

Computer Graphics

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Raster Devices

Categorization

Raster devices use rectangular grids of pixels for the scanning or displaying of visual content.

input

- 2D sensor arrays (digital camera)
- 1D sensor arrays (flatbed scanner)

Output

- Display
 - Transmissive (liquid crystal display)
 - Emissive (light-emitting diode display)
 - Reflective (electronic ink display)
- Hardcopy
 - Binary (ink-jet printer)
 - Continuous tone (dye sublimation printer)

Liquid Crystal Displays

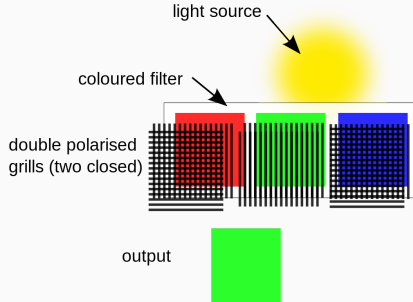
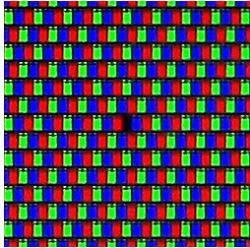


Figure 1: Left: “The LCD display of a digital photo camera (Nikon Coolpix 3100) in close-up, showing a dead pixel” by Selçuk Oral licensed under CC BY-SA 3.0. Right: “Diagram to explain main components of LCD pixels” by Pluke licensed under CC0 1.0.

Light-Emitting Diode Display

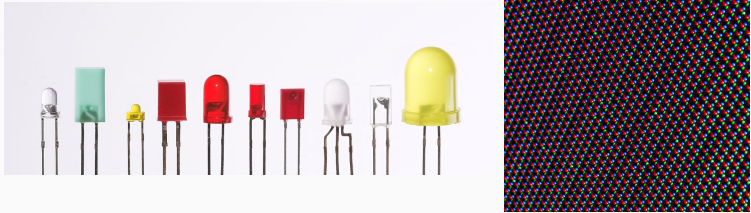


Figure 2: Left: “LEDs in different casings” by Afrank99 licensed under CC BY-SA 2.0. Right: “Detail of an LED display” by Martin Kraft licensed under CC BY-SA 3.0.

Electronic Ink display

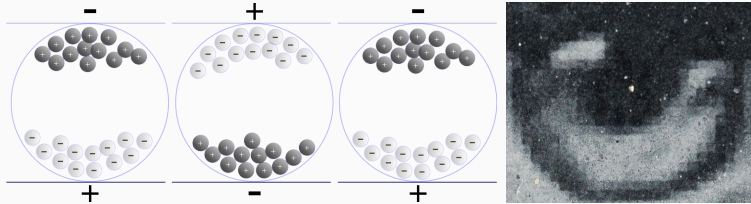


Figure 3: Left: “Basic Schema of an Electrophoretic Display” by Senarclens licensed under CC BY-SA 3.0. Right: “A macro photograph of a Kindle 3 E Ink screen” by HorsePunchKid licensed under CC BY-SA 3.0.

Impact Printer

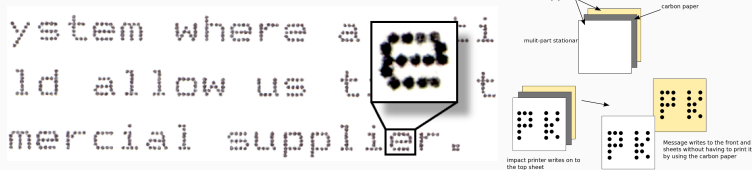


Figure 4: Left: “Close-up of text from a dot-matrix printer” by Fourhfour licensed under CC BY-SA 2.5. Right: “demonstration of how multi-part stationary is used with impact printers” by Pluke licensed under CC0 1.0.

Dye Sublimation Printer



Figure 5: “Dye sublimation printing insecurity” by DMahalko licensed under CC BY-SA 3.0.