

Tools of display

This book covers the scope of displaying (digital) content through monitors, projectors and televisions.

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Monitors

TELEVISION DISPLAY TYPES

(Note: Diagrams are not to scale)

OLED - Organic Light Emitting Diode

Organically glowing materials used in OLED panels don't require separate backlights, making them far slimmer than other displays

Pixel resolutions compared

Standard definition 720 x 480

Full HD 1920 x 1080	Quad HD 3840 x 2160
	4K 4096 x 2160

Active Matrix
Type used in larger displays such as TV

Thin film transistor (TFT) matrix

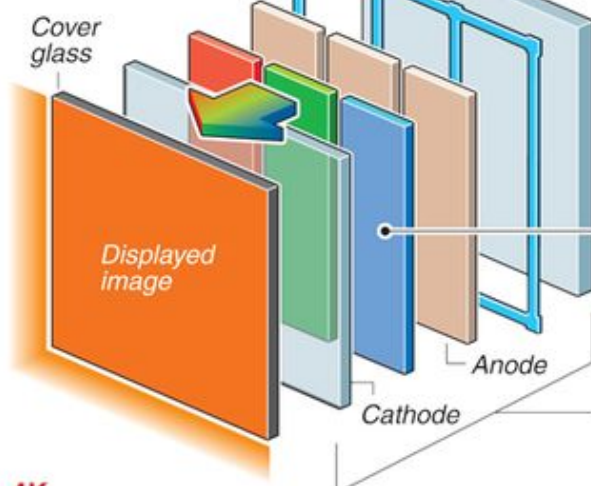
Glass or plastic substrate

Organic layers

Hole transport
Light emitting
Electron transport

Electricity passing through layers excites the molecules, producing light

Sandwiched layers are 200 times thinner than a strand of human hair

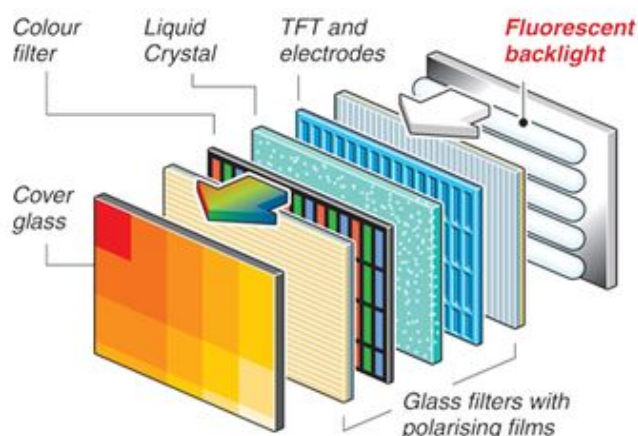


4K

A development in screen resolution that extends the life of conventional LCD technology by offering screens four times the resolution of current full high-definition (HD) models

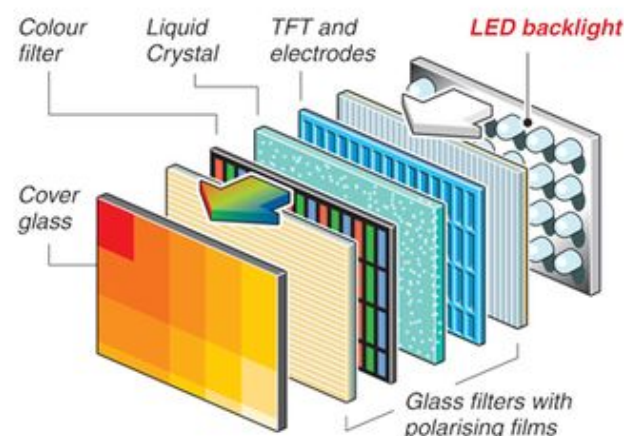
LCD - Liquid Crystal Display

Today's dominant flat display technology produces images by blocking or allowing light to pass from the light source behind the LCD display



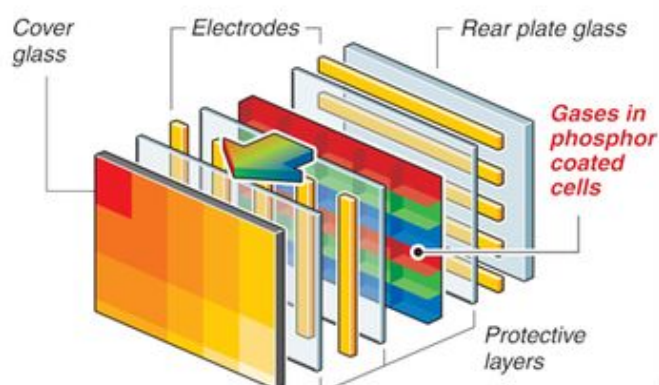
LED - Light Emitting Diode

LEDs are LCD TVs that replace the cold cathode fluorescent lamps (CCFL) used in conventional LCD displays



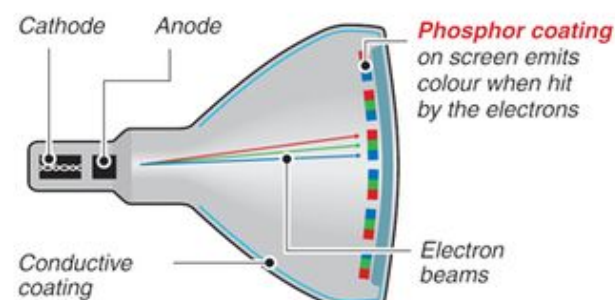
Plasma Display

Plasma is similar to OLED in that it emits its own light to produce RGB colours. Cells containing xenon and neon gases emit light when charged



Cathode Ray Tube (CRT)

Dominated the TV market before flat panel displays arrived in the mid-2000s. The technology still accounted for one in 10 TVs sold last year due to solid demand in emerging markets



RGB: Red, Green and Blue

Sources: Reuters, HowStuffWorks.com, Discovery Channel, CNET, OSRAM

REUTERS

Projectors



DLP Projector - DLP stands for Digital Light Processing and DLP projectors are commonly found in movie theaters but can also be used for office presentations and home cinema use.



3 Panel LCD Projector - are great for small and intimate events, new hobbyists, home theaters with no light control, or small business use (IE. Conference rooms).



LCOS - In general, I would avoid buying a LCOS projector as DLP and 3-LCD can offer similar results for cheaper.



Laser Projectors - are really best for on-stage performances. They can react much faster to contrast and work much better for 3D effects. These are great projectors to wow an audience but come at a cost.

<https://www.audiovisual.ie/different-projector-technologies-explained/>

Monitor types

Projector types