

Future-tech televisions set to dominate CES

The *Consumer Electronics Show* in Las Vegas will see big name manufacturers debuting their upcoming **OLED** and **4K** televisions in an attempt to boost a flagging consumer market

ORGANIC LIGHT-EMITTING DIODE

OLED screens require no backlight to work, as pixels illuminate themselves, allowing displays to be much thinner

► Active-matrix OLED

Thin Film Transistor (TFT) matrix:

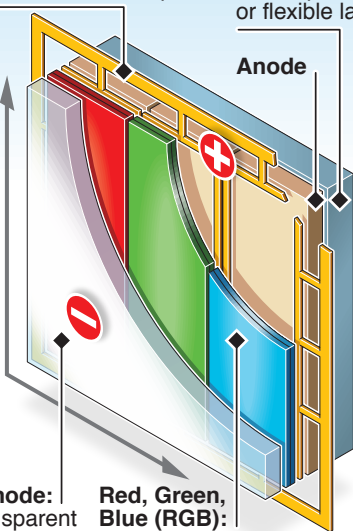
Activates individual pixels

Supporting substrate:

Glass, plastic or flexible layer

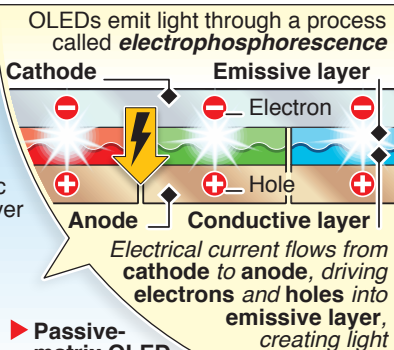
Anode

ONE PIXEL



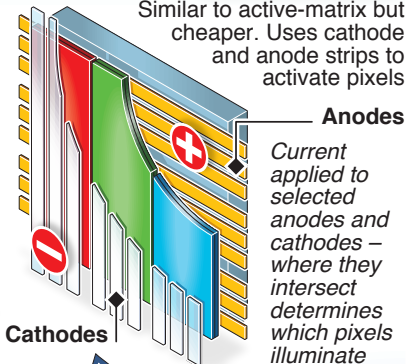
Cathode:
Transparent electrode

Red, Green, Blue (RGB):
Organic polymer

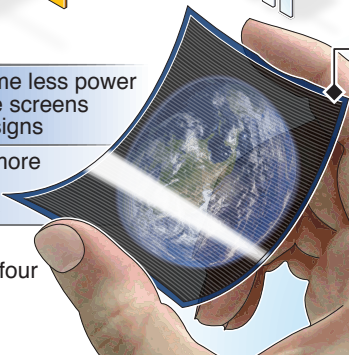


► Passive-matrix OLED

Similar to active-matrix but cheaper. Uses cathode and anode strips to activate pixels



Displays can be flexible



ACTIVE vs PASSIVE

Active-matrix screens consume less power and are more efficient for large screens like TVs, monitors, electronic signs

Passive-matrix screens use more power so are better suited to small screens, like cell phones

4K TECHNOLOGY

Also known as **Ultra HD**, uses four times as many pixels as 1080p displays – 8 million pixels

Sources: CES, howstuffworks.com