Liquid Crystal Display & Modules

Liquid Crystal Display (LCD)

A liquid crystal display, or LCD, is a thin, flat display device made up of 2 glass plates with liquid crystal material vacuum-filled inside. Liquid crystal is an organic substance that has both a liquid form and a crystal (solid) molecular structure.

A polarizer coating on the outside of the glass takes randomly polarized light from outside and linearly polarizes it, controlling the background color of the LCD.

A transparent metal coating on the inside of the glass serves as an electrode, collecting or emitting electrical charges. By applying measured electrical charges to each liquid crystal molecule or pixel, the twist in the liquid crystal molecule can be controlled, allowing varying degrees of light to pass (or not pass) through.

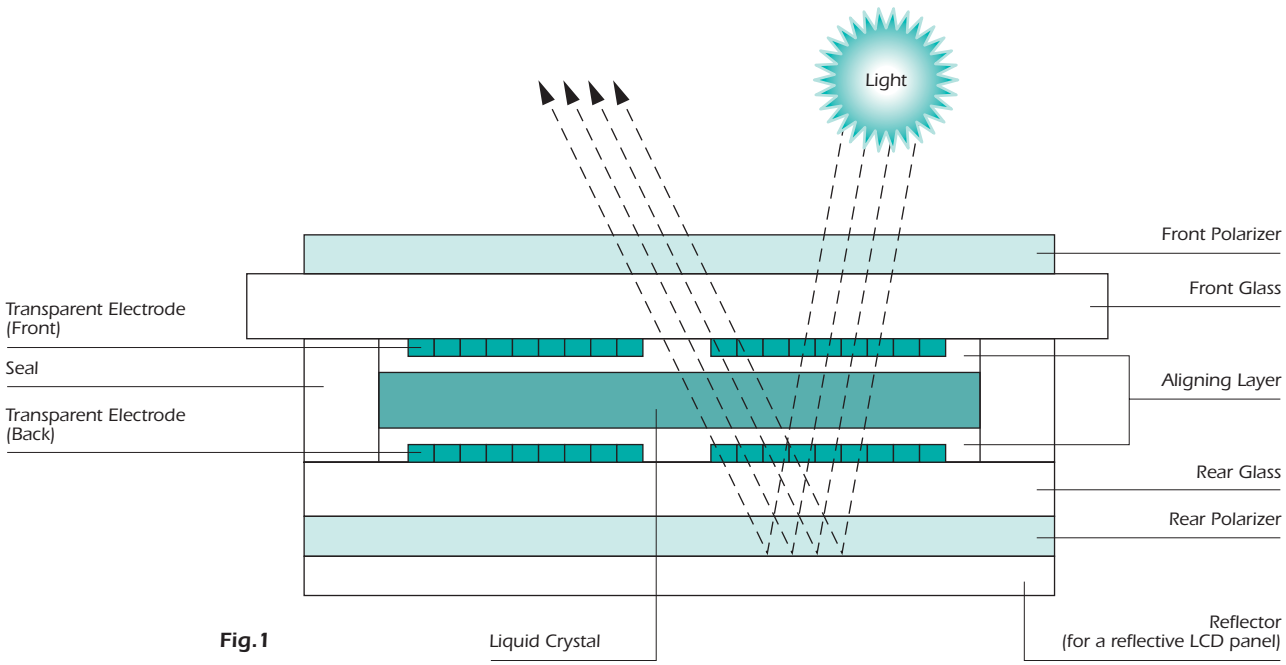

Fig.1

Thus, by manipulating ambient light, LCDs can display characters and images using very little power. This has made LCDs the preferred technology whenever low power consumption and compact size are critical.

Liquid Crystal Modules (LCM)

A liquid crystal module is a liquid crystal display with an IC "driver". This driver can take the form of an IC bonded directly onto the glass (COG) or connecting tape (TAB) or as a PCB (chip on board- COB - or surface mount technology- SMT).

There are two types of LCD modules: character or graphic.