

ORIENT DISPLAY

Total LCD Solution Provider



Company Profile



Orient Display, headquartered in Toronto, Canada, is one of the world's leading Liquid Crystal Display (LCD) total solution providers. To better serve our worldwide customers, Orient Display has established a division in Seattle, USA, and two manufacturing plants in China. With the growing LCD market and to maximize its production capacity, the company will launch its third production facility in China in 2012.

Founded in 1996, Orient Display has been working side by side with its customers to meet the continuous innovation demands of the LCD Industry at a lower cost, high quality standards and shorter lead times.

Certified with ISO9001, ISO/TS16949, ISO14001 and IECQ/RoHS QC080000, Orient Display ensures 100% customer satisfaction by providing excellent customer service, innovational technologies and total control systems.

Besides core product lines in LCD panels and modules, Orient Display also builds vertically integrated products like touch panels, backlights, PCBs, liquid crystal materials, turn-key products, and software services.

Orient Display specializes in various applications such as Audio/MP3/MP4/Camera/Air Conditioner; Portable Medical Device/Glucose Meter; PDA/POS/Dictionary; Automotive/Gas Pump/Parking Meter; Data Communication/Server; GPS/Fish Finder/Metal Detector; Testing/Industrial Instrument; Watch/Calculator/handhold Game/Counter; Industrial Equipment; Power Meter/Energy Grid Meter/Solar Converter Meter; Thermostat/Humidity Meter; Appliance/White Goods, and the like.

Orient Display is proud to be partnering with many globally branded consumers like ABB, BSH, Carrier, GE, LG, Samsung, Whirlpool, etc.



TFT LCD (Thin Film Transistor)

TFT products are considered as one of the fastest growing innovations in the market. Orient Display focuses on providing small to medium sized TFT products ranging from 1.44" up to 7". These displays can be used for applications like MP3, Mobiles, Digital Frame, Toys, and GPS. The company has been getting into medium to large sized TFT market, especially ATM, Self-Service Kiosks, Digital Signage, Gaming, POS, Medical Treatment, Media Players and other industrial control system areas. Depending on the customer's requirements, resistive and/or capacitive touch panels are optional for most of these products. Custom made and sunlight readable TFTs are also available for some of these products.



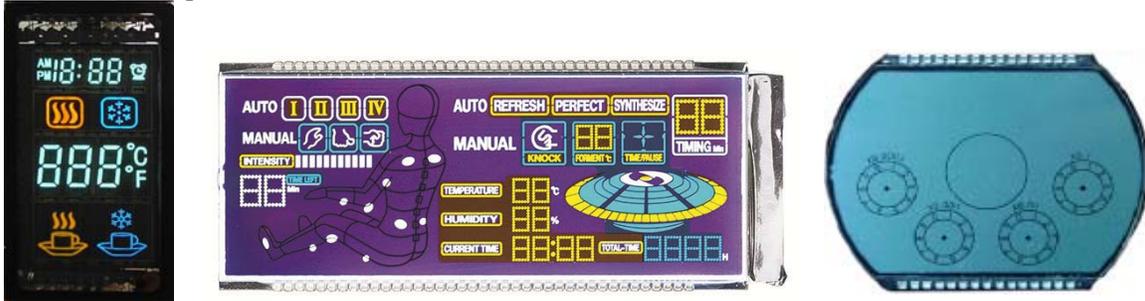
CSTN LCD (Color Super Twisted Nematic)

CSTN products offer low power consumption, low resolution and cost effective solutions for small sized full color displays. The sizes include 1.1", 1.7", 1.8", 2.2", 2.8" and 2.9". Customized CSTN is available upon request.



LCD Glass

Orient Display provides an extensive line of standard LCD glass products from 1 to 24 digits, although most of LCD glass panels are customized to fully meet customers' requirements. It can be made with pin, zebra, heat seal or FPC connections; multi-color inside or outside screen printing; positive or negative; sunlight readable; high reliability of over 100,000 hours; extreme temperature range from -40°C to 90°C; wide viewing angle; fast response time (< 1ms); customized shapes, and so on.



Character LCM

Orient Display's wide range of character LCD products is from 1X8 to 4X40 characters. It can be equipped with various color backlight options, display mode options (TN, STN, FSTN; positive, negative; yellow-green, blue, gray; special), different data interface (4-bit, 8-bit, SPI, I²C, RS232). Customization is available upon request with a selection of different connectors and cables. Demo boards are also available.



Graphic LCM

Orient Display carries a broad range of standard graphic LCD modules including package from COB, COG to TAB; size from 1.0" to 5.7"; resolution from 100X32 dots to 320X240 dots; and built-in negative voltage. The Jazz series, one of the company's featured products, allow customers to choose different combinations with various LCD technologies and backlight colors. Demo boards are available.



FS-LCD (Field Sequential Color LCD)

Orient Display provides sectioned colors that are changeable by using FS-LCD. RGB LED is used for backlight, and 8 vivid colors are available to be chosen from Blue, Red, Green, Purple, Cyan, Yellow, White and Black. FS-LCD products are especially used in appliances.



Automotive LCD

Orient Display has come up with various technology innovations to meet the display quality demands of automotive applications. The technical capabilities include VTN (Vertical TN), FFSTN (Double Film STN), ASTN (Advanced STN), and ESTN (Enhanced STN).



Fast Response and High Contrast LCD

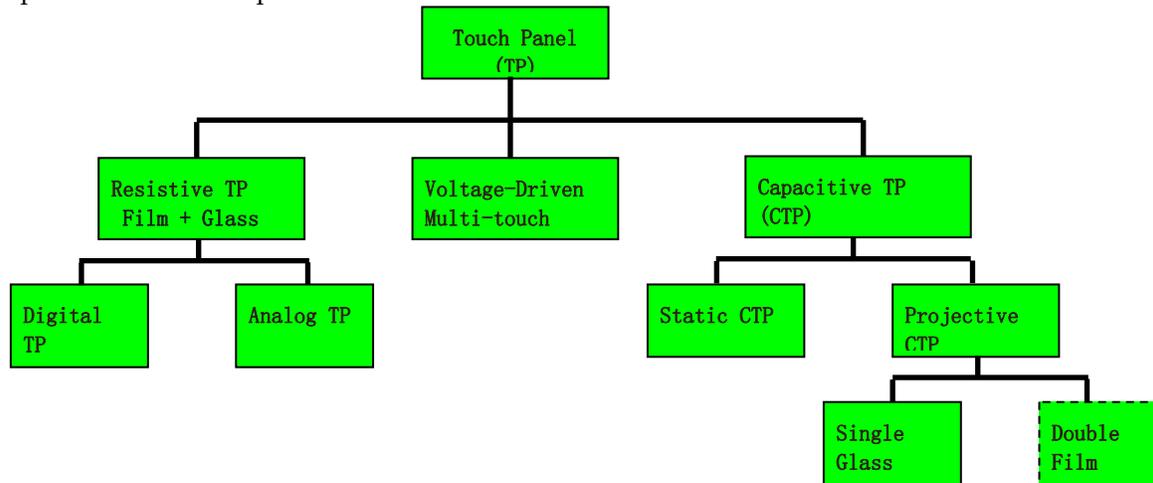
With constant materials innovations and manufacturing process improvements, Orient Display can achieve < 1 ms fast response and >2000:1 contrast for TN LCD products. This technology is widely used in 3D glasses and welding helmet glasses.

Bi-stable LCD

Bi-stable LCD is commonly used in E-label and E-book applications. One of its unique characteristics from other LCD is its ability to retain the display even when the power is turned off and then to refresh the image until the power is restored. This makes the display stable in two states: one with power, and another without power.

Touch Panels

Orient Display provides a wide range of touch panel technologies to meet customers' specifications and requirements.



M3 TFT (Intelligent TFT)

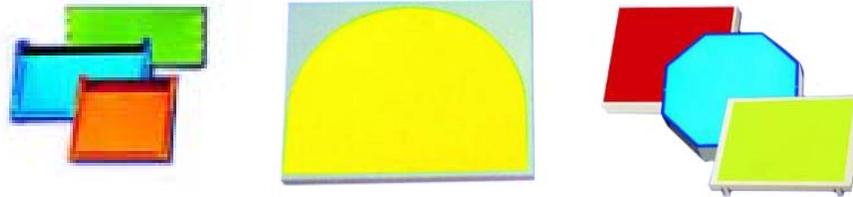
Orient Display supplies regular TFT products with a control board known as M3 TFT, one of the company's featured products. It has the following advantages:

- 1) Never obsolete to accommodate projects with long-term availability requirement.
- 2) Simple interface - 8080/6800 - the same as monochrome LCD interface. If a monochrome LCD is used previously, no major changes for hardware would be required. The driving of Intelligent LCDs is similar to SED1335 or S1D13700.
- 3) Microcontroller is used to drive M3 TFT, where low cost and short production time can be achieved.
- 4) Easy to mount, with mounting holes.
- 5) Optional Blue Mode, White/Black Mode, and Color Mode.

Featured Products (Continued)

Backlights

Orient Display provides total backlight solutions for LCDs. The backlights can be designed with various colors, i.e. Red, Green, Blue, Amber, White, Yellow-green and RGB. The designs can be customized with super low power; long life time; high reliability; high brightness; super thin (0.5 to 1.0mm); or with other featured structures such as snap-in tabs, alignment posts, housing, mounting holes etc.



Turnkey Electronic Products

In order to provide total solutions for customers, Orient Display works with design and molding partners to provide full assembly OEM and ODM services.



Transparent Heaters

To better enhance the LCD's performance and to overcome the LCD's sluggish response time in low temperatures, Orient Display develops various transparent heater technologies. ITO or wire heaters on film or glass are available. All heaters are custom made.

Software Service

Orient Display has a software technical support team to help its customers understand the basic concepts of the products. The team has been very successful in helping customers to write programs for coffee machines, electronic water meters, digital signage, medical devices and so on.



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