Issue No.12

ELECTROSONIC WORLD 12

MUSEUMS & VISITOR ATTRACTIONS · VIDEOWALLS · HIGH DEFINITION VIDEO · LED DISPLAYS · CONTROL ROOMS · RETAIL DISPLAY · INTERACTIVE DISPLAYS · LIGHTING CONTROL · NETWORKS & NETWORK PRODUCTS · MIXED MEDIA · CORPORATE APPLICATIONS

ESCAN™

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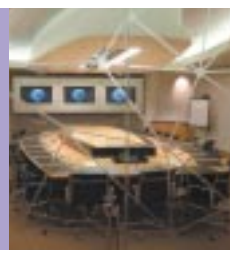
MEDIA NETWORKS

at Lucent Technologies. Page 6.



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DIRECTOR™

The latest meeting room product from Electrosonic. Page 8.

BEAUTIFUL MUSEUM DESIGN

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Net gains

Network technology has been part of Electrosonic's business for some years, but only recently has it developed to the point that it affects just about every Electrosonic activity and product.

Well established products like the Electrosonic VECTOR™ image processor have always been network enabled, but now it is joined by many new products where network connectivity is part of the reason for their existence, as opposed to being an occasionally used feature.

The Electrosonic DIRECTOR™ brings the benefits of the network into the boardroom. This new product greatly simplifies the operation of meeting rooms that are required to show multiple video and computer images.

MediaSonic, a division of Electrosonic based in Burbank, CA, has introduced a range of enabling products that facilitates the automation of AV systems using network technology. MediaSonic is also responsible for ESCAN™, a well established network oriented program for AV automation.

MediaSonic, a Division of Electrosonic, has introduced the iMediate™ software suite for managing private media networks.

Thinktank, the science center in Birmingham, UK, has all its AV and interactive exhibits on a network under ESCAN™ control.

New image processing products, such as the VISIONETWORK™ series, are geared to take advantage of today's networks; but the product range has tomorrow very much in mind, and will be developed to take advantage of the higher speed networks now becoming practicable.

Key to many activities is the system control software. New programs like PRESENTER™, VN-COMMANDER, and further developments of ESCAN are simplifying visual and audio-visual presentation. They are being developed in close co-operation with Electrosonic customers to meet real-world needs.

In both Electrosonic systems integration and products businesses, networks are here to stay.

When Electrosonic commissioned a "House Show" from Media Projects in 1995 it was called, presciently, "Net Gain". Now this has become more than a figure of speech – the gains are real!

A Raft of New Products!

This edition of ELECTROSONIC WORLD coincides with the introduction of several new products that have been developed over the last few years. Examples are shown here.

Product development is carried out at both Electrosonic's Dartford (UK) facility and at the MediaSonic Division in Burbank, CA. All products are intended for professional audio-visual applications

Products are normally designed for international markets and have appropriate approvals. They are available from Electrosonic directly and through value added re-sellers and appointed dealers.

The offices of Lightinen in Helsinki.

Electrosonic Group expansion takes in Helsinki and Moscow

Electrosonic is pleased to announce a significant geographical expansion to the group, and an increase in the skills base of the company.

The new components of Electrosonic are the Finnish companies Lightinen and Qualitron. Lightinen offers systems integration of the same kind as offered by Electrosonic, but in addition distributes AV products in the Baltic area, and has a strong position in the professional lighting market.

Qualitron specializes in professional broadcast electronics and engineers complete systems for TV studios, play-out suites, outside broadcast vehicles and post production.

Both companies are helping to extend Electrosonic's geographical reach. Of particular importance is the Moscow office of Qualitron, a well established 12 person operation that does extensive work for Russian and other CIS customers.

Russian OB truck fitted out by Qualitron.

Editorial

This edition of ELECTROSONIC WORLD is appearing at a time of some global uncertainty; but business has always been cyclical, and our particular business has always thrived on change. Our own organization has changed considerably in the last couple of years, with redeployment of resources to match actual market opportunities, and with the addition of new companies to the group.

We have taken "networks" as the theme for this edition. It is not that we have not used network technology before – we have been using it as the basis of control systems for several years. It is that the cost effectiveness and practicality of network solutions has reached a point where we can validly recommend them for a much wider range of applications than ever before.

Increasingly our customers are concerned with the real cost of ownership, so system design must take account of running costs and equipment life. Our claim is that we use "appropriate" technology, not always (but quite often) the "latest" technology, in order to achieve the correct balance.

An accompanying objective is that we want to be recognized as a stable company in our industry, one able to develop long term relationships with clients, and one that maintains high engineering and business standards.

We continue to work on exciting projects, we continue to develop relevant new products, and we continue to enjoy the industry we are in. But we also look forward to expanding our business horizons, and entering new fields where our expertise could be of value.

Electrosonic World
An occasional publication of Electrosonic

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Printed in England by Southernprint.

Qualitron & Lightinen

As announced on Page 1, these two companies are now part of the Electrosonic Group. The background to this is as follows:

Until October 2002, Electrosonic consisted of two operations managed as a single unit. Electrosonic Ltd based in the UK, and Electrosonic Systems Inc based in the USA; both owned by Electrosonic Holdings Ltd (ESH). ESH was in turn owned by the privately held Helvar Merca Group of Finland.

Since October 2002 an enlarged Electrosonic has been created as a separate entity. The other AV interests of the ultimate owners, namely Qualitron and Lightinen, have been brought into the group, and Electrosonic now operates as a group in its own right. The ultimate holding company is now Electrosonic Oy Ab, owned directly by some of the shareholders of the original Helvar Merca group.

Qualitron engineer professional broadcast installations, like this automated playout system for YLE. (Finnish Broadcasting).

Lightinen do a lot of work on luxury cruise ships. They supplied the massive lighting control systems (based on the Helvar Imagine™ system) used in the public areas of the "Adventure of the Seas". Photo from Project International.

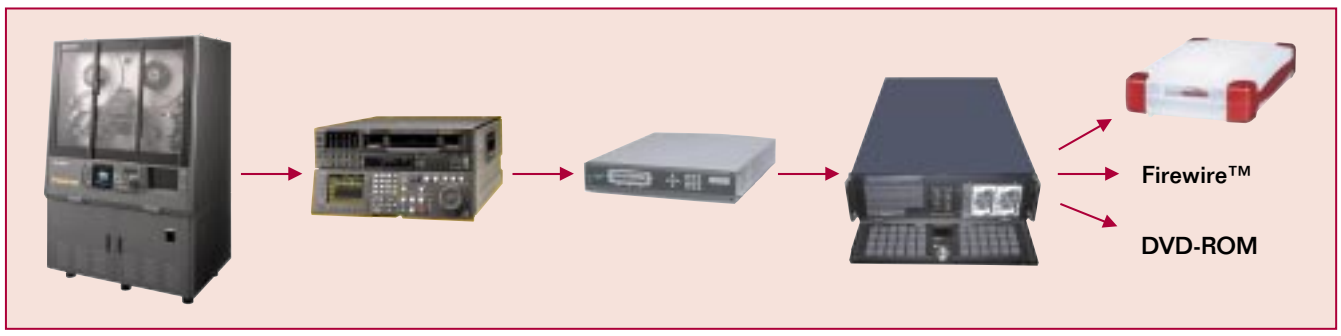
Burbank bytes

Since the last edition of ELECTROSONIC WORLD, the Burbank CA office of Electrosonic has split into two. A new division, MediaSonic, has been established there to develop media networking products.

This significant investment recognizes that there are new opportunities for the Electrosonic Group in the application of media networks and professional playout devices. MediaSonic has its own divisional identity to enable it to serve re-sellers in the AV industry better, and also to exploit new opportunities, such as the "digital dailies" market mentioned below, that are outside Electrosonic's traditional business areas.

MediaSonic is staffed by an experienced team of development engineers who have worked for Electrosonic on both sides of the Atlantic for many years. Exciting products have already appeared. Expect more!

MediaSonic HD player for digital dailies



The digital daily process. Film is scanned to HD tape; the HD signal is passed through a real time encoder; the encoded bit stream is "captured" by the MediaSonic Capture Station. At leisure the files are created, and copied to a portable medium such as a USB-2 hard disc drive.

When a film is shot, there is an immediate need to see the results. Traditionally this has been done by printing "dailies" (or "rushes") from the developed negative. This process is both expensive and inconvenient, so there is an increasing move towards "digital dailies", whereby the material is viewed as High Definition video.

Cohen Communications of Los Angeles offers producers a complete "digital dailies" package. Arri Film of Munich, Germany, recently purchased the Cohen system, in the first instance to support Lakeshore Entertainment in the production of "Underworld", a film shot in Budapest, Hungary.

The developed film is first transferred to tape using a high definition telecine. However, the tape machine is big and expensive, and a large collection of tapes is inconvenient for reviewing the work. To enable multiple copies to be made, and to allow low-cost replay systems to be used, the master tape must be transferred to a compressed file format.

In the Cohen system used by Arri, the compression is done using a Tandberg E5821 real time broadcast encoder. This generates compressed HD streams in high bit-rate MPEG-2 format. Such a stream on its own is difficult to handle so, as the stream is generated, it is passed directly to a MediaSonic "Capture Station". This device captures the stream, and allows it to be converted into a file, with precisely defined start and finish frames.

Completed files can then be transferred to a portable medium. The favorite is the USB-2 drive, but Firewire™ drives and DVD-ROM can also be used.

The film director, director of photography, and the producers and backers of the film can then see the files using a simple desk top player, that is connected to a suitable High Definition display – Cohen recommend the JVC D-ILA projector, or a Panasonic HD Plasma display.

The player is the MediaSonic 9100D. This has the facility to scale the output image to match the resolution of the display device being used. In the Cohen system, it is equipped with "Rushplay" software from Heuris; this allows all the different "scenes" and "takes" to be identified, making it easy to review the progress of the film production.

The MediaSonic High Definition player, and the associated capture station, are playing an increasing part in the rapidly expanding field of digital dailies.

The High Definition files are viewed using the MediaSonic HD player. MediaSonic is a division of Electrosonic.

Traffic flow at LAX

The Transportation Operations Center (TOC) at Los Angeles International Airport (LAX) monitors traffic flow on streets in and around the airport. There are five workstations, including those for airport police, traffic engineer and landside personnel. In addition there is a Highway Advisory Radio broadcast booth used to provide information for motorists heading for the airport.

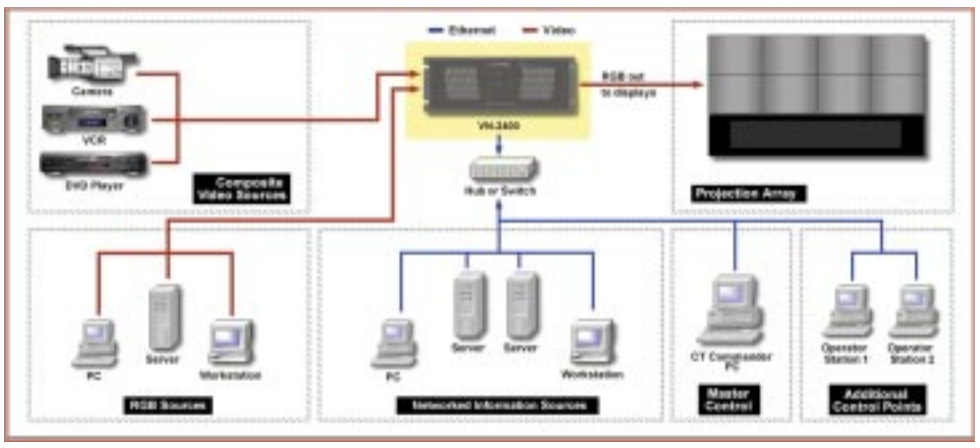
Electrosonic's Burbank office installed a 2x4 DLP™ videowall in this new TOC facility. The overall display is 11ft wide and 4ft high (3.3m x 1.2m) and provides a resolution of 3200x1200 pixels. Within the constraints of using surveillance cameras, excellent motion video performance is required from the display, which is also required to accurately represent first class graphics.

To achieve this, the display uses an Electrosonic VECTOR™ configured for eight CCTV camera sources and three SXGA (1280 x 1024) graphics sources. Electrosonic PRESENTER™ software provides a simple yet powerful user interface for management of the display system. PRESENTER allows window arrangements to be defined and stored as 'scenes'. Scenes can be recalled from any workstation on the LAN using a simple remote control panel.

While PRESENTER in its standard form is particularly suitable for this application, Electrosonic worked closely with the TOC's consultant (the Transportation Group of Parsons) to develop a customized remote control panel to meet the particular needs of the customer.

The Electrosonic display system is part of a system vital to keeping the traffic flowing round LAX as efficiently as possible. The TOC is also being used for traffic studies in an ongoing effort to improve the operations of the airport.

VISIONETWORK



Electrosonic has recently announced a new range of image control equipment. This is not intended to replace VECTOR™, which remains supreme as the product for processing multiple video and RGB sources (whether analog or digital) but to meet the needs of those display environments that are heavily integrated into a networked infrastructure.

Such environments require that display information is provided directly by servers and workstations over a network, and that system control can be initiated from multiple locations across the network. Typical applications are in military command centers, utility network operating centers and in transport management. For many of these applications full motion video is a secondary priority, but high resolution graphics are mandatory.

The new range is called the VISIONETWORK™ range. The first product off the blocks is the VN-2400, designed as a modular system that can drive up to 24 displays, but which can be specified to have outputs in multiples of four.

In a VN-2400 system it is expected that the majority of the images will arrive over the network, but it has the facility for the local addition of analog images from both video and computer sources.

VN-2400 supports many types of display window. Apart from the locally inserted video and RGB sources, remote terminal applications like Citrix, web sources and Microsoft Office™ files can be accommodated. A soft KVM allows application control of networked computer clients.

VN-2400 builds on the enormous experience Electrosonic has in multiple image control, so one of its key features is the user interface. The VN-COMMANDER program allows display layouts to be simply designed and recalled. This can be done either via its own "scene selection" page, or remotely via a serial port or another network application.

VN-COMMANDER allows external sources to be managed and switched for display, and additional software tools allow system control from multiple network locations.

Glimpse

A significant feature of the VN range is Electrosonic proprietary GLIMPSE technology, allowing highly efficient transport of computer graphics over a standard Ethernet network.

The graphical output of a networked PC is captured using the VN-GLIMPSE™ software agent. The VN-2400 display processor can receive and display images captured from many GLIMPSE agents on the LAN.

Simulation display at Lockheed Martin, Marietta, GA. Photo taken during commissioning of the display.

Lockheed Martin Simulation and Monitoring

Various divisions of Lockheed Martin have been customers of Electrosonic for some years. In common with some other customers, it is not always possible for Electrosonic to report in detail on the work being done, but for this issue of ELECTROSONIC WORLD, two significant installations can be mentioned.

Lockheed Martin in Marietta, GA, operates a sophisticated flight training center for the F22 jet fighter program. In a supervisory room a big display must be able to show views from multiple aircraft, in addition to mission overview data, real time terrain images, and head-up and head-down views of cockpit information as seen by the pilots.

The idea is that a simulated mission is monitored, and the people doing the monitoring are then able to provide feedback to the participants – by virtue of their overview, they can see things which the participants cannot.

What this all adds up to is that the overview display must be able to show up to 30 high resolution inputs simultaneously (chosen from a "palette" of 60 computers) with complete flexibility in image sizing and placement, and all required to operate with full motion capability.

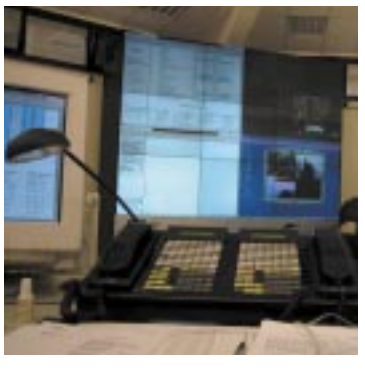
Image selection requires the use of a 64 x 64 RGBHV high bandwidth switching matrix.

The display system is based on a 3x5 array of Clarity UXGA Lion displays with an Electrosonic VECTOR™ image processing system using 30 high resolution input cards, and 15 high resolution output cards – a truly formidable engine processing 29 million pixels 60 times a second.

Lockheed Martin in Colorado Springs, CO, monitors air traffic security for USA airspace. The main control room display is centered round six Clarity Lion 67 inch UXGA displays arranged 3x2. The display is required to give an overview, with complete flexibility in the sizing and placing of individual image sources.

To achieve this objective, an Electrosonic VECTOR™ processor is used, and this allows the simultaneous presentation of four SXGA images.

Italian Railways



Electrosonic's Italian re-seller, Omniadata s.r.l., has installed control rooms in various locations for the Italian Railways. The systems use projection cubes and Electrosonic VECTOR™ processing, which allows operators to mix video images from trackside cameras with data from signals and points to provide a live status display of sections of the railway system. The control room shown here is in Rome.

IN BRIEF...

These pages describe some of the exciting work being done with the Electrosonic VECTOR™ processor in big screen display. It is used as a pre-processor for large LED displays and as a videowall processor.

Cylindrical Video

The lobby of the newly enlarged Sheraton Frankfurt (see also Page 8) features an unusual video display in the form of a 4m (13ft) diameter cylinder. The display runs when lobby traffic is heavy, and uses a black rear projection screen, both to allow it to work in high ambient light, and to match the surrounding decor when it is not in use. The display uses 12 Sanyo LCD projectors with short focal length lenses, working through a mirror system. Image processing, required to "split" the image, is by an Electrosonic VECTOR processor. Multiple sources can be simultaneously displayed if required. Sources are DVD, PC, video server, satellite and VHS. System control is by a Crestron RF touch panel. The complete display system was engineered by Electrosonic. Show design and production was by Twenty First Century Communications.

ELDEBATE on Spanish TV

Videowalls are widely used in TV Studio productions, especially those concerned with news, current affairs, sport and quiz shows.

For TV use, the best images are obtained using CRT videowall projection "cubes". The example shown here is that of a series of 13 programs broadcast by TVE (Spanish Television). The format was that of live debate, and the wall consisted of 48 Toshiba 4140 cubes.

The display was fed from six inputs, including graphics and component video. Image processing was by two Electrosonic VECTOR processors, and much use was made of the dynamic routines available using the C-THROUGH™ videowall control program. These were selected in real time to follow the progress of the debate.

The entire system was rented out to TVE by Electrosonic's Spanish re-seller, RGB Sono of Barcelona.

RGB Sono offers a comprehensive rental and staging service; one of their major clients is SEAT, the Spanish affiliate of Volkswagen, and the photo below shows their exhibit at the Barcelona Motor Show, using a 24m² Barco Dlite 7 LED screen with Electrosonic VECTOR pre-processing. All sources were SDI.

Stunning LED images for Paul McCartney

The Paul McCartney "Back in the US" tour in 2002 was voted "Best Production of the Year" in the 2002 Pollstar Concert Industry Awards, in a year that included no less than the Rolling Stones as competition. The show went on to tour Europe as "Back in the World" in the spring of 2003. An outstanding feature of the show is the use of 40 LED screens of different sizes.

Nocturne Productions from San Francisco was responsible for the video system, and Paul Becher of Nocturne was the video director who toured with the show. The display system uses 852 Barco DLite 7 LED panels; and these are run from eight Barco D320 digitizers. The requirement to show up to eight different sources, with complete flexibility in image size and position, needed additional processing, and this is provided by an Electrosonic VECTOR™ system.

Bob Brigham of Nocturne said "the McCartney show that the public gets to see could not be done without VECTOR™. Roy Bennett, the tour's production designer, pushed the envelope well beyond anything the world has ever seen with the complex use of video. Additional credit must also be given to Nocturne's Marci Kapustin and Dave Neugebauer who were responsible for programming the thousands of cues that take place during the show"

The McCartney World Tour, 2002–2003, used Electrosonic VECTOR™ pre-processing for its spectacular video display. Photo courtesy of Nocturne.

VECTOR receives the eight sources as digital (SDI) signals and provides eight high resolution digital (DVI) outputs to feed the Barco equipment. This means that single source outputs are effectively up-converted before reaching the display screens. When an output is showing multiple images, each source is shown at the best possible resolution, and usable images can be as small as a single LED panel, thanks to VECTOR's patented zero-loss convolver engine.

Brigham went on to say that Nocturne were so pleased that additional VECTORs have been purchased for Nocturne clients, The Eagles and The Dixie Chicks.

VECTOR uses sophisticated image re-sizing (based on Electrosonic's patented "convolver" technology) to ensure that images are free of artifacts, and that the dynamic re-sizing ("zooming") of images looks smooth. Seeing is believing! So for those who did not get a chance to see a live performance at one of the McCartney "Back in.." tours, the next best bet is to check out the "Live concert" DVD of "Back in the US".

VECTOR is fast becoming a standard for high resolution pre-processing for LED displays – especially now that it is available in all-digital versions.

Jaguar

JMK Associates has recently redesigned the visitor areas of Jaguar's headquarters in Coventry, UK. Here Jaguar wants to tell people not only about the car itself, but also what is underneath the skin of the car.

The Jaguar Studio is part of the visitor experience, and it features a massive 8x3m video display. Blitz Interactive was the AV system integrator, and built the display as a videowall using eight DNP New Wide Angle screens, each 2m x 1.5m (6.65ft x 4.92ft), and Sanyo XF10 projectors. An Electrosonic VECTOR™ image processor is used for image processing and for handling the multiple sources.

Visitors see an introductory presentation (sourced from DVD) before the whole display rotates in two parts to provide an entrance to a large exhibition area; once rotated the videowall continues to provide a backdrop to the exhibition.

Parting of the wall at Jaguar

MBA Wall

The Montgomery Bell Academy (MBA) in Nashville TN, uses the latest communication methods to bring information to their students. Electrosonic's Orlando office recently completed a communication display system consisting of four Zenith PDP displays sited round the campus, and a 3x2 videowall, using PV8000 53 inch cubes, installed in the cafeteria.

The videowall uses a VECTOR™ processor. Typically at lunchtime it shows two screens of information and MBA announcements, with the remainder showing a big TV image. The display can show any combination of TV, VHS, DVD and computer graphics.

Electrosonic PRESENTER™ software is used both to select the videowall sources and display configuration, and to control the source switching to the PDPs.

Montgomery Bell Academy's videowall

Star TV

Star TV is a major satellite broadcaster in Asia. One of the main centers is in Mumbai, India, and the highly professional news studio there has recently been equipped with a spectacular videowall.

The complete display was delivered to Star by Electrosonic, with the project being managed by the Hong Kong office. Multiple video signals are routed to the VECTOR™ image processor by both the Star main matrix and a local matrix.

Local matrix and VECTOR control is done using PRESENTER™, the Electrosonic videowall and image display control program that is especially suitable for live event working.

One of the problems of TV studio operation is ensuring that the color temperature of the display is correct. Electrosonic's engineers worked closely with Star's lighting designer to ensure that the display was set up to match their demanding requirements in this respect.

The videowall used in Star TV's Mumbai studios is made up of an array of 7x3 screens to achieve a display 24ft x 7.75ft (7.3m x 2.35m). It uses a frame construction developed by Electrosonic Systems Inc for permanent installations. Each screen module is 53 inch diagonal, and the projectors used are Pioneer videowall "engines". Photo by Alec Wood.

Seattle Seahawks

Two giant high resolution LED video screens display all scoring, statistical and full motion video information to the fans at the spectacular new stadium in Seattle, WA. Home to the Seattle Seahawks, the 67,000 seat stadium was built by First & Goal Inc, a company headed by Paul G. Allen, owner of the Seahawks and co-founder of Microsoft Inc.

The video screens are from Lighthouse, based on their LVP1650 (15.8mm pitch) technology. Their effectiveness is enhanced by the use of Electrosonic VECTOR™ image processors that conform the incoming images to the displays.

A common problem with LED screens is that the display does not match a video or graphics standard exactly; and in addition the display may be required to show multiple images simultaneously. At Seattle the problem is compounded, because each of the displays is of a quite different format. The south screen is 83.25ft wide by 23.75ft high (25.37m x 7.24m) with a resolution of 1600x456 pixels. The north screen has a "squarer" format at 43.33ft wide by 48ft high (13.20m x 14.63m) achieved with 832x923 pixels.

The impressive north screen at the Seattle Seahawks' new stadium. Brightness is adjustable up to 5000 nit, making it suitable for both daytime and night events.

Each screen is required to show any combination of nine input signals. These are made up of six SDI digital video inputs and three high resolution (SXGA or HDTV) inputs.

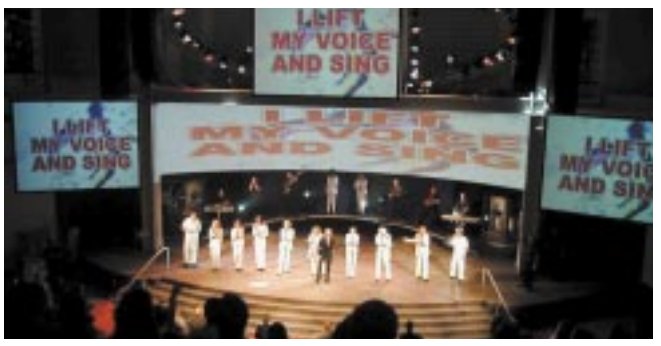
The VECTOR processor is programmed to match the LED pixel arrays, and in each case provides two digital outputs (DVI at XGA.) Thus the south screen can be regarded as a single surface made up of two XGA displays side-by-side, and the north screen as two stacked XGA displays.

Both Lighthouse and Electrosonic did custom work to ensure the best possible results. Lighthouse introduced their M4 Uniformity Control for the project, and provided special panels with downward angled LEDs to ensure good viewing at the field level. Electrosonic developed additional firmware to achieve the best possible match to the displays.

The complete systems take full advantage of the multiple input and screen effects capability of VECTOR. The Electrosonic C-THROUGH™ program is used for overall show control.

The "widescreen" format south side display is built into the stadium structure.

A corner of the control room, showing the C-THROUGH programming of the two main displays.



LA Dream Center

The photo above shows a service in progress at the LA Dream Center. It uses multi-screen video support, and a principal element of this is a 10ft x 52ft (3.05m x 15.86m) panoramic screen that uses three Sanyo XF40 projectors to achieve the wide image.

An essential component of the video system is an Electrosonic VECTOR™ processor used both for image splitting and dynamic effects. The system is equipped to accept two video and two graphics sources.

The LA Dream Center is an inner-city outreach organization that, besides being a large church, runs many programs to meet the needs of the homeless, hungry and disadvantaged.

World Bank

The World Bank Headquarters in Washington DC has a frequent requirement for video conferencing on a worldwide basis. Large groups may be involved, and sometimes the conferences are multi-point.

This calls for a display system that can be adapted to different audience sizes, and which can deal with multiple image display. Electrosonic Systems Inc (NJ Office) worked with systems integrator Washington Professional Systems to develop a solution.

The video conferencing suite is in two halves that can either work independently, or can have a partition removed to form one big space. Each half of the space is equipped with a 2x2 array of Clarity Tigress X videowall displays served by a compact Electrosonic VECTOR™ image processor.

The displays are on rolling bases so that, when the suite is used as a single space, they can be put together to form one large display.

Futuretown

Futuretown is a scheme in the UK to raise awareness among young people of the importance of towns and cities. Gravesend has been one of the forerunners in developing the scheme which is sponsored by retailers.

Art for Change conceived and co-ordinated an extension to the scheme called Futuretown and Beyond (FAB). This involves the participation of over 20 schools and community groups. A visible manifestation of its work is to be seen at night at Gravesend Bus Station where 20ft (6M) projected images are seen on the otherwise blank wall of a Bingo Hall opposite.

The images are all prepared by children attending the many different schools in the town, and express their thoughts as to how the town should develop. The automatic projection system was installed by Electrosonic Ltd, and there are plans to make the system interactive.

IN BRIEF...

Presentation rooms, training rooms, meeting rooms and marketing suites can all benefit from Electrosonic's system integration and project management expertise. These pages include a few examples of Electrosonic's "corporate" work.

NEC Presentation suite

Close to the financial heart of London, NEC has set up a presentation suite in Shoe Lane to promote the use of plasma display panels (PDPs). The presentation system was engineered to NEC's specification by Electrosonic.

An extensive mixture of 42 inch, 50 inch and 61 inch PDPs is installed in both landscape and portrait format. A 2x2 PDP videowall is also installed. A Crestron room controller in conjunction with Kramer switching allows content to be selected from off-air TV, two video servers, a DVD player and a "presentation point" where presenters can connect their own laptop computer to display presentations tailored to their customers' requirements.

NEC has found the system extremely useful and reliable since its installation, and say that "it is hardly ever turned off".

Bedroom story

Under Chief Executive Julia Hands, the former Arcadian group of hotels has been re-branded as "Hand Picked". The collection consists of 15 unique "character" hotels, many developed from old country houses – such as Brandshatch Place, which is near Electrosonic's UK headquarters.

The collection is being refurbished, with room design led by

John Minshaw Designs to Julia Hands' specification. The idea is to make the hotels attractive to business, conference and leisure customers by balancing high tech facilities with homeliness.

As part of the former, Electrosonic has fitted the principal bedrooms of five of the hotels with JVC 42 inch plasma displays, Philips recordable DVD players and Marantz programmable hand controls.

Electrosonic is not only able to manage the "roll out" of large numbers of individual display systems, but can also provide the necessary after sales support service.

For further information visit www.handpicked.co.uk

Norton House, Edinburgh; a "Hand Picked" hotel.

Media Networks at Lucent

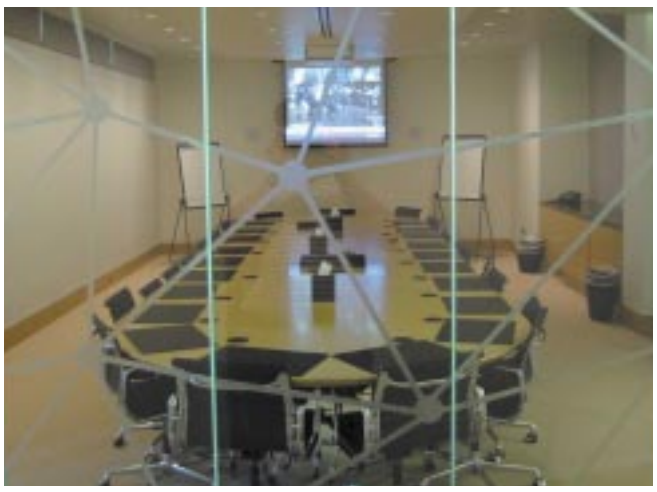
Electrosonic's first major project with Lucent Technologies was the provision of complex AV systems for their Executive Briefing Center in Warren, NJ, back in 1997. Since then many more installations have been completed, but the system design has evolved to match Lucent's needs. A prime requirement is the ability to share media between locations.

Quite apart from improving Lucent's corporate communications, such an approach takes advantage of the digital switching equipment made by the company; so the presentation and meeting facilities become convincing demonstrations of the power of their products.

Each Lucent Executive Briefing Center is designed to tell the Lucent Technologies story to their customers. Typically there is a "show" space, and several fully equipped meeting rooms. While there is provision in each room for "visiting" media, such as the hard wired connection of a laptop computer, or the running of a VHS tape, the main emphasis is on networked media. (As wireless networks become standard the need for local wired connection may well disappear.) Each room is equipped with a client PC that is connected to the Briefing Center LAN (Local Area Network).

One of Lucent's presentation spaces; this one won a Design Week Award. It can be used for a three-screen "house show" that features dynamic lighting, reveal effects, moving panels and a moving floor.

One or more media servers on each site carry the media, together with an asset management program that both facilitates and controls their use. Most material is in the form of MPEG video files that can be streamed from the server, or presentations and documents in popular formats such as Powerpoint® and Excel®.



At first glance the majority of Lucent's networked meeting rooms, like this one, are conventional in appearance; but on close inspection it is evident that these are special spaces, both technically and aesthetically.

Within each room the user has password protected access to the material via a customized HTML page. Normally they will have already placed media files into a folder for their particular presentation, so each item can be initiated with a single "click".

The LANs are in turn connected to Wide Area Networks (WANs). This means that media can be drawn from anywhere within the Lucent world. Electrosonic has now equipped Lucent briefing centers in several locations around the world, in addition to the original Warren installation. In each installation the control panel "look" and operating method is similar, so Lucent presenters can move from one facility to another without having to learn new procedures.

Electrosonic's work with Lucent Technologies demonstrates the advantage of long term customer relationships. By working closely with Lucent, Electrosonic has been able to understand how the facilities are used in practice, and this has resulted in the system architecture evolving in a way that is in step with Lucent's priorities.

This type of work has been a major influence in developing new products like Electrosonic DIRECTOR™.

The work also demonstrates the value of Electrosonic's diverse resources. The original system and the non USA installations were engineered by Electrosonic UK. The USA installations have been largely engineered by Electrosonic's NJ office, but with Electrosonic UK input to help ensure overall design consistency.

City conferencing

The Universities Superannuation Scheme (USS) recently moved to new offices on the 13th floor of 99 Bishopsgate in the City of London. It was a requirement that their boardroom be equipped for both audio and video conferencing, mainly for communicating with their Liverpool office.

DTZ Debenham Tie Leung manages the property, and appointed COMS as independent AV Consultants to specify the system required. Electrosonic Ltd was appointed as the systems integrator.

The installation is a good example of a high specification conferencing system, essential if such systems are to be effective and unobtrusive in use. The video system is based on Polycom VS 4000, with three cameras – one for main view, one for presenter and one for documents. The audio system uses ceiling mounted loudspeakers, lectern microphones and up to 15 table microphones; all with ClearOne switching and echo cancelling equipment.

Audio processing for show sound and local speech reinforcement is by Peavey X-Frame 88, and the room control is by AMX. Two touch screen controls are provided, one fitted in the lectern and the other for use at the boardroom table.

The USS Boardroom in the City of London has extensive conferencing facilities. The bright image is provided by a combination of Barco IQ G300 projector, DNP rear projection screen and custom built mirror projection stand. Installation by Electrosonic Ltd.

HBOS Television

The reception area of the new HBOS call center in Halifax, UK, features six 15 inch and two 20 inch Sanyo LCD displays, and an LCD projector projecting direct onto the limestone wall. Photo © Charlotte Wood/BDP.

✪ ✪ BDP Manchester was the architect for the conversion of an office floor into a call center for Halifax Bank of Scotland (HBOS). Electrosonic engineered the AV system for the new center.

This includes an Electrosonic 4-channel video server and interfacing with the in-house RF distribution system to allow business broadcasts and pre-recorded programming to be seen throughout the working areas. The main displays are Panasonic 42 inch PDPs.

Programming includes current HBOS television advertisements, share price information and in-house productions. Because the distribution is RF, it is also possible for the displays to show TV and satellite broadcasts, using locally mounted RF tuners.

Top Secret Meeting Room

✪ ✪ The Cabinet War Rooms (CWR) in London were opened to the public a few years ago. These are the rooms in a former government storage basement, from which Churchill and his ministers continued the work of government during the bombing raids of World War II.

Recently a team, including the Imperial War Museum, of which CWR is a part, architects HOK, and managing contractors Bovis Lend Lease, opened up additional areas that have been hidden since the war. Besides extending the original exhibition area, this development has allowed an extension of the education facilities and the creation of a new conference and meeting facility.

Electrosonic worked with the team to provide AV facilities for the new spaces. The principal space is a flexible room that can seat up to 140 people in auditorium style. It was a requirement that the impact of any equipment on the space was minimal.

When used as an auditorium the room is set out "sideways"; this brings the presenter nearer the audience, and enables the audience to appreciate the original features of the room better. However, it does require the use of two projection screens to ensure legibility of projected images.

The newly restored space at the Cabinet War Rooms includes this flexible meeting room. Both the meeting facilities and the exhibition areas can be hired for meetings and special events. The catering and event services are run for CWR by the company Sodhexo Prestige (+44 207 766 0134) who provided the photograph on the left. Right photograph courtesy of CWR.

The two screens are, in fact, interactive whiteboards, sited either side of a lectern position. The lectern can be moved for other room layouts. A small control room, with a viewing window into the main space, houses a rack fitted with the AV source and control equipment.

Room control is by an AMX unit that can be controlled from the rack or from a wireless touch panel which can be placed anywhere in the room, but usually resides on the lectern. Microphones are also mainly wireless, but wired microphones are fitted to the lectern and are available as back-up. Audio mixing, equalization and routing is automatic using Digital Signal Processing. Image sources include resident computer, visiting computers, DVD and VHS.

The lighting control system, that works both independently and from the room controller, is based on Helvar DIGIDIM™ equipment. This interfaces with the ten circuits of electronically ballasted fluorescent lamps. A noteworthy feature of the system is that it uses the new DALI digital lighting protocol. This results in a compact system with "distributed intelligence" and no central controller, increasing both the reliability and flexibility of the system.

A similar but smaller AV system has also been installed by Electrosonic in the education room. This room also includes a video conferencing facility, that allows the CWR to have joint meetings with other Imperial War Museum and relevant sites.

Neat fit-out at Levi Strauss

✪ ✪ ✪ Levi Strauss & Co. opened a new sales center in Manhattan, New York City, in 2002. This "trade only" center is where major buyers come to see the latest and upcoming lines, and to negotiate deals.

The center is equipped with extensive, yet unobtrusive, audio-visual facilities in a system engineered by Electrosonic Systems Inc. The project was managed by Paratus Group, who were responsible for the schedule, the budget, hiring appropriate consultants and supervising the completion. Team members working with Paratus Group and Electrosonic included Studios Architecture as principal interior designers, and Ercolino Productions as technical design consultants.

As customers exit the elevators they are welcomed by a mixture of text messages, Levi commercials, news, graphics and ticker presented on plasma screens that surround the lobby. These displays are sourced by a multi-channel FRED Millennium system, whose content and scheduling is controlled from the Levi Strauss head office in San Francisco. New York staff retain local over-ride of text messages.

Video projection at the Levi sales center is by back projection (above) or recess mounted front projection (below).

The merchandise areas are fitted with a comprehensive multi-zone audio system, that is used for selective paging, show sound and masking sound that assists with retaining privacy within the otherwise open and inviting spaces. Video programs can be directed to any part of the center, sourced from multi-channel video server, off-air, satellite, cable and DVD.

While the three open area theaters and fashion show zone have permanently installed projection facilities, the 16 showrooms are arranged so that large plasma displays can be set up at short notice, with programs patched through from the central control room.

The Levi Strauss sales center is a good example of how audio and video are now an essential part of many corporate activities.

Visitors to the Levi sales center are greeted by plasma displays in the elevator lobby.

Networked displays at Sheraton Frankfurt

Following its recent €50million renovation program, the Sheraton Frankfurt, owned by Hospitality Europe B.V., is now Europe's largest airport hotel. In addition to its 1,006 guest rooms it has an extensive congress and meeting center serving the needs of over 10,000 meetings a year.

There are 53 conference rooms, and this presents a practical problem. Conference delegates and private meeting participants can have difficulty finding the right location for their meeting.

The problem is solved by having three strategically placed vertically mounted plasma screens that scroll the room allocation information. In addition every room has a 15 inch LCD display outside the door that shows the current room occupant, and details of the meeting.

Electrosonic delivered the LAN based system required. Each display in the system has an embedded network-enabled PC built in to it, and thus become network "clients". All are linked to an Electrosonic server that provides the real time data. A software bridge, developed specially for the project, accesses the hotel's booking system, so display information is updated completely automatically.

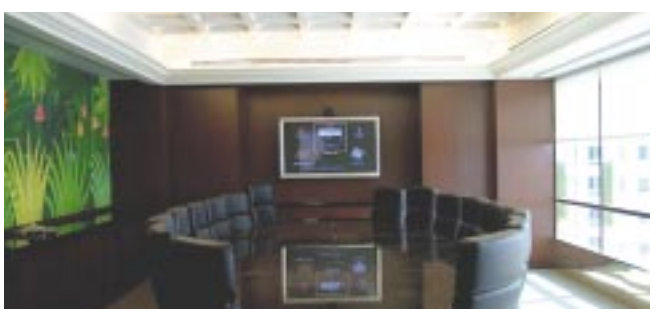
One of the plasma information displays within the Sheraton Frankfurt. The touchscreen display to its left is part of the hotel information system which is on a separate network.

Each room in the meeting room complex has an individual display showing the room's current status. These are mobile because some of the rooms have movable partitions.

Del Monte says Yes

The Del Monte Fresh Produce Company, of Miami, FL has recently upgraded its presentation and meeting facilities – helped by the Orlando office of Electrosonic Systems Inc who engineered the AV systems for the six rooms involved.

The emphasis was on simplicity of use, and on the discreet placing of equipment to minimize its impact on its environment, for example by using projector ceiling lifts. The main boardroom system has a permanently installed Polycom based videoconferencing system, whereas the other rooms share two mobile videoconferencing carts. The boardroom has full AMX room control, whereas the other rooms use simple remote controllers.



The Executive Suite conference room uses a PDP

Support for Cisco

The UK Corporate Headquarters of Cisco Systems not only has extensive AV facilities installed by Electrosonic, but is also a leading example of a site that has Electrosonic service staff based at the client's location.

This Cisco site is in a key European location and has around 30 separate meeting, teaching and presentation spaces, in three buildings. In addition there are 12 computer interactive displays, eight viewing booths and a lobby display. The systems are in full time use, and it is essential that there is negligible down time. Besides needing routine service, the equipment must often be configured for particular tasks, so there is no wasted time at the beginning of a presentation or training session.

The only practical way to achieve this is to have full time staff based on-site. Electrosonic's Service Department now offers site-based service, and at Cisco Systems an Electrosonic team ensures that the AV facilities are always in good order. Such "outsourcing" makes good sense, since the on-site staff are backed up by bench service technicians, relief staff and spare equipment from Electrosonic's own resources.

Electrosonic is extending the scope of its site based service as opportunities arise. Such arrangements represent a long term relationship between Electrosonic and the client, and great care is taken to ensure that they represent the most cost effective way of protecting the client's investment.

A media wall showing a mixture of PC graphics, DVD video and satellite television is a prominent feature of the reception area at the Cisco Executive Briefing Center. The display uses Electrosonic's VECTOR™ image processing and Toshiba projection "cubes".

Cisco Systems is a world leader in networking products and systems. Its Internet Protocol (IP) based networking solutions are the foundation of the Internet, and most corporate, education and government networks around the world. It is highly appropriate that Electrosonic should have an association with such a company.

One of the interactive stations at Cisco Systems UK headquarters.

One of six presentation rooms at the Cisco Executive Briefing Center equipped and serviced by Electrosonic. The center screen is also an interactive board, using a Smart Technologies™ SMART Board 580; the flanking side screens are electronic whiteboards, so images from all three can be captured and saved as computer files. Each room has an AMX Axcent 3 room controller with an LCD touch screen as the user control. The table is arranged so that any participant can connect a laptop computer into the system.

DIRECTOR

This edition of ELECTROSONIC WORLD coincides with the international launch of Electrosonic DIRECTOR™. This compact, complete, network-enabled AV processor greatly simplifies the complex AV systems required for presentation rooms.

Electrosonic DIRECTOR can output to displays made up of one to four projectors or monitors. Advanced scaling technology allows the simultaneous display of multiple real time graphics and video sources, with outputs matched precisely to the aspect ratio and resolution of the display elements.

Up to seven computer and three video sources can be connected, in addition to "internal" sources and networked files. Electrosonic DIRECTOR is complete with audio mixing and its own MPEG-2 decoder.

The hardware is clever – but the control software, developed in close co-operation with users, is outstanding, including the friendly Meeting Manager software.

Phone or e-mail any of the Electrosonic offices listed on Page 2 for a copy of the Electrosonic DIRECTOR brochure.

Boardroom Tolerance

Museum of Tolerance Boardroom

The Museum of Tolerance, part of the Simon Wiesenthal Center in Los Angeles, CA, is a long standing client of Electrosonic's Burbank office. Recently the Center has expanded or updated its meeting facilities, and Electrosonic has helped by engineering the AV systems.

The main boardroom now boasts a giant 61 inch plasma display from NEC, together with a new AMX room control system and Polycom videoconference equipment. Brand new spaces include a screening room and semi-circular lecture theater. Both are equipped to the highest standards.

The Center makes extensive use of archived program material and images, in many different formats. It is therefore essential that all meeting spaces are well equipped to show them on demand.

Screening room

Opel in Berlin

The photo above shows a night time view of the new Opel Co-ordination Center in the German capital of Berlin. Opel, a member of the General Motors Group, calls it its "embassy" in the city, sited as it is close to the political and business communities.

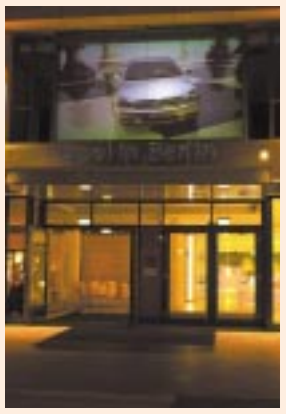
The center has extensive exhibition areas, designed and project managed by Stadler Project of Offenbach, and in turn these make creative use of AV techniques. The AV design and project management was by Scheiner Interaktive Medien of Langenfeld, and the AV system engineering and installation was carried out by Electrosonic.

On the ground floor visitors can surf the world of cars in the Auto-Media Café, where there are 10 interactive displays with intranet and Internet connection using 15 inch LCD monitors. Then they can follow the fascinating development process of a new car "from the first vision to the latest Vectra". This area uses eight channels of video playing from an Electrosonic video server, and includes a 3D image display on a 15 inch monitor.

Further AV elements are incorporated in the showroom area, in an exhibition of the safety components built in to Opel cars, and in an exhibition on 100 years of Opel's pioneering technology.

In the upstairs cinema four wide screen films starring Opel are shown. Produced by Linda Film of Aachen (responsible for the AV production throughout the center) these are projected by two Barco Sim 6 soft-edged projectors. These are fed from an Electrosonic VECTOR™ processor and eight channels of video from an Electrosonic video server.

At night four big rear projection screens (each 4.6m x 2.9m, 15ft x 9.5ft) descend, and animate the building facade. They are also fed from an Electrosonic server/VECTOR combination that allows great flexibility in image placement and multi-screen effects.



Continental support for Best Buy

Electrosonic's support service operation exists to ensure that the investment that clients make in AV systems is protected. In the USA and Canada the most significant service contract is for retail electronics and media giant Best Buy, where no less than 325 separate sites are supported.

Over a four year period Electrosonic has supplied Best Buy stores with spectacular High Definition videowalls. Each display is 13.3ft x 7.5ft (4m x 2.3m) and is based on Pioneer 50 inch projection "cubes" and Electrosonic VECTOR™ image processing. It is essential that the displays are maintained in good order, and Electrosonic makes sure that they are.

The inclusive service arrangement, administered from Electrosonic's Minneapolis office, but implemented by a team of regional service technicians, entitles each location to a preventative maintenance program and phone support. Any defective equipment is immediately replaced from a back-up equipment pool, and emergency on-site visits are completed within 24 hours, however remote the location.

Electrosonic is building up its service business to support customers like Best Buy who rightly demand that their systems always look their best.

One of 325 Best Buy stores equipped with an Electrosonic High Definition videowall.

Stainless steel keyboards with built in stainless steel trackerball are ideal for heavily used public interactive displays, like these at Audi Forum in London.

Automobile manufacturers are highly innovative in the way in which they present themselves to the community. ELECTROSONIC WORLD has, in previous issues, described how the car showroom is being transformed, and in this issue there are two more interesting cases to report.

The new Audi Forum on Piccadilly in London is, appropriately, right across the road from the Ritz Hotel. It includes an internet café, a boutique offering Audi merchandise, showroom, exhibition and conference facilities.

A focal point is the communication wall, which acts as a backdrop to the main exhibition and event areas. Set into it is a videowall using a 3x2 array of Clarity Wildcat displays, controlled by an Electrosonic four source VECTOR™ processor. The display units are only 40.4cm (15.9 inches) deep, which means that no special allowance has to be made to fit the display into the showroom space.

Audi in London

The videowall seems to "float" within the curved glass wall. The glass wall is internally lit by a three color LED system.

Electrosonic provided the AV system used in the exhibition and conference areas at Audi Forum. It includes Crestron control panels, Electrosonic video servers, a multi-zone audio system, and control of the lighting through Helvar dimmers.
The designer of Audi Forum in London was ITC Concepts, and AV production was by Two Four TV.

IN BRIEF...

Electrosonic works on a wide range of themed attractions, covering many subjects. Such work includes the engineering of audio-visual, computer interactive, audio, film and lighting control systems.

The Spider exhibit at Conkers

Conkers

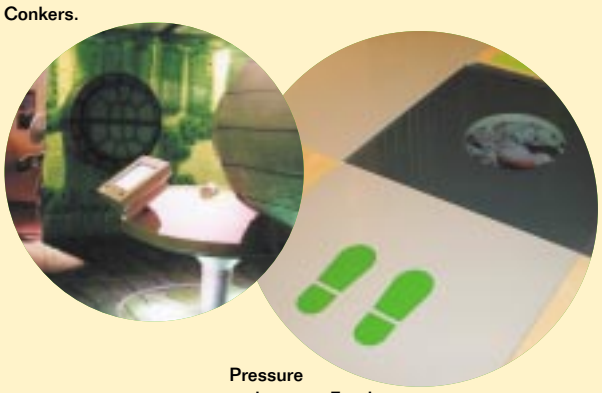
✪ ✪ A new visitor center at the heart of Britain's National Forest is divided into zones which reflect the changing seasons and environments within the forest.

Haley Sharpe not only designed the exhibition areas, but was also responsible for the concept development and design of the whole center. The four discovery zones are designed for children and adults, and provide entertaining and interactive ways of learning about trees, forests and their contribution to regenerating the environment.

35 of the exhibits require computer interactive or AV elements, and these were all provided by Electrosonic. Equipment used includes ESLINX™ show control equipment, ESTA™ digital audio players, and Electrosonic video servers.

One exhibit is an "air harp", where visitors can break a series of eight invisible beams to produce eight different sounds. A talking plant and a "spider ambush" also add to the fun.

Computer interactive at Conkers.



Pressure pad start at Eureka.

Eureka

✪ ✪ Eureka is an "experience center" in Halifax, UK, where children can learn about many aspects of life in an entertaining and interactive way. The newest gallery there is "Our Global Garden", designed by Imagination of London.

The gallery consists of seven "gardens" including a town garden in England, the desert, the polar regions, the ocean and the countryside. Electrosonic engineered the AV system to Imagination's specification.

In one exhibit visitors must place "waste" into recycling bins. The bins produce an audio response according to whether the waste has been put in the right bin. Another exhibit, shown above, uses a floor mounted pressure pad to initiate a video sequence.

Big buttons at Eureka

GPS keeps the show on the road

✪ ✪ A novel combination of network and GPS technology has been introduced into Electrosonic's ESCAN™ show control system, and has been applied to the control and audio replay of the Hollywood Premiere Parade at Universal Studios, Japan.

The parade takes place several times a day according to season. The highly detailed floats feature Woody Woodpecker™ as the grand marshal, and depict a myriad of other characters and moments from films such as ET, The Mummy Returns, and Shrek.

Woody Woodpecker™ leads the Hollywood Premiere Parade at Universal Studios, Japan

Theme park parades present a challenge in respect of audio. A spectator on the parade route must hear a multi-channel sound track that matches the part of the parade that is in front of him or her. The sound track itself is a combination of sound emanating from fixed loudspeakers close to the spectator, and float-based sound emanating from loudspeakers on the moving vehicle. The problem is keeping the two in sync.

The Hollywood Premiere Parade uses a combination of wireless LAN and GPS technology. Each principal float is fitted with a GPS receiver, allowing it to "know" where it is. An on-board computer, running a special version of Electrosonic's ESCAN program, transmits the positional information to the central control point by means of a standard IEEE 802.11b wireless LAN. The same computer also controls and monitors the onboard audio system and some special effects.

The onboard audio program is stored in a two-channel solid-state sound player (24 bit uncompressed audio!) that is equipped with a DSP equalizer providing outputs to five amplifiers. Synchronization is achieved using SMPTE timecode, the master timing of which is derived from the GPS signal.

At the central base station an LCS Wild Tracks™ hard disc multi-track audio player is fed into an LCS Matrix 3™ programmable audio matrix that can dynamically route the sound with appropriate crossfades. The output of the matrix is fed to the parkwide sound system. Another ESCAN computer is used to control the matrix, using the positional data it has received over the wireless LAN to ensure that the routing and cross-fading of the land based sound matches the moving float positions.

The engineering of the Hollywood Premiere Parade audio and control system was a team effort using resources from Electrosonic's offices in Orlando, FL, and Burbank, CA. The installation is one that demonstrates both how network technology is changing the way that systems are configured, and how Electrosonic is committed to the successful application of such technology for show control.

Leicester Space

The UK National Space Centre

✪ ✪ Leicester University is well known for its space research expertise, so it is no surprise to find that the UK's National Space Centre (NSC) is in Leicester. The center is a joint venture between the University and the City Council, with a large part of the funding provided by the Millennium Commission.

Haley Sharpe both designed and project managed the exhibition areas of the center. Electrosonic engineered the extensive AV system, with over 50 exhibits using AV or computer-interactive support.

The visitor experience at the NSC is designed round a "hub and spoke" arrangement, to facilitate visitor flow, and to permit effective use of timed ticketing for the separate Space Theatre. The primary role of the hub is to orient the visitor; five themed portals mark the entrances from the hub into the five very different experience zones.

These are "Into Space", "Exploring the Universe", "The Planets", "Orbiting Earth" and "Space Now". "Space Now" is the most "hi-tech" of the zones, and is the only one to be permanently staffed. In this zone the staff have the facility to update the interactive displays with the latest space information.

The main AV system is based on centrally racked source and computer equipment, and is fully automatic in operation.

Fascinating exhibits in Leicester

70mm film for big attractions

The auditorium at Action Stations in Portsmouth is primarily used to show the specially commissioned 70mm film "Command Approved"; but it is also equipped as a lecture/conference auditorium and is fitted with a Digital Projection Highlite 5000GV DLP™ projector for showing video and computer images. The video projection system is also configured as a back-up to the main film projection system.

Many of the world's leading theme park and visitor attractions use film as the basis of spectacular imagery. For this application 35mm film as a showing medium has now been completely superseded by electronic image projection. However, when really big images are needed, 70mm film still has the edge – both in terms of image resolution and picture brightness. It can achieve results which are simply not yet possible with electronic projection, especially when it is an optical requirement that only a single projection source be used.

Electrosonic continues to deliver film solutions when appropriate. The most celebrated installation of this kind is the 3D projection system engineered by Electrosonic for the Spider-Man™ ride at Universal Studios Islands of Adventure in Orlando, FL. (A full description of this system was given in ELECTROSONIC WORLD No.10, available on request.)

Two recent installations in Europe are also film based. At ACTION STATIONS, an attraction devoted to the Royal Navy in Portsmouth, UK, a specially designed 275 seat auditorium is home to "Command Approved" a 25 minute action film. This was commissioned to show some of the work of the Royal Navy, directed by Graham Moore and produced by BBC Resources. The film was shot on location in the Bahamas aboard two Type 23 Frigates – in the film a fictional frigate, HMS Monarch, combats bullion pirates in the South Seas.

In order to achieve the highest possible picture quality, the film is shown 70mm 5-perf format on a 14m (46ft) wide screen, using a wide angle Isco lens to match the slightly curved screen and short 14m (46ft) projection distance. The result is that the audience really are "in the picture", and the overall effect is heightened by the accompanying six channel sound track which uses over 13kW of amplification.

The use of film does require a daily maintenance routine. However, provided this is done well, the projection system itself can run fully automatically during show hours. Various different methods of film handling are used to achieve this (loop cabinet, extended platter or automatic rewind) according to the application. At Action Stations the show length and limited projection booth space are such that automatic rewind is the best option.

A Kinoton 2-D570 Specta Vision automated large format projector is used with a 7kW lamphouse. This has the feature that, because it uses electronic drive, it can "fast wind" through the gate, without engaging the normal intermittent motion. Rewind speed is about five times running speed, which means that for a 25 minute film the rewind time matches the audience "spill and fill" time very well.

Efteling is Holland's major theme park that celebrated its 50th anniversary in 2002, and a new attraction that opened that year was "PandaVision", developed in conjunction with the World Wildlife Fund for Nature. This features a 70mm 3D movie shown on a 20m (65ft) wide silver screen.

Electrosonic provided the projection and sound system, again based on Kinoton projection technology. This time two of the automatic rewind projectors run in frame lock.

In both the Portsmouth and Efteling installations the sound is run from a separate source, locked to the film by timecode. At Portsmouth a standard multichannel hard disc player is used, followed by Peavey Media Matrix DSP equalization. At Efteling a DTS sound source (supplied by nWave Pictures) is used, followed by BSS Soundweb DSP equalization. At Efteling Electrosonic worked with Bose to engineer the loudspeaker/amplifier combination using Bose's Auditioner® technology. This allowed the client to listen to the performance of the proposed sound system before the auditorium was built; an important facility because of the difficult acoustics of the building in which the show is presented.

Show image from PandaVision (Panda's dream or vision) at Efteling. It is shown in 3D on a giant 20m (65ft) screen. Image courtesy of Attraction Media & Entertainment and nWave Pictures.

Most film based attractions have a "pre-show", and PandaVision at Efteling is no exception. The pre-show is based on the use of three 5m x 4m (16ft x 13ft) screens, each served by a Barco 6500 projector. The projectors are in turn sourced by MediaSonic MP9200 High Definition players. The pre-show is mostly based on photographs, so can be likened to an electronic slide show; and it is just this kind of show that benefits from the use of a high resolution source. MediaSonic HD players are a really cost effective solution for this application.

The biggest 70mm film projection system that Electrosonic has ever installed is at the Spider-Man™ Ride in Universal Islands of Adventure in Orlando, FL. If you would like to know more about the Spider-Man™ Ride, phone or e-mail any of the Electrosonic offices listed on Page 2 for a copy of the "Project profile", that describes the project in more detail. Photo © Universal Studios.

Special Effects

When Universal Studios, Hollywood, decided to update "Cinemagic℠", one of the oldest attractions on the famous back lot tour, the name was changed to "Special Effects Stages". As part of the upgrade, Electrosonic Systems Inc (Burbank, CA office) provided a complete overhaul of the audio, video and control systems.

The attraction has a high throughput. A live host leads a group of 300 guests through three sound stages, each providing a multi-media experience that explains some of Hollywood's best kept film making secrets.

The first show is the "Effects Laboratory", that reviews the history of film special effects; the second is the "Creature Factory", exploring the many monsters and creatures to be found in the Universal Library; and the third is the "Sound Stage", a reproduction of the Foley sound stage that is used for adding sound effects after a film is shot.

All three shows use volunteers from the audience, and depend on video projection to show the "results". The video sources are a mixture of live camera, pre-recorded sequences, and sequences recorded as part of the show. Very tight control of the show timing, and the timing of effects, is required. Each show runs independently, but all three must be of the same duration to ensure a continuous visitor flow.

Main show control is based on MediaSonic ESCAN™, FrEND™ I/O units are used to communicate with the external equipment, which includes programmable logic controllers (PLCs), Doremi hard disc video recorders, Peavey Media Matrix DSP audio control, Sierra video switching, Sony video cameras, and Panasonic projectors.

3D first at Alton Towers

Alton Towers, in the middle of England, is the UK's most visited theme park. It is part of the Tussauds Group. One of the attractions in the park is a 3D cinema, and this has recently been converted to electronic projection by Electrosonic.

The original installation used a split frame technique, whereby a single 70mm film carried both left and right eye images. Tussauds wanted to reduce maintenance costs, and maintain a more consistent image quality by changing over to an all-electronic system.

Electrosonic was originally approached by Attraction Media & Entertainment, a world leader in the area of 3D content production and distribution, who had been asked by Alton Towers to develop a solution. The existing venue presented an interesting challenge in that the screen is dome shaped.

Alton Towers

While the same format is being taken up elsewhere, the installation is a world first, showing 3D images of UXGA resolution at 24 frames per second. Key to the success of the show is the combination of MediaSonic High Definition players and Sanyo PLC-UF15 projectors. The unfiltered light output of the projector is 7,700 lumens, and on site tests showed that a pair of projectors with polarizing filters could show an 11.5m x 8.6m (38ft x 28ft) 3D image. The high resolution is needed to ensure that patrons cannot see any image pixellation, even at the very close viewing distances that can be involved (as little as 2.5m – 8ft).

The opening show in the new format is "Adventures in 3D", produced in a special 15 minute version for Alton Towers by Attraction Media & Entertainments. The film had originally been produced by nWave Pictures in the IMAX® format, which is 4:3 aspect ratio, and which runs at 24 frames per second.

The MediaSonic MS9200P player

The playback system is based on a synchronized pair of MediaSonic MS9200P High Definition players. The film was encoded as two 1280 x 960, 24 fps, 25Mb/s MPEG-2 files. The MS9200P has built-in image re-sizing, so in this case it is set to output images at UXGA (1600 x 1200). Sanyo provided special firmware for the projectors to allow the image to be applied directly to the LCD panels, effectively by-passing the image scaler that is in the projector, which might otherwise introduce undesirable artifacts as a result of duplicated image processing.

The original film had a six channel sound track that matched IMAX format. For Alton Towers this was encoded as a Dolby® signal that could be carried within the MPEG-2 video file. A Marantz SR8200 AV preamplifier decodes this to the six channels which are then fed to a BSS Soundweb DSP processor for equalization; the outputs of which are fed to the existing amplifier/loudspeaker system.

Off screen image of the "Adventures in 3D" show now running at Alton Towers.

Firepower!

Firepower is the new Royal Artillery Experience, set in the historic buildings of the Royal Arsenal on the River Thames at Woolwich, UK. Based on the collections of the Royal Artillery Museum, Firepower highlights the role of the Royal Artillery in the fight for democracy and freedom over the past 300 years.

Event Communications designed Firepower which is divided into four main sections. Electrosonic engineered the main audio-visual and interactive systems supporting the exhibition (audio design for the main show was by Peter Key). The Centerpiece is the "ground shaking" show "Field of Fire".

This is seen after the audience has seen an introductory film. It is a spectacular mixed-media presentation, combining big screen video projection of archive film, programmed lighting, real weapons, real vehicles, and a thunderous sound track.

The other main galleries are the History Gallery, showing the history of artillery since Roman times, the Real Weapon gallery where the principles of artillery are demonstrated by imaginative interactive displays, and the Gunnery Hall, where a vast and changing array of equipment is shown – supported by permanently installed interactive displays.

Field of Fire

Principal components used by Electrosonic to complete the systems included Electrosonic multi-channel video servers, ESLINX™ show control equipment and ESTA™ digital audio players. Projectors were from Barco and NEC, dimmers were Helvar Ambience™ (DMX version) loudspeakers were from Bose and EAW, and amplifiers from Crown and Bose.

Gunnery Hall

Award-winning Deep

The Deep Blue area of the exhibition combines multi-screen video with programmed lighting effects.

The ramps that lead visitors down the Deep include many interactive exhibits like this one that includes a touch screen, a plasma display, and an overhead parabolic loudspeaker to confine sound to the immediate exhibit area. The company Atacama was responsible for video programs and computer-interactive software.

The Deep, in Hull, UK, is billed as the world's first "submarium", and at the 2003 Museums and Heritage Show it won the award for "Best Permanent Exhibition". The Deep is Hull's £45.5 million Millennium project, and is at the forefront of the city's regeneration program.

The striking building was designed by Sir Terry Farrell, and comprises four elements; visitor attraction, business center, lifelong learning center and research facility. The visitor attraction includes a four storey aquarium tank (at the time of completion the deepest in Europe), many subsidiary tanks, and a fascinating exhibition.

Exhibition design was by John Csáky Associates, and exhibition fit-out by Scenic Route. Electrosonic was contracted to engineer and install the complete audio-visual hardware and lighting control systems.

Because of the nature of the environment, Electrosonic decided that the most appropriate system architecture was to have a central control room where all source and interactive computer equipment is housed. This means that the equipment within the exhibits themselves is kept to a minimum, in each case only the display, loudspeakers (if applicable) and the means of visitor input.

Exhibits like the rock pool have AV support, but in addition there is a radio microphone facility for teaching staff.

Electrosonic also supplied the exhibition lighting control system, configured to meet the specification of lighting designers DHA Design. All dimmers (128 channels) are Helvar Ambience™, with the majority under Helvar Sceneset™ control. The dimmers used in the Deep Blue show are DMX compatible and are controlled by a standard Electrosonic ESLINX™ show controller.

The central equipment is housed in eight rack cabinets within a room that is externally themed to be part of the exhibition. Visitors can see the equipment, normally dramatically lit, through "portholes". All AV exhibits are under Electrosonic ESCAN™ monitoring and control. Daily operation is from a touchscreen that can start and stop the whole exhibition, and can modify the regime for special events.

Basketball Hall of Fame

✪ ✪ The new Naismith Memorial Basketball Hall of Fame in Springfield MA, is a monument to the pioneers, builders and major players of the game. The objectives in building it were to provide a unique, educational and enjoyable visitor experience for fans of all ages; to preserve the existing museum collection; and to support local and regional community development.

A technical goal was to use reliable, cost effective, high-end technology. Scenic Technologies, the exhibit designers, worked with Basketball Hall of Fame curatorial staff on the scripting of the exhibition, and this resulted in an AV system specification being prepared by Thoughtful Designs.

The building, designed by Gwathmey Siegel & Associates with Bergman Hendrie + Archteype.

Part of the center-court display, showing that the exhibition is on several levels. Exhibit fabrication was by Design Craftsmen.

Electrosonic Systems Inc won the contract for the AV system and integration, and then partnered with Cortina Productions and NBA Entertainment to provide a complete hardware and software package.

Once the project was underway, Electrosonic was able to suggest some modifications to the original specification that lowered both the initial cost and the running costs of the AV elements of the exhibition.

Overall AV exhibit control, scheduling and monitoring is by ESCAN™, and all source equipment is housed in a central control room.

One of the most spectacular "exhibits" is the "Scoreboard", sited 32ft (9.76m) above the hardwood basketball court, and containing eight video projectors (on four screens) and four large loudspeaker clusters.

The "scoreboard", high above the center court.

Gibraltar Sound & Light

St Michael's Cave is 300 meters (1,000ft) above sea level in the Rock of Gibraltar, and has fascinated visitors since Roman times. It is the subject of many legends, including that of being a link to Africa 15 miles away. It is one of the most popular visitor attractions in Gibraltar with nearly one million visitors a year. Photo from David Atkinson.

✪ ✪ ✪ Nearly 40 years ago one of the first projects that the newly founded Electrosonic completed was a Son et Lumière show for St Michael's Cave in Gibraltar. Over the years the system was upgraded piecemeal, but in 2002 the Government of Gibraltar decided on a complete refurbishment of the lighting and sound systems within the cave.

The Gibraltar Tourist Board, which manages the cave, wanted a turnkey solution, and once again entrusted the project to Electrosonic. Electrosonic put together a team that included Paul Bason of Pure Media as Show Creative Director, David Atkinson as Lighting Designer, Richard Northwood of Coms as sound designer, and the company Lauren Lloyd as electrical installation contractor.

Two complementary systems have been installed. The "daytime" system is intended to deal with the heavy traffic arising from cruise line and similar visitors, where a waiting time is not practical. Visitors see the cave beautifully illuminated with largely concealed lighting. A brief narration, alternately in Spanish and English, provides orientation information.

One problem arising from the increased visitor traffic in recent years is that of visitor safety. There are over 200 steps down into the cave, and these have now been fitted with an aluminum nosing with built in LEDs to improve visibility.

The "night time" or "special occasion" system includes a 12 minute Son et Lumière production. The show is run with the main daytime lighting off, and programmed dynamic lighting. This includes Martin MAC moving lights and many halogen lamps with toughened glass color filters. The latter are controlled by Helvar Ambience™ permanent installation dimmers with DMX input. All luminaires have to be suitable for the high humidity environment of the cave.

The lighting sequence was originally programmed on a Whole Hog 2 console, but actually runs from an Artistic License "No Worries" DMX replay unit. Show audio is from CD (daytime) and Alcorn McBride Digital Binloop (show) played though Peavey DSP equalization and routing, followed by Crown amplification and Community loudspeakers.

The project is an example of Electrosonic's expertise in project management and in developing packages that match individual client requirements. It is also a nice example of how the company can serve an individual customer over a period of many years!

Medicine Matters

THINKTANK brings science to life

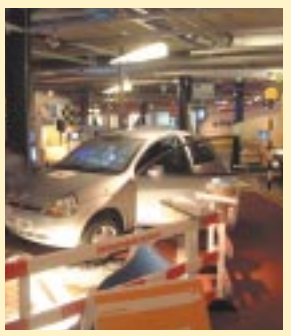
✪ ✪ ✪ ✪ Britain's most exciting new science center opened in the fall of 2001. Thinktank, the new Museum of Science and Industry, is the main visitor attraction at Millennium Point in the heart of Birmingham (UK).

Electrosonic won the contract for the engineering of the huge AV system required to a specification prepared by Buro Happold Fraser Randall. The consultants wanted a single supplier in order to ensure a consistent approach across the whole museum.

Because there were four design groups involved; Brennan & Whalley, Land Design Studios, MET Studios and Richard Fowler Associates, the project was effectively managed as four sub-projects. But the overall management was complex, because in addition to the four design groups, there were also six AV producers, three computer and interactive producers, and six scenic contractors.

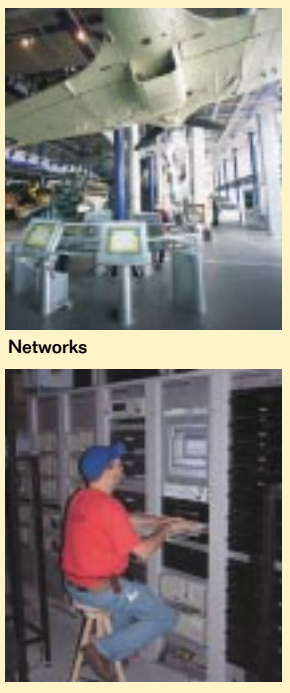
While Electrosonic was responsible for the detailed design of the system, Production Science (interactive consultants) played a leading role in specifying IT equipment for the project.

The project made extensive use of Electrosonic 8-channel video servers and ESLINX™ show control equipment.



The Street

The photo shows ESCAN™ programming in progress at Thinktank. The system controls approximately 102 interactive computers, 50 video channels, 18 PDPs, 45 LCD projectors, 155 audio channels, AV exhibit power control and lighting control.
There are 44 racks of equipment at Thinktank, each 43U.



Networks

If you would like to know more about Thinktank, phone or e-mail any of the Electrosonic offices listed on Page 2 for a copy of a six-page "Project profile", that describes the project in more detail.

IN BRIEF...

Cabinet War Rooms

✪ At the same time as a new conference and meeting facility was completed at the Cabinet War Rooms in London (see Page 7) the opportunity was taken to upgrade the audio system that replays continuous sound effects in the exhibition rooms. The new system is based on Electrosonic ESTA™ digital sound stores that have no moving parts, controlled by a simple scheduling system that switches the system on in the morning, and plays "close of exhibition" announcements at the end of the day. Photo of the Cabinet Room courtesy the Imperial War Museum.

American Air Museum at Duxford. Photo courtesy IWM Duxford

Duxford

✪ Another "branch" of the Imperial War Museum (UK) is at Duxford in Cambridgeshire, the majority of the exhibits here are devoted to the air. In the last few years Electrosonic has provided AV systems for three new permanent exhibitions; an upgrade to the American Air Museum, the "Battle of Britain" and "Land Warfare".

Key equipment supplied has been Electrosonic video servers, ESLINX™ show control and ESTA™ digital audio players.

Electrosonic's Service Department provides site-wide maintenance for all the AV equipment installed at IWM Duxford.

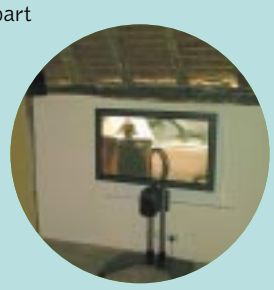
Lenham cottages

Kent Life

✪ The Museum of Kent Life, near Maidstone (UK), provides an interesting and fun day out for the family. It includes many traditional buildings, some of which have been moved to the site. An example is the "Lenham Cottages", which were on the Channel Tunnel rail route, and for which Eurotunnel funded the re-erection at the museum.

Their construction, and the story of their uplifting, is of great interest and is described in a continuous running program shown upstairs in the oldest part of the building.

The program was produced on DVD for the museum by Red Machine, and is shown, complete with surround sound, on a plasma display. Installation by Electrosonic.



PDP under the tiles

Religious imagery in Taiwan

✪✪✪✪✪ Dharma Master Hsin Tao, who founded the Museum of World Religions, envisaged a public sanctuary that would celebrate the world's many religions while using technology to reach young people. Its motto would be "Respect for all faiths, tolerance for all cultures, love for all life".

His dream was realized when the museum opened in Taipei, Taiwan, in 2002. Sited on two floors of an existing building, it is a place of tranquillity within a busy city. The museum was designed by Ralph Appelbaum Associates of New York, and fitted out by Maltbie Associates, also of the USA. The audio-visual installation and media were joint efforts between USA and Taiwanese companies.

The major shows; a film called Origins shown in the 120 seat Creation Theater, the Stages of Life, and the Great Hall High Definition sequences (see photos) were all produced by Donna Lawrence Productions of Louisville KY. The 30 interactive programs were produced in Taiwan by Autotools. This required that all the computers used worked under the Chinese version of Windows 2000™, to allow all exhibits to be presented in both Chinese and English.

Electrosonic Systems Inc designed and engineered the complete AV installation. While much of the central rack system was built in the USA, the final installation was done in conjunction with a local partner, Nico Technologies. The resources of Electrosonic's New Jersey, California and Hong Kong offices were used to provide the most effective team to manage and complete the project.

A strikingly successful integration of electronic imagery into exhibition design. In the Great Hall of the Museum of World Religions the displays are devoted to ten main religions of the world: Christianity, Judaism, Islam, Buddhism, Hinduism, Sikhism, Shinto, Daoism, Egyptian and Mayan. Each display includes religious artifacts and symbols, accompanied by a full height electronic image. The images are achieved using Pioneer 50 inch "folded" CRT cubes arranged 1x4 with minimum mullion to give an overall 40 inch x 120 inch (1m x 3m) image. In order to achieve a high image quality a combination of Electrosonic VECTOR™ image processing, and MediaSonic MS9200P High Definition players is used. Each of two HD players replays a 1920x1080 pixel image. This is split by the image processor into 20 separate images to feed five stacks of four projectors.

Electrosonic's Service Department provides site-wide maintenance for all the AV equipment installed at IWM Duxford.

As always with Electrosonic engineering, the aim was to use the most appropriate technology to produce a cost effective result. The system uses many industry standard products, such as Tannoy and EAW loudspeakers, Yamaha amplifiers, and Rane programmable equalizers. Principal sources are Nupro interactive computers, and Electrosonic VS-8 eight channel standard definition video servers. MediaSonic MS9200P players are also used (see photo of Great Hall).

The complete system is under ESCAN™ control, described in the article on Page 16.

In the Journey of Life Hall, five displays are devoted to Birth, Youth, Middle Age, Old Age and Death. Images are projected onto curved screens by Panasonic LT-711U projectors fed by an Electrosonic multi-channel video server. Also associated with each display is a bi-lingual interactive display, based on a Microtouch LCD touch screen and two Lift HIT stereo listening headphones fitted with armoured cable.

Horniman Music

✪✪ The Horniman Museum, in South East London (UK), has a world renowned collection of musical instruments which is now displayed in a brand new 4,400 sq ft (410 sq m) gallery. The Exhibition and Media designer for the gallery was the London office of Ralph Appelbaum Associates.

Electrosonic provided the audio-visual engineering, Benbow Interiors provided the specialist conservation display cases, and ROM & Son the interactive software.

Visitors can hear the sounds the instruments make, both on dedicated listening stations and at three interactive stations (see photo). Some video projection screens are in the display cases; but no projectors could be in the cases for conservation reasons. Projection was achieved using mirrors and by having concealed projectors projecting through small glass ports in the ceiling of the display cases.

The exhibition AV system runs completely automatically. A Crestron controller is used for scheduling and device control. Electrosonic video servers are used as the video sources, and standard computers are used for both interactive displays and as audio sources.

The three interactive displays use an overhead LCD projector to project a representation of the display case. Visitors can "scroll" around the case, and select individual instruments. They can then learn more about them, and hear what they sound like. Photograph by Peter Cook/View.

Multi-image at IWM North

Electrosonic was for many years a major player in the design and manufacture of multi-image control systems, and the expertise is still available for those who need it. The widely praised Imperial War Museum North makes outstanding use of the technique, and has reawakened interest in the medium.

The architect of IWM North, Daniel Libeskind, presented the exhibition designers with an outstanding building with huge irregularly shaped spaces. The AV consultants for the project, Event Communications, working with exhibition designers Alistair McCaw Real Studios, came up with the idea of the "Big Picture", effectively making the entire main space into one large projection surface.

The question was, how to project the images? Electronic projection was quickly ruled out because of lack of resolution and high cost. In the end 64 automatic slide projectors are used to cover 20 "screens", some of which are up to 15m (49ft) wide and 6m (20ft) high. Full scale tests were carried out on a London sound stage to check the feasibility of this solution. Complex calculations had to be made at the production stage in order to create the correct masking for each slide.

The "Big Picture" shows run at intervals throughout the day. There are three shows, all based on IWM archive material. "Why War?" was produced by Media Projects, "Weapons of War" by English & Co, and "Children and War" by English & Co with Steve Simons (creative director of Event Communications). All shows are accompanied by a multi-channel digital sound track (the audio consultant was Peter Key). Exhibition area lighting (designed by DHA Design and using Helvar Sceneset™ control and 48 channels of Ambience™ dimmers) is programmed to match the needs of the show when shows are in progress.

While the basis of projection is the humble slide projector, system control takes advantage of the latest techniques. The shows are programmed using Electrosonic's EASY™ program, but all scheduling and system monitoring is based on ESCAN™. This network based system interrogates all projectors to check on lamp status. When a lamp fails the projector automatically changes over to its spare lamp, and reports the need for lamp replacement to the central control position - and to any one else authorized to be connected to the network.

Spectacular imagery from the Imperial War Museum's archive dominates the big spaces of IWM North in Manchester, UK.

Cat-5 Indiana State

1950s nostalgia with 21st Century projection at the Indiana State Museum, Indianapolis, IN.
All photos by Dan Ritchie, Bowen Productions.

Bowen Productions of Indianapolis was the prime contractor, design partner and co-installer for the extensive AV systems at the new Indiana State Museum (ISM). The other partner, bringing extensive experience of this kind of installation to the table, was the New Jersey office of Electrosonic Systems Inc. Both were charged with interpreting the designs of Ralph Appelbaum Associates in AV terms.

The RAA designs are "spare" in the sense that they envisage only the display items and any means needed for visitor interaction. Anything else must be out of sight.

In order to simplify the cabling installation, the decision was taken to standardize on Cat-5 cable plant. It is now possible to send video and graphics images over long distances (200m (656ft) or more) over Cat-5 without visible degradation; and of course it is the medium of choice for any IT items. At Indiana Cat-5 extenders by Magenta Research are used.

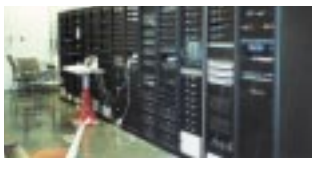
Interactive display

Audience participation in Tomorrow's Indiana

At the ISM the visitor is entertained by interacting with dozens of exhibits. Just two examples are "Hello World" and "Tomorrow's Indiana". In "Hello World", visitors can hear what was heard on the radio in Indiana over past decades. They can choose from 24 "programs" by turning the tuning dial on a large replica table top radio; as the visitor turns the dial, the fade-in and fade-out of the programs is controlled to provide an authentic experience, complete with static, whistles and warbles!

As part of the "Tomorrow's Indiana" exhibit there is an interactive theater where groups of visitors have the opportunity to steer future outcomes by following a three screen presentation. Audience feedback is by individual touch screens. This mixed media experience was produced by Cortina Productions.

All AV and interactive exhibits are under ESCAN™ control and monitoring.



The neat central rack room

AWARDS

The first ARCHI-TECH AV awards were announced at INFOCOMM 2003, and it is a pleasure to record that two were won by Electrosonic installations. These were **IWM North**, described on this page, and **Thinktank**, described on page 13.

Thinktank also won the AV Magazine sponsored AV Award as "AV Installation of the Year" in 2002, and was voted "Discovery Centre of the Year" 2003.

IWM North also won the Manchester Civic Society's Victorian City Award, and the Museums & Heritage Award for Excellence in Technology in 2003.

The Deep, described on Page 12, won the "Best Permanent Exhibition" Museums & Heritage Award, 2003.

SLIDES

The IWM North uses the ESF5050 projector, a special version of the Kodak EKTAPRO™ projector from Electrosonic France. It features coated optics to increase light output, and built-in control electronics to provide compatibility with Electrosonic 4000 multi-image protocol.

ESF5050 projector

MUSEUM OF TOLERANCE IN NEW YORK

Just as this edition of ELECTROSONIC WORLD went to press, a "second edition" of the Museum of Tolerance (which has been in Los Angeles for many years) opened on 42nd Street in New York City.

The exhibition area was designed by Houghton Kneale, who were also responsible for all the recent exhibits in Los Angeles (developing the original design of James Gardner). While the principle of the exhibits remains the same, the actual design gives them a fresh new look, ideally suited to their New York audience.

The Museum of Tolerance makes visitors confront the reality of hate and prejudice in everyday life; and seeks to educate them in the ways of tolerance. The majority of visitors come in organized groups, in particular high school students, the police, educators and others in public employ.

The Museum is noted for the exceptional quality of its AV programming and group interactive exhibits. Examples are the "Point of View Diner", and the "Millennium Machine", both of which have been described in previous editions of ELECTROSONIC WORLD (available on request).

All the AV Systems at the new Museum of Tolerance, New York, were engineered by Electrosonic Systems Inc (Burbank CA office).

Point of View Diner, New York

ESCAN for networked AV Automation

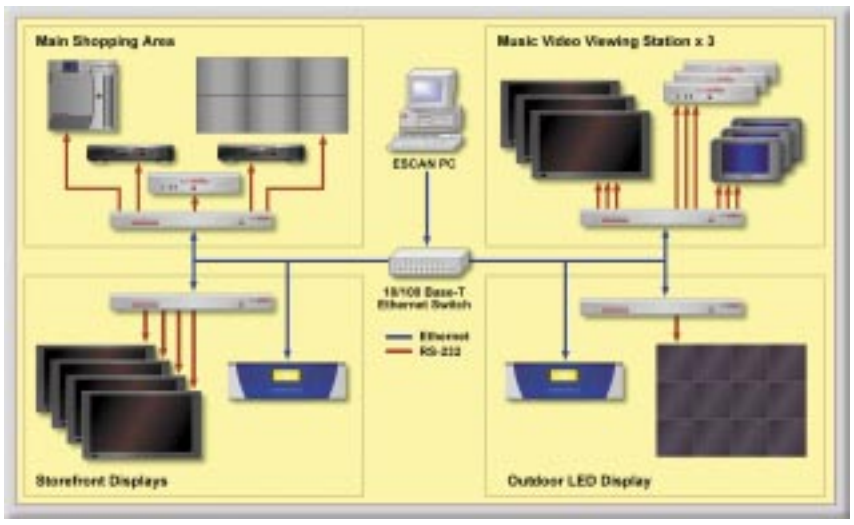
For several years now, Electrosonic has been using a proprietary control program for running automatic shows in museums, retail complexes, exhibitions, visitor centers and theme parks. This is ESCAN™ – ElectroSonic Control Area Network.

Continuing development of ESCAN is in the hands of the MediaSonic Division of Electrosonic, and this has allowed it to be offered as a stand-alone product, available to other systems integrators and end users.

The benefits of ESCAN are best understood with reference to the tasks that are required in any automatic audio-visual installation beyond the very simplest. Some of these are listed in the panel below.

From this it can be seen that the role of ESCAN is a combination of show control, device control, device monitoring, scheduling and playlist management. Because it is a network oriented product, the physical disposition of any ESCAN based system is entirely flexible, and can be optimized for the particular application.

ESCAN is, necessarily, continually upgraded to take account of new devices and new topologies for AV systems. For example, in installations running many separate video displays there are pros and cons for using a video server based architecture as opposed to individual video streaming decoders at each display. ESCAN permits the use of either technique.



Simplified block diagram of a typical automatic AV system using ESCAN™ control. This issue of ELECTROSONIC WORLD includes many examples of the versatility of ESCAN. See also stories on Pages 1, 10, 11, 12, 13, 14, 15.

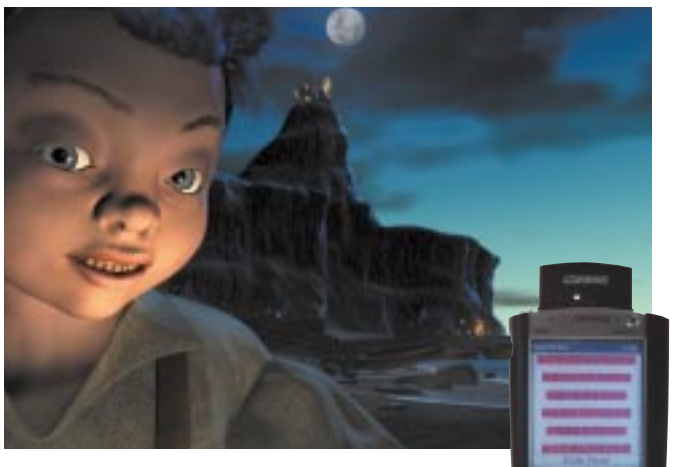
ESCAN is sold on a license basis depending on the number of nodes in the system. This is the fairest business model, because even very small installations can benefit from ESCAN's capabilities. Integrators can customize ESCAN features, and can easily add drivers for devices not already in the ESCAN library.

Electrosonic has used ESCAN in an amazing variety of applications, many of them requiring customization. Where the "custom" feature is seen to be of general benefit, it is properly qualified by the MediaSonic Division, and then embodied in an upgrade of the standard product.

ESCAN includes within its capabilities the control of simple shows – for example in a museum there might be a small theater showing a video program where it was required to lower and raise some "houselights" at the beginning and end of the program, and maybe operate some automatic doors or a "time to next show" indicator. Such simple show control is available within ESCAN, and there is no practical limit on the number of such shows that can run within a system. However, where there is a complex show requiring many cues, and where there is sophisticated multi-channel lighting control, it is usual to "sub-contract" the show control to a suitable dedicated show controller which itself is under ESCAN overall supervision.

"Action Stations" is a new visitor attraction at the Portsmouth Historic Dockyard in Portsmouth (UK). In addition to a main show (see Page 11) it has an exhibition that includes many interactive exhibits. All computers and video servers are mounted centrally in a clean room and the entire system is under ESCAN™ control.

The MediaSonic Division of Electrosonic is introducing a range of ESCAN compatible hardware products that simplify the realization of systems. The range includes both standard and High Definition video playout/streaming devices and a number of FrEND™ devices. These "Far End" network devices provide all the common digital and serial interfacing needed to control and monitor projectors, displays and source devices, and to interface with items like dimmers, control relays and sensors of all kinds.



At Busch Gardens, Williamsburg, VA, the "Corkscrew Hill" 3D attraction (that uses MediaSonic High Definition players and which was fully described in ELECTROSONIC WORLD No 11) uses ESCAN™ for show control. The audience rides on a 50 seat motion platform, and it is important that everyone is "belted up" before the show starts. The attendant uses a Compaq Ipaq® hand held computer that shows the individual seat status; green for safe, red for unbelted. The hand held device is on a wireless LAN (802.11b) within the ESCAN system, which itself communicates with the belt sensors on the platform. This is an example of where Electrosonic made a customized addition to the standard ESCAN application. Screen image© Busch Entertainment Corporation, reproduced by permission Busch Gardens, Williamsburg.

- Scheduling of system operation
- Power-up and power down routines
- Control of source and display devices
- Monitoring of projector lamp life
- Monitoring of interactive computers
- Automatic alarm for device faults
- Automatic warning for impending lamp replacement
- Automatic logging of all system events
- Automatic lighting control
- Automatic multichannel sound control
- Manual over-ride for special events
- Conditional inputs and "triggers" (e.g. for manual show selection)
- Control of show sequences
- Play list management
- Update of show or program content
- Connection to external networks
- Automatic e-mail facility for service
- Timecode synchronization facility

Some of the tasks that must be carried out by an AV automation system. The ESCAN™ software application covers these and more.

These interactive islands at Action Stations run aptitude tests for aspiring Navy recruits. The ESCAN™ system can collect visitor data from them and automatically e-mail the data to the Royal Navy recruiting center.

This Ship's Bridge simulation at Action Stations runs a five-screen sequence from an Electrosonic multi-channel video server. The original material was generated on a real simulator, but is here run as an automatic show. ESCAN™ keeps the show in sync, and ensures that the projectors have the correct power-up and power down routines to achieve maximum lamp life.

Animal Planet, Live!®

A popular attraction at both the Hollywood and Orlando Universal Studios Parks is Animal Planet, Live!®. It is based on the Animal Planet TV shows, and is a clever combination of live and recorded performance, with the live animals as the "stars" of the show.

Both shows are now under ESCAN™ control, and use Electrosonic SD video servers as the source of pre-recorded video and audio. Of course, live audio and video are also used, so the control system must continually select the correct images and balance the audio as the show progresses. Because of the high level of ambient light, the video is presented on a 12ft x 9ft Saco LED screen.

Shows like these are based on a pre-planned sequence, which must adapt to the live events. A show supervisor releases effects and calls up sequences to match the timing of the "performers".

The photo shows the control position at the Orlando park. The operator's monitor display not only shows the video preview and show status, but also provides dynamic legends for the row of heavy duty push buttons used to release effects to match the live action on stage.

ESCAN provides a robust automatic control for shows like Animal Planet Live!®, and is easily re-programmed or reconfigured as shows are developed.