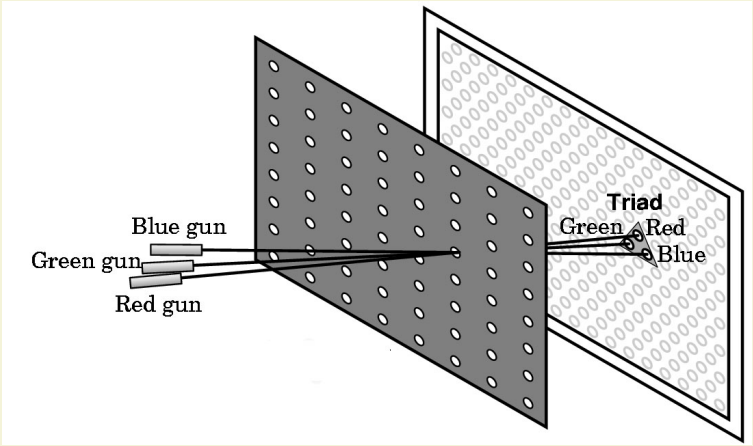
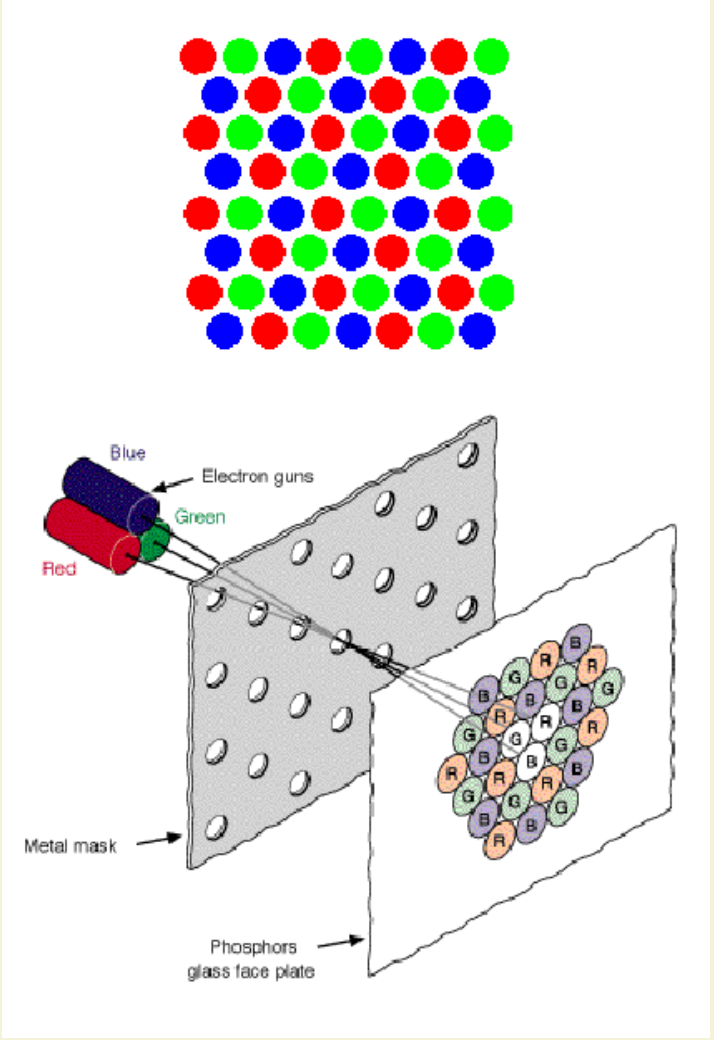
Graphics displays

- Vector vs. raster display
- CRT monitor
- Flat panel displays
- 3D displays
- Frame buffer
- True and index color

CRT color displays

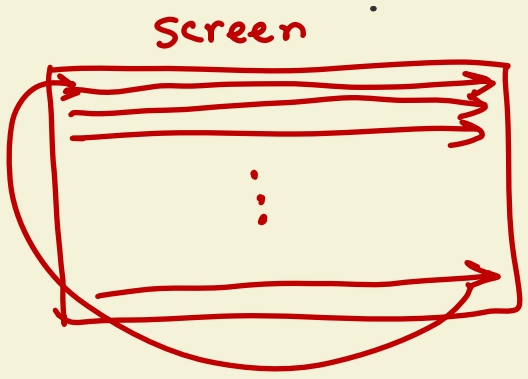
- Different colors are obtained by use of different phosphor coatings





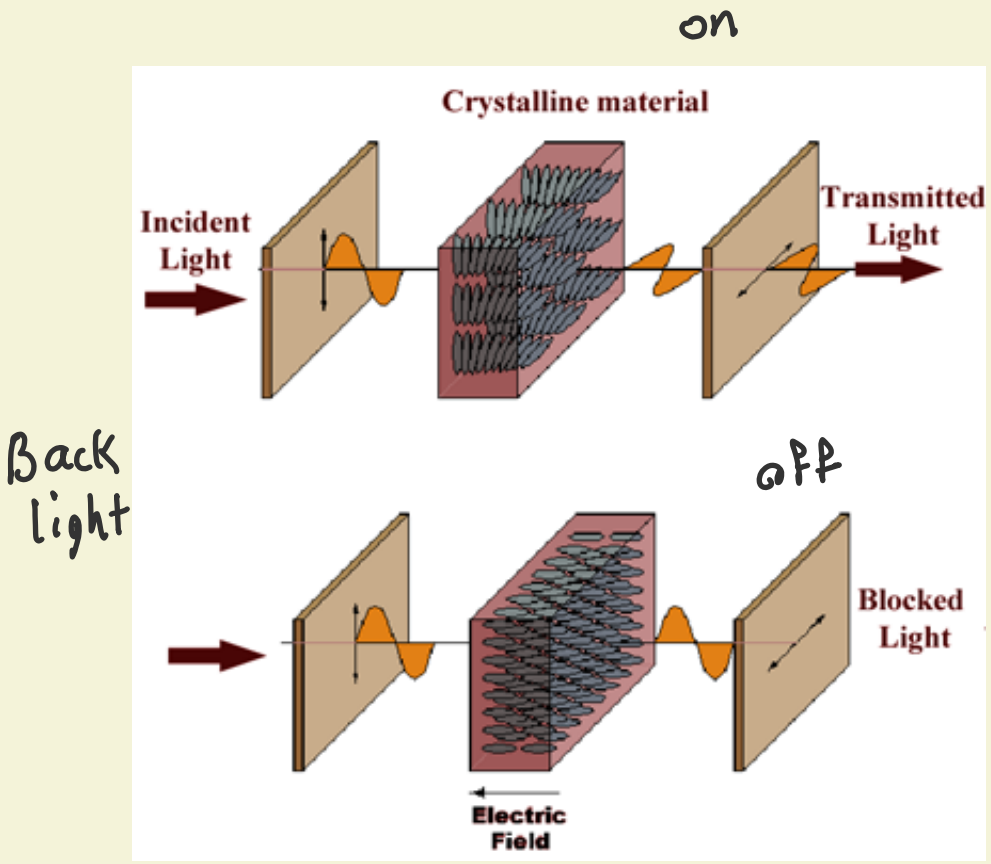
Refreshing

- CRT image must be refreshed
- Typically more than 60 times per second (60 Hz)
- In each refresh interval, the entire image from frame buffer is sent to the display surface



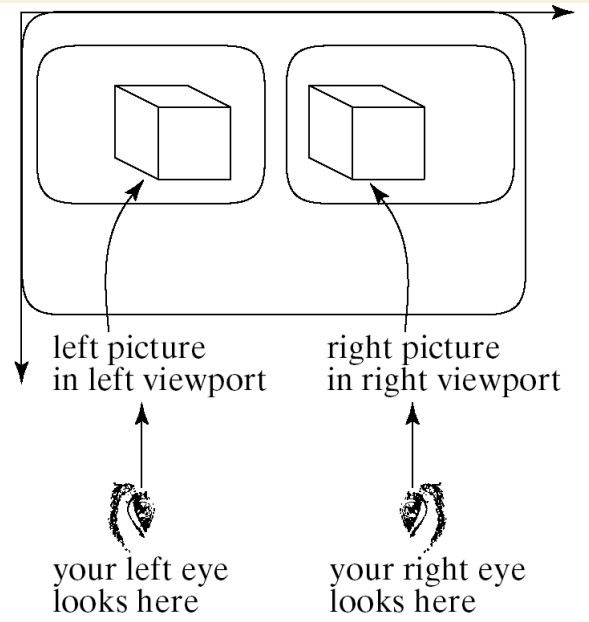
Liquid crystal display (LCD)

- Non-emissive, reflective or requires back light (flurescent or LED)



Stereo View

- Depth cues are diverse (e.g., focus, color, movement parallax)
- Stereo view: slightly different left-eye and right-eye views (parallax)



- Problems:
  - How to generate different these views,
  - How to separate them.

View separation

Several techniques for separating left and right images

- color (anaglyph images)
- polarization (3d movies)
- shutter glasses (most 3D displays)
- autostereoscopy (viewer(s) in well defined spot(s)
  - parallax barrier (e.g. Sharp 3D LCD)
  - lenticular lenses (array of magnifying lenses, e.g. Toshiba 3D TV)

3D Displays: Head mounted display

- Single viewer
- View may depend on the position of the head (movement parallax)