TANNAS ELECTRONIC DISPLAYS

Newsletter on Developments in LCD Resizing

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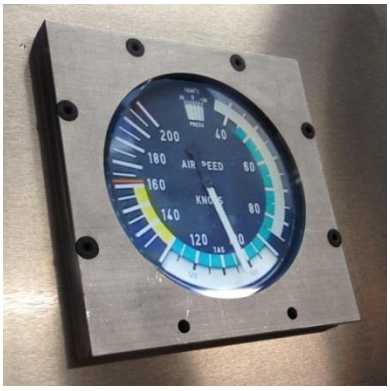
Tannas Introduces Innovative, Square, Surface-Mount LCDs for Avionic Simulators at SID

At SID Display Week, Tannas Electronic Displays (TED) will introduce a new series of square LCDs designed to be surface-mounted on aerospace simulator instrument panels. You can see these innovative, ARINC 408A-compliant displays in Booth 1620, June 3-5, in San Diego.



1. TED 3ATI4P display mounted to surface of aluminum panel with proprietary flange. A bezel with a round opening finishes off the round air-speed indicator being simulated by the display. (Photo: TED)

The displays can be mounted entirely on the panel's front surface, with simple signal and power wiring routed through the existing instrument cut-out in the case of a retrofit or through a small drilled or punched hole in the case of a newly fabricated panel.

In a conventional installation, each LCD would be integrated into a single instrument. This arrangement contributes to behind-the-panel crowding and heat generation, and makes field replacement or upgrading of displays impractical.

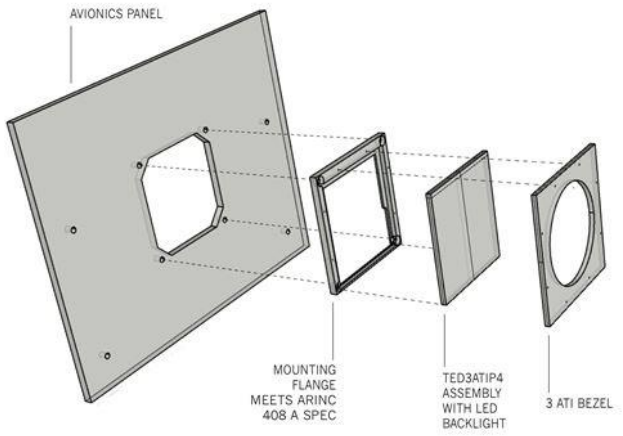
With TED's new 3ATI and 4ATI surface-mount displays, multiple displays can be driven by a single PC or other signal source, thus greatly simplifying behind-the-panel clutter, reducing heat generation, and creating more space for air circulation. Field replacement or upgrading of displays becomes a straightforward process performed entirely from the front of the panel, and new-panel assembly becomes simpler, quicker, and far less expensive.

TED has combined several new technologies to create these displays. First, a new generation of appropriate small displays, such as Mitsubishi's 5-inch AA050ME01-11, are being made with flex circuits instead of rigid printed-circuit boards. This allows the flex to be bent under the display so the footprint of the assembly is no larger than the display glass itself.

TED then uses its proprietary LCD resizing technology to cut the source display down to a 3ATI or 4ATI size.

These technologies are necessary for the surface-mounted displays, but by themselves they are not sufficient. The essential missing piece was a flange with a depression in the back surface deep enough to accommodate the display and its folded-over flex circuit. The flange is screwed to the instrument panel, thus securing the display. TED has now designed such a flange and has filed a patent application for it.

An additional element is a bezel that mounts to the flange. The bezel contains an opening suitable for whatever instrument is being simulated on the display. In the photo to the left, the opening is round to reveal the simulation of a round air-speed indicator, while covering the portions of the LCD that are not driven.



2. Technique for mounting TED3ATIP4 display to surface of avionics panel using proprietary TED flange and bezel. (c. 2014 Tannas Electronic Displays)

Complete kits, consisting of display and flange, are now available in 3ATI and 4ATI sizes.

What TED Does (Revised and Improved Version)

TED develops essential technologies for the custom resizing of liquid-crystal displays (LCDs), and uses those technologies to create a limited number of standard products for aerospace and other demanding applications

We first started doing this more than a dozen years ago when manufacturers stopped making the square cathode-ray tubes previously used in aircraft instrument panels. The aerospace industry desperately needed a flat-panel replacement for these ARINC standard display sizes. Now, TED manufactures several ATI-format displays, resizes LCD panels to customer requirements, and licenses LCD resizing technology for aerospace, industrial, and digital-signage applications.

TED continues to improve LCD resizing and sealing technology, develop new methods, patent new techniques, enable the development of new products, and support our existing and future licensees. We resize panels for customers in prototype and low-volume production quantities.

For larger volumes, we help our customers make a smooth transition to one of our licensees. Some customers have chosen to become licensees themselves, and produce resized displays for internal use and/or external sale.

To schedule a meeting at Display Week, please email Larry Tannas at l.tannas@tannas.com or Ken Werner at kwerner@nutmegconsultants.com, or you can simply drop by. The potential for resized LCDs is tremendous and growing. See the opportunities for yourself in Booth #1620.

Tannas Licensees Thrive on Three Continents

Our licensees have their own specialties, including avionics, railway information systems, custom digital signage, and commercial high-aspect-ratio (bar-type) monitors. Our licensees are listed below. If you would like to explore becoming a licensee yourself, please email Ken Werner at kwerner@nutmegconsultants.com.

ADITECH Fluessigkristallanzeigen GmbH (Heidenheim, Germany)

ANNAX (Anzeigesysteme GmbH, Munich, Germany)

BMG MIS (Ulm, Germany)

LITEMAX Electronics (Shin-dian City, Taiwan)

MRI (Atlanta, Georgia, USA)

STI (Anseong City, Korea)

TOVIS (Incheon, Korea)

GSD (Gumi-city, Korea)

VitroLight (Shanghai, China)

Symbolic Displays, Inc. (Santa Ana, California, USA)

As they become available, exhibitors' press releases will appear on the TED website, www.tannas.com.