



# RAMA UNIVERSITY

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## FACULTY OF ENGINEERING & TECHNOLOGY

BCS -504 Computer Graphics &  
Multimedia

Lecture-05

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# OUTLINE

➤ **DIRECT VIEW STORAGE TUBES**

➤ **ADVANTAGE & DISADVANTAGE**

➤ **FLAT PANEL DISPLAY**

➤ **PLASMA PANEL DISPLAY**

➤ **ADVANTAGE & DISADVANTAGE**



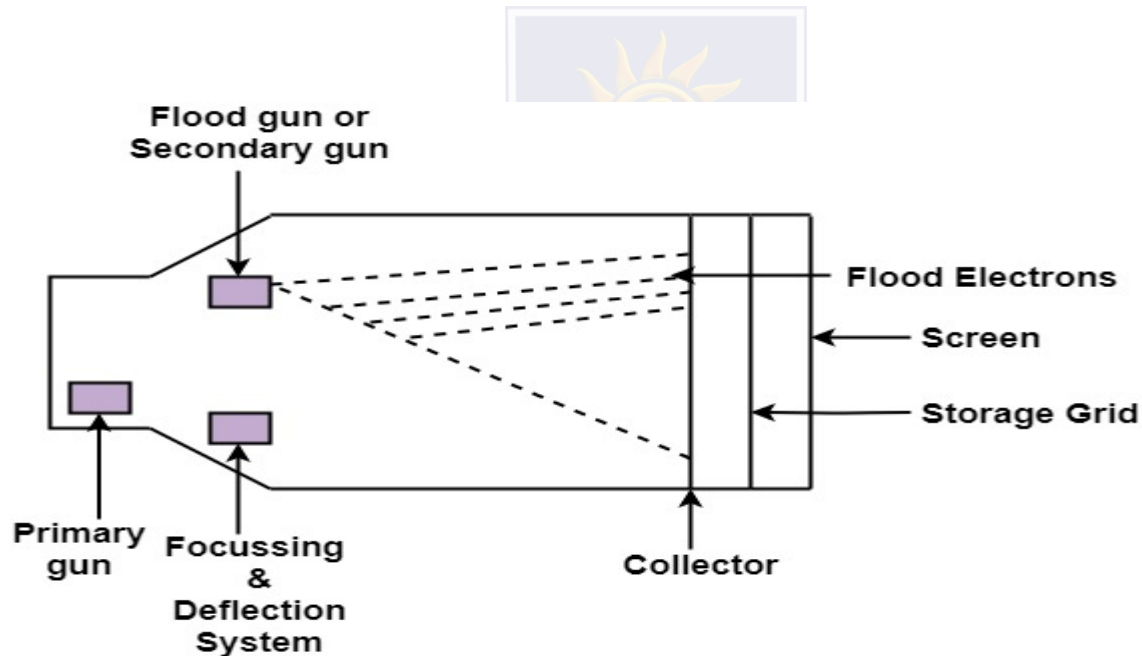
# Direct View Storage Tubes

DVST terminals also use the random scan approach to generate the image on the CRT screen. The term "storage tube" refers to the ability of the screen to retain the image which has been projected against it, thus avoiding the need to rewrite the image constantly.

**Function of guns:** Two guns are used in DVST

**Primary guns:** It is used to store the picture pattern.

**Flood gun or Secondary gun:** It is used to maintain picture display.



Direct View Storage Tube

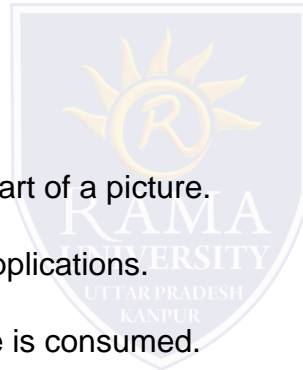
# Advantage & Disadvantage

Advantage:

1. No refreshing is needed.
2. High Resolution
3. Cost is very less

Disadvantage:

1. It is not possible to erase the selected part of a picture.
2. It is not suitable for dynamic graphics applications.
3. If a part of picture is to modify, then time is consumed.



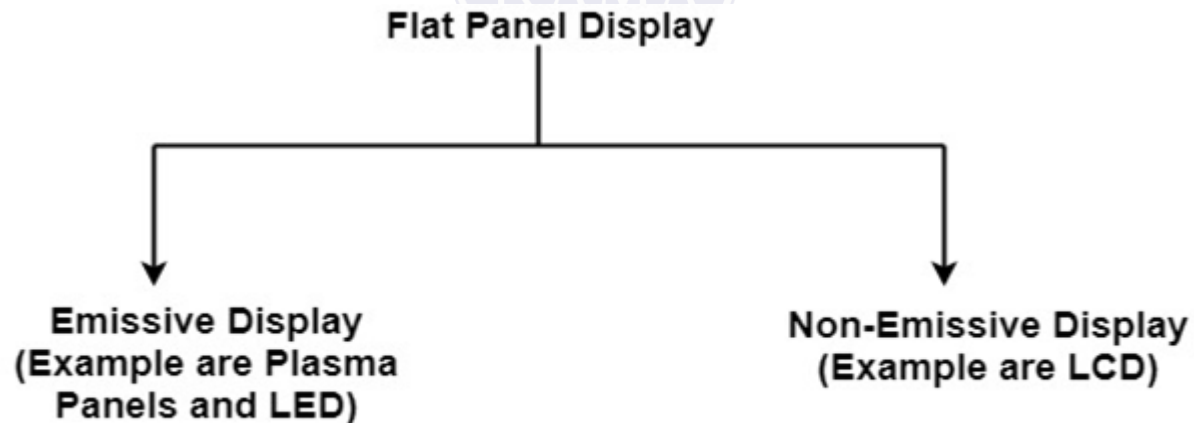
# Flat Panel Display

The Flat-Panel display refers to a class of video devices that have reduced volume, weight and power requirement compare to CRT.

**Example:** Small T.V. monitor, calculator, pocket video games, laptop computers, an advertisement board in elevator.

**1. Emissive Display:** The emissive displays are devices that convert electrical energy into light. Examples are Plasma Panel, thin film electroluminescent display and LED (Light Emitting Diodes).

**2. Non-Emissive Display:** The Non-Emissive displays use optical effects to convert sunlight or light from some other source into graphics patterns. Examples are LCD (Liquid Crystal Device).



# Plasma Panel Display

Plasma-Panels are also called as Gas-Discharge Display. It consists of an array of small lights. Lights are fluorescent in nature. The essential components of the plasma-panel display are:

**Cathode:** It consists of fine wires. It delivers negative voltage to gas cells. The voltage is released along with the negative axis.

**Anode:** It also consists of line wires. It delivers positive voltage. The voltage is supplied along positive axis.

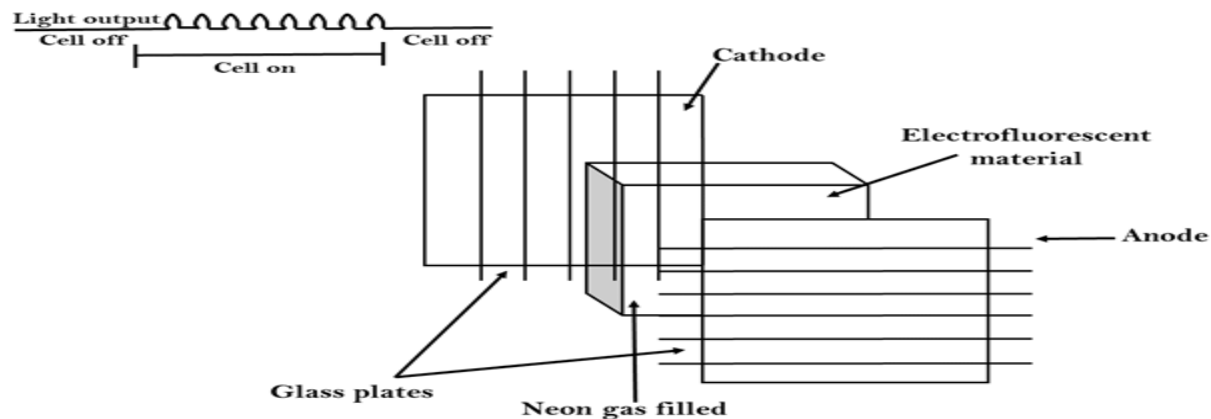
**Fluorescent cells:** It consists of small pockets of gas liquids when the voltage is applied to this liquid (neon gas) it emits light.

**Glass Plates:** These plates act as capacitors. The voltage will be applied, the cell will glow continuously.

The gas will glow when there is a significant voltage difference between horizontal and vertical wires. The voltage level is kept between 90 volts to 120 volts. Plasma level does not require refreshing. Erasing is done by reducing the voltage to 90 volts.

Each cell of plasma has two states, so cell is said to be stable. Displayable point in plasma panel is made by the crossing of the horizontal and vertical grid. The resolution of the plasma panel can be up to  $512 * 512$  pixels.

**Figure shows the state of cell in plasma panel display:**



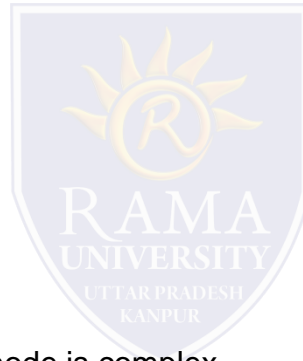
# Advantages & Disadvantages

Advantage:

1. High Resolution
2. Large screen size is also possible.
3. Less Volume
4. Less weight
5. Flicker Free Display

Disadvantage:

1. Poor Resolution
2. Wiring requirement anode and the cathode is complex.
3. Its addressing is also complex.



# Multiple Choice Question

## MUTIPLE CHOICE QUESTIONS:

Sr no	Question	Option A	Option B	OptionC	OptionD
1	Vector generator then converts the ..... for beam deflection circuits that displace an electron beam which points on the CRT's screen	digital value to analog voltages	Digitizes	all	none
2	display buffer is used to ..... display list and used to refreshing, it is also called refresh buffer	collect	store	merge	none
3	Vector scan display directly traces out only the desired lines on .....	SRT	CRT	KLS	all of these
4	Display controller is connected as an I/O peripheral to the.....	CRT	CPU	MONITOR	none
5	The Program contains ..... plotting commands with end point co-ordinates	point	line	both	none



# REFERENCES

- <http://www.engppt.com/search/label/Computer%20Graphics>

