COMPUTER AND INFORMATION TECHNOLOGY

Course Code:510113
BBA -2nd Semester

Chapter 2

Fundamental of Computer Hardware

Lecture 04

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2.5.2.1 Display Devices/Monitor

Monitor/Display

The most commonly used output media for almost all computer systems irrespective of their size, function and application. Also called VDU.

There are three classification of display devices:

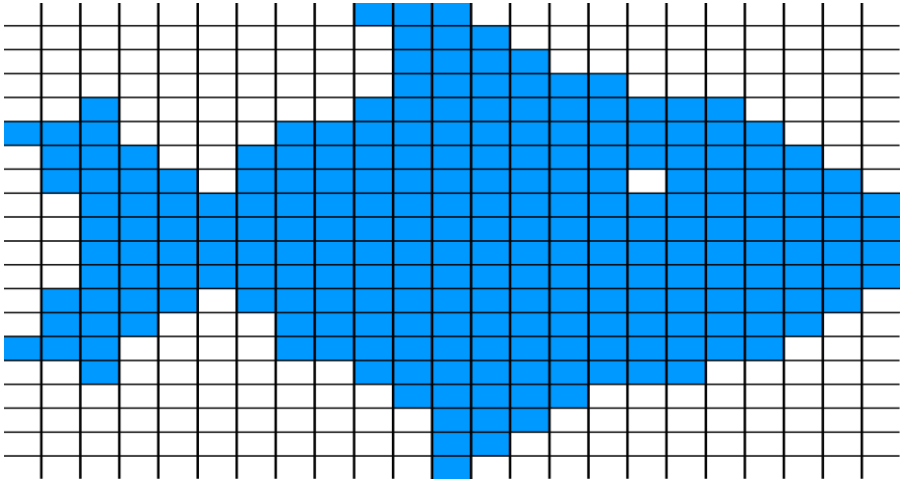
a) Cathode Ray tube
b) Plasma display
c) Liquid crystal display

2.5.2.14 Magnetic Pen or Tablet

a) Cathode Ray tube

Modern computer systems use raster scan video displays as the primary user output device. The raster scan video display is very much like home television receiver.

Raster Scan Displays are most common type of graphics monitor which employs CRT. ... In raster scan system electron beam sweeps across the screen, from top to bottom covering one row at a time. A pattern of illuminated pattern of spots is created by turning beam intensity on and off as it moves across each row

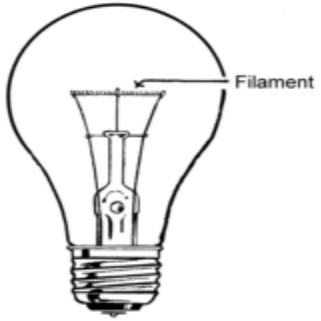


2.5.2.15 Principles of Operation

A cathode begins to emit electrons when heated. It is heated by the filament, which is sometimes called the heater. The grids control the flow of electrons from the cathode to anode, which is the most positive charged element.

A CRT is an electronic tube designed to display electrical data. It consists of four components:

1. Electron Gun-Produce strain of electrons
2. Focusing and Accelerating Anodes-Produce narrow and sharply focus beam of electrons.
3. Horizontal & Vertical Deflection Plates- controlling the path of the beam
4. Evacuated Glass Envelop- phosphorescent screen which produce spot when strict by a high velocity electron beam.

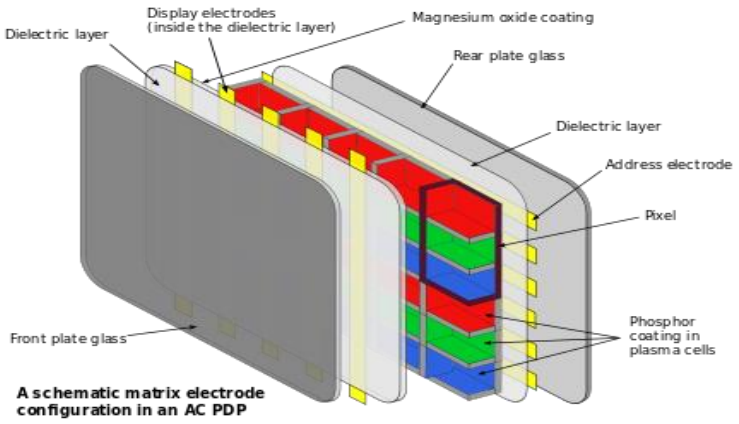


2.5.2.1 Plasma Display

Plasma or gas discharge display are actually nothing more than an array of small fluorescent gas lights. Technologies can be use fluorescent solids or liquids.

The basic components are

I. Cathode –fine wires attached to the gas plate which deliver a negative voltage to the gas cells on the vertical axis
II. Fluorescent cells-small pockets of gas liquids or solids are excited when a voltage is applied.
III. Anode- supply positive voltage vertical axis.
IV. Glass plates- act as capacitor in DC plasma display and maintain voltage.



A schematic matrix electrode configuration in an AC PDP

2.5.2.17 Liquid Crystal Display

Liquid crystal display depends on an external light source. This is because LCDs work by polarizing ambient light. Can be viewed only from a limited angle. Liquid crystal displays are temperature dependent and are relatively sluggish. Therefore, the use of LCDs is 'flat' and requires very little power to operate.

Basic components:

1) Glass or plastic plate-glass or plastic contains liquid crystal and server as a bonding surface for a conducting coating.
2) Conductive coating- Conductive coating acts as a conductor so that a voltage can be applied across the liquid crystal.
3) Liquid crystal- liquid crystal is a substance which will polarize light when voltage is applied to it.
4) Polarized film- Polarize film-a transparent sheet that polarizes light. The axis of polarization is set a 90 degrees out of phase with the axis of polarization of the liquid crystal.