



Crystal Clear Newsletter May 2012

Hantronix Mono LCD's, Much More than Black & White

Since Hantronix supplied the mono LCD module 33 years ago, I am glad to report that Hantronix mono LCD modules are alive and doing well. Granted that TFT color modules are becoming more popular these days, there are still many opportunities for custom mono LCD's. If you do not need video speed in your LCD application, Hantronix offer some new mono LCD technologies (much more than black & white).

Hantronix can make following custom mono LCD modules.
Negative mode, black background.

ASTN (Automotive STN)

Negative mode, true black background, high temperature compensation, high contrast.
Operating temp -30C to +85C.
Recommended LED color : amber, orange, red, blue

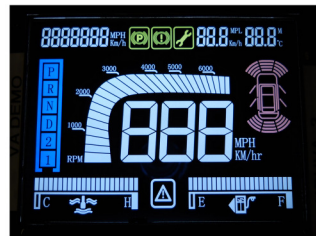
FFSTN (Double Film Compensation STN)

Negative mode, upto 1/240 multiplexing, wide viewing cone, operating temp -20C to +85C.
Recommended LED color : white, green, orange

VA (Vertical Alignment)

Negative mode, upto 1/32 multiplexing, ultra-high contrast upto 2500:1, -30C to +85C.
When turned on, the crystals tile up horizontally, providing less light leakage.
Color film can be added for some color option.
Recommended LED color : white, red, amber

Again, if you do not need video speed, Hantronix can offer custom mono LCD modules with these new mono LCD technologies. More than simply black & white and a wider operating temp range than standard TFT color modules.



To the concerns from customers regarding product longevity

Most Hantronix products are designed for medical and industrial equipment, requiring that they last years in the field. Two major customer concerns are the points of longevity of the LCD products offered by Hantronix.

The first concern is the operational life of LCD products. Most customers know that LCDs last a long time, containing no decaying elements. Even though the product warranty is for one year after shipment, they know that LCDs last five years or more in the field. The only concern is that the backlight in white LEDs may gradually diminish in brightness after 10,000 hours of operation. However, customers can opt for a longer-life white LED as suits their needs.

The second concern, about the longevity of product availability from the vendor, is a more common and serious concern among our customers. Most customers require at least 5 years of product availability; many require 10 years or more. In regard to this concern, Hantronix has an excellent track record: we rarely obsolesce a product. With hundreds of different models and over 30 years of history, Hantronix has experienced very few instances of customer problems with product obsolescence.

You have our commitment that we will supply you with your LCD for as long as the materials and components used in your LCD are available. As with any electronic assembly, we are also subject to material obsolescence or technology updates. Our first priority will be to find suitable replacement materials and to minimize the impact to our customer. In case a drop-in equivalent LCD isn't possible, we will clearly identify the affected material, request our customer's cooperation, and tailor a Last Time Buy program that will best fulfill the customer's LCD requirements while minimizing the exposure.

The Hantronix Way

The Hantronix Way® is always making the extra effort to bring value to our customers. This has been our guiding principle and the reason for our 33+ years of success in the LCD business. An example of bringing value to our customers can be seen in the many different customer-specific solutions that we have provided. Some examples are noted below. We welcome any opportunities for delivering extra value to our customer.

- Touch Panel tail modification
- FPC length modification
- Modification of metal frame bezel
- Adding external gasket to LCD
- Adding low reflectance polarizer for improved sunlight viewability
- Super high brightness backlight: 1K+ Nits
- Chemical strengthened touch panel glass
- Optical Bonding of cover glass or touch panel
- 5 Wire touch panel options
- Circular / outdoor touch panel options

HANTRONIX NEW 4.3" TFT MVA (Multi-Domain Vertical Alignment)

Key Features:

- HDA430-MVA (Full spec available on our website)
- 480x272 WQVGA Format
- 24 Bit RGB with 16.7 Mil Color
- Available with standard and high brightness LED (500 & 800 cd/m2)
- Min. 80 degree Viewing Angles on each side.
- 500:1 Contrast Ratio



What is the difference between TN TFT vs. MVA TFT?

TN based TFT panels are most widely used in the market right now due to relatively simple and low cost for the mass production. However, TN based Panels have one drawback for some customers: The Viewing Angles on either top or bottom side typically narrower than side views. (Gray Inversion effect)

The MVA TFT panel addresses this narrow VA issue. No wash out effect on any 4 directions. (80 degrees viewing in all directions) Allows for use in either "Portrait" or "Landscape" mode.

Target Industries:

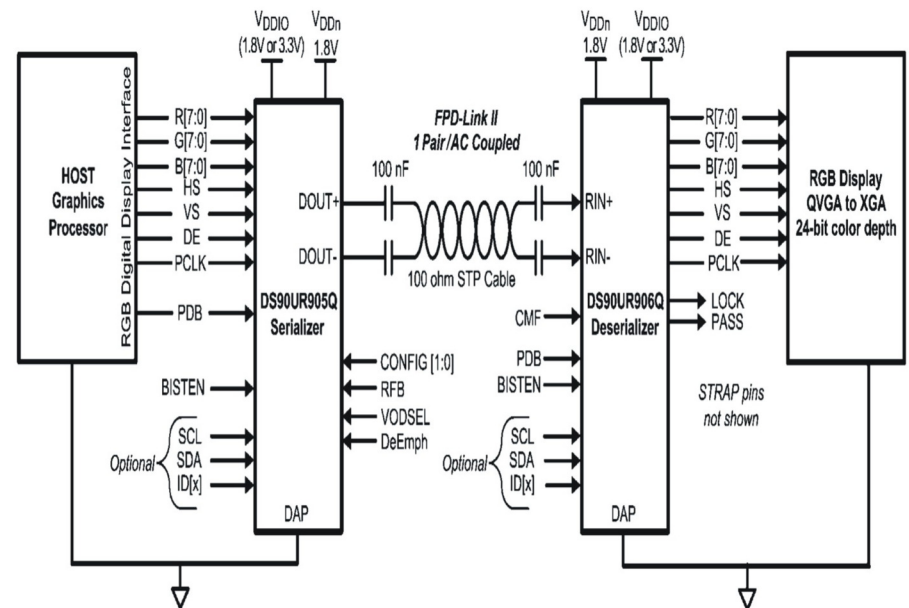
Medical and Industrial with Handheld/battery powered applications are most ideal. However, some of our existing customers (w/ TN) might be interested in wide view MVA as well. Overall pricing is about 10-25% higher than TN, which is reasonable in terms of cost vs. benefit.

Please contact our Sales Team for more detailed information on 4.3" MVA TFT.

FDPLINK II interface for Automotive

Texas Instrument and other IC manufacturers announced DS90UR905/906 FDPLINK II serializer/deserializer for Automotive qualified display Interface. This chip set translates a parallel 24 bits RGB Interface to single pair high speed link.

- The link allows serialize RGB interface with DCLK up to 65MHz, supporting this way WQVGA to XGA resolution.
- The transmission distance is up to 10 meters.
- It eliminates skew problem for parallel Data-clock interface and reduces EMI. It also saves system cost by reducing connector size pin number, cable width, and PCB real estate.
- The ser/deser chip set is specified over the automotive AEC-Q100 grade 2
- Applications include Automotive display for Navigation and Entertainment



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