



## Newsletter on Developments in LCD Resizing

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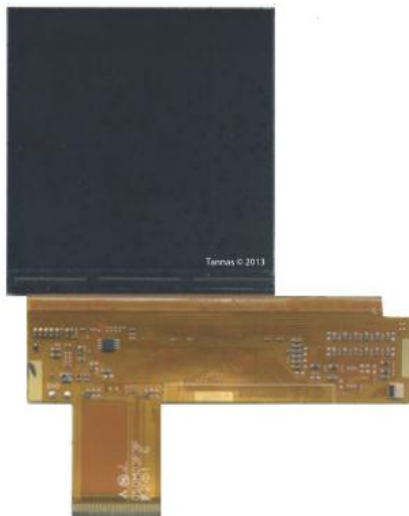
### Tannas to Introduce New 3ATI LCD Display at I/ITSEC 2013

Tannas Electronic Displays (TED) develops essential technologies for the custom resizing of liquid-crystal displays (LCDs). We first started this more than a dozen years ago when manufacturers stopped making the square cathode-ray tubes previously used in ATI format displays and the industry desperately needed a flat-panel replacement. Now, TED manufacturers several ATI-format displays, resizes LCD panels to customer requirements, and licenses LCD resizing technology for both avionic/military and industrial/digital signage applications.

At I/ITSEC 2013, we will introduce our new 3ATI display, and demonstrate the benefits of LCD resizing. We look forward to speaking with you in Booth 620 at the Orange County Convention Center in Orlando, Florida, Dec. 2-5, 2013.

TED continues to improve resizing and sealing technology, patent new developments, develop new products, and support its existing and future licensees. We resize panels for

customers in prototype, design-sample, proof-of-concept, and low-



**Figure 1. TED 3ATIP4 LCD, resized from a Mitsubishi AA050ME01-11.**  
(Photo: Tannas Electronic Displays)

volume production quantities. As volume requirements increase, 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 I/ITSEC, please email Larry Tannas at [l.tannas@tannas.com](mailto:l.tannas@tannas.com) or Ken Werner at [kwerner@nutmegconsultants.com](mailto: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 #620.

### You Can Bend, As Well As Resize, Glass LCDs!

BiSearch International (BSI) has been purchasing LCDs from TED licensee Tovis Co. Ltd. (Korea) that are not only resized, but also curved, to make both concave and convex displays. The LCDs start out as standard glass panels.

Modern display glass is so thin that a single sheet is quite flexible, but the technology for bending a large, fully assembled LCD panel is not obvious. Tovis will only say that they heat the panels gently before bending.

The resized convex signs were originally designed as game-toppers for casinos, but have also been enthusiastically received by beverage companies.

Bi-Search has also shown a transparent 47-inch LCD sign with colors that appeared quite saturated and true. BSI's transparent signs come in a variety of standard sizes, but Tannas licensees are resizing transparent LCDs for commercial refrigerator doors and other applications. We see exciting opportunities for custom-sized, transparent LCDs in simulation and training applications.

Here are photos of two BSI custom-sized and curved LCD displays. We know that some of BSI's curved panels are made by Tovis, and we're guessing all of them are. The displays were photographed at the Digital Signage Expo held in Las Vegas last February and at the Society for Information Display's Display Week held in Vancouver in May.



**Figure 2. BSI concave display for gaming and simulation applications was resized to 40 inches diagonal and 1880x1056 pixels (Photo: Ken Werner)**



**Figure 3. Resized 20-inch glass convex display with 1920x930 pixels. Display by BSI. Panel by TED licensee Tovis Co., Ltd of Incheon, Korea. (Photo: Ken Werner)**

## Tannas Names ADITECH its Ninth Licensee in 16 Months

In September, ADITECH Fluessigkristallanzeigen GmbH (Heidenheim, Germany) became TED's latest licensee, the ninth in 16 months. Licensees have their own specialties, including avionics, railway information systems, custom digital signage, and commercial high-aspect-ratio monitors. TED's other licenses are:

**ANNAX** (Anzeigesysteme GmbH, Munich, Germany) is resizing LCDs for internal use in its own railroad and other transportation information systems.

**BMG MIS** (Ulm, Germany) is focusing on digital signage.

**LITEMAX** Electronics (Shin-dian City, Taiwan) is using the technology for its Spanpixel line of high-aspect-ratio displays, including the new 37-inch-diagonal Model SSD3625 with 1920x268 pixels (16:2.2 aspect ratio) and 1000-nit luminance.

**MRI** (Atlanta, Georgia) is custom resizing transparent LCDs for commercial refrigerator doors to replace the typical glass doors used in supermarket refrigerator cases.

**STI** (Anseong City, Korea) is resizing panels for a variety of customers, as is **TOVIS** (Incheon, Korea), which makes the curved and resized display for BSI.

**Symbolic Displays, Inc. (SDI)** (Santa Ana, California) specializes in avionic and military applications.

And in Shanghai, there is recent licensee **VitroLight**.

If you would like to explore the benefits of becoming a TED licensee, please email Larry Tannas at [l.tannas@tannas.com](mailto:l.tannas@tannas.com) or Ken Werner at [kwerner@nutmegconsultants.com](mailto:kwerner@nutmegconsultants.com).

