

Liquid Crystal Display (LCD)

With the fast development of electrical technologies in the past decade, Liquid Crystal Display becomes dominant in the picture and video display applications. LCD panels are made of two layers of a glass-like material, which are polarized and are "glued" together. One of the layers is coated with a special polymer that holds the individual liquid crystals. As the crystals in LCD do not generate visible light, an external light source is required. When an electric current flows through individual crystals, the crystals will react to block or allow the external light source to pass them with different visible colours to create images.

Take an example of the TVs, the LCD TV has no phosphor light up as compared with the conventional Cathode Ray Tube or Plasma TVs. Hence, less energy is required for operating a LCD TV and its light source also generates less heat. Furthermore, there is no radiation emitted from the LCD screen. Without the need for a picture tube, LCD TVs are brighter, lighter, thinner, thus allowing them to be hanged for display applications. Although LCD have slightly lower contrast ratio, it renders deeper black and fast motion tracking capability and provides a longer display life than their Plasma counterparts. Nowadays, 108-inch high definition LCD TV is also available in the market.

Combining the above new technologies and features of traditional TVs, LCD TVs have become a popular option for bringing a theater viewing concept into a home. Electrical engineers have once again demonstrated their invaluable contributions for enhancing the quality of our life.

The Electrical Blog is contributed by Electrical Division. If you would like to know more about this topic please contact the Division Hon. Secretary Ir Gary Ko, cwko@kumshing.com.hk
(Electrical Blog 10)