Glossary

ACTIVE AREA/EFFECTIVE AREA
In the viewing area of the LCD glass, the dimensions of the perimeter of the conductive area.

ANNUNCIATOR
A word, phrase, or symbol; an active element.

BEZEL
A frame of plastic or metal, fitting over the LCD glass, to protect the edges of the glass and act as a pressure device, compressing the elastomer connector between the PCB and LCD glass.

CELL GAP
The space containing liquid crystal fluid between the two pieces of glass.

CHIP-ON-BOARD
The LCD driver wafer is mounted on the PCB with gold wires used to connect it to other circuits. It is covered with epoxy.

CHIP-ON-GLASS
A new technology that mounts the LCD driver to the contact edge of the LCD glass.

CHIP-ON-FLEX
The contact edge of the LCD glass is mounted to a flex connector that incorporates an LCD driver.

COMMON/BACKPLANE
The superimposition of the conductive pattern from one piece of glass to the second piece. The duty ratio is determined by the number of backplanes.

COLD CATHODE BACKLIGHT (CCFT)
In medium to large LCD graphic modules, a type of fluorescent backlighting or edge lighting.

CONTACT EDGE
The area of the LCD with conductive leads/traces where electrical connection is made by use of a connector.

CONTRAST RATIO
The difference in luminance between the unselected area and the selected area.

CROSS-TALK
Cross - Talk is the defect produced by the interference of the adjacent pixels. The contrast of these crosstalk areas are different from other areas. Crosstalk can appear only with certain display patterns.

CURSOR
Dots used to indicate the location of the next character or symbol to be entered.

DIL PINS
Metal pins bonded with epoxy to each conductive lead/trace on the contact edge.

DIRECT/STATIC DRIVE
The method in which each conductive lead on the contact edge connects to one segment or annunciator.

DOT/PIXEL
An active element that forms a character or symbol when combined in a matrix.

DOT MATRIX
A group of dots/pixels forming a character or symbol, usually five dots across and seven dots down.

DIL (Dual-In-Line)
Two parallel rows of connection holes on a PCB. Also, the type of connector used with this array.

DUTY RATIO
1/N when N is equal to the number of segments selected by one complete cycle.

EFFECTIVE AREA
Same as "active area."

ELASTOMER CONNECTOR
A silicone rubber strip made up of sequentially spaced conductive and non-conductive material. The most common method of connection for LCD modules.

ELECTROPHORESIS
A dead short is created when excess DC voltage is applied to an LCD. Conductive particles from one piece of glass are transferred through the liquid crystal fluid and deposited on the conductive surface of the opposite piece of glass.

FILL HOLE
The space left between the epoxy seals on one end of the LCD glass after assembly. This space, used to fill the glass with the liquid crystal fluid, is noted by a mound of epoxy.

FONT
The active pattern containing the information to be displayed in the LCD glass.

FSTN
Film-compensated SuperTwisted Nematic

GHOSTING
A phenomenon occurring when voltage from an energized element leaks to an adjacent OFF element and turns the adjacent element partially ON.

GREY SCALE
Grayscale is a range of shades of gray without apparent color. The darkest possible shade is black, which is the total absence of transmitted or reflected light. The lightest possible shade is white, the total transmission or reflection of light at all visible wavelengths. Intermediate shades of gray are represented by equal brightness levels of the three primary colors (red, green and blue) for transmitted light, or equal amounts of the three primary pigments (cyan, magenta and yellow) for reflected light.

HEAT SEAL
A flexible adhesive connector bonded by heat to the contact edge of the glass.

INTERCONNECT DOT
Consisting of silver impregnated epoxy, it connects the pattern piece of glass to each backplane.

INVERTER, DC to AC
Converts DC to AC at a high frequency, and powers electroluminescent lamps.

ISOTROPIC STAGE
The point where the fluid heats or cools to where it is no longer in the twisted nematic state. Since the molecules can no longer twist light, all incoming light is absorbed.

LEADS
The conductive traces on the contact edge of the glass.

LIQUID CRYSTAL FLUID
Having properties of both a solid and a liquid, it consists of rod-shaped bipolar molecules which are capable of twisting polarized light when in the OFF state.

MODULE
An LCD glass connected to a PCB with drivers on board. It may also have controllers, temperature compensation circuits, or other features.

MULTIPLEX
Using multiple backplanes in order to reduce the number of connections between the LCD and the drivers.

PITCH
The center dimension of adjacent conductive traces, dots, or connector holes.

PIXEL
The same as "dot."

REFLECTIVE
A smooth silver piece of aluminum foil, bonded to the rear polarizer, that reflects incoming ambient light. Backlighting cannot be used with a reflective LCD.

SATURATION VOLTAGE
RMS voltage required to turn fluid to 90% on.

SEGMENT
An active element of a digit, usually 7 segments for numeric and 14 segments for alpha/numeric digits.

SIL (Single-In-Line)
An LCD module that has a single row of connection holes, and an LCD glass with a signle contact edge.

STATIC DRIVE
Same as "direct drive."

STN
SuperTwisted Nematic

TFT
Thin Film Transistor

THRESHOLD VOLTAGE
RMS voltage required to turn fluid to 10% on.

TRANSFLECTIVE
A type of backing, bonded to the rear polarizer, which enables light to pass through the back as well as reflecting light from the front.

TRANSMISSIVE
An LCD which does not have a reflector or transflector laminated to the rear polarizer. A backlight must be used with this type of LCD configuration.

TWISTED NEMATIC (TN)
A type of liquid crystal where the alignment surface, and therefore the liquid crystal molecules, is oriented 90 degrees from each surface of glass.

VIEWING ANGLE
A cone perpendicular to the LCD in which minimum contrast can be seen.

VIEWING AREA
The dimensions measured from the inside perimeter of the LCD bezel or LCD glass epoxy seal.