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## VIDEO MONITOR

# Marshall LCD HD Monitor

by Steve Murphy

We all know from Dr. Who, Hitchhiker's Guide, Star Trek and the like, that when one group of creatures intones "Resistance is Futile" you can bet the other side has some darn good reasons for not simply giving in. This is usually resolved with an awesome display of destruction, or by arriving at the realization that by understanding the issues and through cooperation, everyone is better off. This conflict scenario is not without relevance in our current era.

Naturally, I am referring to the ongoing CRT/LCD control-room debate. While LCD monitors have gained general broadcast facility acceptance for confidence and multisignal display duties, they have faced stiff resistance when it comes to critical monitoring applications. And rightly so, for the oft-cited performance shortcomings in latency, contrast ratio, black level, color gamut, motion rendition and viewing angle.

This continuing dialog, however, has helped to focus LCD monitor development towards the demands of the professional user, and an ensuing "arms race" among manufacturers. This has resulted in such welcome high-end features as selectable color-space standards, pixel-to-pixel native display, on-screen guides, integrated TC and tallying, a variety of de-interlacing processes (not to

mention interlaced-display emulation), improved calibration tools, increased viewing angles and better overall picture stability.

### FEATURES

Marshall Electronics and its broadcast/multimedia division deserve credit for furthering this development effort with its range of pro-oriented high-resolution LCD monitors, notable not only for their innovative features and picture quality, but also for



Marshall V-R1042-IMD-TE4U Dual HD LCD Monitor

their very competitive prices. One of the latest in this range is the V-R1042-IMD-TE4U—a rackmounted dual-monitor set with HD/SDI inputs and active loopthrough.

As an overview, a good as any place to start is by taking a look at the major elements referenced in its model name (and, with a little practice, you too will be able to effortlessly drop it into conversations at the water cooler, parties, etc.). The 1042 in the

## FAST FACTS

### Application

Professional video picture monitoring

### Key Features

In-Monitor display features for on-screen tally, TC and aspect/safety markers; user-configurable function buttons and preset store/recall; 50k-hour continuous backlight life.

### Price

MSRP \$3,999

### Contact

Marshall Electronics Inc.  
800-800-6608  
[www.lcdtracks.com](http://www.lcdtracks.com)

V-R1042-IMD-TE4U designation refers to its dual 10.4-inch high-resolution monitor screens. The 1024x768 (2.4 million RGB pixels) TFT panels feature 24 bit per pixel color representation, a 700:1 contrast ratio and luminance rating of 300 cd/m<sup>2</sup>. The back light is rated for a 50,000-hour/five-year life with continuous use. (Marshall estimates a 15-year lifespan at eight hours per day.)

The IMD indicates that the monitors are equipped with Marshall's In-Monitor Display features. The integrated on-screen utility suite includes of a variety of aspect ratio and safe-zone screen markers, a center crosshair, audio present/not-present indicators, timecode (decoded from the HD/SDI auxiliary data stream) and user-configurable tri-color tallies with support for Image Video, Nvision, TSL, and MEI (Marshall Electronic Inc.) protocols.

When used with these protocols UMD and tally information can be displayed on screen. A rear-panel RS-422/485 connection (with loopthrough) is provided for multi-monitor control communication, Tally/IMD functionality, and field-upgradeable firmware capability.

TE4U, the final part of the name, stands for Truck Edition, and also refers to the monitor's 4-RU size. While it can obviously be used in any type of installation, this Marshall monitor set includes a number of features that make it ideal for use where space is at a premium and layout doesn't necessarily permit optimum viewing placement. The Marshall features a wide 170-degree usable viewing range—anything beyond that and your cheek would have to be stuck to the adjacent rack.

All controls reside in a recessed channel running along the top of the rackmount chassis. This maximizes the front panel space available for video display and, according to Marshall, provides up to 20 percent more screen space compared to its competitors' 4-RU models. Its narrow profile (only 1.5-inches deep) and a low weight of 7.4 pounds also make it ideal for flypack use. The monitors are powered by an included 12 VDC "line lump" adapter with detachable IEC cable. Power consumption is 50 watts with both monitors on. No latency specifications were provided by Marshall in the manual or on its Web site.

## IN USE

The Marshall was first put to work in my editing and post-production room, fed by a dual-channel HD/SDI Blackmagic Design DeckLink HD Pro card in a quad-processor XP-Pro system dedicated to video playback.

Based on its comparatively low price, I expected the Marshall monitor set to be a jumped-up take on familiar OEM'ed LCD models. To say I was pleasantly surprised would be a gross understatement. In fact, after a just a few short hours of use, it was clear that the Marshall designers had produced an original LCD monitor set that was a model of physical and electronic engineering, and all the more amazing for its price point.

From an appearance and ergonomics standpoint, the Marshall V-R1042-IMD-TE4U is as uncluttered and attractive as can be designed, making it perfect for video wall

or in-wall use. Its front panel is completely devoid of logos, branding and operational controls, save for two flush-mount colored tally LEDs per monitor. In my edit/post room, the monitors were necessarily mounted slightly above head level in a rack, centered over my two computer monitors. Despite this less than optimum placement, the top-mounted controls remained easily accessible, thanks to the inclusion of built-in pivoting rack rails that provide a generous 110-degree downward tilt to put the controls within easy reach at any time.

Each monitor is configured via a basic physical control set—brightness, color and contrast knobs plus power switch—and an on-screen menu system (with accompanying up, down and select navigation buttons). An alternate menu navigation rotary/push control dubbed "RotoMenu" proved to be very handy, as did the two user-configurable function buttons (F1 and F2) that can be assigned to often-used configuration items such as aspect ratio and pixel-to-pixel modes. Configuration settings (including the top-panel knobs, which are actually digital encoders) can be stored and recalled into six user preset locations.

From a general user perspective, I found the setup options to be comprehensive, yet easy to navigate, and was able to quickly achieve (and store) the format configurations that I required for my SD and HD post work. After assisting with calibration tests using the monitor's built-in color bars and blue-gun mode, an editor colleague with whom I was currently working echoed my opinion that picture quality was bright and detailed and offered a CRT-like look, overall. I'm not sure if there is a physiological basis for this, but I didn't seem to suffer as much eye fatigue as I usually felt following a grueling 14-hour post watching a CRT.

The evaluation continued for an extended period in the National Press Club's Broadcast Operations Center in Washington, D.C. Chief Engineer David Schrader fed the Marshall monitors from a Codan Talia NK-series router to create a secondary QC station for monitoring the constant variety of studio productions, satellite media tours, live press events and edit suite feeds originating from the National Press Club facilities.

David has long echoed the common criti-

cism of LCDs in the control room, reconciling them to addressing shot placement and/or presence of signal. For a long time he has believed that for critical evaluation and adjustment a CRT monitor is the only thing that could be trusted.

After weeks of evaluation with the Marshall, and regular comparison to the operation's Sony HD CRT, David found the need to re-evaluate his earlier hard-line position. He praised its image quality and after continuous use decided that it was the first LCD unit that he liked well enough to use in place of a CRT monitor.

David is in the process of designing a second "control room" for the NPC, with control room in quotes, as its main requirement is for a high degree of mobility. He has decided that the dual 10.4-inch Marshall monitors are an ideal choice for this endeavor, as their high-resolution image quality is capable of revealing all signal flaws.

## SUMMARY

The Marshall V-R1042-IMD-TE4U combines significant advances in picture quality and image control with a set of innovative features. The result is a very attractive and reasonably priced monitoring package.

Add in the advantages inherent to LCD monitors—decreased depth, weight, temperature, energy consumption, environmental toxicity, health and fire hazards—and the forgone irrelevancy of CRTs on both the manufacturing and consumer fronts, and resistance may prove to be not only futile but also professionally short-sighted.

*Stephen Murphy is a 25-year freelance veteran in production, post and broadcast engineering as well as videography and editing. His clients have included Discovery Channel networks, the National Press Club, PBS, Disney, Reuters America, American Red Cross and others.*

*David Schrader, who contributed to this review, is chief engineer at the National Press Club's Broadcast Operations Center. Clients during his decades of freelance TD, LD and engineering work have included the Voice of America, Reuters America, ABC, MSNBC, Fox and many others.*