

Summary Input Devices

Trackball



Pointing Stick



Touch Pad



Touch Screen



Joystick



Pen

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Unit – 2 [A] INPUT DEVICES

INPUT DEVICES



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WHAT ARE INPUT DEVICES?

They are hardware devices that allow data to be input into the computer system. This can be done manually (using Manual Input Devices) or automatically (using Automatic Input Devices).

Manual Input Devices:

Keyboard

Mouse

Touchpad

Joystick

Scanner

Touchscreen

Digital Camera

Microphone

Graphics Tablet

Automatic Input Devices:

M.I.C.R

O.M.R

O.C.R

Barcode Reader

Magnetic Stripe Card

Sensors

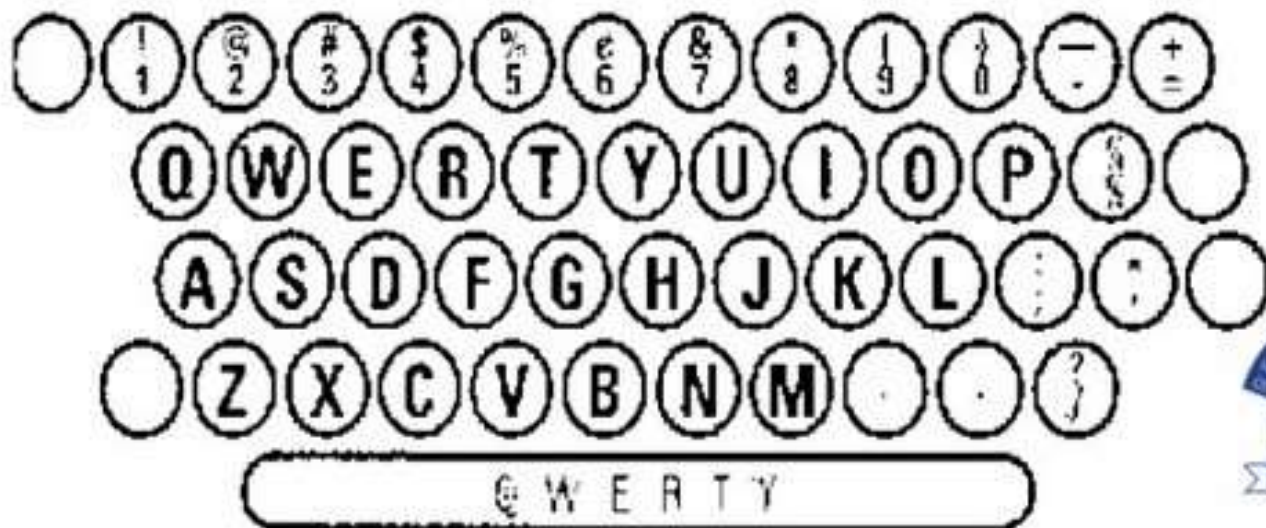


Keyboards



The ideal input devices that is used to input texts, numbers and instructions (eg CTRL+V) into the computer

Most keyboards have QWERTY layout.



There are different types of keyboards

1. **Ergonomic keyboards:-** Designed to reduce health related problems like RSI.



2. **Concept keyboards:-** Uses icons or phrases instead of standard letters.



Advantages:

1. Fast entry of texts into documents.
2. A well known method of data entry.
3. Most people find it easy to use.
4. Easy to do verification test.



Disadvantages:

1. People with limited arm/wrist may not find it easy to use.
2. Data entry may be slow.
3. They use up valuable desk space.



MICE

Pointing devices that are used to control the position of a pointer on the screen, selecting commands, resizing images as well as opening, closing and minimising applications.



Mice

Advantages:

- 1.Faster to select options.
- 2.Rapid navigation through applications.
- 3.Take up little desk space.



Disadvantages:

- 1.People with restricted hand/wrist movement may not find it easy to use.
- 2.They get damaged easily.
- 3.They are difficult to use where there is no flat surface.



Variants of the Mouse - Trackballs

- A trackball is like a mouse turned upside-down.
- Use your thumb to move the exposed ball and your fingers to press the buttons.



**Many styles of
trackball are
available.**



Variants of the Mouse - Trackpads

- **A track pad is a touch-sensitive pad that provides the same functionality as a mouse.**
- **To use a track pad, you glide your finger across its surface.**
- **Track pads provide a set of buttons that function like mouse buttons.**

Glide pad

- ❑ Also called a glide pad, glide point, pressure-sensitive tablet, or trackpad, a **touchpad** is an input device on laptops and some keyboards.
- ❑ It allows the user to move a cursor with their finger.
- ❑ It can be used in place of an external mouse.



JOYSTICKS

Used in playing computer games and simulations to mimic actual controls.

Advantages:

- 1.Easier to navigate round a screen more than a mouse
- 2.Control is in three dimensions.



Advantages:

- 1.A mouse is better and easier in controlling on-screen pointers



Images for Light pen

Report images



LIGHT PEN

- ✗ A light pen is a pointing .
- ✗ It is used to select and write the text on the CRT(Cathode Ray Tube)
- ✗ It is a photo section pen like device.
- ✗ It is a capable of sensing a position on the CRT screen when its tip touches the screen.

Images for Graphics tablet

Report images



GRAPHICS TABLET

- ✖ Tablet is a computer input device that enable a user to hand-draw images and graphic,
- ✖ similar to the way a person draws images with a pencil and paper.
- ✖ It is a also knows as digitizing tablet,graphics ped,drawing tablet or pen tablet.

✕ Various types of graphics tablet:

✕ 1)Passive tablets

✕ 2)Active tablets

✕ 3)Optical tablet

✕ 4)Acoustic tablets

✕ 5)Electromagnetic Tablets.

✕ 6)Capacitive tablets.

MIC (MICROPHONE)



MIC (MICROPHONE)

- ✗ The most common use of microphone is chatting i.e talking to someone on internet via various chatting software.
- ✗ The MIC converts audio signals to electrical waves and these can be converted by electronic computer to digital form.
- ✗ Used to telephone, tape recorder, motion image production, live and recorded audio engineering, megaphone, radio ,TV broadcasting.

Devices for the Hand - Touch Screens

- **Touch-screen systems accept input directly through the monitor.**
- **Touch screens use sensors to detect the touch of a finger. They are useful where environmental conditions prohibit the use of a keyboard or mouse.**
- **Touch-screen systems are useful for selecting options from menus.**



TOUCH SCREENS

Allows a user to simply touch the button/icon on the screen to select a text, task or action. It is mostly used on phones, ipads, petrol stations, ATMs, Interactive boards and other payment methods.

Advantages:

1. Fast entry of options than keyboards.
2. Very easy to choose options.
3. User friendly method of inputting options
- 4..
5. They are tamper proof.



Advantages:

1. Limited number of options are available.
2. Can lead to RSI.
3. Screen can get damage or dirty.



Images for web camera / CCTV camera

Report images



CAMERA

- ✗ Camera can be called is 'images-taking devices'.
- ✗ The **lens** gathers and focuses light on the imager.
- ✗ The **imager** convert indicate light in to the electrical signal.
- ✗ The **recorder** convert the electric signal into video and encodes it in to a storable form.

- ✗ **Types of camera.**
- ✗ 1)Digital camera/digicam.
- ✗ 2)Video camera / handy cam.
- ✗ 3)web camera / CCTV camera.

Images for Digital camera/digicam

Report images



Digital Cameras

Used to produce photographs for transfer to a computer directly or to print out by connecting directly to a printer. Photographs can also be uploaded directly into applications software such as word processors, DTP, etc.

Advantages:

- 1.It produces better quality photographs.
- 2.Easier and faster to upload photographs to a computer.
- 3.No need to develop photographs before printing.
- 4.It is easy to delete unwanted images.
- 5.Memory card used can store several photographs.

Disadvantages:

- 1.User needs to be computer literate.
- 2.There is some artistry lost since some clever software can make corrections to photographs.
- 3.Quality of photograph depends on quality of camera lens.
- 4.Images can easily fill up computer memory.



Images for Video camera / handy cam

Report images



Web Cameras (WEBCAMS)

Used in video conferencing. That is, chatting online and at the same time displaying the images of the people in the conversation.

Advantages:

1. Can be left on constantly on the computer rather than using a digital camera.
2. Allows images of someone faraway to be viewed while chatting.

Disadvantages:

1. Pictures are often of poorer quality.
2. Some webcam need to be connected to the computer before use.



POS TERMINAL (SCANNER)

- ✖ A point-of-sale (POS) terminal is a **hardware system for processing card payments at retail locations**. Software to read magnetic strips of credit and debit cards is embedded in the hardware.
- ✖ A barcode reader, also called a price scanner or point-of-sale (POS) scanner, is a **hand-held or stationary input device used to capture and read information contained in a bar code**.



WHAT IS MIDI?

- ✗ MIDI stands for Musical Instrument Digital Interface

Some Clarification:

- ✗ MIDI doesn't directly describe musical sound
- ✗ MIDI is not a language
- ✗ It is a data communications protocol

MIDI Ports

- ✗ It use a five-pin DIN connector



- + Inexpensive and readily available
- + Only 3 pins among 5 are used until now
- + Both ends of MIDI line are the same.

What does a MIDI keyboard do?

- ✗ A MIDI controller keyboard is a device used to **send MIDI data to a computer or other hardware.**
- ✗ In more basic terms, it's a keyboard that is used to trigger sounds from an external source.
- ✗ The external source can be another piece of hardware or a virtual instrument in your DAW.



WIRELESS KEYBOARD AND MOUSE

- ✗ A wireless keyboard is a computer keyboard that allows the user to communicate with computers, tablets, or laptops with the help of radio frequency (RF), such as WiFi and Bluetooth or with infrared (IR) technology.
- ✗ It is common for wireless keyboards available these days to be accompanied by a wireless mouse.
- ✗ The first generation Apple Wireless Keyboard was released at the Apple Expo on **September 16, 2003**.
- ✗ A wireless keyboard works just like a wireless mouse; you plug a receiver into one of the USB ports on your computer. The receiver then sends a signal to your battery-powered keyboard.

victsing



USB Type-C





SCANNERS





123456

Bar code



OBR



OCR-flatbed



QMR



SCANNERS

TYPES OF SCANNERS

✕ Types scanners:

- + OCR

 - ✕ (Optical Character Recognition)

- + OMR

 - ✕ (Optical Mark Recognition)

- + MICR

 - ✕ (Magnetic Ink Character Recognition)

- + OBR

 - ✕ (Optical Bar Code Reader)

OCR (OPTICAL CHARACTER RECOGNITION)



adimen
Scanners & ADF

Scanner (Flatbed or ADF)
Automatically scanned using ADF
with OMR Software



Scanner = Accurate OCR Results
1000 users in 300 cities in 100+ countries



eyonit



MaxScanDigitizer

OCR: (OPTICAL CHARACTER RECOGNITION.)

- ✗ OCR is the recognition of printed or written text characters by a computer.
- ✗ It is the application software that allows a computer to recognize printed or written characters,
- ✗ e.g. letters, numbers, marks, and pictograms using an optical scanner for input.
- ✗ OCR is being used by libraries to digitize and preserve their holdings.

OMR (OPTICAL MARK RECOGNITION)

EZData™ OMR Scanner



OMR (OPTICAL MARK RECOGNITION)

- ✗ OMR: OMR which stands for Optical Mark Recognition
- ✗ is the process of gathering data with an optical scanner by measuring the reflectivity of **light** at pre-determined positions on a surface.

MICR (MAGNETIC INK CHARACTER RECOGNITION)



How To Scan MICR Code On Bank Cheque
Using OCR Scanner?



MICR:

(MAGNETIC INK CHARACTER RECOGNITION)

- ✗ MICR: MICR is a character recognition technology used primarily by the banking industry to facilitate the processing of cheques.
- ✗ The human readable characters are printed on documents using a magnetic ink.

OBR (OPTICAL BAR CODE READER)



OBR: (OPTICAL BAR CODE READER)

- ✗ which is used for reading bar-coded data.
- ✗ It scans a set of vertical bars of different width for specific data and is used to read tags.
- ✗ Bar code reading is done by a light pen or scanner connected to a computer.

