

# ExtronNews™

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Issue 16.2

Winter 2005



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## Extron System Integrator™ Speakers

At this year's InfoComm, we introduced our new SI - System Integrator™ speakers, the result of a two-year research and design effort with extensive testing and listening. Our intention was to create a line of Extron speakers that are comparable to the best in the industry and offer an appealing blend of features and performance at very competitive prices. Through that process, SI Series speakers have been optimized for smooth, accurate reproduction of music and voice for use in small and large classrooms, conference rooms, lecture halls, and auditoriums. They are designed and tuned to integrate with our other products including MPA - Mini Power Amplifiers, MediaLink™ Switchers and Controllers, wall plates, and cables, creating an all-in-one source for complete A/V systems from Extron.

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## System Integrator Speakers — continued

### Why Extron Speakers?

In the late 1960s, KLH, one of the well-respected speaker companies at the time, introduced a breakthrough product: the first compact stereo system that included a pair of speakers, a receiver, and a turntable. With this complete system, consumers could buy a product with the performance and the manufacturing quality image of KLH, while benefiting from greater value than buying the components separately.

Inspired by KLH from his early hi-fi years, Extron's President and CEO Andrew Edwards believed that we could be doing the same for small classrooms and conference rooms. At InfoComm 2005 we introduced 18 complete MediaLink systems specifically designed for affordability that include all the equipment necessary to implement an AV system. With these complete systems, we could control the integrity of the design, lower the manufacturing cost, and pass the savings onto the market. They are comprised of our MediaLink Controllers and Switchers, cables, economical wall plates, audio products including amplifiers, and accessories including projector mounting kits. A critical component of these systems is our new SI family of speakers. For the MediaLink and system design story, request a copy of Andrew's MediaLink Design Guide, 2nd edition, now in print. See page 26 for more info.

SI speakers were designed to be appropriate for small or large classrooms and conference rooms. They not only had to be affordable, but also deliver the same high expectations for quality as our other products. Perhaps more importantly, the sonic performance of our speakers needed to be comparable with the best the industry already has to offer. After two years of research and development, the new Extron SI Series is the result.

### Extron Speaker Development

All SI Series speakers and their components were designed at Extron, with specifications and design criteria determined based on our extensive research and design effort. In particular, we focused in our two-way systems on the crossover circuitry, from bass through midrange to the high frequencies. Special attention was given to the dome tweeter matched

to the woofer for a smooth, flat response with a minimum of phase shift. Our surface mount models feature an Extron exclusive, new conical horn design that is coupled to the tweeter. The conical horn design virtually eliminates phase shift that would otherwise result in a harsh tonal quality caused by frequency cancellation.

### System Integrator Speakers

Our SI speakers support a wide range of low and high power system applications. The SI speaker series was developed to support the most popular speaker applications, and include:

- Ceiling speakers with or without low-profile, plenum-rated back cans.
- In-wall speakers with open-back, infinite baffle designs
- Surface mount speakers with durable, weather-resistant enclosures
- Internal driver overload protection circuit for select models

### SI 26 and SI 28 Surface Mount Speakers

The SI 26 and SI 28 surface mountable speakers represent the flagship of the our System Integrator family. They are typically installed on the front wall of a classroom, conference room, or boardroom, with the speakers situated on each side of the projection screen, and are ideal for playback of music, documentaries, and other programming. Both models are two-way speaker designs with a ferrofluid-cooled, aluminum dome tweeter and a long-throw woofer with large magnets for solid low-frequency response. The tweeter is coupled to an Extron exclusive: a new conical horn designed to minimize phase shift and deliver flat response over the mid- and high-frequency ranges. With this new conical horn design, harsh tonal qualities due to cancellation in portions of the

frequency range caused by phase shifting are all but eliminated.

The SI 26 and SI 28 incorporate a precision engineered crossover design that assures a smooth transition from bass to midrange and high frequencies, delivering optimum voice and music reproduction. An input power-limiting protection circuit is included for preventing woofer and tweeter damage due to overdriving. A weather-resistant housing and drivers makes these speakers suitable for use in outdoor environments.

The **SI 26** features a 6.5" woofer, a 1" dome tweeter, 75 watts continuous pink noise or 150 watts continuous program capacity, and frequency response from 70 Hz to 20 kHz.

The larger **SI 28** features an 8" woofer, a 1" tweeter, 90 watts continuous pink noise or 180 watts continuous program capacity, and frequency response from 50 Hz to 20 kHz.

Both models have a nominal impedance of 8 ohms. They are available with a black or white finish that can also be painted to match the environment.

### V-Lock™ Mounting Brackets

Included with every SI 26 and SI 28 speaker is the V-Lock™, our patent-pending speaker mounting system. V-Lock greatly simplifies the process of mounting speakers onto walls while providing an effective means of preventing theft. All that is required is mounting the bracket onto the wall, sliding the speaker onto this bracket as if you were hanging a picture, and then positioning and locking the speaker into place through the front grille.

### SI 26W and SI 28W In-Wall Speakers

The SI 26W and SI 28W are designed for environments where program audio delivery is typical. By installing them into the walls, these speakers provide a low-profile appearance while also deterring theft. They are two-way designs featuring a ferrofluid-cooled, titanium-coated dome tweeter and a long-throw woofer in a vertically stacked arrangement to deliver balanced voice and music reproduction.



SI 28 Surface Mount Speaker



These in-wall speakers feature a proprietary crossover design from the woofer to the dome tweeter, to provide a smooth transition from low to mid and high frequencies, so that voices are natural and clear sounding. Music reproduction is enhanced with the exceptional low-frequency response of the long-throw woofers. The pivoting dome tweeter allows aiming of the mid and high frequencies to optimize area coverage.

The **SI 26W** features a 6.5" long-throw woofer, a 3/4" dome tweeter, 30 watts continuous pink noise or 60 watts continuous program



SI 26W In-Wall Speaker

capacity, and a frequency response from 40 Hz to 20 kHz, and nominal impedance of 8 ohms.

The **SI 28W** features an 8" long-throw woofer, a 1" dome tweeter, 35 watts continuous pink noise or 70 watts continuous program capacity, a frequency response from 30 Hz to 20 kHz, and a nominal impedance of 8 ohms.

### SI 26X, SI 3CT LP, and SI 26CT Ceiling Mount Speakers

Our System Integrator SI 26X, SI 3CT LP, and SI 26CT are designed for overhead distributed audio applications for music and voice in small and large classrooms, conference rooms, and boardrooms. Each speaker has been designed to meet the needs of specific application requirements. The SI 26X and SI 26CT feature a two-way, coaxial dual driver design. Long-throw woofers are coupled to pivoting dome tweeters to deliver accurate voice and music reproduction, as well as wide angle sound distribution for higher ceiling and power applications. The SI 3CT LP has a single full-range driver featuring a very wide dispersion pattern and full-range frequency response

specifically for small to medium classrooms and conference rooms with lower ceiling and lower power applications. In the SI 26X and SI 26CT, as with other Extron System Integrator speakers, special consideration is given to the crossover from the woofer to the tweeter, providing a smooth transition from low to mid and high frequencies. Voice reproduction from documentaries and live microphones is natural and clear sounding. Music reproduction is enhanced with the exceptional low-frequency response of the long-throw woofers in higher power applications. The pivoting dome tweeters allow aiming of the mid and high frequencies to optimize area coverage.

### SI 26X

The **SI 26X** is an open back, two-way speaker for use in non-plenum airspace environments. The long-throw 6.5" woofer is specifically designed for infinite baffle environments, providing an



SI 26X Ceiling Mount Speaker

efficient low-end response down to 50 Hz. The 3/4" titanium-coated dome tweeter pivots for aiming. Overall frequency response is 50 Hz to 20 kHz. With high power capability of 25 watts continuous pink noise or 50 watts continuous program capacity, the SI 26X is an ideal choice for great sound in low and high ceiling applications.

The SI 26X is designed for 8 ohm direct connection to small or large audio power amplifiers, and may be connected for series or parallel operation. Four locking arms allow for a fast, secure hard ceiling installation. A C-ring and V-rails are optional for use with soft ceiling tiles, if required.

### SI 3CT LP

The **SI 3CT LP** features a 4" LP - Low Profile metal back can for use in plenum ceilings. The LP - Low

Profile speaker is an excellent choice for ceiling installations with unknown above-the-ceiling tile issues such as air handling units installed close to the ceiling. The 3.25" full-range driver features an incredibly wide frequency response of 80 Hz to 16 KHz  $\pm$  3dB, 16 watts continuous pink noise or 32 watts continuous program



SI 3CT LP Ceiling Mount Speaker

capacity, an extremely wide off-axis dispersion of 170° conical and 84dB sensitivity. The SI 3CT LP is optimum for small to medium classrooms with lower ceilings and low to medium power requirements.

The SI 3CT LP is designed for direct 8 ohm or 70/100 volt operation with a behind-the-grille, front-mounted six position selector switch. In the 8 ohm direct position, this speaker is the perfect choice for use with our MPA 122 Integrated Mini Power Amplifier in small to medium low ceiling classrooms requiring two to four wide dispersion speakers for maximum room coverage.

Many system designers desire 70/100 volt operation for large rooms with multiple speakers and long speaker wire runs when the amplifier is remotely located. For small to medium classrooms the SI 3CT LP is the perfect choice for use with the MPA 181T 70 volt mini power amplifier. For room balancing, five positions on the behind-the-grille selector are devoted to 70 volt operation selection of 16, 8, 4, 2, and 1 watt settings and in 100 volt operation, selection of 16, 8, 4, and 2 watt settings.

Four locking arms allow for a fast, secure hard ceiling installation. The SI 3CT LP includes mounting hardware to facilitate installation in a suspended T-bar ceiling.

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## System Integrator Speakers — continued

An input power-limiting protection circuit is included for preventing driver damage due to overdriving.

### SI 26CT

The **SI 26CT** features a high power design of 75 watts continuous pink noise or 150 watts continuous program capacity for use in larger classrooms, lecture halls, and auditoriums. The 6.5" long-throw woofer employs a tuned port for improved low frequency response. A 1" pivoting ferrofluid-cooled, titanium-coated dome tweeter matches the high power capability of the woofer with enhanced midrange and high frequency response for high ceiling applications. Overall frequency response is from 70 Hz to 20 kHz.

In the 16 ohm direct mode, an input power limiting protection circuit is included for pre-



SI 26CT Ceiling Mount Speaker


venting potential woofer and tweeter damage if the speakers are overdriven.


For room balancing in 70/100 volt operation, the behind-the-grille, front-mounted five position selector allows for 60, 30, 15 and 7.5 watt power selection for 70 volt and 60, 30, and 15 watt for 100 volt installations.

The SI 26 CT is housed in an 8" metal back can for use in plenum environments and features four locking arms for a fast and secure hard

ceiling installation. C-ring and V-rail mounting hardware for installation in a suspended T-bar ceiling is included.

### Optimized Sound for Classrooms and Conference Rooms

Sound is one of the most important considerations for any classroom or conference room A/V system. However, audio is often compromised due to budget constraints and the belief that the sound from a tiny speaker within a projector enclosure will suffice. The sound quality is lacking at best and can be fatiguing over time. The System Integrator speaker series, combined with our MPA Series amplifiers or MLS - MediaLink Switchers with audio amplifiers, deliver a dramatic improvement in sonic performance and optimized voice and music reproduction, and offer the high product quality standards for which we are known. 



SI 26CT      SI 28W      SI 28      SI 26      SI 26W      SI 26X

**In Stock**      **In Stock**      **In Stock**

## Extron Speaker Demo Program for Dealers and Consultants

Try any of the new Extron speakers out in your own facility for 30 days.\* We're confident you will be impressed with what you hear or you can return them with no obligation. Any speakers taken out for evaluation by Extron Dealers or Consultants may then be purchased for a very special discounted price. Call your Extron sales representative for details.

\*Limit one pair of each type of speakers per location.



## The MLC 52 MediaLink™ Controllers: Low-Cost, Basic Projector Control 101

The descending prices of affordable, high-performance projectors has taken display sales into new, untapped markets. Specifically, many K-12 schools can now afford to utilize projectors in their classrooms. However, a projector and its IR remote have limitations when it comes to input switching and audio support. Remotes can be lost or batteries can run down, causing frustration and downtime. To address this problem, we developed two new low-cost MLC MediaLink Controllers, the MLC 52 IR and MLC 52 RS. Both controllers provide a reliable consistent control interface for extremely budget driven systems.

The new MLC 52 IR and MLC 52 RS are the most basic and economical MLC MediaLink Controllers offered by Extron. They are equipped with key features such as projector control, configurable, backlit buttons, and several mounting options. Designed for budget-conscious K-12 classroom presentation systems that require simple projector control, input switching, and volume control, the MLC 52 Series is the first step-up for replacing the projector's IR remote and standardizing on a hardwired, reliable, and easy-to-use interface.

### IR and RS-232 Control

The MLC 52 IR and MLC 52 RS each feature

IR projector control, while the MLC 52 RS also includes hard wired unidirectional RS-232 projector control. By offering these control options, integrators can match the appropriate MLC 52 with a compatible projector. Projector control requires only a one-time setup with RS-232 and/or IR control drivers. These and hundreds of other drivers are available for free download on the Extron Web site at [www.extron.com](http://www.extron.com).

A configuration port on the front panel of both MLC 52 models makes software configurations and downloading a snap. Using the optional CFG RS-232 Configuration Cable, either MLC 52 model can be connected to a



PC's RS-232 port to download the driver for immediate use or saved for backup. For added assurance, the software is able to distinguish between an MLC 52 IR and an MLC 52 RS, which prevents users from uploading an RS-232 driver onto an MLC 52 IR.

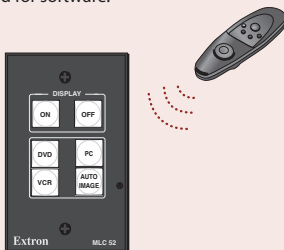
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### Three Easy Ways to Configure

The MLC 52 IR and MLC 52 RS enable integrators to choose one of three methods when configuring the controllers. When used with the supplied Windows® configuration software, installation files can be saved and used to duplicate additional MLC 52 models. The files can also be archived for later use. Installation files can be saved and used to duplicate additional MLC 52 models using the configuration port and optional CFG RS-232 configuration cable. Files can also be archived for later use.

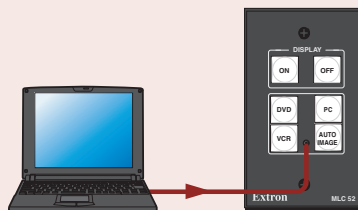
#### IR Learning

Allows the MLC 52 models to be set up directly from the IR remote without the need for software.



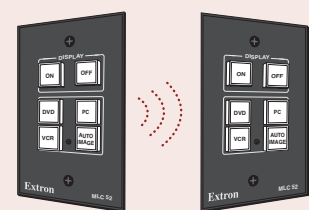
#### Configuration Port

Provides fast and simple setup using the front-mounted RS-232 configuration port and the supplied software.



#### IR Beaming

Duplicates complete configuration from one MLC 52 model to another without cables or software.





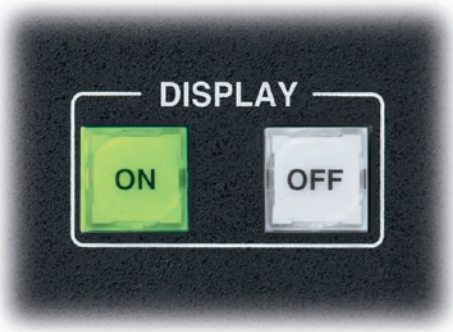
MLC 52 Series — continued

If you are controlling a projector via IR, it can be programmed without the use of software. However, IR learning relies on software for learning IR codes for each button, as well as having the capability of naming each IR function assigned to the buttons.

Configurable, Backlit Buttons

Like the MLC 104, MLC 104 IP, and MLC 226 IP MediaLink Controllers, the MLC 52 Series is equipped with easy to label backlit buttons. In addition, any of the four buttons can be configured for volume control, source selection, or other serial commands.

The four lower buttons on both MLC 52 models default to Volume Up, Volume Down, Select PC Input, and Select Video Input; however, using the setup software, both the MLC 52 IR and MLC 52 RS also allow for customized button configurations. For example, three of the buttons can be easily configured for input selection, while the fourth button could be set up for video mute or auto image. Each button can also be set up to send out multiple IR or serial commands. A button in macro mode will send



several commands with a single push of the button, while toggle mode allows four commands per button, with a different command sent each time the button is pressed. The flexibility and convenience that comes along with these configuration options makes the MLC 52 IR and MLC 52 RS indispensable within a vast array of single-projector applications.

With included text and icon labels, the front panel buttons can be custom-labeled for easy identification. Because they illuminate, the buttons are helpful for presenters in low-light environments.

Special Functions

The included configuration software is used if your controller requires advanced configuration. Advanced configuration is defined as configuring input buttons to perform other additional functions than what they are originally programmed for. This could include a switch rotation for an exclusive operation, macros, scripts, etc. Whichever way you go, the software is consistently intuitive and easy to use.

Mounting Options

The MLC 52 IR and MLC 52 RS are housed in secure, one-gang enclosures. Each model comes with both black and white high-impact plastic faceplates to match any decor.

Mounting versatility comes from a variety of mounting option accessories. Extron's SMB - Surface Mount Boxes and EWB - External Wall Boxes allow for an MLC 52 to be externally installed on tabletops, walls, and other areas in a room where mounting flexibility is necessary.

Mounting Options

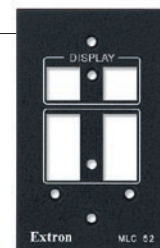
SMB - Surface Mount Boxes

Designed for the external mounting of almost all Extron architectural products including wall plates, AAP - Architectural Adapter Plates, and MLC - MediaLink™ Controllers.



MLM 52 IGWP

One-gang wall mounting kit with metal faceplate, available in black or white.



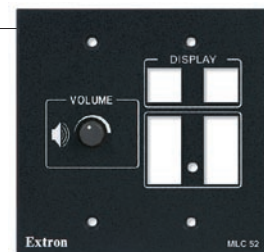
EWB - External Wall Boxes

Optional architectural solutions for externally mounted Extron products. Each external wall box is designed with enough depth 2.5" (6.4 cm) to house the wiring of a faceplate, as well as take in cable runs from a surface-mounted raceway or rear wall space.



MLM 52 VC

Two-gang wall mounting kit with an integrated volume control knob with 10k potentiometer that allows for remote volume control of an Extron MPA Series audio amplifier. With the volume control knob in place, two of the front panel control knob on the MLC 52 can be utilized for other functions.




## Extron MLC - MediaLink Controllers Line-Up

Two additional mounting options are available exclusively for the MLC 52 Series. The MLM 52 VC is a two-gang wall mounting kit that features an integrated volume control knob with 10k potentiometer that allows for remote volume control of an Extron MPA - Mini Power Amplifier. Captive screw connectors on the controller's back panel make connectivity quick and easy without soldering. As opposed to push buttons, the MLM 52 VC's rotary-style volume knob provides easier adjustment and ensures more precise volume levels. With a volume knob in place, two of the front panel control buttons on either MLC 52 model can also be used to perform other functions, such as picture mute or auto image. The MLM 52 VC includes both black and white high-impact plastic faceplates. It can also be purchased with a black or white metal faceplate.

The MLM 52 1GWP is a rugged, one-gang metal wall mounting kit designed for demanding environments. The metal faceplate is available in either black or white.

### Control Becomes Simpler

Because the MLC 52 IR and MLC 52 RS centralize universal projector control for a projector's power, input switching, and volume control, the need for multiple remote control devices is eliminated, and the flow of operations is streamlined. With the MLC 52 Series installed, there are no misplaced remotes to search for, no confusing menus to scroll through, and no dead batteries to replace. In other words, you can focus on the presentation instead of the presentation tools.

As with other MLC - MediaLink Controllers, the MLC 52 Series standardizes the control interface of an A/V system. For small classrooms and other environments that require a functional, no-frills presentation system, the MLC 52 Series fits the bill nicely. 

In addition to the MLC 52 Series, Extron offers an array of MLC - MediaLink Controllers designed to fulfill your AV system needs.

### MLC 104

The Extron MLC 104 is a simplified user interface for centralized room control. It is available in several different form factors: with AAP - Architectural Adapter Plate openings, a lectern faceplate, or as a stand-alone, customizable controller without a faceplate. Standard features include:

- Bi-directional RS-232 port for universal projector control
- Tri-color, backlit buttons – four for source selection, two for projector ON/OFF
- Inactivity timer for display shutoff
- Front panel security lockout



MLC 104

### MLC 104 IP

The Extron MLC 104 IP is also a simplified user interface. Along with the features found in the MLC 104, the MLC 104 IP includes the following:

- IPLink® Ethernet monitoring and control technology enables key asset management functions including proactive maintenance, event scheduling, remote technical support, and theft alerts.



MLC 104 IP

### MLC 226 IP

The Extron MLC 226 IP is an enhanced user interface. Loaded with all the attributes of the MLC 104 IP, the MLC 226 IP also includes the following features:

- Tri-color, backlit buttons – six for source selection, three for room control, two for projector ON/OFF
- Six configurable relays
- IR learning
- Compatible with Extron's Control Module AAP - Architectural Adapter Plates for remote control of VCRs, DVD players, and room functions such as lighting and screen operation
- Compatible with Extron's exclusive IP Intercom System for enhanced room-to-room communications and help-desk systems.
- IP Intercom provides two-way, hands-free voice communications over an IP network.



MLC 226 IP



MLC 226 IP AAP with IPI 104





## An Introduction to DVE Professional



Steve Somers,  
VP of Engineering  
Extron Electronics

Extron is pleased and excited to announce the arrival of the Digital Video Essentials Professional version. For many of you who have waited patiently for its completion, the wait is more than offset by the technical achievement behind this truly unique video production. Extron's relationship with

Joe Kane spans many of the AV industry growth years. In reality, our goals and his goals are very similar; we both believe that knowledge is a fundamental and indispensable component of any product, system or installation. Personally, I have always held Joe's standards to be among the most critical and demanding in the industry. Throughout the entire time I have known Joe, he has demonstrated an unceasing drive toward improvement and getting the most out of any format, standard or technology.

Extron Electronics is the official corporate sponsor and exclusive distributor for Digital Video Essentials Professional. DVE Pro is available exclusively from our dealers, or directly from our Web site, [www.extron.com](http://www.extron.com)

DVE Pro is not just another video test program. It represents years of design, trial, and challenge to the capabilities of existing video standards and reproductive mediums. It also represents valuable progress toward better performance among those in the industry that responded to the technical challenges put before them. The industry is better for it.

We, at Extron, saw an opportunity to assist Joe in the long process of bringing you an uncompromising product of real value. We are proud of what Joe has accomplished and are confident that you will find DVE Pro to be the best resource for video systems design and performance evaluation in existence today and throughout the continuing growth of high definition television.

*-- Steve Somers*

## Digital Video Essentials Professional DVD Set

by Joe Kane

Extron Electronics is the official corporate sponsor and exclusive distributor for Digital Video Essentials Professional. DVE Pro is available exclusively from Extron to our dealers, or directly from our Web site, [www.extron.com](http://www.extron.com).

With Extron Electronics as corporate sponsor, Joe Kane Productions has assembled a six disc set of the Professional version of Digital Video Essentials. The set provides audio and visual test and demonstration materials in standard definitions and high definition that will be useful to the design, engineering, manufacturing, program production, and AV system installation community. It will have on-going support and updates on the Joe Kane Productions web site for registered users of the program.

### Background

The initial idea for a Professional version of DVE came from Extron in conversations about the test patterns found in Video Essentials. In that 1997 DVD program we had included a number of patterns aimed at the professional market, all of which confused consumers. In planning the Digital Video Essentials program it was de-

ecided that a Professional version was in order. Our original plan was to get the Professional version out prior to the consumer version. Creating the master for DVE in 1080p HD helped us understand that the Professional version needed to include high definition test and demonstration materials, which ultimately put it behind the standard definition release of the consumer version. We experimented with the D-Theater format but found it difficult to use so we went looking elsewhere. What we found was Windows Media Video.

Since the Professional version was going to be independent, and would come after the consumer version, we spent time with Microsoft® in getting the encodes of our test materials to a level of being a proof of performance for the system. In the meantime, the test signals were used extensively in our consulting work. We had the opportunity to make sure they served a useful purpose and refined several of them from field experience.

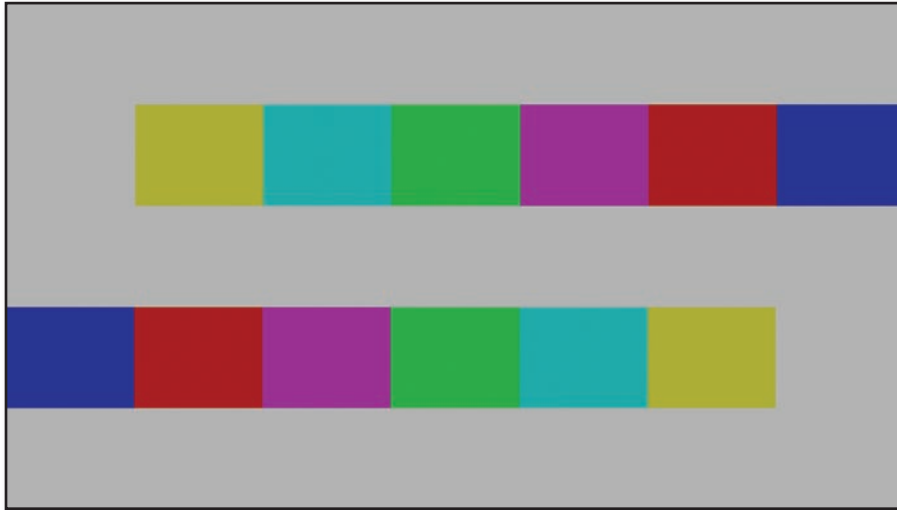
### Quality Experience

Part of the experience of DVE-Pro is the high definition demonstration materials. As much as these materials have been made available before, we've managed to improve the quality of that delivery. The resolution of the images goes right out to the limit of the system at full amplitude. We are presenting true 1920 by 1080 images where specific parts of the image test the system's capability.

In watching the images we discovered shortcomings of various parts of the video system. From that we designed test patterns that would make these flaws easily observed. These test patterns helped us point out system problems such as what we were seeing in WMV playback.







Universal Color Bar Pattern

Many of these problems had to be solved prior to making the discs available. Creating the program helped establish WMV encoding procedures for the entire industry. As with all of the test programs we've assembled in the past, this one has helped define program production capability.

On the other side of that issue, had we waited for everything to be solved the discs might still be on hold. We did leave a path open for purchasers of the program to obtain updates, so registering your purchase on the DVE web site is important. DVE-Pro provides a ROM update path. Access to it can be found on the PAL test pattern disc. Instructions are included with the package about how to register.

### Full Compliment of Materials

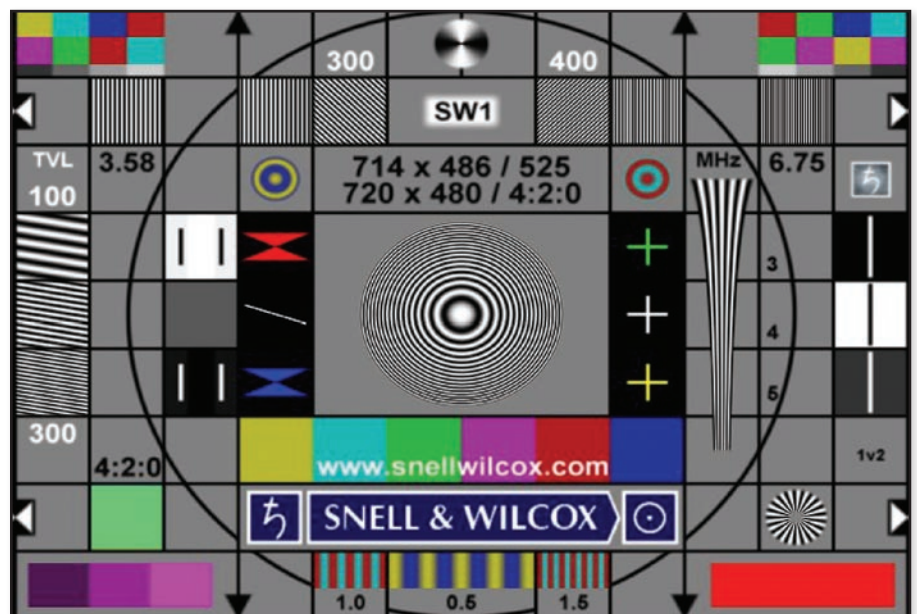
What does the Professional version of DVE offer that is important to the specialist video world? One of the most important things it brings is continuity in test patterns across the NTSC, PAL and HD 720p and 1080p formats. While the majority of test patterns have been assembled for each format, the parameters being tested, and the method of use are the same among the formats. No longer do you find yourself having to learn a separate set of patterns for each format.

In high definition, materials are encoded in both the ITU Recommended Broadcast Television formats of 601 and 709. The difference between these two formats is not well understood in the consumer product manufacturing industry and therefore occupies a significant position in our testing capability.

The two documents, ITU-R-BT601-5, and ITU-

R-BT709-3 in part describe how gamma and color corrected red, green and blue signals get converted to Y Cb and Cr digital component digital video. The 601 specification provides the formula for standard definition signals and the 709 specification is for high definition signals. The two are different and much of the consumer display industry has missed this point in building receivers. Most of them have continued to use the standard definition formula for high definition. Because of this we've provided high definition signals encoded to the standard definition format. More important, we've provided split field test signals and demonstration materials in both formats to make inspection for decoding much easier to accomplish.

As much as we are trying to encourage proper decoding of video signals, the error of decoding HD, using a 601 decoder, has been going on for at least seven years. We therefore felt it was necessary to provide a full complement of 601 encoded HD materials so that an accurate assessment could be made of existing circuits. This is not an endorsement of the error but an accommodation of



Detecting the Chroma Bug

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DVE Pro —continued

an existing set of circumstances. Our hope is to make this error obvious enough so that it will be fixed in future products.

Find System Errors Quickly

There is another important purpose of DVE-Pro: make system errors obvious and more easily understood. The 601 versus 709 encoding and decoding is just one issue. The issue of the chroma bug in MPEG decoding has existed since the format came out in 1997. While it's difficult to detect in normal program material it makes a difference in day to day viewing. Fixing the chroma bug is like removing noise from the picture, it's much easier to watch when it's gone. We've found a way to make the chroma bug obvious so that no manufacturer will miss it.

We've become concerned with overscan issues, especially in high definition. These new patterns help us easily spot what's

happening and attach numbers to what's going on.

Updates Available

In the ROM update we've already posted a number of 25 Hz test signals in Windows Media Video, both 720p and 1080p, for the PAL HD formats. There will be updates to WMV encode capability, where you'll be able to see where progress has been made with their capability. We also hope to represent H.264 capability in the near future with the same source materials. This support will be ongoing for the existing product for registered users of DVE-Pro.

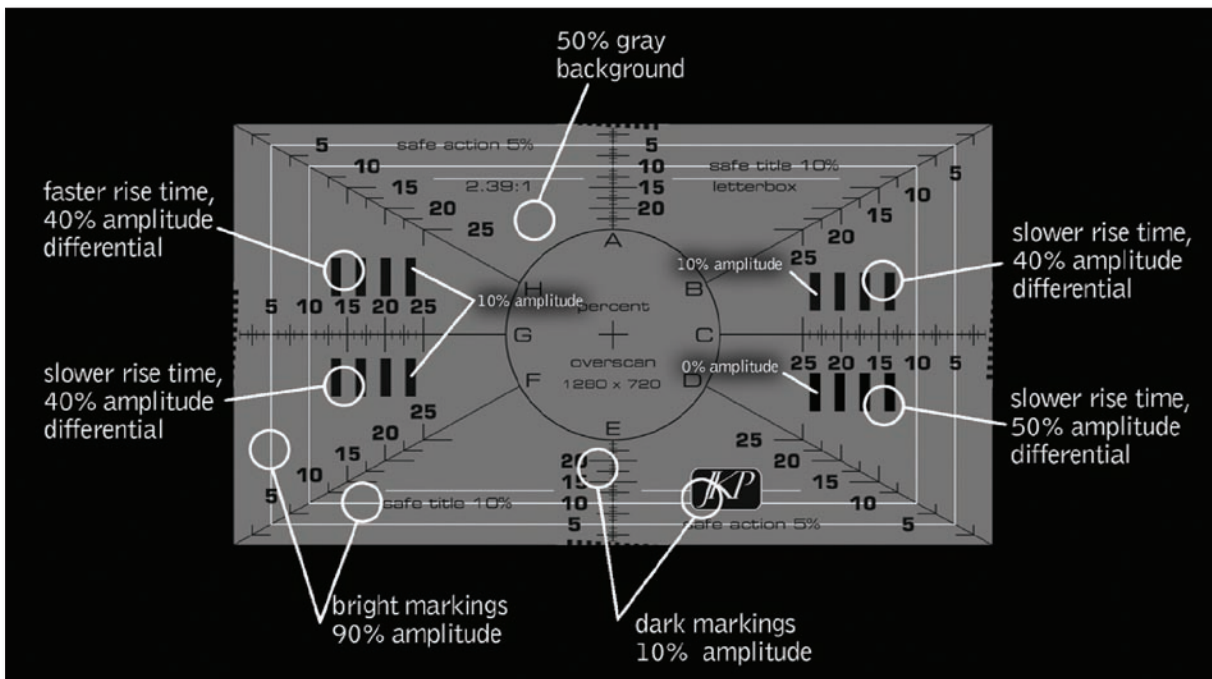
Wide Range of Test Patterns

The test patterns in the set are designed for a number of video applications. These include materials that are specific to video signal path analysis, video processing and conversion from one format to another, and analysis of display capability.

MPEG-2 encoding issues are being explored in the two standard definition test signal discs. We've included patterns that show obvious encoding errors to help with an understanding of what can go wrong. We have hopes that it will help with expectations of current high end encode capability such as H.264 and Windows Media Video.

Essential for All Video Techs

The intended audience for the Professional version of Digital Video Essentials is video equipment manufacturers, system installers, people responsible for analyzing the quality of video products, codec systems analysis, computer video playback applications, and those interested in learning lots of details about video. Its content has already been used to design and develop several unique display products currently on the market. It is currently being used in the design of new media players, including future DVD players.



Elements in the Overscan Test Pattern



## AOL Headquarters' In-House Digital Signage Gets IP Linked



America Online, or AOL, is a world leader in interactive services, Web brands, Internet technologies, and e-commerce services. Yet, when they wanted to share news and information with employees at their Dulles, VA, campus-style headquarters, they printed up posters, flyers, and banners and distributed them with the hope that the message would get out. Along the way, they recognized the flaws in this process: the high cost of printing, distribution, and time delays in delivering information, the limited impact the messaging apparently was having, and the fact that the company's hallways were cluttered with posters, flyers, and banners.

For an organization whose business revolves around the digital exchange of information with and between millions of customers, AOL themselves recognized the irony in circulating hard copies of interoffice communications. Once the decision was made to develop an internal video network that would reduce most, if not all, of the printed materials used to disseminate news and information, AOL had fully embraced a digital signage solution.

All it took was a call to Professional Products, Inc., PPI, a full service AV contractor based in Gaithersburg, MD., to put their plan into action.

### Spreading the Word

To effectively communicate news and vital information to AOL employees, it was determined by both AOL and PPI that 10 displays consisting of four 42-inch plasmas and six 50-inch plasmas would be placed at strategic points within the six-building campus. An eleventh 50-inch plasma was also installed at the Reston Tech Center, an off-site AOL facility.


### IP Link® and GlobalViewer™

Behind each plasma, PPI installed an audio amplifier, SDI receiver, and the Extron IPL T S2 Two Serial Port IP Link Ethernet Control Interface. The IPL T S2 is used for basic control and monitoring purposes, such as turning the plasmas on and off, as well as adjusting the volume. Rick Winde, Director of the Professional Sales Group at PPI, says the IPL T S2 was selected because it was "cost-effectively, the best solution. We've had success with this product in other installations, such as airports."

Each IPL T S2 on the network was configured to perform the assigned functions via Extron's free GlobalViewer software. As it stands, GlobalViewer software works in concert with the IPL T S2 and allows the AOL Help Desk to manage, monitor, and control all of their plasmas over their IP network.

According to Winde, all AOL's digital signage is on a closed circuit internal video network that draws a majority of its content from a high-end broadcast graphics generator. This, in turn, feeds the plasmas with SDI video and embedded audio over existing fiber-optic cable.

Content consists mostly of graphics and animation featuring AOL products, various corporate communications, internal birthday announcements, live clips from CNN, and a streaming ticker at the bottom of the screen with news items, sports scores, stock quotes, and weather reports.

The lobbies of AOL are no longer dotted with outdated fliers and posters on easels. With the dynamic and clean nature of digital signage, supported by the behind-the-scenes control and management offered by IP Link and GlobalViewer, the expense and aftermath of producing these and related materials have been eliminated. When asked what the response at AOL has been to the colorful and attention-grabbing plasmas, Winde offers up a simple appraisal: "They absolutely love them." 



Above: The Extron IPL T S2 Two Serial Port IP Link® Ethernet Control Interface is used at the AOL facility for basic control and monitoring purposes.

### For Additional Information

America Online  
[www.aol.com](http://www.aol.com)

Professional Products, Inc.  
[www.professionalproducts.com](http://www.professionalproducts.com)



## Champlain College: New A/V Systems Foster Student Collaboration



Established in 1878, Champlain College is a private, nonprofit college in Burlington, VT. The school's S.D. Ireland Family Center for Global Business and Technology is the latest addition to the sprawling campus — a \$10 million structure with high-tech classrooms, multimedia suites, a market research and strategy room, focus group room, international business resource center, and various conference rooms. “This building brings together our creative, entrepreneurial, and technically-savvy students with Vermont’s business and non-profit community,” said Dr. Lynne D. Ballard, chair of Champlain’s business administration division.

### Standardized Classrooms

To meet the high expectations set forth by Champlain’s administrators, Milton, VT.-based Geer Sound and Communications, the school’s audio-visual integrator for the past four years, was contracted to set up 10 rooms consisting of eight classrooms and two computer labs in the new building with cutting-edge A/V systems. Geer turned to Extron to outfit the new rooms.

That decision was largely based on the fact that the Extron MediaLink™ System has already been selected as the standard for other Champlain classrooms with basic A/V capabilities. As a result, identical MediaLink Systems — consisting of the MLC 206 MediaLink Controller, MLS 406MA MediaLink Switcher, and various AAP - Architectural Adapter Plates— were installed in the eight classrooms of the new, three-story building.

“We have used Extron equipment in a variety of multimedia podiums across campus and have been very happy with the performance, reliability, and ease of use,” said Paul Dusini, Champlain’s Director of Information Systems.

Housed in a multimedia lectern with a built-in rack, each system accommodates composite video and audio signals from a combination VCR/DVD player and

computer-video signals from a PC. There are also A/V system and network connection points on the lectern’s surface so instructors can attach their laptops. Audio signals are fed through the MLS 406MA’s integrated mono audio amplifier and output to two ceiling-mounted speakers for distributed sound, while video signals are output to a ceiling-mounted, LCD projector with 3300 ANSI Lumens and a native XGA 1024x768 resolution.

“The MediaLink System is easy to use and self-explanatory,” said Arnie Ginsburg, Technical Sales Consultant for Geer. “A professor can walk into any one of the classrooms and understand how to operate the equipment quickly with the least amount of effort.”

### Computer Labs

The two computer labs’ A/V systems differ greatly from the classrooms. According to Dusini, the idea behind the labs was to “create an environment where students can work in teams and easily share information or present content with other class members and the teacher.”

With that concept in mind, preliminary drawings were created by Ann DeMarle, Program Director for Multimedia, Graphics Design, and Electronic Game and Interactive Development at Champlain. From there, Ginsburg, along with Geer’s Chief Engineer Steve Clark and General Manager Jeff Trombley, assembled an intuitive, user-friendly system that embodied the school’s vision.



Above: The computer lab lectern includes a touch-screen, computer monitors, and an Extron Cable Cubby 200. Left: Classroom system control and connectivity are easily accessible using the MediaLink Controller.





Above: The Extron TPX 88 A Twisted Pair Matrix Switcher with Audio was chosen due in part to the very limited space available.

Left and below: Champlain's computer labs were built to create an environment where students can work in teams and easily share information.

Each lab is equipped with 30 Macintosh G5 computers. Instead of the obligatory rows found in most labs, the G5s are organized into separate pods. Each pod consists of five computers, allowing a group of five students to engage in collaborative projects, which can then be shared with the rest of the classroom via a main lab LCD projector. Four of the five computers are also routed through a display processor that outputs a four image, high resolution quad split onto a local, 40-inch LCD wall monitor stationed near each pod.



At the instructor's lectern, there's a touch-screen control system with two computer monitors for previewing and viewing and an Extron Cable Cubby 200 Surface-Mountable Enclosure for connecting a laptop to the network.

The school wanted the two labs to offer a wide range of switching options by enabling the images from any of the 30 computers to be distributed to any of the 40-inch LCD wall monitors, as well as the main lab LCD projector. Conversely, the instructor needed the ability to view images from any computer in the room on the lectern preview monitor, and then switch over the images for viewing on any one or all of the LCD displays.

Space in the labs was a premium, so there was little room for bulky equipment closets or cable runs. After careful assessment by Ginsburg and Clark, it was decided that the Extron TPX 88 A Twisted Pair Matrix Switchers with Audio, as well as various Extron twisted pair transmitters – the VTT001 and TP T 15HD A, receivers – the VTR001 and TP R 15HD A, and Enhanced Skew-Free A/V UTP Cable, fit the bill.

"They simply didn't have the room for standard five-wire RGB cable and matrix switching processing products," Ginsburg explained. "Because of their small size, the twisted pair products eliminate the need for an equipment closet."

According to Ginsburg, a TPX 88A twisted pair matrix switcher, display processor, and twisted pair transmitters and receivers are all installed underneath a three-inch wide black bezel, vertically positioned between black metal mesh in the center of each pod.

To summarize how well the twisted pair products have worked out, Clark asserted an astute observation: "It's like a putting 100 pounds of switching within a 10-pound space."

Each lab is also equipped with an Extron DVS 204, a four input digital video scaler. Ginsburg says the scaler is used for converting signals from a mini DV/SVHS combo player for high resolution display on the LCD monitors and projector.



Extron Enhanced Skew-Free Cable

continued on page 14

Champlain College — continued

IP-Enabled

At various locations in the building's hallways are five 40-inch LCD wall monitors for displaying schedules, news, and graphics. There are also two plasma monitors in the building's lobby. Here, Geer utilized additional Extron twisted pair transmitters and receivers, as well as Extron IPL T S4 Ethernet Control Interfaces.

At Champlain, the IPL T S4s are presently being used for basic remote control and monitoring. Ray Bergeron, the school's Media Services Operation Manager, essentially acts as the gatekeeper, working the helpdesk and remotely providing support via Extron's GlobalViewer™ software, a free Web-based asset management and control application designed specifically for IP Link® interfaces such as the IPL T S4. GlobalViewer enables asset management functions including proactive maintenance, event scheduling, remote technical support, and theft alerts.

"We're able to control our monitors by scheduling on and off times," Bergeron said. "It saves energy and we don't have to worry about screen burn-in with the plasmas."

Eventually additional IP Link products will be installed in the classrooms and labs to monitor the projectors and LCD panels there. "As our campus becomes more technologically savvy, we're going to need these," Bergeron added.

Dusini cites the benefits offered by the IPL T S4s as not only offering centralization and security to the systems, but to "allow greater flexibility and power."

Simple To Use

The MediaLink Systems in the basic classrooms and twisted pair systems in the computer labs and hallways are all garnering positive accolades at Champlain College. Simple to use and ready to go, teachers and students alike have easily adapted to the interactive, collaborative nature that each system provides. Dusini said, "The instructors hit the ground running," while DeMarle added, "The students find it easier because they're so digital."

From the perspective of the integrator, Ginsburg has "heard nothing but kudos from the folks at Champlain. They are pleased as punch."



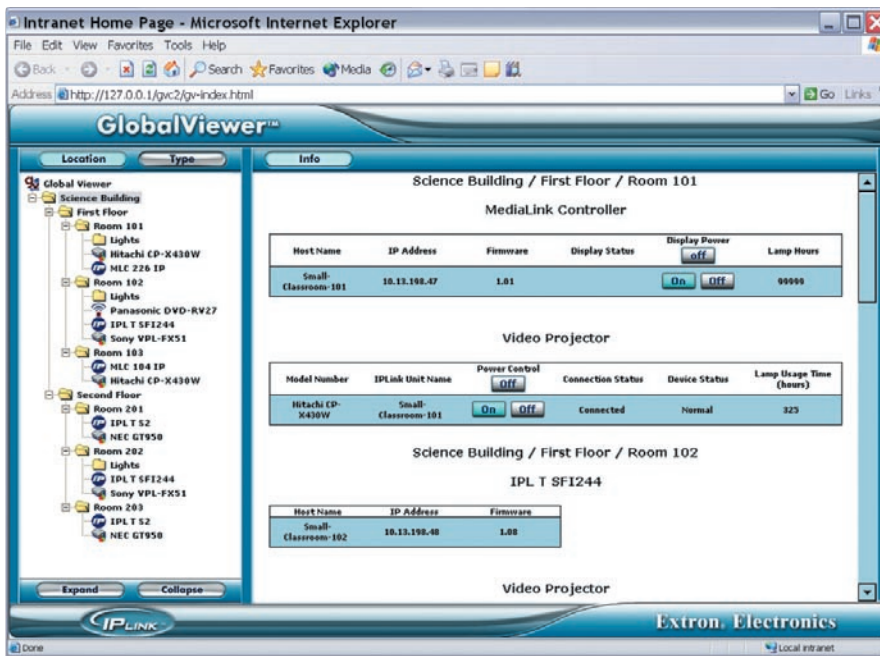
IPL T S4  
Four Serial Port IP Link  
Ethernet Control Interface

To build on the momentum, Champlain College is looking at ways to spread AV capabilities to other areas of the campus. "We're finding that even the history classes want to use the labs," DeMarle remarked. "As this generation is coming up, more and more students are using video."

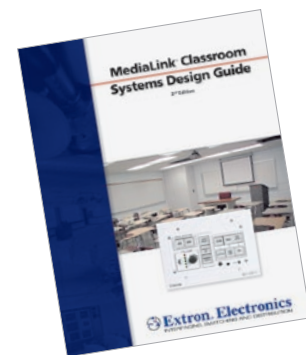
For Additional Information

Champlain College  
www.champlain.edu

Geer Sound and Communications  
www.geersound.com/



Extron's GlobalViewer enables asset management functions including proactive maintenance, event scheduling, remote technical support, and theft alerts.



Extron recently released the "MediaLink Classroom Systems Design Guide" as an educational resource that provides practical insight into the fundamentals of classroom and conference room AV system design. Please see page 26 for more information about this free guide.



by Steve Somers, Vice President of Engineering



## DVI and HDMI: The Short and the Long of It

Most DVI input cables for computer monitors are two meters long just like the typical analog VGA input cable. In our world of systems design, two meters is too short. For AV digital interfaces to become commonplace, the norm will not be these simple, desktop hookups. Systems designers and integrators require long run distance capability just as they possess with analog signals. HDMI promises to extend the digital interface connection distance while providing additional, integrated signal support. Haven't heard of HDMI or, perhaps, not sure how it fits with DVI? The thrust of this article is to bring into focus the primary advantages, or disadvantages depending on your point of view, of HDMI, the digital High Definition Multimedia Interface.



DVI, or Digital Visual Interface, is designed for point-to-point connection with the plug-and-play concept in mind. Basic DVI only supports the computer video graphics interface... no audio interface, copyright protection, or any other feature set. While the DVI chip set has evolved to support audio and security, the physical size of the interface connector does not lend itself to system installations and consumer convenience.

### DVI to dvi?

HDMI encompasses the original DVI electrical interface topology known within the electronics industry as TMDS, or transition-minimized differential signaling. Consider HDMI as a superset which includes DVI along with digital audio support at many rates including surround sound, copyright protection, and consumer control—all packaged into a connector about half the physical size of the original DVI connector. Perhaps DVI should now be referred to as dvi? The HDMI consortium, [www.hdmi.org](http://www.hdmi.org), formed in 2002 and released the initial specification that same year. In 2004, version 1.1 of the specification released. Refer to Figure 1 for HDMI basic performance parameters. The

notion is that the HDMI is the consumer electronics single interconnect solution which compacts all needed electrical interfaces into one small package consumers consider easy to use, for example, one cable and Hollywood content protection pundits will endorse. Certainly, a smaller connector is better from a systems installation and integration point of view. HDMI utilizes a new, smaller 19-pin plug for single link DVI, or 29-pin plug for dual link DVI. As actual implementation scenarios unfold, I expect that the new HDMI connectors will most likely stay at the source or destination as short I/O patch cables; and not have as much practical impact on the ability of systems integrators to install HDMI distribution. We'll look at that a little later.

Most devices will only need the single-link DVI type support. As we'll see later, the single link solution supports most computer graphics rates people use along with all the popular digital television formats, including HDTV. In addition, HDMI supports more than just a point-to-point connection. This will be described shortly.

HDMI physical connections require precision shielded twisted pair cable. A cable is comprised of four shielded twisted pairs—one for the source clock signal and three for digital data—along with five individual wires for power, sub-communication functions, plus a ground reference for those functions. Dual link HDMI connections require the aforementioned plus three more STPs for additional TMDS data channels. HDMI

### HDMI Basic Performance Parameters

- ✓ Performance:
  - DVI compatible
  - Single link: 25 – 165 MHz
  - Dual link: to 330 MHz
  - Upward of 5 Gigabits / second speed
- ✓ Simple, plug and play connection
- ✓ Only one cable required
- ✓ Integrated video, audio, and content protection
- ✓ High level consumer control
- ✓ Improved run distance

Figure 1.





## Technically Speaking — continued

still requires the same encoding, speed, and data management protocol as DVI.

HDMI supports both computer graphics and digital television formats. For DTV support, the reader is encouraged to read EIA/CEA 861B, which describes the widened scope of HDMI to include support for digital television and control features along with the traditional expectations for computer graphics support. A single-link HDMI has sufficient data bandwidth for all versions of SDTV and HDTV. It will support up to 1080p, 60 Hz. For computer graphics rates beyond 1600x1200/60 Hz and 1920x1080p/60 Hz, a dual-link system is needed. Refer to Figure 2 for a listing of the video and audio support.

### Promises in the Distance

Have you heard that HDMI promises longer cable length than DVI? Curiously, both the DVI specification and the HDMI specification contain the same electrical performance requirements between the source and the sink, or receiver. So, how is it that HDMI connectivity is promoted to work at up to 75 feet (23m) versus the nominal 16.5 feet (5m) for the basic DVI? The answer is that the industry is learning how to make better cables for this type interface technology. Better cable manufacturing methods for precision shielded twisted pair cable coupled with consumer electronics volumes will make longer, low-cost HDMI cables a reality.

Run distance becomes critical due to particular timing tolerances that must be maintained within the DVI/HDMI specifications. Aside from the transmitter and receiver requirements where consistency should be straightforward, the cable becomes the largest variable affecting performance in the transmission system. Twisted pair cables, which DVI/HDMI uses, are subject to two types of skew which, when excessive, create timing error and cause data dropouts. These parameters are: intra-pair skew, with time differential between the two wires making up the pair itself, and inter-pair skew, with time differential between separate twisted pair lines within the cable assembly.

## SUPPORTED VIDEO FORMATS

- DTV Formats – EIA / CEA 861B**
  - SDTV – NTSC & PAL, EDTV & HDTV
  - Interlaced 480i to 1080i
  - Progressive 480p to 1080p at 60 Hz, 1 link
- Computer Formats**
  - VGA, SVGA and XGA, up to UXGA
  - Wide PC formats
  - Any VESA or vendor-defined format

## SUPPORTED AUDIO FORMATS

- Compressed Audio Formats**
  - Dolby
  - DTS
- Uncompressed Audio Formats**
  - Up to: 8 channels, 192 KHz, 24 bits
  - DVD audio
  - CD-quality audio at base level
  - 2-channel, 16-bit at 32, 44.1, or 48 KHz

Figure 2.

Figure 3 on the following page shows the skew time budget for all the components in the system, including the cable. Note that the total allowable intra-pair skew is only 0.8 of a bit cell, or about 4.8 picoseconds. Inter-pair skew may not exceed 1.20 times that of a pixel, or about 7.2 nanoseconds. Another parameter of high importance is far-end crosstalk, or FEXT. With STP, this is normally very low, but significant care is required at the receiver termination point. At least 5 – 6 dB of margin between cable loss and FEXT must be maintained for reliable operation.

From these small allowances, it should come as no surprise that cable construction for DVI and HDMI is of paramount importance. Typical inter-pair skew within a category 5 style cable is easily greater than 7.2 nanoseconds; but, in that cable, skew is introduced to minimize

crosstalk. De-skewing data within networks is the burden of the data receiver. But, what about run distances past 75 feet? Certainly, a better solution is needed than even what HDMI promises. Read on.

### Arrest Fear, Not Pirates

HDCP is an acronym for High-Bandwidth Digital Content Protection, which is another subsystem of the HDMI. Released in 2000 and mapped directly into the DVI, HDCP provides data security for the interface and, hopefully, arrests the piracy concerns of digital content providers.

HDCP protocol is implemented partly via a two-way communication link within the I<sup>2</sup>C control interface used by the DDC Data Display Channel and the high speed TMDS connections used to



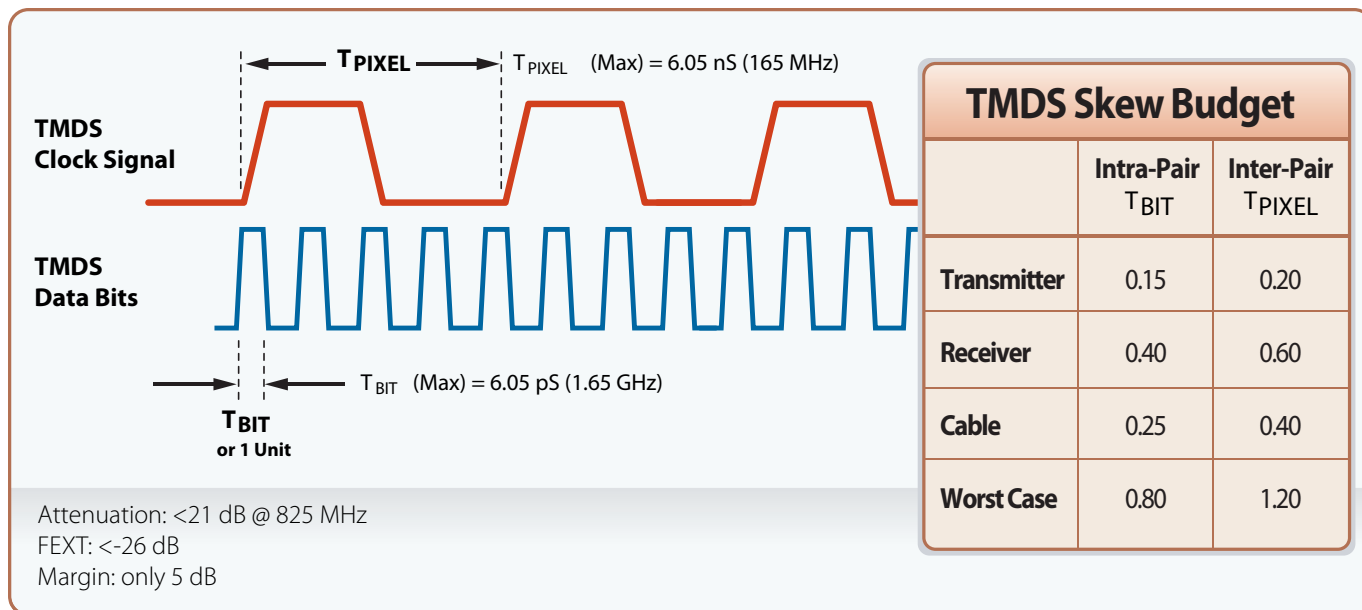


Figure 3.

deliver image information. The DDC is the existing link in the DVI where the source graphics system communicates with the display device to determine its resolution capabilities.

HDCP is robust and rivals the complexity of TCP/IP SSL, or secure socket layer, used for internet security. An authorized HDMI device will contain forty 56-bit secret key values along with a special identifier called the key selection vector, or KSV for short. These values, or codes, are provided by Digital Content Protection LLC, the designated third party set up to provide trusted keys to HDMI-licensed product manufacturers. Each time an HDMI device is connected in a system, a three-part authentication routine automatically occurs. First, shared values, or codes, between devices are exchanged; second, the KSV of each receiver is reported to the source; third, frame-by-frame ciphers are sent to the receivers that enable data decoding.

Referring to Figure 4, HDCP supports interconnection of devices via a hierarchy of sources,

sinks, or receivers, and repeaters. All devices in an HDCP system communicate through a protocol designed to allow digital content to travel only to those devices which the source determines have the authorization to receive such content. The hierarchy supports seven levels of repeaters and up to a total of 128 devices. Repeaters only pass HDCP protocols two ways between sources and receivers without acting on data. However, the source must authenticate a repeater to be sure it is authorized to handle secure content traffic.

### Control, Yourself

Through EIA/CEA 861B, there is a whole new frontier of optional control capability embedded within HDMI for the consumer, as well as us A/V systems types. The embedded Consumer Electronics Control, or CEC, system currently provides fourteen functions that orchestrate plug-and-play control among consumer products. The CEC function is handled via a separate wire connection within the HDMI and contains its own protocol and quality of service, or QoS.

For example, in an installation where all devices use the HDMI, its daisy-chain connection methodology may connect a DVD player through an A/V tuner/receiver to a television set and, thereby, provide the consumer the ability to seamlessly turn on all downstream devices from the DVD player, signal them to switch to the appropriate input, and launch the movie by simply pressing the PLAY function on the DVD player. The concept of CEC is simple, but the level of effort to implement all the functions in the HDMI is significant; although CEC implementation is optional. This notion leads to the requirement for some form of interoperability testing.

### Can You Say: Interoperability?

In order to promote consumer confidence and device compatibility, HDMI adopters are bound by the compliance agreement which requires successfully passing specified interoperability testing before a product may bear the HDMI logo.

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Technically Speaking — continued

The Authorized Testing Center, an independent organization, performs the initial product compliance tests for products within the designed product categories. Within the HDMI specification, a product falls into one of the following base categories: sink, source, repeater, or cable. Once tested by the ATC, all succeeding products of the same category may then be tested and self-certified by the manufacturer of the product. Compliance to interoperability within the HDMI specification is mandated.

Life Past 75 Feet

Yes, for you system designers, there is HDMI life past 75 feet. Be on the lookout for new HDMI/DVI interface products that essentially double or quadruple the run length. A new world of interface components has been developed to take advantage of cheap UTP network cable. Runs to about 150 feet are now possible for both single link and dual link DVI and HDMI connections. The typical single link solution requires two runs of UTP: one for the video data and the second for all support communication functions. Even with two cables, it's cheap at twice the price. Just add a third UTP cable for the second link as long as your interface device supports dual link functionality.

For the really distance-challenged, several relatively low cost fiber-based solutions allow run distances to about 300 feet. Some of these laser diode-based interfaces are kept in the low cost realm by fixed connection of the fiber to the interface plug assembly. These solutions are



### HDCP Interconnection Hierarchy

- Protects transmission between host & receiver
- Two-way communication handles authentication
- Repeaters are products handling downstream connections
- System allows 7 levels of repeaters & up to 128 total devices

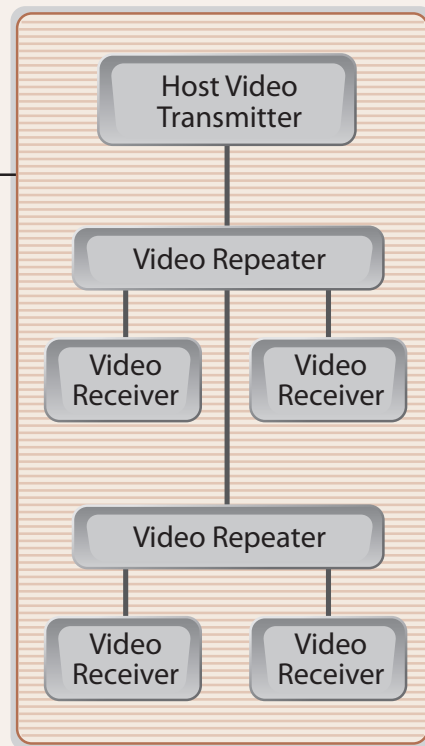


Figure 4.

not very installer friendly for runs requiring conduit, but may work out in scenarios where the fiber cable may run unprotected. Slightly more expensive solutions utilize the typical ST or SC fiber cable connectors for simple, reliable connections and installation within raceways and conduits using the fiber cable of your choice.

New Acronym to Learn: DBW

If you haven't already noticed this in the Sunday newspaper ads, take a close look at the detailed pitch for new flat screen televisions and rear projection DLP/LCD sets. Most now have HDMI inputs. Potential customers probably don't know what HDMI stands for, but it sounds important. To the customer, some ads pitch digital simplicity, one cable connection, and ultimate picture quality. So, for our industry, here's a new acronym for you... DBW, the "Digital Band-Wagon".

Digital interfacing has come full circle from the days of CGA/EGA graphics but with a completely new foundation streamlined to handle a lot more information and features than just the video image. It's here to stay; so we, that is, you and I, must embrace it and find ways to make it work for us in A/V systems design. It's time to get on the Digital Band-Wagon or be left behind.

For Additional Information

HDMI Organization – specifications download: [www.hdmi.org](http://www.hdmi.org)

DVI Specification – download: [www.ddwg.org](http://www.ddwg.org)

TMDS Information: [www.siimage.com](http://www.siimage.com)

Video Electronic Standards Association: [www.vesa.org](http://www.vesa.org)



## New Emergency Operations Center Ready for Ill Winds and Other Disasters

Escambia County Florida, located on the Gulf of Mexico in the state's panhandle, has a long history with disasters. In 1559, the area was site to the first attempt at European colonization in Florida. Unfortunately, a mere 35 days after establishing an encampment, a hurricane roared through and destroyed virtually everything, killing a large number of settlers in the process. The remaining colonists soon fled to Mexico, abandoning the Gulf Coast for a later date. Proving this was no fluke storm, another hurricane wiped out another colony of settlers in 1722.

Despite its rather dubious beginnings, Escambia County eventually took hold and flourished. Today, it is a vibrant area offering everything from beaches to city life to lush farmlands. And, it still plays host to an occasional hurricane, only now its nearly 300,000 citizens are much better prepared to handle any emergency or disaster that comes their way.

Much of this readiness is due to a new \$12.5-million Public Safety facility that opened in November 2004 in the county seat of Pensacola. In this one location, a plethora of emergency services workers, such as police, fire, medical, 911, and public works personnel, among others, can gather to centralize and coordinate their activities in response to any catastrophe.

### The Setup

At the heart of the new facility is a sophisticated \$650,000 AV system that includes a number of Extron products in key applications. The design was done by Chuck Walthall and David Ebbert of Walthall & Associates, Inc., Pensacola. Installation was performed by Dallas, TX-based The Whitlock Group Command and Control Group. Keith

Kavanaugh and Todd Hamilton served as engineer and project manager, respectively.

Walthall & Associates met with County Public Safety Officials on several occasions to discuss the project. "It was important that we understood the procedures and operations needed in the time of an emergency," commented Ebbert. "Knowing what information and displays the county used in their briefings helped us design a system that would accomplish the mission of this department."


Walthall & Associates established the following goals:

- Give the Public Safety and Emergency Operations Center, or EOC, officials access to all the information possible in order to make timely decisions for the citizens of Escambia County
- Provide a large screen presentation system for the EOC
- Use technology to ease manpower requirements

- Have all video and audio signals ready for use at any connected point
- Produce 12 in-house CATV channels with assignable input content
- Provide outside media as well as the local cable TV company with audio and video feeds

"The facility's EOC is set up with 14 workstations at which groups of six to eight people can work," said Ebbert. "In an actual emergency — like a hurricane — they would be viewing a variety of material, such as satellite imagery, weather and radar imagery, mapping information, and aerial photography, as well as taking part in PowerPoint® briefings and teleconferencing sessions. Needless to say, the system is required to do a lot of routing, switching, scan converting, and scaling."

Anyone working in the EOC can monitor information shown on the multiple displays located throughout the room. These include a 201-inch video wall comprised of a 3x3 array of

continued on page 20 







Escambia County EOC — continued

Right: The new, open-design EOC features 14 workstations, a 201" video wall, twelve 42" plasma monitors, six ceiling-mounted speakers, and two suspended LCD video projectors. An Extron Matrix 6400 matrix switcher is used to distribute the various video and audio signals to displays throughout the facility.

Below: Escambia County's Emergency Operations Center activities were previously held in a small, cramped room.

BEFORE



67-inch diagonal screens, twelve 42-inch plasma monitors, and two additional combinations of electric screens and 3700 lumen LCD XGA video projectors.

Scan Converting and Scaling

To convert the computer-video signals such as PowerPoint presentations, maps, weather imagery to video for media outlets, teleconferences, and distribution to external parties, a bank of Extron VSC 500 Scan Converters is used.

Ebbert said one of the principal reasons the VSC 500 was chosen is because of its easy setup. An Auto-Image™ setup function automatically adjusts the centering, sizing, and filter settings. It also offers memory presets and a buffered loop-through for local monitor output.

"Due to the video router switching XGA video only, not all sources are run through a scaler," Ebbert explained. "This gives us composite video output signal control and the best video information possible. Using the VSC 500s also reduces the likelihood of an official having to make setup changes on the fly; hence, we're using technology to reduce manpower."

AFTER



To convert the computer-video signals such as PowerPoint presentations, maps, and weather imagery to video for media outlets, teleconferences, and distribution to external parties, a bank of Extron VSC 500 Scan Converters is used.

Extron DVS 204 Digital Video Scalers combine the EOC's multiple video and computer-video sources into one RGBHV switching system. The units incorporate the latest in high performance and proprietary scaling technology with the input flexibility essential for the Center's needs.

Once all signals are converted to RGBHV, only a single RGBHV cable connection is needed to carry signals to the displays, greatly simplifying installation, signal distribution, and operation. With 59 selectable output rates, including HDTV, the DVS 204 easily displays the myriad of video sources that are at the Center's disposal.

Since the EOC uses both still and RGBHV signal sources, the DVS 204's Dynamic Motion Interpolation, or DMI™, is very practical, as it delivers the best aspects of still and motion algorithms, resulting in superior image enhancement with no loss of image fidelity. Exclusive Extron AFL - Accurate Frame Lock™ technology locks the output frame rate to the input frame rate, eliminating any glitch or image freeze that is often associated with video scaling.

With numerous sources and displays in the

EOC, signal routing was crucial. For that, a fully configurable wideband Extron Matrix 6400 matrix switcher was selected. Configured at 32 x 48, it is capable of easily distributing the various RGBHV video and mono audio signals to displays spread throughout the facility.

"The Extron Matrix 6400 is perfect for our needs," commented Ebbert. "It is compatible with any video or audio source material that would be used, from composite video up to HDTV and RGBHV, as well as balanced or unbalanced audio."

He expounded, "This one room has seven dedicated TV tuners, six additional VCRs that double as TV tuners, three VCR/DVD combos, a room camera, a document camera, an emergency feed that will take over the local access television channel, 12 computer stations, weather radio feeds, and weather radar feeds."

In addition to the displays and audio destinations mentioned, there are 12 RF modulators that feed information to other locations in the building where there are televisions. Ebbert explained that the Matrix 6400 handles all of this and that each unit is modular, so there is room to expand when necessary.

An adjacent windowed media room allows reporters to observe what's happening in the EOC. The Matrix 6400 and VSC 500s supply the room with five composite video and audio feeds, distributed



with 1x6 video and audio distribution amplifiers. The room can be used for news conferences or as an origination point for announcements to the community.


**Twisted Pair Products Deliver**

“A separate Training Room accommodates 50 to 100 individuals,” stated Ebbert. “We equipped it with an LCD XGA video projector and electric screen; ceiling-mounted speakers to distribute audio; and a presentation system processor that serves as a presentation computer, video switcher, and remote control panel.”

Extron TP T 15HD A and TP R 15HD A Twisted Pair RGBHV and Stereo Audio Transmitter and Receiver are used to send output signals from the Matrix 6400 switcher to the Training Room.

“Due to the long haul, we chose a twisted pair solution to feed the training room from the router,” said Ebbert. “The budget was extremely tight, so instead of using super high resolution cable and a line driver, the twisted pair solution - consisting of the twisted pair transmitter and receiver along with Extron’s UTP235F-4 Series Skew Free AV UTP Cable - delivers the same quality image as well as cost savings.”

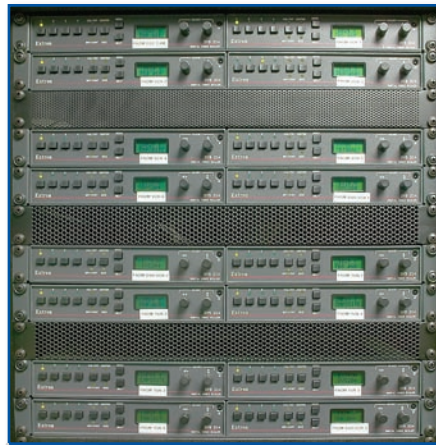
**Links to the Past**

The technology used in the new Escambia County Public Safety facility will proactively enable the county to provide better management and operation services during future crisis situations. However, the building does have several links to Escambia’s heritage. One was Hurricane Ivan. The 2004 Category 3 storm struck Pensacola during the building’s construction, stopping all work on the project for several weeks. Although the new facility fared much better than the early settlements and came through virtually unscathed. Another was the first public event held in the Emergency Operations Center — a speech by Florida Governor Jeb Bush officially marking the end of the 2004 Hurricane season. 

**For Additional Information**

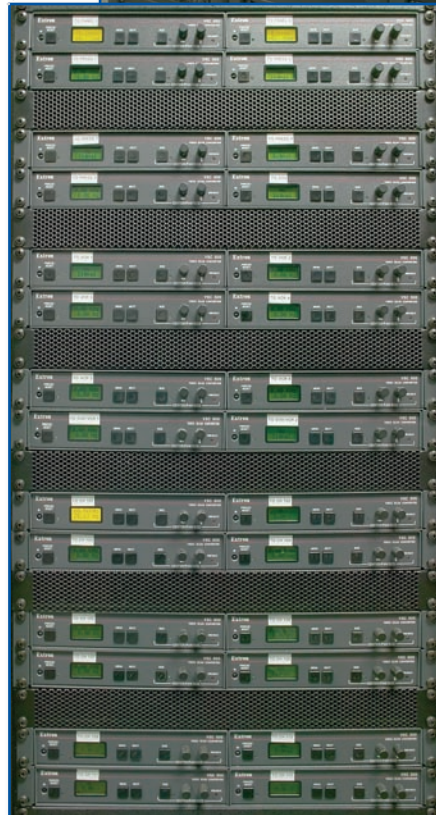
**Escambia County Department of Public Safety**  
[www.escambia-emergency.com](http://www.escambia-emergency.com)

**Walthall & Associates**  
[www.walthall.biz](http://www.walthall.biz)



Left: Walthall & Associates chose Extron DVS 204 Digital Video Scalers to combine the EOC’s multiple video and computer-video sources into on RGBHV switching system.

Below: Some of the Extron products used in the new Escambia County EOC are shown below, including the Matrix 6400 fully configurable matrix switcher, seen here in the foreground.



Left: These easy to set up Extron VSC 500 Scan Converters convert a variety of computer-video signals to video for media or teleconference use.

**DVI 201 Tx/Rx**  
Single Link DVI/HDMI Extender



The Extron **DVI 201 Tx/Rx** is a transmitter and receiver set that sends Single Link DVI Digital Visual Interface or HDMI™ High Definition Multimedia Interface over distances significantly greater than the 15 foot (5 m) distance limitation for standard DVI cables. Using two standard CAT 5, CAT 5e, or CAT 6 cables, the DVI 201 Tx and DVI 201 Rx work together to send HDTV and XGA 1024 x 768 signals over 200 feet (60 m). DDC and HDCP copy protection signals are fully supported.

allows connection to a local monitor. RS-232 signals can be conveniently transmitted over the same cabling as the DVI/HDMI signals for remote control and display. Furthermore, either the transmitter or receiver can be remotely powered over this cabling, so that external power is required for only one of the devices.

The DVI 201 Tx/Rx is equipped with several features that facilitate convenient, streamlined system integration. A DVI loop-through on the DVI 201 Tx

Model	Part Number	MSRP
DVI 201 Tx/Rx	60-734-03	\$675

**MKP 3000 Series**  
Matrix Switcher X-Y Remote Control Panels with LCD Display



The **MKP 3000** is a mountable remote control panel designed to work with any Extron matrix switcher with RS-232 or IP Link® Ethernet control capabilities. It provides simple access to I/O switching, global presets, and audio control. The MKP 3000 fits into a standard two-gang wall plate and features two RS-232 ports, virtual I/O grouping, and an integrated Web server. The MKP 3000 MAAP fits into a three-gang wall plate and includes an opening for up to four single space MAAP - Mini Architectural Adapter Plates, such as the MKP 10 MAAP, an optional 10-key numeric keypad designed to supplement the control panel's selection scroll knob.

Model	Part Number	MSRP
MKP 3000 Black	60-708-02	\$825
MKP 3000 White	60-708-03	\$825
MKP 3000 RAL9010 White	60-708-05	\$825
MKP 3000 MAAP Black	60-709-02	\$875
MKP 3000 MAAP White	60-709-03	\$875
MKP 3000 MAAP RAL9010 White	60-709-05	\$875
MKP 10 MAAP Black	60-710-10	\$325
MKP 10 MAAP White	60-710-20	\$325
MKP 10 MAAP RAL 9010 White	60-710-50	\$325

**MPA 181T**  
70 Volt 18 Watt Mono Integrated Mini Power Amplifier



The Extron **MPA 181T** integrated mini power amplifier provides 18 watts of mono amplification for 70 volt speaker systems in classrooms and other applications requiring compact, economical audio solutions. The MPA 181T also offers conventional amplification providing 14 watts rms into 4 ohms or 9 watts rms into 8 ohms.

Model	Part Number	MSRP
MPA 181T	60-747-01	\$295

Front panel controls are provided for bass, treble, and input level. The front panel also features a limiter switch to prevent distortion from overdriven inputs. The MPA 181T is an ideal step-up from a basic classroom system utilizing built-in video projector speakers.

**System INTEGRATOR™**  
S P E A K E R S E R I E S

**SI 26 & SI 28**

Two-Way Surface Mount Speakers



The System Integrator **SI 26** and **SI 28** weather-resistant, two-way surface mount speakers feature ferrofluid-cooled, aluminum dome drivers coupled to an Extron exclusive, new conical horn design for minimum phase shift and a flat response over the mid and high frequency ranges. A unique crossover design assures a smooth transition from bass to midrange frequencies, delivering optimum voice and music reproduction.

The SI 26 features a 6.5" long-throw woofer, a 1" tweeter, and 150 watts continuous program. The SI 28 features an 8" long-throw woofer, a 1" tweeter, and 160 watts continuous program. Both models have a nominal impedance of 8 ohms, as well as durable, high-impact housings in a black

or white paintable finish. They include an internal driver overload circuit as well as Extron's exclusive Patent Pending V-Lock™ mounting hardware that facilitates easy, secure installations.

The SI 26 and SI 28 are ideally suited for classrooms, conference rooms, and boardrooms, and with a weather resistant construction, are at home in outdoor environments. All System Integrator speakers are sold in pairs and include a 5 year parts and labor warranty.

Model	Part Number	MSRP
SI 26 Black .....	42-072-02 .....	\$325/pair
SI 26 White.....	42-072-03 .....	\$325/pair
SI 28 Black .....	42-073-02 .....	\$495/pair
SI 28 White.....	42-073-03 .....	\$495/pair

**System INTEGRATOR™**  
S P E A K E R S E R I E S

**SI 26W & SI 28W**

Two-Way In-Wall Speakers



The System Integrator **SI 26W** and **SI 28W** two-way in-wall speakers feature ferrofluid-cooled, titanium dome drivers and long-throw woofers in a vertically stacked arrangement to deliver balanced voice and music reproduction. Special consideration is given to the crossover from the woofer to the tweeter, to provide a smooth transition from low to mid frequencies. The pivoting dome tweeters allow aiming of the mid and high frequencies for best area coverage.

The SI 26W and SI 28W are open back designs for infinite baffle in-wall installations. The SI 26W features a 6.5" long-throw woofer, a 3/4" tweeter, and 60 watts continuous program. The SI 28W features an 8" long-throw woofer, a 1" tweeter, and 70 watts continuous

program. Both models have a nominal impedance of 8 ohms and offer a theft-detering, permanently installed, in-wall design.

The SI 26W and SI 28W are ideally suited for program audio applications in AV installations including boardrooms, classrooms, and conference rooms where speakers must be low profile and mounted into the walls. All System Integrator speakers are sold in pairs and include a 5 year parts and labor warranty.

Model	Part Number	MSRP
SI 26W .....	42-068-03 .....	\$250/pair
SI 28W .....	42-069-03 .....	\$325/pair

**System INTEGRATOR™**  
S P E A K E R S E R I E S

**SI 26X, SI 3CT LP, & SI 26CT**

Ceiling Speakers



The System Integrator **SI 26X** and **SI 26CT** are two-way ceiling mount speakers featuring a coaxial dual driver design. Long-throw woofers coupled to pivoting ferrofluid-cooled, titanium dome tweeters deliver accurate voice and music reproduction, as well as wide angle sound distribution. The pivoting tweeters allow aiming of the midrange and high frequencies for best area coverage. The **SI 3CT LP** features a 4" LP - Low Profile metal back can for use in plenum ceilings, and includes a single 3.25" full-range driver and an internal driver overload circuit.

The SI 26X is an open back speaker for use in non-plenum airspace environments, and includes a 6.5" long-throw woofer and a 3/4" tweeter. The SI 26X

has a nominal impedance of 8 ohms. It is housed in an 8" metal back can for use in plenum environments, features a high power design, and employs an 8" long-throw woofer and a 1" tweeter. Both plenum models are designed for direct 8 ohm, or 16 ohm for the SI 26CT, or 70/100 volt operation with a front-mounted five position selector switch. It also includes an internal driver overload circuit. All System Integrator speakers are sold in pairs and include a 5 year parts and labor warranty.

Model	Part Number	MSRP
SI 26X .....	42-067-03 .....	\$135/pair
SI 3CT LP.....	42-103-03 .....	\$280/pair
SI 26CT.....	42-070-03 .....	\$325/pair



**DVS 304**  
Four Input Video and RGB Scaler



The Extron **DVS 304** is a new Video and RGB scaler that builds on the popular DVS 204. The advanced scaling engine delivers high performance conversion of standard definition video, HDTV and computer-video signals. The ability to upscale and downscale RGB signals insures seamless integration of all source devices into today's high resolution presentation environments, making the DVS 304 an ideal product solution for large or small AV applications.

The DVS 304 features 59 selectable output rates including UXGA 1600 x 1200 and HDTV 1080p. With smooth, high performance switching between inputs, and a single, high quality signal output for a wide range of display devices, the DVS 304 is de-

signed to serve as the centerpiece of an AV system. A new feature is Automatic Input Format Detection, which enables the DVS 304 to automatically detect and process the incoming signal, greatly simplifying integration with a matrix switcher.

The DVS 304 includes on-screen display, and can be operated via the front panel, RS-232, optional IR remote control, contact closure, and IP Link®.

Model	Part Number	MSRP
DVS 304.....	60-736-01 .....	\$2,150
DVS 304 A .....	60-736-02 .....	\$3,150
DVS 304 D .....	60-736-03 .....	\$2,795
DVS 304 AD.....	60-736-04 .....	\$3,795

**MLC 52 Series**  
Basic MediaLink™ Controllers



The Extron **MLC 52 IR** and **MLC 52 RS** Basic MediaLink Controllers are economical control panels for any classroom environment. Both models offer IR projector control, while the MLC 52 RS also includes unidirectional RS-232 projector control. As extended remote control panels, The MLC 52 IR and MLC 52 RS provide user-friendly control of a projector's power, volume, and input selection. The four lower backlit buttons of each controller can also be configured to send out other IR or RS-232 commands supported by the display. The convenient front panel configuration port allows for advanced configuration, driver downloads, and firmware updates. Each MLC 52 controller comes with a one-gang, high-

impact plastic mounting faceplate, available in black or white, for installation in a standard wall box. Additional mounting options for the MLC 52 Series include the MLM 52 VC two-gang wall mounting kit with an integrated volume control knob and the MLM 52 1GWP one-gang wall mounting kit with a metal faceplate.

Model	Part Number	MSRP
MLC 52 IR Black & White ....	60-744-02 .....	\$295
MLC 52 RS Black & White....	60-744-12 .....	\$495

**DVCM 50**  
Dual-Function IR Learning Control Module



The Extron **DVCM 50** is a four space, dual-function IR learning Control Module AAP - Architectural Adapter Plate designed to be used as a stand-alone device. Once configured, it is capable of storing DVD player and VCR IR commands without having to be connected to a MediaLink Controller or Switcher. A power supply is not needed if used with a MediaLink Controller or Switcher.

Model	Part Number	MSRP
DVCM 50 Black .....	60-754-02 .....	\$375
DVCM 50 White.....	60-754-03 .....	\$375
DVCM 50 RAL9010 White.....	60-754-05 .....	\$375



**GSS 100**  
Graphic Still Store



The Extron **GSS 100** Graphic Still Store is a compact, high resolution graphic still store that serves up company logos, digital photos, slides, and other text and graphic images to virtually any RGBHV display. The GSS 100 stores dozens of high resolution BMP or JPEG format graphic files, up to SXGA+ 1400 x 1050 resolution, and outputs analog RGB computer-video. Graphics are uploaded, managed, and sequenced, locally or remotely, through the IP Link Ethernet port. Stored images may be played back sequentially, or as an automated slide show.

The GSS 100 conveniently replaces the need for a dedicated PC as the source for corporate logos, meeting

agendas, or other images in live presentation environments such as conference rooms and boardrooms. It's also ideal for unattended applications such as digital signage, point-of-purchase kiosks, and hotel or corporate lobby displays.

Model	Part Number	MSRP
GSS 100 .....	60-684-01 .....	\$1,145

**MTP RL 15HD A SEQ & MTP RL 15HD RS SEQ**

MTP - Mini Twisted Pair Receivers for RGBHV and Stereo Audio or RS-232 with Loop Through and Skew Delay Equalizer



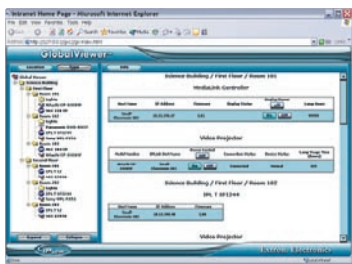
We are continuing the expansion of our popular MTP 15HD Series with the introduction of two new receivers that feature integrated skew delay equalizers; the **MTP RL 15HD RS SEQ** and **MTP RL 15HD A SEQ** Mini Twisted Pair Receivers with Loop Through and Skew Equalization. The new receivers are compatible with video resolutions up to 1600 x 1200 UXGA, and also support summed mono audio for MTP RL 15HD A SEQ or RS-232 serial communication for MTP RL 15HD RS SEQ.

Both models feature an additional buffered UTP output enabling multiple receivers to be connected

in series, reducing the number of parallel cable runs required. They are ideal for use where multiple displays and long distance cable runs up to 600 feet/185 meters are required, such as point of sale, public display, and kiosk applications.

Model	Part Number	MSRP
MTP RL 15HD A SEQ .....	60-690-02 .....	\$850
MTP RL 15HD RS SEQ .....	60-735-02 .....	\$710

**GlobalViewer™ 2.0**  
Free Web-Based Asset Management and Remote Control Software



**GlobalViewer™ 2.0** is a major update to our free Web-based asset management and remote control application for institutional A/V environments. New features in GlobalViewer 2.0 include: global views of all devices by location or by device type, room view which provides control for every device in a room on a single screen, custom GUI - Graphical User Interface skins, the power to add hyperlinks to other applications and important information, and multi-level password access.

Together with IP Link-enabled products or IP Link interfaces, GlobalViewer 2.0 provides a powerful, flexible way to manage, monitor, and control both

Extron and third party equipment like projectors, plasmas, monitors, VCRs, DVD players, and other devices using a standard TCP/IP network.

Available for free from [www.extron.com](http://www.extron.com).

Model	Part Number	MSRP
GlobalViewer 2.0 .....	N/A .....	Free

## Extender D

VGA-QXGA Line Driver with Audio for Decora®-style Wall Plates



The **Extender D** is newest member of our Extender WM Series, a family of one input, one buffered output VGA-QXGA line drivers with active audio buffering. It is capable of sending computer-video signals up to 250 feet (75 m) over high quality cable, such as Extron's BNC-5 Mini HR Cable. The Extender D mounts in a Decora-style wall plate (included), allowing integrators to add powerful functionality to a room without sacrificing style.

The Extender D is available in white and can be used with or without a one-gang electrical box.

Model	Part Number	MSRP
Extender D	60-759-22	\$325

## VSW 2VGA A

Two Input VGA-QXGA and Stereo Audio Switcher

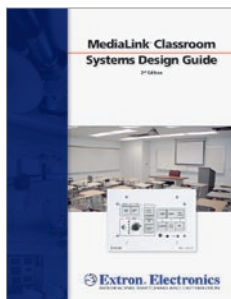


The Extron **VSW 2VGA A** is a compact and economical two input, one output, active switcher for VGA and stereo audio. It allows users to select between two VGA sources with audio and routes the selected source to a video output device such as a data monitor or projector. A buffered loop through for input one can be used for viewing on a local monitor. Housed in a quarter rack width metal enclosure with flexible mounting options, the VSW 2VGA A is well suited for conference rooms, classrooms, multimedia production systems, and other high resolution, computer-video environments.

Model	Part Number	MSRP
VSW 2VGA A	60-758-01	\$240

## MediaLink Classroom Systems Design Guide 2nd Edition

Educational Resource for Educators and Instructional Technology Professionals



Extron recently released the "**MediaLink Classroom Systems Design Guide, 2nd Edition,**" as an educational resource that provides practical insight into the fundamentals of classroom and conference room AV system design. Its easy-to-read style clarifies the process, techniques, decisions, and trade-offs necessary for anyone interested in designing, installing, and supporting AV presentation systems specifically for classrooms and small conference rooms.

With more than 25 pages written personally by Extron's President, Andrew Edwards, this full-color guidebook offers a thorough analysis and breakdown of the MediaLink product line and system design concept. To request a copy, visit our Web site.

Available for free from [www.extron.com](http://www.extron.com).



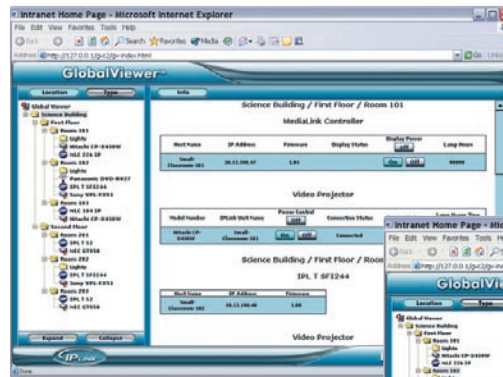
## GlobalViewer™ 2.0: Why Program When You Can Configure?

Nearly three years ago, Extron introduced GlobalViewer, our Web-based asset management and remote control application for use with IP Link®-enabled products. Our guiding philosophy from the beginning has been to deliver a full-featured network integration solution for the A/V industry — without requiring users to have programming skills. So, for every new IP Link-enabled product we introduced, we also developed configuration software to make set up and installation a breeze. Unfortunately, as the list of Extron products that feature IP Link technology has grown, so has our list of configuration applications. This year at InfoComm05, we introduced Global Configurator 2.0, a single software program for eventually configuring all Extron IP Link products and for building the GlobalViewer 2.0 Web application.

The latest edition of GlobalViewer allows schools, universities, corporate offices, and government facilities to manage and monitor an entire organization's A/V systems over their existing IP network. No matter how many presentation rooms an organization has, and no matter how spread out they are, GlobalViewer 2.0 presents everything in one global view using Internet Explorer. We included a new set of features designed specifically to allow non-programmers to build a Web-based asset management and remote monitoring system for hundreds of A/V devices in multiple locations.

### No Programming Knowledge Required

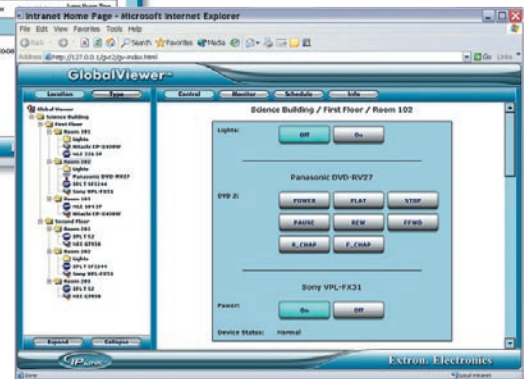
The GlobalViewer Web application is built using Extron's all-new Global Configurator 2.0. Global Configurator 2.0's intuitive menu-driven wizards walk the installer step-by-step through the process of configuring IP Link devices and their input/output ports, such as serial, IR, and Flex I/O ports, and relays. The interface will be familiar to anyone with experience using Microsoft Windows applications. The software guides the installer through the steps of adding new devices to the system, organizing them in a logical fashion, configuring IP and security settings, and defining monitoring and alert parameters for every port. Once the system configuration has been completed, Global Configurator 2.0 handles all of the tasks associated with writing and compiling code and uploading files to the devices.



Extron's GlobalViewer 2.0's new Room View, below, and Global View, left, makes viewing display devices easy.

### New Global View and Room Views

Displaying devices for easy viewing in GlobalViewer 2.0 Web pages has never been easier. Users can configure each device's location as it's added to the system. The global view system designer in Global Configurator provides three fully customizable levels, such as Building, Floor, and Room, for organizing devices. The drag-and-drop functionality is easy to use and the software allows users to customize labels for pretty much everything in the display, including device names, location descriptions, and more. In fact, nearly every button, device description, folder name, and tab in GlobalViewer Web pages are fully customizable. This flexibility allows you to design the GlobalViewer 2.0 Web interface to match reality.



New to GlobalViewer 2.0 is the ALL OFF function that can be used to power off all devices of a certain device type, such as projectors or plasma displays, with a single mouse click. The GlobalViewer 2.0 location view supports the addition of hyperlinks for quick access to useful online resources, such as external Web pages, PDFs, operation manuals, help files, or class schedules. These URLs are fully customizable and can be added during the setup process using Global Configurator 2.0. Room views offer complete control for all devices in each room on a single screen. This works great for in-room control and user access can be restricted to a single room view based on their login.

continued on page 28 



### Enhanced Scheduling and Monitoring

Global Configurator allows users to configure any activity, on any IP Link device port or on multiple ports. Only a single schedule is needed to automate tasks and responses to monitor triggers for an entire room. For example, when a room is controlled and monitored by an MLC 226 IP MediaLink™ Controller, Global Configurator will allow you to schedule a series of devices to turn on at a given time, with a user configurable time delay between startup tasks. It's also possible to set up a monitor that triggers multiple actions, such as sounding an alarm and setting a switcher's front panel to lock out mode if a lectern door is opened during a preset time range.

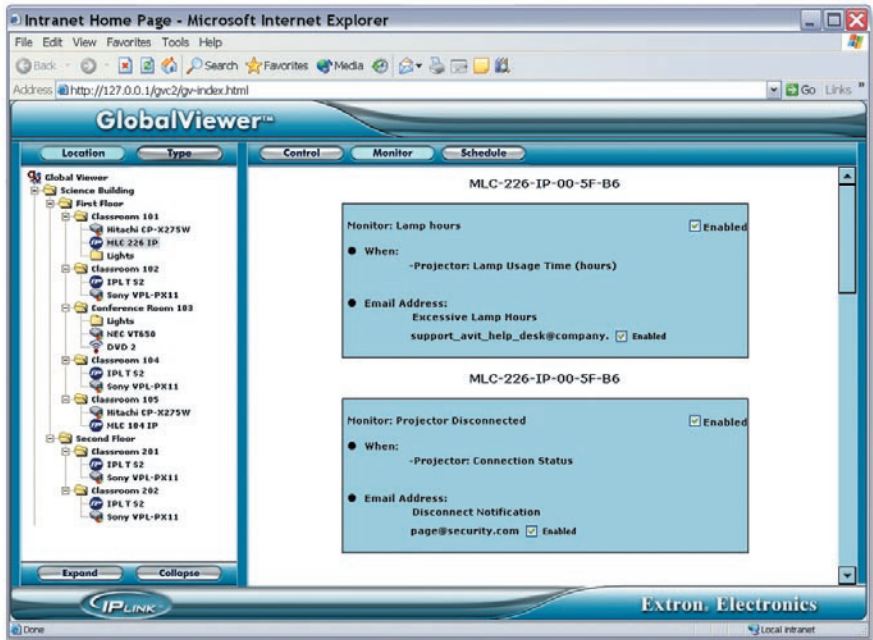
### E-mail Management

One of the most powerful features of IP Link and GlobalViewer has always been the ability to configure an e-mail alert for both routine and extraordinary events. For instance, when a projector's lamp hours exceed a preset limit or if that projector is suddenly disconnected from the network, GlobalViewer can be configured to automatically send an e-mail to any valid e-mail address. The new Global Configurator 2.0 now provides two new tools for managing both the e-mails that are sent and the list of contacts who need to receive them.

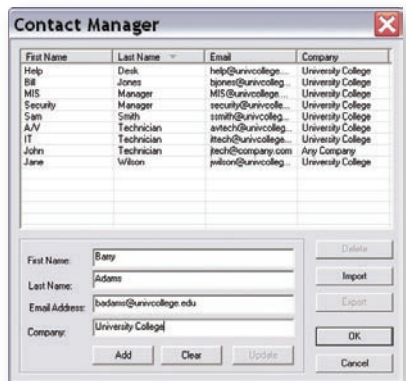
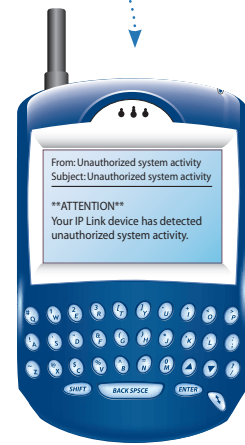
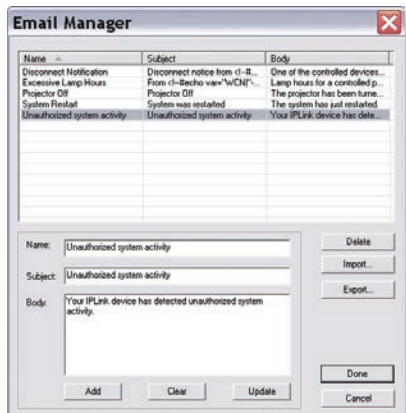
The new E-mail Manager stores text for commonly used e-mail alerts and updates. There's no need to retype the same message every time you configure it on a different device. Global Configurator includes several generic e-mail messages and allows you to edit them, as well as create and store your own messages to meet your needs.

### Contact Management

The new Contact Manager stores e-mail addresses that are used most often so that you don't have to type them in repeatedly. Names and e-mail addresses can be imported and exported from popular e-mail programs, such as Microsoft Outlook.



Enhanced Scheduling and Monitoring: Global Configurator allows for scheduling a series of devices to turn on at a given time, with a user configurable time delay between startup tasks.



E-mail and Contact Management: E-mail Manager stores text for commonly used e-mail alerts and updates. Contact Manager stores e-mail addresses that are used most often.



## User-Selectable GlobalViewer Skins

GlobalViewer 2.0 features a collection of graphical user interface skins that can be selected during the configuration process. The skin selected will be applied to every GlobalViewer Web page automatically. For select large organizations, such as universities, government agencies, or large corporations, Extron will make the source files available so that colors and logos can fully customized. Our developers will be creating additional skins from time to time and those will be made available for download from the Extron Web site.




### Enhanced Security

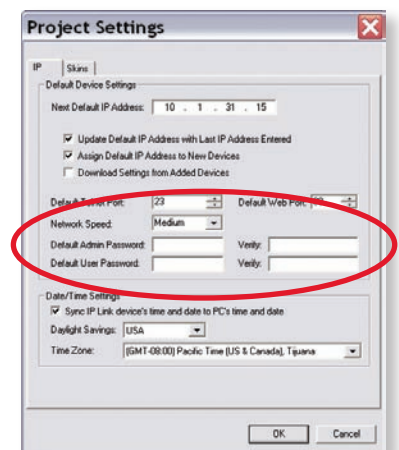
Global Viewer 2.0 offers two levels of access with password protection. User access level authorizes limited entry to only pre-designated devices and functionality. The Administrator access level permits full access to all functions and all devices, including advanced settings. Password settings can be configured using Global Configurator 2.0 and uploaded to every device at once when the system settings and device configurations are uploaded.

Global Configurator 2.0 replaces all of the previous versions of the GVC GlobalViewer Configurator and the MLC 104/226 configuration software. Now, with one software application, users can configure our entire series of IP Link Ethernet control interfaces, plus the

MLC 104 IP and MLC 226 IP Series of Extron MLC MediaLink Controllers, and the IPL T PCS4/ IPL T PCS4i Power Control and Current Sensors. Many of these products ship with built-in Web pages for basic control, but GlobalViewer 2.0 pulls all of the devices together into a single Web-based management system under a unified software environment. And it's Global Configurator 2.0 that enables non-programmers to build that system.

### Our On-Going Commitment To Continuous Improvement

The new Global Configurator 2.0 represents a major philosophical leap forward for us. The modular approach we used in the architecture of the software will allow us to rapidly expand it's capabilities as new IP Link-enabled products are released. 



Password protection at User and Administrator access levels provides enhanced security.




## Extron Wins Awards at InfoComm05

We were pleased to announce that the MGP 462 Dual Window Multi-Graphic Processor and the VTG 300 Handheld Battery Powered Video and Audio Test Generator won industry awards during the recent InfoComm05 Show in Las Vegas. The MGP 462 earned the Systems Contractor News InfoComm Installation Award in the category of Best Video Signal Processing or Distribution product for commercial installation, and the VTG 300 received the Best General AV Product Award presented by Rental & Staging Systems magazine and the International Communications Industries Association, Inc. The MGP 462 and VTG 300 include multiple features that are popular with professional AV systems designers and integrators.

### MGP 462

The Extron MGP 462 Dual Window Multi-Graphic Processor combines picture-in-picture graphics processing and high performance scaling, enabling the simultaneous display of two video or computer-video sources for compatibility with HDTV or high resolution computer-video displays. The MGP 462 is ideal for use in videoconferencing, command and control centers, conference rooms, boardrooms, distance learning, and event staging systems.

### VTG 300

The Extron VTG 300 is a handheld, battery-operated video and audio test generator featuring high resolution computer-video, plasma, HDTV, and 16:9 rates, as well as standard definition NTSC or PAL video rates for RGB, component video, S-video, and composite video. As a versatile, broadcast quality reference tool, the VTG 300 can be used for projector set-up, performance evaluation, alignment, convergence, calibration, synchronization, troubleshooting, and accurate video and audio signal reproduction in professional AV applications. 



### BEST VIDEO SIGNAL PROCESSING OR DISTRIBUTION PRODUCT FOR COMMERCIAL INSTALLATION

#### MGP 462

Dual Window Multi-Graphic Processor

The Extron MGP 462 Dual Window Multi-Graphic Processor combines picture-in-picture graphics processing and high performance scaling, enabling the simultaneous display of two video or computer-video sources for compatibility with HDTV or high resolution computer-video displays.

#### Key Features

- Combines video, HDTV, and high resolution RGB input sources, RGB and HDTV component video output
- 59 output rates up to UXGA 1600 x 1200, including HDTV 1080p
- Exclusive Graphic Still Store for custom background displays



### BEST GENERAL AV PRODUCT

#### VTG 300

Handheld Battery Powered Video and Audio Test Generator

The Extron VTG 300 is a handheld, battery-operated video and audio test generators featuring high resolution computer-video, plasma, HDTV, and 16:9 rates, as well as standard definition NTSC or PAL video rates for RGB, component video, S-video, and composite video.

#### Key Features

- 13 video test patterns
- Six audio test signals
- 34 output rates including high resolution computer-video, HDTV, and NTSC/PAL video
- Small, rugged enclosure with protective rubber boot







## The New Extron A/V Associate Training Program

The online Extron A/V Associate Training Program is designed to give you a broad understanding of audio, video, and networking fundamentals; a greater awareness of systems technologies; and improved troubleshooting skills. Increased knowledge saves valuable time and money, and provides a higher level of customer service and satisfaction.

### Who Is It For?

This program is ideal for new hires, sales personnel, and anyone else who wants to gain a basic understanding of AV technologies.

### Prerequisites

None. Extron A/V Associate Training Program can be used as a standalone course or combined with other Extron training. This course will serve as the foundation for future Extron educational opportunities.

### Content

Students begin with a thorough online course on AV technologies including lessons in computer-video interfacing, architectural solutions, switching and matrix switching, signal distribution and processing, and more. The second course provides an extensive overview of Extron product categories with application-oriented descriptions of specific products. Finally, students are trained on numerous tools and resources available to them from Extron.

### Delivery Method

These courses are provided completely online. All that is required to access the course material is a computer with Internet access using IE 5.5 or higher.

#### A/V Associate program requirements:

- Complete the three online courses within 90 days of registration
- Renew annually by completing a free refresher course on new Extron technology and products

#### Complete the courses to receive:

- Official certificate of completion and plaque
- Pre-requisite qualifications for future advanced courses and certifications
- 6.5 InfoComm International CTS certification renewal units, or RUs
- Additional special program benefits to be announced in the future to include accommodation pricing on select Extron products for personal use.

#### Price:

- To learn more about Extron's online training and for details on how to register, please contact your Extron Customer Support Representative.



### COURSE 1:

#### School of AV Technologies — Online

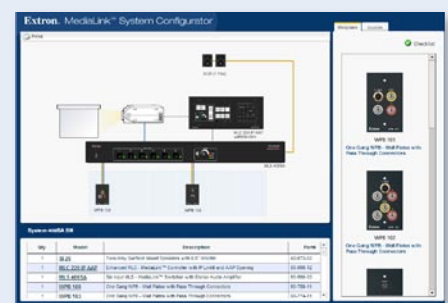
This eight-hour course provides an overview of technologies used in the AV industry.



### COURSE 2:

#### Extron Product Solutions — Online

This three-hour course presents the wide range of Extron product solutions for A/V system applications.



### COURSE 3:

#### Extron Online Tools

This one-hour course provides an overview of Extron and the online tools available such as System Configurator, Matrix Configurator, and AAP / MAAP Configurator.



## Fashionable Tweeker Use #72 Extron Eyewear



With a little help from a couple of Extron Tweekers, Andrew Stanley, a consultant with Charles M. Salter Associates, Inc. in San Francisco, fashioned this pair of stylish sunglasses. He says they are the perfect accessory for living the fast-paced, ultra-hip consultant's lifestyle.

Consultant Joey D'Angelo of Charles M. Salter Associates shows off his pair of Andrew Stanley's sporty Extron Tweeker Sunglasses.



In the last issue of Extronews, Tweeker contest winner Jason Dicampello's hometown was listed incorrectly. Jason lives in Fairless Hills, PA.



### Extron Institute

Dec 5-6	New York, NY	Jan 16-17, 23-24	The Netherlands
Dec 12-13	The Netherlands	Jan 18-19	Bangkok, Thailand
Dec 20-21	Taipei, Taiwan	Jan 23-27	San Francisco, CA
Jan 12-13	Anaheim, CA	Feb 6-10	Dallas, TX

### Tradeshows

Jan 11-14	BETT	London, England
Feb 1-3	IS Europe	Brussels, Belgium
Mar 16-18	System Integration Expo	Las Vegas, NV

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Anaheim, CA 92805

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Send us a photograph and brief explanation of how you use the Tweeker. If we publish it in a future issue of Extronews, we'll give you a free **VTG 300**.

Please send entries along with contact information to:

**Extron Tweeker Contest**  
1230 South Lewis Street  
Anaheim, CA 92805

Or e-mail a high-resolution photo and explanation to [tweeker@extron.com](mailto:tweeker@extron.com)



## Extronews

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We welcome your comments and contributions! Please submit ideas to Extronews editor. E-mail: [extronews@extron.com](mailto:extronews@extron.com)

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