

# 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

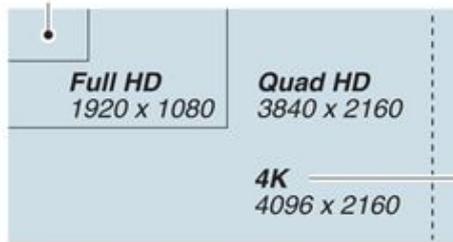
(Note: Diagrams are not to scale)

## 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

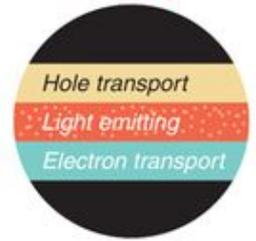


**Active Matrix**  
Type used in larger displays such as TV

Thin film transistor (TFT) matrix

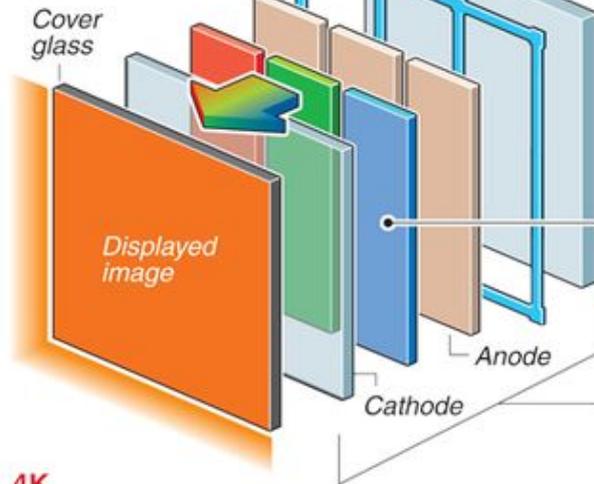
Glass or plastic substrate

**Organic layers**



Electricity passing through layers excites the molecules, producing light

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

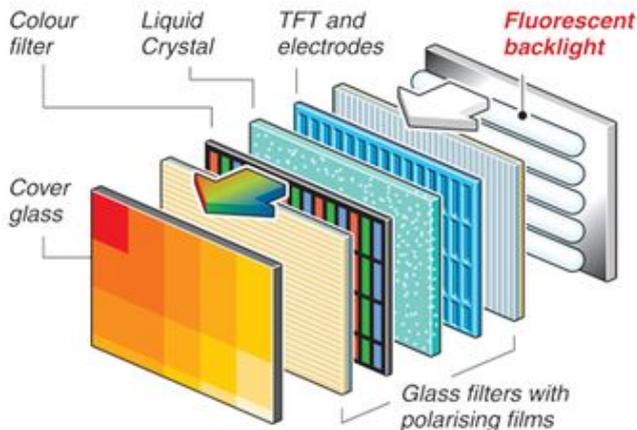


### 4K

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

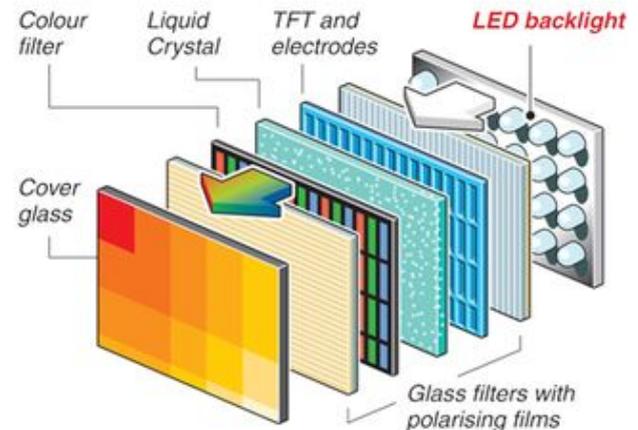
## LCD - Liquid Crystal Display

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



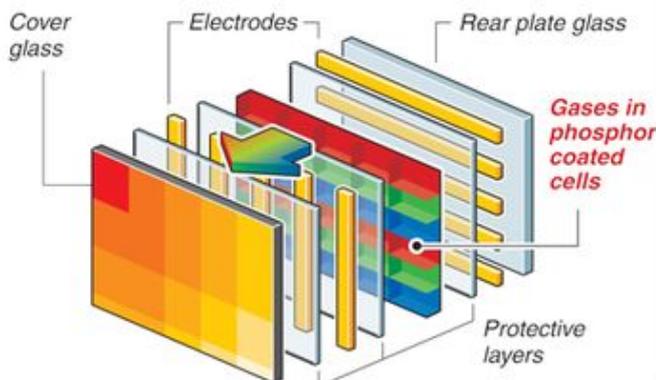
## LED - Light Emitting Diode

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



## Plasma Display

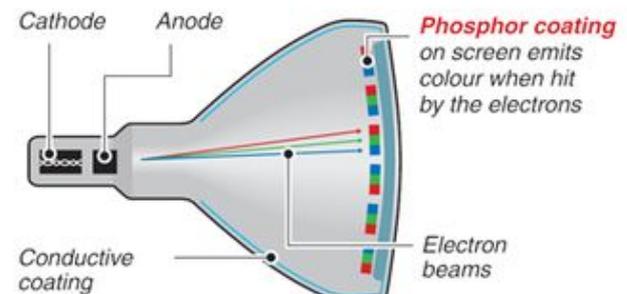
Plasma is similar to OLED in that it emits its own light to produce RGB colours. Cells containing xenon and neon gases emit light when charged



RGB: Red, Green and Blue

## 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



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



# 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