Title:
LCD TV - The Latest In Viewing

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Summary:
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Keywords:
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Article Body:
Liquid Crystal Display is all about flat panel television technology. The technology of liquid crystal display has penetrated our everyday life in everyday things like wristwatches, mobile phones, calculators, computer monitors and high definition television. The use is growing rapidly and sales of LCD TV are expected to exceed 4 million in America alone.

There are some distinct advantages of LCD panels over other kinds of display technologies. They are slimmer and hardly go beyond 3.5`` in depth. These are lighter also and best of all they draw less power - only about 60% of the power consumed by plasma displays. LCD televisions do not spew electromagnetic waves that are harmful.

There are drawbacks of course - viewing angle is restricted, contrast ratio is limited and time of display response may cause concern. The biggest frown of all is caused by the price. Although it is falling but still it is considerably higher than its plasma counterpart.

LCD displays comprises mainly of sheets of polarized glass sheets - two in number. A liquid crystal solution is sandwiched between these. These liquid crystals are very specific that causes them to act as shutters that open or shut out entry of light as the need arises depending upon flow of electric current.

This current passing through the liquid crystals is regulated by voltage that is applied between the glass sheets through the electrodes that are transparent. These form a network having rows on one direction of the panel and columns on the other side representing the pixels or picture elements.

What are these liquid crystals? Matter can be found in three states - solid, liquid and gas. Nevertheless there are substances that exist in a state that is neither liquid nor solid at any one point of time. The behaviour of these molecules is also peculiar. They keep to their orientation like those in a solid and yet they shuffle around taking up various positions like the molecules of a liquid. Thus these liquid crystals can be termed neither solid nor liquid though they have more of an affinity for the latter - that is the liquid state.

There are various types of liquid crystals with each having its distinct properties. Those used in LCD panels are termed nematic-phase liquid crystals. The molecules are arranged in a particular fashion having distinctive pattern.

LCD display systems are of two types - passive and active matrix. The former is more complicated, produces the best pictures and consequently the price also goes up. During the manufacturing stage bad-pixels pose a serious problem. Innumerable controlling transistors are required on the glass substrata to control each sub-pixel. A typical wide screen panel will require 3.1 million transistors. Any one faulty transistor cannot be replaced and are known as dead or stuck pixels. If one is permanently off then a black spot will show and if it is on then a white spot will show. If it crosses a certain number the whole unit will have to be discarded.

It was during the early 2000`s that LCD flat panels took over the television market from the typical CRT`s. The basis of the technology is founded on the characteristics of polarized light. The thin semi liquid crystal gel trapped between two slim polarized sheets is divided into pixels.

There is hectic activity to overcome the technological difficulties to make the set affordable. So the LCD TV has to be made affordable to hit the headlines of success.