



Investing in a Video Monitor

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The transition of the broadcast industry from analog toward digital SD and HD has changed the demands placed on video monitors, and the range of products now available reflects the resulting demand for displays that address the complexity of today's monitoring operations. Manufacturers have introduced displays boasting richer feature sets, more intelligent design, greater versatility in handling different types of inputs and increased flexibility in the way those signals are handled and analyzed. Units for the mobile product market combine these characteristics with a lightweight, rugged construction that can withstand extreme temperatures, moisture and rough handling. In all, these features and capabilities deliver better overall performance and help both to improve and streamline everyday monitoring tasks.

A challenging business climate also has led to innovation in flat-panel display technologies, as manufacturers have found ways to expand feature sets while maintaining or lowering price points. New materials and manufacturing techniques have made this trend possible. As new technologies move farther into the mainstream, next-generation video monitoring displays — and their benefits — will become a feasible option for users across the market. When investing in a new display, broadcasters should consider factors including support for different input types, the specific functionality required for their operation, and the long-term value the unit will provide.

Get Value With Rich Functionality

The key to getting value from a new video display lies in finding a robust yet cost-effective system. Because the complexity and variety of digital signals requires more sophisticated video monitoring, the broadcaster should look for displays capable of accommodating multiple formats and sources and offering detailed information about the content. To complement this data, the unit also should provide markers, visually-oriented analytical tools and enable the user to evaluate accompanying audio signals.

Video monitoring displays that accept multiple inputs should allow the operator to select and view images in color, blue-only, or monochrome. Because audio typically accompanies video, support for audio commonly is provided through an in-monitor display of audio level meters, as well as an integrated headphone jack. On-screen display features that provide valuable at-a-glance monitoring include markers that allow the user to highlight a 16:9 or 4:3 aspect ratio, with safe areas according to user-configurable settings. Also provided on-screen are key identifiers that indicate video format, source, and time code.

Greater functionality is being built into video monitors to help save space, reduce external device costs and enhance convenience. Thus, an increasing number of products also offer a waveform display of the input signal within an in-monitor window. A waveform display of the input signal serves as a complementary monitoring tool. Other newly introduced tools that add value to new video monitor systems include on-screen vectorscopes.

Go Green

OLED (organic light-emitting diode) display technology uses a set of thin organic films, placed between conductors, to emit bright light when electric current flows through the conductors. This

technology offers high performance along with significant cost savings that make going green a very attractive option.

OLED technology offers a better contrast ratio than any other type of screen now on the market. Emitting light directly, OLEDs also provide a greater range of colors, gamut, brightness, and viewing angles than do LCDs. The incredibly sharp colors of an OLED display yield a visible difference that is clear to the professional and to the untrained eye. Because the display's pixel colors appear unshifted, even a person lying on the floor could look at the screen and still see the picture. The response time for OLEDs also is significantly better than that of standard LCD and plasma monitors.

Power savings are another reason to go with OLED displays, which are capable of functioning without a backlight. An "off" OLED element produces no light and consumes no power, and this very low power requirement makes OLED displays ideal for any cost-conscious broadcast facility. Paired with a lightweight and much thinner design, these characteristics make OLED technology especially appealing for the mobile market, where power, heat, and weight issues always are a factor.

Initially the shorter usable life of OLED materials limited their use; however, advances in manufacturing have increased life expectancy significantly. The size of available OLED displays also is on the increase, making their use in both mobile environments and fixed broadcast facilities a viable, and even attractive, solution.

Look to the Future

The longer the video monitor can provide valuable operation, the better the initial investment. Broadcasters can future-proof their investment by choosing systems with 3G capability. The shift to HD is giving rise to installation of 3Gb/s infrastructures, which in turn demand 3Gb/s-ready or 3Gb/s-capable devices, including audio and video monitoring systems. Given the remarkable advance of video monitor technologies over the past few years, it makes sense for broadcasters to invest in systems that can be adapted to the higher-bandwidth requirements of a rapidly evolving industry. Manufacturers are making this possible, striving to keep prices level while introducing improved efficiencies, greener and more cost-effective operation, better compatibility with new IT-based broadcast systems and infrastructure, and enhanced convenience in daily monitoring processes. After evaluating their own specific needs, broadcasters should be able to find the functionality they require and the value that these challenging times demand.