

COMPUTER GRAPHICS

(E2UC402B)

Prof. (Dr) Sanjeev Punia

COMPUTER GRAPHICS

“Almost everything on computers”

(Not limited – Text/Image/Audio/Video)

- 1. Creation**
- 2. Manipulation (Processing)**
- 3. Presentation**
- 4. Storing**

(by using Technology)

APPLICATIONS

Computer graphics user interfaces (GUIs)

Business presentation graphics

Weather Maps

Satellite Imaging

Photo Enhancement/Art

Medical imaging

Engineering drawings

Architecture

Training

Entertainment

Simulation and modeling

CLASSIFICATION

Non-Interactive Computer Graphics

(Passive)

user - No control over the picture/image (can't change)

One-way communication

Example: Movie/TV

Interactive Computer Graphics

(Active)

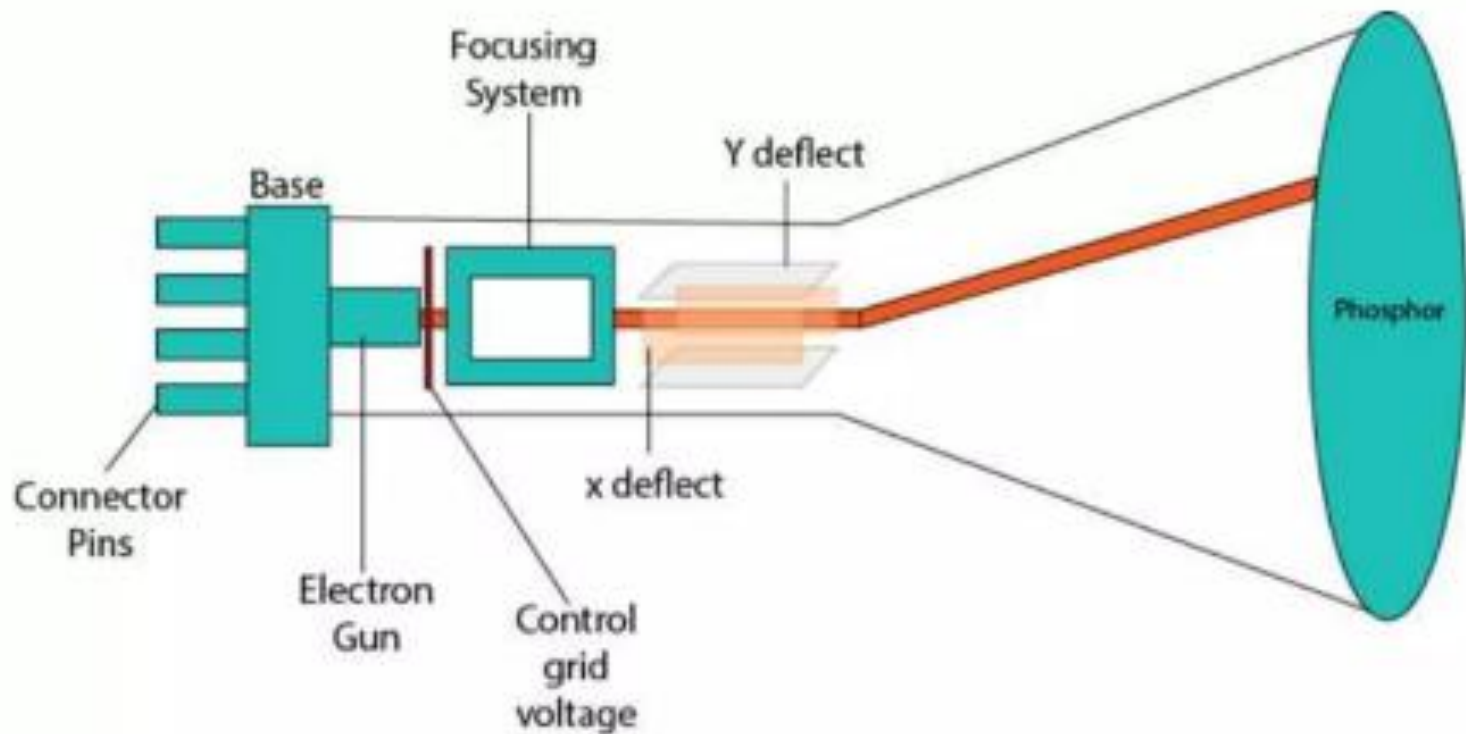
user - Some controls over the picture/image (change)

Two-way communication

Example: Mobile Games/Touch Screen

CRT (CATHODE RAY TUBE)

The primary output device in a graphics system is a video monitor.



BASIC TERMS

Resolution:

Number of pixels
(Pixel in width x Pixel in height)
e.g. - 640 x 480 (SD), 1280 x 720 (HD)

Aspect Ratio:

Ratio of pixels
(Pixel in width / Pixel in height)
e.g. - 4/3, 16:9

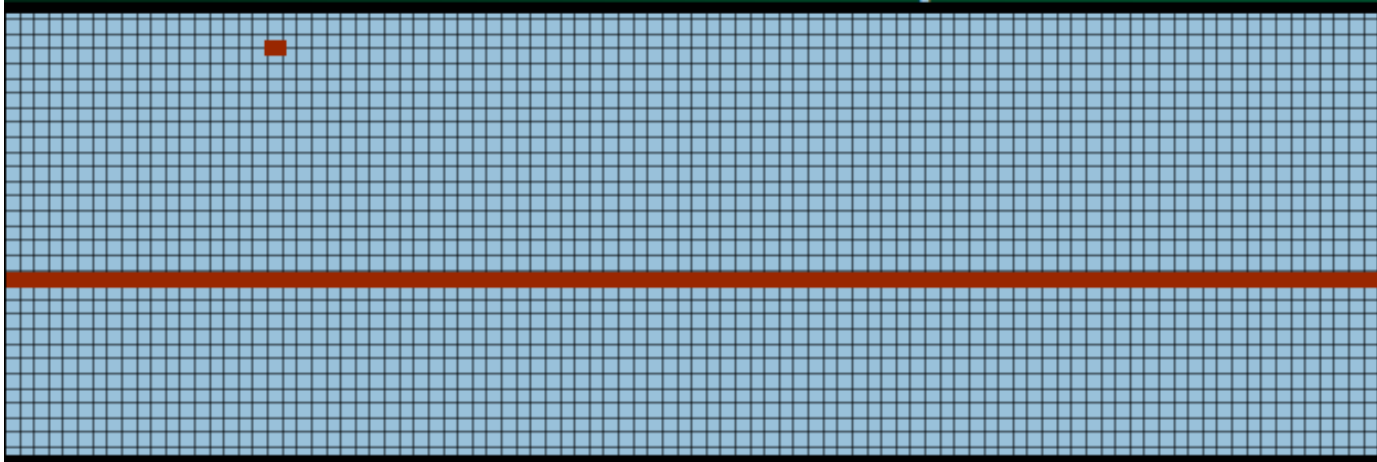
Persistence:

Time to lose **Phosphors** charge

BASIC TERMS

Pixel: Dot or picture element (pix)

Scan Line: Row of pixels



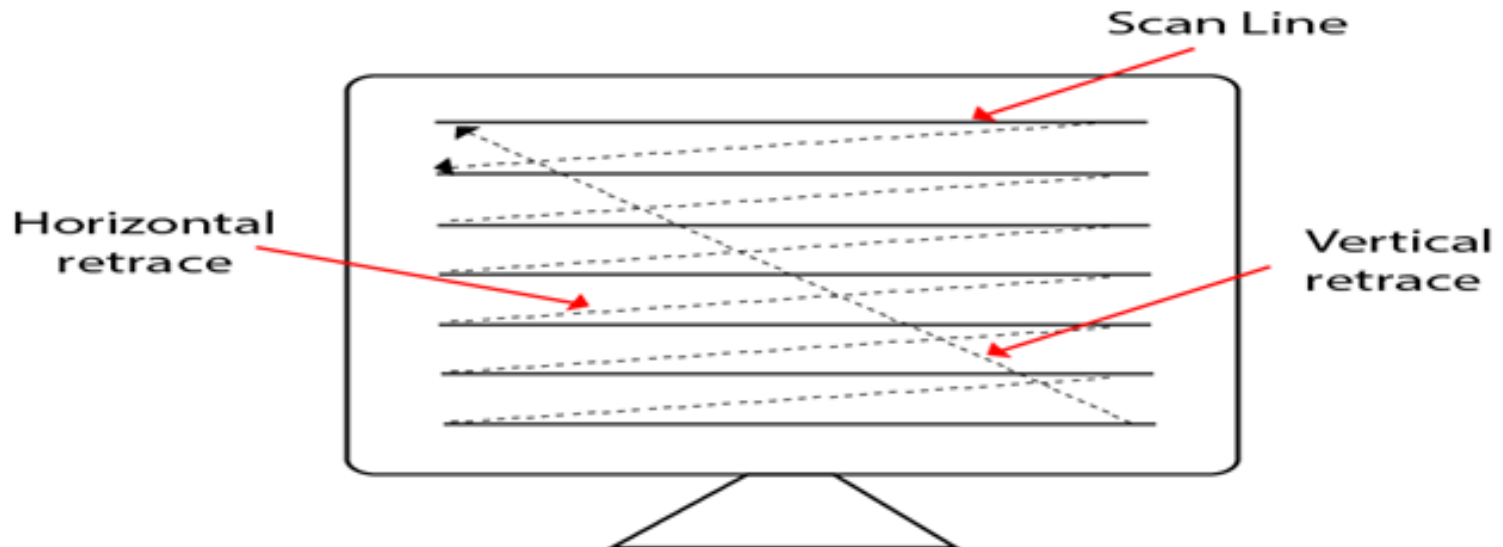
RETRACE

Retrace: Process of return refresh beam

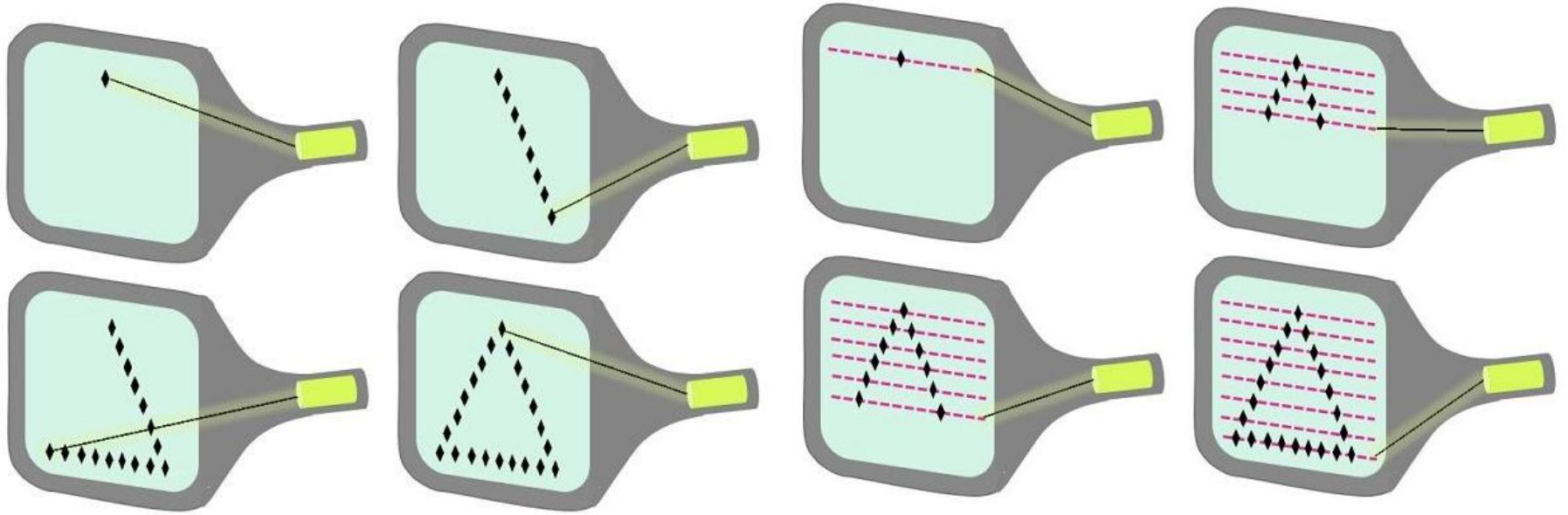
(from end of the scan line to start of the next scan line)

Horizontal Retrace: return to next scan line after refreshing a scan line

Vertical Retrace: return to top left corner at the end of each frame



RANDOM & RASTER SCAN DISPLAY



RANDOM

RASTER

RANDOM & RASTER SCAN DISPLAY

Random Scan	Raster Scan
1. It has high Resolution	1. Its resolution is low.
2. It is more expensive	2. It is less expensive
3. Any modification if needed is easy	3.Modification is tough
4. Solid pattern is tough to fill	4.Solid pattern is easy to fill
5. Refresh rate depends on resolution	5. Refresh rate does not depend on the picture.
6. Only screen with view on an area is displayed.	6. Whole screen is scanned.
7. Beam Penetration technology come under it.	7. Shadow mask technology came under this.
8. It does not use interlacing method.	8. It uses interlacing
9. It is restricted to line drawing applications	9. It is suitable for realistic display.

thank
YOU
SO MUCH
☺