general-purpose computers. Different keyboards exist for different languages and they usually require a different sequence of keys. USA/UK keyboards are known as QWERTY keyboards as these are the first 6 letters from the top left. A keyboard includes the normal characters found on a traditional typewriter (letters, punctuation marks and numbers), special keys (enter, escape, control, alt), a numeric keypad and function keys. The keyboard is used with almost all applications but especially with a word processor.



Mouse

This is a device that is moved around by hand. Every time the mouse is moved, the cursor on the screen moves in the same direction. When the cursor is over the desired position on the screen, a button on the mouse may be pressed to confirm some particular process. It is used in a GUI environment such as MS Windows.



Light Pen



A light pen is a light-sensitive computer input device, basically a stylus, that is used to select text, draw pictures and interact with user interface elements on a computer screen or monitor.

Track Point

This is a small button found in the middle of the keyboard, usually between the G, H and B buttons. The track point is controlled like a joystick but with one finger. The user has to push the button toward the direction where s/he wants to move the pointer on the screen. A track point is normally found in laptops or notebooks.



Trackball

This device has the same functions as a mouse. In a trackball, a ball is facing upwards and is rolled in any direction by the finger or palm of a hand. The pointer on the screen moves in the direction that the ball is rolled. It also has buttons like those found on a mouse. Trackballs are used by graphic designers to move the pointer delicately.



Touch Pad

This is used instead of a mouse as well and is mainly found in laptops. It is a touch-sensitive or heat-sensitive rectangular flat pad placed just below the keyboard. The user moves a finger on it in any direction in order to move the mouse pointer.



Graphic Tablet

This consists of a sensitive pad/board on which the user can draw or write with a special pen. The pen is connected to the board by a wire. The movements of the pen are sensed by the pad/board and they are replicated on the monitor. It is very handy for users who would like to draw freehand designs. Graphic Tablets have become popular with graphic designers and architects.



Optical Mark Reading (OMR)



The OMR device can detect ordinary pencil and pen marks made on special pre-printed cards or forms by sensing reflected light. In order to be detected the marks have to be placed in a special position. This device is suitable for handling questionnaires and multiple choice examinations. Information is collected on a pre-printed OMR form by making pre-determined positions with a pencil or pen to indicate each selected response.

Optical Character Recognition (OCR)

The concept of OCR is to scan a document and the software recognizes the characters by their shapes. They are then input as a text document which can then be edited. OCR is software based and it comes incorporated in a normal image scanner. An OCR is used to input text instead of typing.

Magnetic Ink Character Recognition (MICR)

MICR is the process of recognizing stylised characters printed in magnetic ink. MICR is very reliable and the commonest application is the data printed on bank cheques. Cheques have a line of numbers printed at the bottom. Those numbers are printed in ink containing magnetised particles for security reasons, since this kind of ink is not easily attainable and very difficult to temper with. Cheques are passed through these readers to avoid errors.



Bar Code Reader



A bar code is a set of vertical dark lines of different width on a lighter background which represent numbers. These bar codes are either the normal 13 digit bar codes or 8 digit bar codes which are used on very small products.

Bar codes are scanned using bar code readers. As soon as the bar code is scanned, the relevant information is sent to the computer system where all the information about that particular bar code product is found and displayed. The bar code reader is attached to a Point of Sale terminal. The most common bar code readers are laser scanners which scan the bar code using optical sensors transmitting the code information to the central system.



Digital Camera



Before the invention of Digital cameras, whenever we needed to use a picture on the computer, we had to first take a photo with a normal camera, and then scan this photo with a scanner. This was expensive and time consuming. With digital cameras, we do not need any films, because the photos taken are stored on a flash memory card within the camera itself. We use the digital camera as a normal, traditional camera, but we do not need to develop the film at the photographer because we can transfer the photos from the camera to the computer.

Handwriting Recognition

This type of input device is another way how data could be input into a computer rather than typing it. This type of input is mostly used when inputting large amount of text into a computer, thus requiring a lot of typing. This involves a special scanner which similarly to an OCR tries to identify handwritten characters. However, it is very unsuccessful as there are many different hand-writing styles and most of the time it fails to identify the correct word.

Touch Screen

These are special sensitive monitors. They have to be used in conjunction with software, which offers the user a menu of options, and input is carried out by the user by physically touching the screen with a finger tip. They are ideal in situations where the user does not have a lot of inputting to do but it has to be done quickly such as a restaurant.

Joystick



Joysticks come in different shapes and they are used mainly for gaming. Therefore, joysticks have buttons or handles to move a subject in different directions and buttons to fire a weapon or trigger an action.