

# ELECTROSONIC WORLD

LIGHTING CONTROL, VIDEO, AUDIO-VISUAL, MOTION PICTURE

No. 7

## INSIDE

Read about world wide applications of lighting control, video displays, audio-visual and motion picture systems.

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## GRAND PICBLOC AND PROCUBE

The Electrosonic PICBLOC image processing system for videowalls is behind the scenes in many of the world's biggest videowall displays; and many of these displays also use the super-bright PROCUBE videowall projector.

A superb example of both in action can be seen 24 hours a day at the 5000 room MGM Grand Hotel in Las Vegas. The huge 80 screen video panorama is installed behind the reception desk to greet visitors to the world's largest hotel.

... continued on back page



The amazing 80-screen videowall behind the reception at the world's largest hotel - the MGM Grand in Las Vegas.



The new studio complex of Tokyo Broadcast System.

## AVIATOR LANDS IN TOKYO

Celco, the Live Entertainment Division of Electrosonic Ltd, have significant business in Japan through their distributor Technical Supply Japan Co Ltd.

Their most prestigious current contract is with the Tokyo Broadcast System (TBS) Company who are completing a new studio complex. Two customised Celco AVIATOR consoles are being installed.

Each of the consoles is being supplied with special LCD displays to display the Kanji character set, a dimmer patch console and a hot standby back up rack.

Other customised features include special control modules for cyclorama lighting, and a 14" colour LCD display. Each system controls up to 1536 dimmers via 500 control channels. The dimmer patch consoles are laid out as mimic panels matching the studio layout, and include dimmer override switches and direct dimmer control.

... continued on Page 4

## AUDIO-VISUAL SYSTEMS AT TOWER BRIDGE

Tower Bridge is one of the most famous landmarks in the World. But today, as it celebrates its centenary, it is not just a landmark. It houses a fascinating exhibition which both explains how the bridge was built and operates, and evokes the energetic late 19th century.

Electrosonic's Systems Division specialises in meeting the technical needs of museums, visitors' centres and permanent exhibitions, and they are proud of their contribution to the "Celebration Story", Tower Bridge's new exhibition.

... continued on Page 12



London's famous Tower bridge, now celebrating its centenary with a new exhibition.



## Big Pictures

The above picture is of the Samsung StarQuest Pavilion at EXPO 93, Taejeon, Korea. Electrosonic's Los Angeles office were responsible for the engineering of two high power 70mm dome projection systems for this pavilion - the full story is on Page 11.

Motion picture engineering for special venues is now an important activity of the

Electrosonic Group. In addition to the engineering of custom 35mm and 70mm projection systems, Electrosonic is developing new product concepts for this market. These include new optical, sound and show control sub-systems.

Recently installations have been completed in the USA, Japan, France and Korea.

## IMAGINE in Hong Kong

When the owners of the world famous Peninsula Hotel in Hong Kong started an ambitious expansion and rebuilding plan, IMAGINE dimmers from Electrosonic were the first choice for lighting control.

Light Sound Image Systems Ltd, Electrosonic's distributor in Hong Kong, provide the local engineering support in a continuing programme of work. Already over 30 IMAGINE dimmer racks have been installed at the Peninsula Hotel, and when complete the installation will be the largest dimming system installed by LSI Systems in Hong Kong.

IMAGINE lighting control systems are ideal for hotels. Their "distributed processing" architecture ensures

simple local control within the largest of systems. More applications stories are on Pages 2 and 3.



Part of the reception area at The Peninsula Hotel, Hong Kong.



## EDITORIAL

The publication of this issue of ELECTROSONIC WORLD coincides with the 30th anniversary of the founding of Electrosonic Ltd. We can look back over the Electrosonic years with a mixture of emotions.

Amazement would be one. Thirty years ago, when an IBM main frame was lucky to have 8K of main memory, the idea of the personal computer or the MegaByte memory chip would have seemed fantastic. Now such components are an essential ingredient of our activities.

Gratitude would be another. The present team at Electrosonic are well aware of the contribution of many people who have worked for us over the years, and who have moved on to do other things. We are proud of our "alumni", whether retired, running their own businesses, or making a contribution within or outside our industry.

Perhaps pride may also be allowed a place. We believe that we have made a significant contribution to the techniques of lighting control and audio visual presentation. We intend to continue to lead the markets we are in, so yesterday's pioneering work in the use of thyristors for lighting control becomes today's microprocessor controlled systems, and multiple image displays based on slide projection expand to include high definition video and graphics.

But, *plus ça change, plus c'est la même chose*. The environments that need lighting control, the events that need audio visual support, the museums and exhibitions that need sound and light technique were all there 30 years ago. The needs are the same as ever, and are appreciated more than ever, but the means of meeting them have improved and are better value for money.

We expect the needs to be still there in another 30 years – but, no doubt, technological progress will be just as startling as over the last 30. Electrosonic will continue to lead, with new products and systems design which exploit this progress.

ELECTROSONIC  
WORLD

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Electrosonic specialise in the manufacture of lighting control, video display, movie and audio-visual products and systems. They have distributors and correspondents in other major countries throughout the world.

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## LIGHTING NEWS

Lighting control equipment, based on electronic dimmers and microprocessor programmers, is an important part of Electrosonic's product range. These pages review applications of architectural lighting control and some new developments within the Helvar-Electrosonic Group.

Germanisches  
Nationalmuseum

A major installation of IMAGINE lighting control has recently been completed within the new buildings of the Germanisches Nationalmuseum in Nürnberg, Germany. This museum has the largest exhibition area of any museum in Germany, and contains 1.2 million items.

The new installation is within the impressive post-modern entrance area which forms a link between the old museum buildings (a former monastery) and the new administration and storage buildings. It contains multi-purpose rooms for exhibitions and special events.

Lighting design was by Zitnik of Frankfurt, and installation by Ebert of Nürnberg. The supply of control equipment was co-ordinated by Helvar GmbH, and included Helvar controllable electronic ballasts, 180 channels of IMAGINE dimmers and an MRC system for the conference/lecture hall. The MRC system was in-

stalled by Electrosonic GmbH.

Four SCENESETs control the main exhibition areas, and a fifth is used in the conference hall. Different lighting scenes are selected according to the time of day, the current use of the space, and, in the glass domed entrance area, the amount of daylight present.

The opening exhibition for the new area was "Ludwigslust", the collection of Irene and Peter Ludwig. They are among the greatest sponsors of art in Germany. The collection spans Greek and Roman antiquities, old American artefacts, and expressionist and turn-of-the-century art. Their famous Picasso collection is the heart of the exhibition.

Helvar GmbH are responsible for the sale of all Helvar-Electrosonic Group lighting products in Germany. Many significant installations there are now using Electrosonic lighting control.



The main entrance of the Germanisches Nationalmuseum.



The Ansfuss-Saal lecture hall. The photos here are by Schmidt & Pflaumer, Nürnberg. Copyright Germanisches Nationalmuseum.



Dealer training at Hawley Mill.

## Lighting Training

Since the last issue of ELECTROSONIC WORLD, the entire range of Electrosonic Lighting Controls has been replaced. The IMAGINE range has taken over from DIGIDIM, and AMBIENCE from SYSTEM 12. All the new products meet the new European standards for electromagnetic compatibility, and all are constructed with surface mounted components. These allow a more compact construction and

give greater product reliability.

But new products mean that staff, distributors, dealers, specifiers and installers must be trained in the products. Besides being supported by comprehensive documentation, the lighting control products are the subject of extensive training courses.

The photograph shows one such course taking place at Hawley Mill. Distributors from several countries are doing "hands-on" training in our presentation room. Eight teams are each working with a complete 12 channel IMAGINE rack, with lamp loads to clearly show what is happening. Each training system has a SCENEMAKER for programming, and a range of control panels and controllers.



The Electrosonic SCENEMAKER lighting programmer.

## FIVE STAR

As part of a planned programme to update all of their existing lighting control systems, London's famous Dorchester Hotel has chosen to use the Electrosonic IMAGINE range.

The magnificently refurbished five-star hotel in Park Lane now has an IMAGINE ESR12 system in the elegant Dorchester Bar. Electrosonic has a long association with the Dorchester, and this system replaces ES6090 equipment originally installed nearly 20 years ago!

The Scenasetting capabilities of the IMAGINE Range are ideally suited to the requirements of the Dorchester Bar, which is open from late morning until very late at night, every day of the week. For lunchtime, intimate suppers, sophisticated cocktails and live jazz evenings,

the right mood is enhanced by the appropriate lighting scene, created by IMAGINE at the touch of a button.

While the Dorchester Bar was the first of the new systems to be commissioned, the other public areas of the hotel have also been equipped or re-equipped with IMAGINE.

Also shown below right is another prestige IMAGINE installation in London at the RAF Club.

Peter Owen, General Manager and Secretary of the RAF Club said, "We are delighted with the IMAGINE system. Although it's early days for us, and we are still experimenting with our SCENEMAKER, we have no doubt that the Scenasetting feature is going to be of great benefit to us."



The Dorchester Bar.



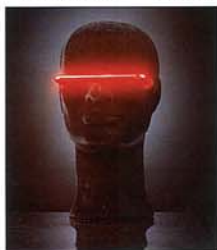
# INTELLIGENT LIGHTING

Electrosonic and Helvar were both pioneers of electronic lighting control in the 1960's. Their products exploited first the thyristor and later the microprocessor to make lighting control more effective in architectural applications.

Now they pool their expertise in developing more powerful products, and while Electrosonic concentrates on dimmers and master control systems, the Helvar laboratories are exploring new component concepts for the twenty-first century.

The foreseen trends are as follows

- the cost of energy will, once again, become an important factor in lighting system design.
- clients are beginning to demand integrated energy management systems.



"Intelligent Lighting"



A test Helvar LP installation in 10 offices, corridors and a conference room is at Skandia Assurance, Stockholm.

Sometimes the systems integration includes security. - the aesthetic aspect of good lighting requires that it be possible to balance levels from different sources for different activities.

Already Helvar electronic ballasts for fluorescent lamps can save 30% of energy costs, and this saving can be increased when a master control system, with or without dimming, is added. However, while today's economics favour the ballasts and control systems being considered separately, there can be hidden extra costs

when installations must be reconfigured.

For example in offices it is a frequent requirement to move partitions, and this invariably involves re-wiring of the lighting control, and often requires additional programming of the system.

## Helvar LP

The newly developed Helvar LP system gets round these problems. In this system each electronic ballast is equipped with a powerful communications and control "chip", with its own unique address number. The chip is known as the Neuron (R) chip designed by the Echelon (R)

Corporation, and networks of them work in a "Local Operating Network" or LON (R).

The control connections can, in principle, be by any of twisted pair, infra-red, fibre optic, or the power line itself. Initially the Helvar LP system uses twisted pair, but connection across to other LON based systems can use any of the other methods.

Not only does the LP system allow for a simple installation architecture, but the programming can be done directly from simple push button panels. Larger systems can use computers, and here the advantage of the LON system can be that in big buildings lighting control using Helvar LP components can co-exist, from a building control point of view, with other LON-based equipment, by other manufacturers, dealing with items like air conditioning, heating and security.

Test installations of the LP "Intelligent Lighting" system are already in place.



A cut-away LP ballast, showing the Neuron (R) chip.



JW Marriott Hotel, Dubai.

## EASTERN PROMISE

Electrosonic has long been a supplier of lighting control systems to major projects in the Middle East and Pacific Rim countries. Hotels and restaurants are a speciality, and a few examples are shown here.

Forte's first hotel in Egypt, Forte Grand Pyramids, overlooks the Pyramids of Giza. IMAGINE lighting control is used in all the public areas, and the eight dimmer racks were installed by Nile Aster International.

Another Forte Hotel, Forte Grand Abu Dhabi, uses DIGIDIM equipment supplied through the electrical

recalled automatically by timeclock. In the restaurants



Forte Grand Pyramids Hotel, Egypt.

and banquet suites, lighting scenes are selected by push button.

Light Sound Image Systems Ltd, our distributors in Hong Kong, report that they have installed a 96 channel IMAGINE lighting control system in the Hong Kong Planet Hollywood Restaurant, the first Planet Hollywood to open in Asia.



Al Jabal Lebanese Restaurant at the Forte Grand Hotel, Abu Dhabi.

contractor, Emirates Trading Agency.

The JW Marriott Hotel in Dubai has a large DIGIDIM/SCENESET installation, commissioned and programmed by our local distributors, BCL International.

The same equipment is used in the public areas of the Grand Hyatt Hotel in Jakarta, Indonesia. In the atrium lobby the lighting scenes are

Light Sound Image Systems also represent Electrosonic lighting control products in Singapore and Malaysia. Both markets are using IMAGINE and AMBIENCE lighting products in hotels, public buildings and private houses.

Recent contracts in Singapore include the lighting control systems in the Orchard Hotel, the Orchid Country Club and the Garden Hotel.



The atrium lobby of the Grand Hyatt Hotel, Jakarta, Indonesia.

## Royal Meridien

The Royal Meridien Hotel is built on a natural causeway and, with interior design by Yves Pierre Rochan, is set to become the premier hotel in Bahrain. It is the Middle East flagship of the Paris based Meridien Hotel Group.

It is also the site of the first IMAGINE installation in Bahrain - and, to date, it is also the largest such installation in the Middle East. Electrosonic supplied 28 IMAGINE dimmer racks through local distributor Khayber Trading Company to provide lighting control for the atrium, lobby, restaurants, bars and ballroom. SOLO unit dimmers were supplied for the Emir's personal suites.

Electrosonic were also appointed to undertake the much larger contract to design and install the entire audio, video and stage lighting system for the 1500 capacity ballroom at the hotel.

A full stage lighting rig, specified by Electra, uses a Celco PATHFINDER control console. The main room control is by three Electrosonic PRC units, while a separate boardroom area uses MRC to control video, slides and audio.

The main room includes a complex speech reinforcement and show sound system, with a separate 40 delegate conference microphone system. Video facilities include three Barco 801 projectors, which are normally concealed in the ornate ceiling, but descend on motorised lifts when required.

The Royal Meridien installation is a good example of a client taking advantage of both Electrosonic's systems engineering capability and Electrosonic standard lighting control and audio-visual products.

## SHANGHAI TV TOWER

An unusual current project for Electrosonic is the lighting control system for the exterior lighting of the tallest tower in Asia, the 460m high TV Tower in Shanghai.

The tower stands on the bank of the Huangpu River in the new development area of Pu Dong, directly opposite the famous Shanghai Bund. It was designed by the East China Architectural Design Institute, and built by Shanghai No 1 Construction Corporation.

Two huge spheres, 40m and 50m diameter, joined together by three 9m diameter tubes, contain public entertainment facilities in addition to the TV transmission equipment. The five intermediate levels, which

link the three tubes, contain hotel bedrooms, and the authorities expect that 2 million people will visit the tower every year.

The overall lighting scheme for the tower was designed, supplied and commissioned by Ohyama Lighting of Tokyo. They used advanced CAD colour rendering programs to present different possible schemes to the client. The lighting is almost entirely made up of metal halide discharge lamps, many coupled to fibre optics. High power xenon projectors at ground level throw shafts of light to the top of the tower.

The idea is that when dusk falls the lighting of the tower continually changes. 25 Electrosonic IMAGINE racks located at various levels within the tower control 320 20A circuits of lighting. In this case the dual IMAGINE modules are mainly being used as power switches. Five SCENESET controllers are used, all controlled by a SCENE MANAGER.

Ohyama Lighting are Electrosonic's distributor for architectural lighting controls in Japan. Our Hong Kong office has worked closely with them during the specification of the Shanghai project, and is helping with the final programming.



The Shanghai TV Tower.



The Ballroom at the RAF Club in London's Piccadilly. See "Five Star" (left).



## LIGHTING FOR ENTERTAINMENT

Electrosonic's Celco Division specialises in the manufacture of lighting control consoles for live entertainment. Standard Electrosonic products are also suitable for many entertainment applications.

# Celco on tour

The history of Celco is the history of the big touring music show. The founders of Celco, which became part of the Electrosonic Group in 1991, were themselves lighting practitioners, and the Celco products were developed out of practical experience and a real appreciation of users' needs.

While some people argue that "computers can now do everything", it is the case that the live control of hundreds of lights is easier done with controls that allow instant "hands-on" interfacing with



Eric Clapton at Sheffield Arena, Lighting Director Tom Kenny.



Meatloaf, also at Sheffield Arena. Lighting Director Bill Sheldon.

the equipment. Computer techniques are at the heart of Celco consoles, but the human interface is what makes them ideal for their task.

Celco lighting consoles are to be found behind the scenes, or, more usually in rock shows, out in front, whenever big name performers go on tour. The Celco Gold has become an industry standard, and most of the leading lighting companies specialising in renting out big lighting rigs have many "Golds" in their inventory.



Little Angels at Hull City Hall. Lighting Director Tom Kenny.

Some examples of current rock music users are shown here. However, the way in which lighting for rock shows has advanced has greatly influenced the way in which lighting is used at product launches, sales conferences and similar events – so Celco products are widely used in this application too.

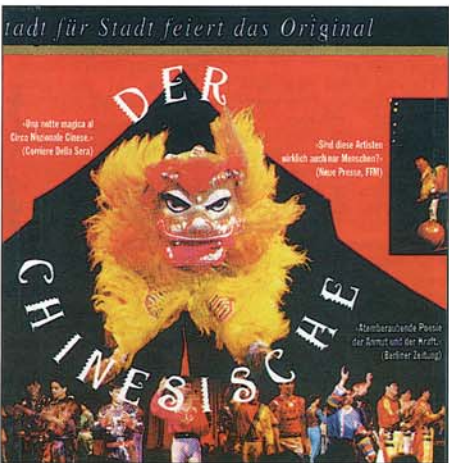
This convergent process has also resulted in TV studios and multi-purpose venues using Celco consoles – sometimes in parallel with more "conventional" memory controls

# CHINESE CIRCUS

The smaller Celco lighting control consoles are ideal for special entertainment events, cabaret – and even circus. Often they can be the main lighting controller, sometimes they are used in parallel with other controllers as part of a large system.

An unusual example is the tour of the Chinese National Circus in Germany. The picture shows the "flyer" used to promote the Frankfurt event. In this case a Celco NAVIGATOR was used alongside a High End LCD controller to drive 8 Intellibeam (TM) moving lights, and a variety of PAR lights via a Celco DMX decoder.

The lighting for this performance was expertly designed by Antonius Quodt.



One of the mimic patch panels for TBS, under test at Hawley Mill.

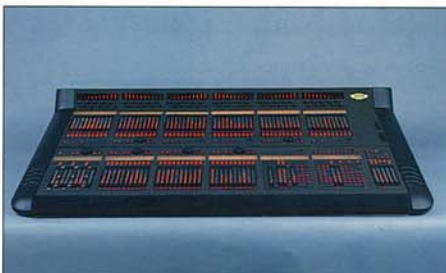
# AVIATOR in Tokyo

... continued from Page 1  
The order from TBS is a good example of how Celco products are moving in to the fixed installation market. In this case the Japanese TV company has decided that there are some kinds of entertainment programmes which need the versatility and fast "hands on" facilities provided by AVIATOR.

Each of the two consoles include 60 channel controllers, 30 cue playbacks, three sequence playbacks and a rate playback. The modular construction of

AVIATOR has, in this case, allowed the simple construction of a customised configuration. The transputer distributed processing used by AVIATOR ensures high reliability, and facilitates the inclusion of the "hot" standby equipment – which will now be offered as a standard option.

The Systems Manufacturing facilities at Hawley Mill ensured that there was no problem in building the very special active patch panels. These were styled to match the AVIATOR.



The AVIATOR Lighting Control Console.

# Music Hall

The Music Hall at Aberdeen, Scotland, owned by the City of Aberdeen, has recently undergone a major refurbishment. This venue is host to many different types of production, and is of a kind where very rapid lighting set-ups are required. While many events need a "theatrical" approach to the lighting, there are as many more that require the "hands on" approach – especially music shows and one day shows.

Sandy Brown Associates were the consultants for the project, and their specification was such that Northern Light, the specialist theatre contractors, recommended that the AVIATOR T180 was the only console that provided the required combination of facilities.

## Northern Light

Most Celco Lighting Consoles are used in temporary installations, and are specifically designed for the live show where running orders and timings are changed "on the fly". However, the new AVIATOR allows for many different ways of working, including the traditional cue based "theatrical". The unique LCD display panels give the operator full status information, and their siting next to digital faders eases the operator's task when hundreds of channels are to be controlled.

The Aberdeen installation is the first of what are expected to be many similar permanently installed AVIATORS in the U.K.

Northern Light specialise in the technical needs of the theatre. At Aberdeen they had to carry out installation of equipment while the theatre was still open for business. In addition to supplying the AVIATOR, Northern Light also supplied and installed a new sound system at the Aberdeen Music Hall.

# NAVIGATOR in Hong Kong



# PATHFINDER in South Africa

The picture above shows Bruce Genricks demonstrating a Celco PATHFINDER console to his partner Louie Coetzee in the new showroom of Electrosonic South Africa in Johannesburg. They report that business



has been very good, resulting in the need for more space and a new office. The Celco PATHFINDER console fits very well into the local market. Electrosonic SA sell both our lighting control and audio-visual products.

The Electrosonic Distributor in Hong Kong, Light Sound Image Systems Ltd, report an interesting use of both NAVIGATOR and PATHFINDER lighting consoles in the Windsor House Shopping Arcade in Hong Kong.

Here the lighting in the four storey cone shaped atrium is designed to create a "Whimsyland" effect. A fully automated sound and light system uses Electrosonic BSC control to issue MIDI commands to linked NAVIGATOR and PATHFINDER consoles.

The same technique of using Celco consoles as automatic controllers is used in Portrush, Northern Ireland – see the story on Page 13.



## COMPANY NEWS

# FIVE BUSINESSES

During 1993 the Electrosonic Group streamlined its operations, to better serve its customers, and to concentrate on its market leading products and services.

The criterion was to identify those businesses where Electrosonic either holds a leading position, or has the potential to do so. Applying this criterion led to our withdrawal from contract manufacture, in order to devote more resources to our own products. But this left no less than FIVE major business activities:

- Architectural lighting control
- Lighting control for live entertainment
- Video display
- Systems integration
- Special venue movie systems

As described elsewhere in ELECTROSONIC WORLD, these activities are worldwide, although not all products are supplied to all markets.

### Lighting Control

Architectural lighting control embraces the supply of dimmers and lighting control systems for every application from the smart private home to the largest public building. Product development and marketing is closely co-ordinated with Helvar, because many of the larger schemes require a Helvar-Electrosonic "group" approach - especially when fluorescent lamps are used.

The "Live Entertainment Lighting Control" activity is represented by the Celco line of products. These are specialised lighting control consoles, used at major pop music concerts, industrial theatre events and in TV studios.

### Video Display

Video display is the largest

"product" activity of the group. The main product line is a complete range of image processing equipment for videowall display, which is sold worldwide. The biggest single market is, perhaps not surprisingly, the USA.

### Systems

Systems Integration covers the engineering of complete audio visual, sound and lighting control systems for two main markets. One is for "business communications", which embraces presentation suites, training facilities and specialised control rooms; and the other is for "culture, entertainment and leisure". This covers the needs of museums, theme parks, exhibitions and visitors' centres.

The Special Venue Movie Systems activity grew out of our systems integration work. Because we have a number of proprietary designs and system packages, we decided to identify it as a separate business unit. From a standing start two years ago, this Los Angeles based unit is now a multi-million dollar business for Electrosonic.

### Multi-image

Long standing customers of Electrosonic may be wondering where some of our "traditional" products, such as multi-image control equipment, now fit. Although the spectacular growth in video business has overshadowed the standard AV business, we are still very much in AV. The difference today is that these products are now managed by our Systems Integration division.

This is because the products concerned are seen as "systems integration tools". A complete new range of products is currently being developed.



Electrosonic's "castle" in Burbank, California, home of the USA Systems Division.

# ON THE MOVE

We have been established in the USA for over 20 years, and the North American operations of Electrosonic now provide about half of group revenues. Originally set up to distribute UK-made Electrosonic products, Electrosonic Systems Inc is now a net exporter from the USA because of its special systems business and manufacture of PROCUBES.

Management of our Canadian and USA operations is now co-ordinated. Since the last issue of ELECTROSONIC WORLD, all three of our offices have moved.

### Castle

Our HQ in Minneapolis moved a few blocks into a much larger building, the Los Angeles office moved over



A winter scene at Electrosonic in Minneapolis.



Electrosonic in Toronto has moved from downtown to this building in North York.

the road into a splendid "castle", and the Toronto office moved out of downtown.

Minneapolis directs all videowall sales in North America, and has a large engineering facility. Toronto is a regional sales office for videowalls, and has a systems division specialising in the needs of business communications, including video conferencing. Los Angeles (actually Burbank) is responsible for Systems sales, in particular for theme parks, EXPOs and museums. This office is also responsible for our special venue movie systems activity.

# HONG KONG

A significant part of Electrosonic's business comes from the "Pacific Rim" countries. In order to support sales in this area, and to avoid the problems of doing business across time zones, Electrosonic have a representative office in Hong Kong.

This office does not trade on its own account. It can be thought of as an extension of the UK and USA offices, but in a different time zone. It is there to support dealers, distributors and end customers in the area.

The main aim of the office is to support the sales of lighting control and videowall products. The markets covered include China, Japan, Korea, Indonesia, Singapore, Malaysia, and Taiwan.

# GmbH

Electrosonic GmbH in Germany is Electrosonic Ltd's oldest subsidiary. It was founded in 1972, and for many years was based in the city of Düsseldorf. A few years ago it moved to purpose built premises in Langenfeld.

Now that Electrosonic is part of a larger group, the arrangement is that all lighting products are the responsibility of Helvar GmbH of Rödermark, near Frankfurt. This is a similar arrangement to that in the UK.

Electrosonic GmbH meanwhile remains responsible for audio-visual product sales. Video demonstration facilities are being extended to support sales demonstrations not only for the German market, but also for nearby countries.

# Lighting Link-up

The one area of product overlap that exists between Helvar and Electrosonic is in lighting control. Both companies make dimmers. In order to exploit the strengths of both development laboratories, and to avoid duplication, the management of lighting control products is now co-ordinated on a group basis from Hawley Mill.

Similarly, in order to offer clients complete solutions, and to make better use of resources, the selling of Helvar and Electrosonic lighting products within the United Kingdom has been combined. Helvar Ltd, based at both Brentford and Hawley Mill, is now the UK Distributor for Electrosonic Architectural Lighting Control products.

This arrangement gives clients the option of getting



The combined Helvar-Electrosonic Lighting Showroom at Hawley Mill, Dartford, UK.

both "components" (fluorescent ballasts) and "control" (dimmers) from a single source. This makes increas-

ing sense as developments like those described on Page 3 begin to blur the distinction.

# Maidstone goes cellular

The company re-organization that took place in 1993 included a big change in the way products are manufactured. In order to concentrate solely on our own products, we withdrew from contract manufacture, and consolidated most of our product manufacturing facilities in our Fairfax Building in Maidstone.

This is now laid out for "cellular manufacturing". Each product group has its own dedicated production area, and its own team. The aim is to increase individual manufacturing skills so that people within a team can swap tasks as needed, and so that teams can quickly be augmented or contracted in response to demand.

The new arrangements are having a dramatic effect in

improving delivery times, and reducing stocks and work in progress. Further investment in automated production machinery is eliminating bottlenecks and improving build quality.



Automatic testing of dimmer circuit boards on a Marconi tester at Maidstone.



IMAGINE dimmer testing station.



## THE VIDEO WALL

The videowall is a powerful method of display, with many applications both for big image and multiple image display. Electrosonic's PICBLOC image processing equipment for videowall is the market leader.

# PICBLOC ON TV

Ever since videowalls first became a practical proposition ten years ago, they have been widely used in Television.

The first use of videowalls on TV was based on monitor walls. These are still widely used, especially where the gridded multi-image look fits the set design or when space and money are at a premium. However, most applications use projection videowalls ("cube" walls), especially when they are being relied upon to be a big image display device for the studio audience.

Game shows and family shows use the videowall to provide the game structure, or to allow the easy replay

the UK support many TV shows. Probably best known is Granada TV's "You've Been Framed", which achieves audiences of up to 17million, and has been supported by ProQuip for five years.

The BBC's "Family Show", also serviced by ProQuip, uses a 30 cube wall with 8 video inputs. This show takes great advantage of the flexibility offered by Electrosonic's C-THROUGH videowall control program. The computer is sited in the main control gallery above the studio floor.

News and current affairs programmes are consistent users of videowalls. Just a few examples are shown here. RTBF, the French language service of Belgian TV uses a 2x2 PROCUBE wall to support "TV Journal". In this case an Electrosonic VCU is used to store 13 different videowall effects which can be push-button selected.

Another PROCUBE user is RTL Television of Cologne. They rent a total of 22 cubes with associated PICBLOC-3 and PROFIG control from



The "Family Show" - BBC, UK.



"You've Been Framed" - Granada TV, UK.

of video clips to the studio audience.

ProQuip Video Rentals of

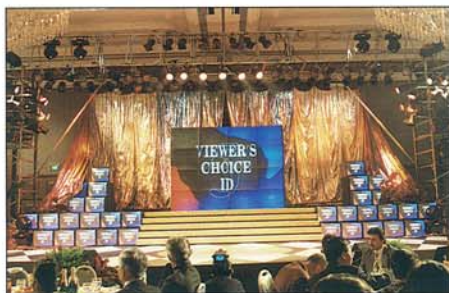


Jacques Bredael on RTBF News, Belgium. Mediatone supplied the Electrosonic videowall.

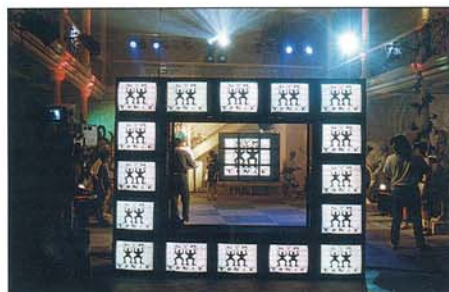
Electrosonic GmbH for "RTL Nacht-Journal", a 30 minute midnight news programme.

CBC of Canada are regular users of videowalls, and often rent them from Multivision Electrosonic in Toronto. The examples shown here are both for elections - where the videowall can help show the facts and figures as they arrive.

Videowalls do not have to be TV shaped. Impact Audio-Visuel of Montreal, Canada provided a "hole in the middle" 5x5 monitor video-



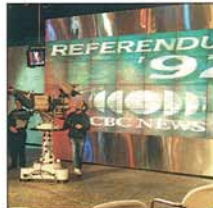
Singapore Broadcasting Corporation using a split wall on mobile platforms. Notice the mix of monitors and cubes.



"Gymtonik" on the French language family channel, Montreal, Canada.

wall for "Gymtonik", a thrice-weekly pre-teen exercise show. For the Singapore Broadcasting Corporation's annual "viewers' choice" show Techmen Communications supplied a mixed format display using 16 cubes and 52 28" monitors.

The photographs show that the cube wall was in two parts, and could "split" during the show - each half being on a moving platform.



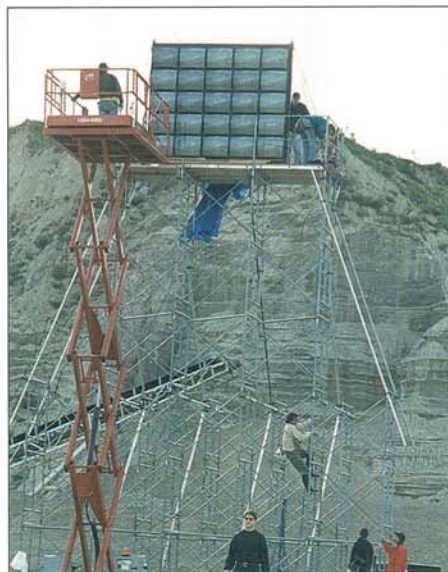
CBC News during the Referendum in Canada, 1992.



CBC, Canada, using a videowall in the atrium of their new HQ, during the 1993 elections.



Heiner Bremer on RTL Nacht-Journal, Germany.



An unusual rental assignment for Electrosonic in Toronto.

## Flying Wall

CTV Network of Toronto, Canada, wanted a spectacular shot to advertise their 1993/4 Fall and Winter programs. Their original idea was to have a helicopter lift a PICBLOC videowall running a show. Local regulations meant that a twin engine machine would have to be used, so this being out of budget range, the producers had to "fudge" the shot.

This was done by using a huge crane (not in the picture above) and required that the videowall start by being 40ft in the air! The shoot started at dusk, and was completed at 6.00 a.m. the next day.

The picture of the videowall in a quarry north of Toronto qualifies as our "least likely" installation picture.

## Walls on Wheels

UK based Morgan Broadcast specialises in supporting the imaging needs of broadcasters and professional display. They have built a mobile videowall in 4x4 format which can easily be towed. It can be operational within a few minutes of arrival at a particular site.

It is used for special events (especially sports) and for TV work, where it is often just driven in to the studio. Recently it went to the BBC Research Laboratories, where, in conjunction with Electrosonic, it was checked for suitability to display the Eureka 1250 line HDTV standard.

The HDTV images, sourced from camera or from four D1

tape machines running in sync, were outstanding. You could count the blades of grass on the centre court at Wimbledon!

The Morgan Broadcast "wall on wheels" uses Sony RVP400 "cubes" and Electrosonic PICBLOC-3 image processing.



1250 line HDTV on Morgan's wall at the BBC Research Laboratories.



Morgan Broadcast's mobile videowall seen promoting Ford car sales at London's Waterloo station.



# ARENA WALLS

The videowall is an ideal large screen video display for sports arenas. It combines high resolution, multiple image programming capability, high brightness and excellent value for money.

Three examples of installations involving Electrosonic are shown here. Anything in Texas is by definition larger than life, so it is no surprise to find the world's two largest permanently installed projection videowalls in the home of the San Antonio Spurs, the Alamodome.

Premier Sports Marketing arranged the sale of the two Electrosonic 10x10 PROCUBE/PICBLOC-3 videowalls to the Spurs. The giant displays are at opposite corners of the \$180 million, 80,000 seat multi-purpose arena.



One of two 10x10 PROCUBE videowalls at the Alamodome, San Antonio, Texas.

combined scoreboard and video display which includes four 4x4 PROCUBE displays with PICBLOC-3 control and multi-source capability. Fiber optics are used to deliver the TV picture to the display.



One of the Alamodome videowalls under construction.

## Europe

In Europe it is not so easy to get the advertising-based funding that supports the USA arena installations, but a start is being made. For example at the Malmö Istadion in Sweden there are two 3x3 displays serving the majority of the audience, suspended over the center of the arena.

This installation uses Pioneer "cubes" with Electrosonic PICBLOC-3 processing. The installation was by one of our dealers, Centas Konferens-TV AB.



Two 3x3 videowalls at the Malmö Istadion, Sweden.

## Sharks

It is common for some sports to use a scoreboard "gondola" suspended over the center of the arena. The advantage of this is that viewing distances are shorter, and the displays can be considerably smaller.

The San Jose Arena is a good example. Here the NHL San Jose Sharks purchased a



Octagonal gondola at the San Jose Arena.

## Walls Outdoors

We are often asked if videowalls are suitable for use outdoors. Apart from the obvious need for weather-proofing, the main problem is sunlight.

While videowalls work quite satisfactorily in high ambient light environments like shopping malls, tents, arenas and exhibition halls, they cannot compete with direct sunlight. They are, however, entirely suitable for overcast, dusk or night lighting conditions.

## Concerts

Thus Electrosonic videowalls have been widely used in major music concerts and special events. We know that the Morgan mobile wall (see opposite page) is often used successfully outdoors at sporting events.

"Cube" walls give the brightest image and do not suffer from the specular reflection that can be a problem with monitor walls. But as the photo below shows, it is quite practical to use monitor walls in overcast conditions. Here two 8x8 monitor walls were installed by Impact Audio Visual of Montreal, Canada, for three outdoor concerts broadcast live by CBC.



Montreal's 350th Birthday celebrations used 8x8 monitor videowalls, with PICBLOC-3 control and C-THROUGH programming.



Videowall in the Ram American Grill, Tacoma, Washington.

## Pubs & Bars

The theming of pubs and bars, especially those providing sports replay facilities, has opened up a number of opportunities for projected videowall display.

Ram International Inc run a number of sports restaurants in the USA. When they opened their American Grill in Tacoma, their entertainment co-ordinator, Peter Brown "wanted the restaurant to be the best you can get without being at the actual event". A 3x3 PROCUBE videowall plays live video of sporting events.

A similar installation is to be found in the Maxspeed Sports Bar in Singapore. This one was installed by our dealers, Tech-Men Communications Pte Ltd.

In the UK a division of

Whitbread, Bowland Inns is opening a number of themed pubs "Never on a Sunday". The first is in Blackpool. AEI Rediffusion Music are responsible for the sound and lighting installations, and chose Electrosonic as videowall subcontractors. Two 2x2 PROCUBE videowalls are complemented by banks of single monitors.



Maxspeed Sportsbar in Singapore.



"Never on a Sunday" - a Whitbread theme pub in Blackpool, England. Photo Disco Mirror.

# CORPORATE VIDEO

When a company remodels its headquarters lobby or display area, there is a real opportunity to use videowalls to create a lasting impression and to meet corporate communication goals. Two outstanding examples are shown here.

Emerson Electric is one of the leading corporations in the USA. It has eight core businesses and 40 divisions. To mark its centenary Emerson chose Michael Fox Inc to design a new lobby for their St Louis, Missouri headquarters. In turn, Emerson

and Michael Fox Inc called on Busch Creative Services to provide the video content.

Emerson wanted a display which would present the scope of the company and which would be visitor interactive. The video centerpiece is a 3x5 videowall using Pioneer cubes, Electrosonic PICBLOC-3 image processing and C-THROUGH programming. Busch Creative provided a 10 minute continuous product overview which presents the company as a whole. In addition they produced 35 "mini-shows", each devoted to a particular division. These can be selected by a simple touch screen to override the continuous loop.

## Benetton

Located in New York City,

Benetton Sportssystem, a sports holding company which includes such well-known brands as Nordica, Prince and Rollerblade, has opened a multi-media showroom in the landmark Scribner Building on Fifth Avenue. Benetton Sportssystem Communication has been established to manage and coordinate the diverse communication operations of the group, and the New York facility is a key component.

Here again it was realised that the audio/visual support would require professional program production to the highest standards, tailored precisely to the owner's objectives. In this case Dennis Earl Moore Productions, Inc. of Brooklyn Heights, NY, have designed a sophisticated user-friendly AV sys-

tem featuring a 4x4 videowall display using Electrosonic PROCUBE and PICBLOC-3.

The system runs both live and pre-programmed shows and accepts international formats. In addition, the facility is actively used as a venue for special events and

corporate meetings with the AV system providing unlimited audio and visual support.

These two examples achieved excellent results, thanks to informed clients with clear objectives, and professional advisers of great experience and creativity.



Emerson Electric's Corporate Lobby Display, St Louis, Missouri.



Videowall at Benetton Sportssystem US Headquarters in the Scribner Building on New York's Fifth Avenue.



## THE VIDEOWALL



Bankten Management Services, a GM company, designed the spectacular stand for GM Canada's 1994 AutoShows.

# SHOW-OFF

Videowalls are widely used in big public exhibitions, and Automobile Shows above all. Our Toronto office has worked with GM Canada for several years, and the GM exhibits at the 1994 Auto Shows made exceptional use of video.

Centerpiece was a 6x4 PROCUBE videowall, running in synchronisation with multi-channel audio and lighting effects.

Within an eight week period the same display was presented in Montreal, Vancouver, Edmonton, Toronto and Calgary, and smaller set-ups were used in Ottawa and Quebec City. Some of the shows overlapped, so Multivision Electrosonic worked with Impact Audio Visuel (Montreal), and Electrosonic Systems (Minneapolis) to "top up" the videowall inventory.

The Canadian Museum of Civilization are long standing customers of Multivision Electrosonic, and at their annual Open House they sometimes need video support. A PROCUBE videowall was used at the unveiling of the Alex Janvier mural - the video display was easily able to compete with the daylight from the 80ft high windows.

Another "special occasion" is the NHL Awards. When it was CBC's turn to present the show, they turned to Multivision Electrosonic to provide a 32 cube videowall mounted on an elaborate truck system that allowed the display to split into multiple 4x2 units.



Open House at the CMC. PROCUBE video reinforcement.



CBC used moving videowalls for the NHL Awards. Four 4x2, two 4x4, one 8x4, or two 4x2 and one 4x4 could all be shown.

## The Big Day

ProQuip Video Rentals Ltd and their associates Gearhouse are the largest renters of videowalls in the UK. They have hundreds of monitors and "cubes" for hire.

Their cube rental fleet is a mixture of Pioneer Cubes, Electrosonic PROCUBES and Sony RVP400s. The great majority of their videowall work is done with Electrosonic PICBLOC-3 image processing.

Whenever there is a special occasion ProQuip and PICBLOC-3 are on hand. Here are three examples. The Welsh BAFTA awards with a 55 cube wall fed by two composite sources and two RGB graphics sources. The IVCA Awards with a 40 Pioneer cube wall, and the opening of Manchester Airport's Terminal 2 with a 5x5 PROCUBE wall.

The latter was particularly interesting. The first presentations were done with single screen lightvalve projection. This simply could not compete with the ambient light. Videowall to the rescue!



The 1993 Welsh BAFTA Award Ceremony.



The 1993 IVCA Awards Ceremony at Grosvenor House, London.



The opening of Terminal 2 at Manchester Airport, UK.

## Miss Universe

VDP of Holland are experts in providing video facilities for many different kinds of events. They provide videowall displays for special occasions, conferences, exhibitions and TV shows.

In March 1994 they provided the videowall for the 1994 Miss Universe competition in the Netherlands. This used Electrosonic PICBLOC-3 image processing with HD digitisers and Sony RVP400 "cubes".

## PICBLOC Shopping

Both monitor and "cube" videowalls are now widely used in retail applications. Monitor walls have a comparatively small "footprint", and are popular for multiple stores. "Cube" walls are used in larger venues where clients require the best possible image quality.

The Electrosonic IMAGE-MAG videowall processor for monitor videowalls has helped open up the market all over the world. The examples shown here include a 5x5 display using three IMAGE-MAGs to show off-air and live camera in a shopping mall in Turkey, and a 3x3 display in Tower Records in Hong Kong.



Everyday Hero, Mall of America, Bloomington MN USA.



ANT of Istanbul and Ankara installed this IMAGEMAG videowall at Istanbul's busy Capitol Shopping and Business Centre.

Not surprisingly media companies are wide users of videowalls, because they already have the "software", and can use the videowall to sell it. But an unusual installation is that at Doppler Computer Centre in Vancouver, which includes a café area (The "Hard Drive Café"). Their idea is to make computer shopping "relaxing" - helped by a 3x3 PROCUBE videowall.

3x3 cube videowalls will become cost effective for many retail users with the advent of the new IMAGE-STAR processor from Electrosonic. This is a dedicated processor for the 3x3



Matrix Professional Video Systems Ltd completed the PROCUBE/PICBLOC installation at Doppler Computer in Vancouver, BC, Canada.



Electrosonic GmbH installed twin 4x4 PICBLOC-3 videowalls in the "Young Collection" C&A store in Cologne. Photo Wurdel & Schenck.



LSI Systems Ltd of Hong Kong installed this IMAGEMAG controlled videowall in the Times Square branch of Tower Records - the largest CD outlet in Hong Kong.

## Radio Promo

Our distributors in South Africa, Electrosonic SA, have many years experience of videowalls, having sold significant installations using PICBLOC 256 and PICBLOC 36 (see previous issues of ELECTROSONIC WORLD!). Now they are having great success with IMAGEMAG, and are expecting to update their PICBLOC 256 rental customers with the latest PICBLOC-3 equipment.

A typical rental project is shown here, where a local

radio station is doing a promotional road show, supported by an 18 monitor videowall. This application of videowall display is highly cost-effective.



Radio 702 promotional videowall.

The winner was Miss South Holland.



"Miss Universe" in The Netherlands, 1994.





Telstra's International Network Operations Centre in Sydney uses two 3x3 videowalls.

## TELSTRA Network Control

Electrosonic's associate office in Sydney recently completed a high-tech videowall installation for the International Network Operations Centre (INOC) of Telstra, Australia's leading telecommunications carrier. Telstra's international network provides Australia's links to more than 200 countries worldwide.

The display allows INOC to get an overview of what is happening on Telstra's network, and allows individual operators, who have their own terminals, to perform detailed monitoring and control. In an emergency, or at any time when greater detail needs to be seen from a distance, individual images can be enlarged.

In order to fit into an exist-

ing building, the display is arranged as two groups of nine screens, each arranged 3x3. The display can be seen by the 20 or so operators seated at consoles within the room. The display is able to directly display the outputs of 18 X-Terminals, but by push button selection, any one of the display signals can be "magnified" to cover a larger part of the display.

### Cricket

The display can also show video, and off-air TV, so that the operators can view important events; for example, the cricket! The photograph shows the display presenting 13 different graphics screen, off-air TV and one graphics screen magnified to 2x2. Resolution

is 1024x768, which is more than adequate for the viewing distances that apply.

The system uses Electrosonic PICBLOC image processing equipment and a custom built interface and switching system to route the X-Terminal and video signals either directly to individual screens, or through the PICBLOC image splitting equipment. The projectors are Sony RVP400, chosen for their ability to display directly the X-Terminal output.

The projection display system was installed and commissioned by Electrosonic Systems Pty Ltd of Sydney. The complete control and image processing equipment was built by Electrosonic Ltd at Hawley Mill, Dartford.

## High Definition Walls

Electrosonic are working on several videowall projects requiring high definition display, and new products for this specialised market are being introduced on a regular basis.

Within the PICBLOC-3 range it is now possible to specify digitisers suitable for HDVS (1125 line 60 field interlaced) and Eureka (1250 line 50 field interlaced) high definition television. In addition graphics and data digitisers are available for VGA, S-VGA, X-VGA and 1280 x 1024 displays.

Usually the high resolution graphics displays are found in control room situations where refresh rates are comparatively slow (e.g. <5 times per second). However we are working on very high resolution displays ("multi-megapixel" or even "gigapixel") requiring 30 fps refresh, and we welcome enquiries for systems of this kind, however exotic.

The larger photograph shows an HDVS display on



High Definition PROCUBE videowall on the Evans & Sutherland booth at SIGGRAPH.

the Evans & Sutherland booth at SIGGRAPH. They were using their own high speed image generators in a futuristic hang glider simulation. While participants saw their "flight" images on large monitors, other visitors saw the image sequence on the PROCUBE videowall in high definition.

The smaller photograph is of an off-screen shot of a videowall run by Creative Technology Ltd of London. It



Creative Technology Ltd's High Definition videowall.

uses Sony RVP400 "cubes" and Electrosonic PICBLOC-3 HD image processing.

## THE PRESENTATION ROOM

We specialise in the technical needs of presentation, meeting and training rooms. Our expertise covers lighting control, audio, video, optical projection, data display and room control systems. We have a range of specialised products for systems installers, and our own Systems Division engineers complete systems in local markets.

## MRC at GT

GT Management is an international financial services company. They recently commissioned Electrosonic to instal the AV facilities in their refurbished London offices.

The Electrosonic MRC formed the hub of the system, providing audio and video switching with room control all in one neat package. Slide and video projection are located behind a presentation wall. This includes a silent motorised panel which conceals the rear projection screen when not in use.

Sources include VCR, off-air and computer data. The system also includes a link to the client's separately purchased video conferencing system, used for linking their London, San Francisco and Hong Kong offices. Lighting control is by Electrosonic MULTIDIM.



The conference room at GT Management PLC in London.

Although comparatively modest in complexity, the GT Management AV system is a good example of Electro-

sonic's ability to provide cost-effective, flexible, easy-to-use and reliable business communication systems.



Big bright pictures on screen at McDonald's Training Centre.

## New Zealand

Boyd Reynolds of Auckland, New Zealand, have sold Electrosonic AV equipment for many years. They have their own line of locally manufactured training room accessories which sells widely in Australasia.

They frequently use the Electrosonic MRC unit for audio and video control in training and meeting rooms. A typical installation of theirs is to be found at McDonald's Training Centre in Auckland. This is built into a refurbished school building. The rooms within it are finished to a very high standard.

The main training room has a high gain fresnel lens rear projection screen and provision for using one or two lecterns.



McDonald's Training Centre is housed in an old school.



The Boardroom of the Sydney Office of the Australian Stock Exchange.

## Daylight Viewing at the Stock Exchange

The benefits of using high gain fresnel lens rear projection screens are clearly demonstrated in the Ceremonial Suite of the Sydney Office of The Australian Stock Exchange.

The suite consists of ante-room, dining room and boardroom. It is equipped with full audio visual facilities, including teleconferencing. At one end of the boardroom there is an 84" rear projection screen.

This screen can display slides, video or data. There are no less than four separate data sources, three relating to live stock market trading information, and the fourth a PC for presentation graphics.

The screen is a two part screen, the back part is a large fresnel lens which con-

centrates the light from the projectors, and the front part is of "black stripe" construction which greatly improves the image contrast. Screens of this kind are very bright, having a "gain" of about 5 - this means that they are 5 times brighter than a conventional matt screen surface.

In practice the Stock Exchange have found that the image on the screen is bright enough to permit meetings using visuals to take place without the need to draw the curtains.

The complete audio-visual and lighting control installation was by Electrosonic Systems Pty Ltd of Sydney, working with builders and project managers Lend Lease Interiors, and architects Jackson, Teece, Chesterman and Willis.



## THE PRESENTATION ROOM AND AUDITORIA

## Bermuda and Frankfurt

The Intercontinental Hotel in Frankfurt set new standards when it opened in 1963. Thirty years later it is undergoing major re-furbishment to ensure it remains the group's German and East European flagship.

Intercontinental identified the marketing importance of equipping meeting rooms with state-of-the-art audio-visual facilities. However, it insisted that these must not spoil the high standard of comfort and finish within the rooms.

When they created their five-star conference suite on the 21st floor, they turned to UK consultants BJD to design the AV facilities to blend in with the rooms and to be concealed when not required.

Five boardrooms, a multi-

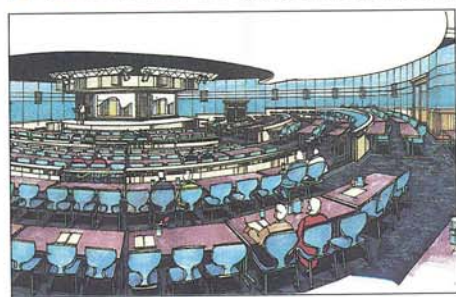


One of the "Boardrooms" on the 21st floor of the Frankfurt Intercontinental.

function room and a lounge are equipped with IMAGINE lighting control system (delivered by Helvar GmbH) and a comprehensive AV system engineered by Electrosonic Ltd, Dartford. Video projectors on motorised ceiling lifts, mobile furniture units containing source equipment, and central PRC and audio control are employed.

## Bermuda

The owners of the Southampton Princess Hotel



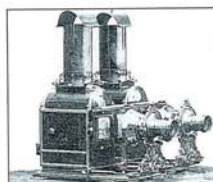
The multi-media amphitheater at the Southampton Princess Hotel, Bermuda (above).



in Bermuda realised that their existing meeting space did not meet business requirements. In an ambitious development they turned it into the "ultimate meeting room" for 450 people schoolroom style or 700 theater style.

Two screen computer/video/slide projection ensures everyone gets a good view. 48 channels of IMAGINE lighting control ensure the lighting is right for every event, and two separate sound systems give clarity of speech and 8.5kW of program audio. A Creston touch-screen controller simplifies operation of the facilities, and reduces the need for technician attendance.

The entire AV installation was engineered and installed by our Toronto office, Multivision Electrosonic Ltd.



Dissolve slide projection from Ganz in 1875.

Ganz  
150  
years

We may be proud of our 30 years in business, but in the year we started our Swiss AV Distributors were installing a massive 56 projector multi-image system, using their own large format xenon projectors at the Lausanne EXPO.

AV Ganz AG must be the oldest AV company in the world. They were founded 150 years ago, and have been in the projection business for most of that time!

To celebrate their 150 years, Thomas Ganz (fourth generation) has produced a marvellous book, "Die Welt im Kasten". His unique collection of imaging artefacts and documents was featured in a special exhibition at the Strauhof City Museum in Zurich.



56 Ganz large format projectors created a spectacular multi-image show at the Lausanne EXPO 64, thirty years ago.



PreussenElektra's presentation space at the Hannover Messe.

Hannover and  
European Parliament

The use of AV techniques at exhibitions is difficult. Big videowall displays can be used successfully as "come-ons", but linear AV programmes do not work unless a special environment is created for them.

In other words, unless you have a presentation room or theatre area on the exhibition stand, a traditional AV show with beginning, middle and end, is not likely to be cost effective.

But if you can create the right environment, then a mixed media show can greatly enhance a stand. The example above is the PreussenElektra stand at the huge Hannover Messe. A proper presentation area shows "Direction Europe - with Energy" a show using 30 slide projectors, 3 video projectors special lighting

and lasers, produced by Hüneburg AV&TV Film.

Technical installation was by Electrosonic GmbH. It used BSC/ES4003/ES5003 control.

A quite different style of installation is to be found in the fully automated conference rooms at the International Congress Centre of the European Parliament. Here our Belgian distributor, Mediatone, installed Electrosonic MRC control and Barco video/data projection in no less than seven rooms.



MRC control for Europe.



One of seven conference rooms equipped by Mediatone at the European Parliament Conference Centre.

## LECTRUM for Monash University

The Melbourne office of Electrosonic Systems Pty Ltd is where the well known LECTRUM (TM) is made. This stylish lectern has market leadership in Australasia, and is also widely used in other world markets. One version of it, the L500, is designed to work directly with the Electrosonic MRC room controller, and this

combination has formed the basis of substantial business for Electrosonic Melbourne in their own "back yard".

The L500/MRC combination has been found to be ideal for those facilities where the users and presenters change frequently. A typical example is the university lecture theatre.

When Graeme Ivey from the Monash University Teaching Services Unit specified his user requirements for a number of lecture theatres, ranging in size from 200 to 450 seats, it was clear that the simplicity of operation of the L500/MRC was ideal for the application.

Electrosonic Melbourne have now equipped no less than nine such lecture theatres at Monash. Typically these use a free form "media replay surface", instead of a conventional screen. The surface may be 8-12m wide and 5-6m high. This allows such formats as side-by-side OHP, or simultaneous computer graphics and slides.



"Media replay surface" at Monash University. Photos here by Richard Crompton, Monash TSU.

Images are about 5m wide to ensure legibility from the back row.

The MRC allows push button selection, from the lectern or from a cordless hand control, of video, computer, audio and slide sources - each source automatically selecting the required audio/video routing and lighting conditions. The

systems installed by Electrosonic Melbourne included all the associated audio and video equipment, and allow for flexible re-configuration when complex presentations are required.

The Monash lecture theatres use Electrosonic lighting control. Both MULTIDIM and System-12 are installed.



LECTRUM lectern in use at Monash University, Melbourne, Australia.

## Polaring

Polaring, of Rome, Italy, are specialised distributors of Polaroid products in the professional visual communications field. They are also great users of Electrosonic ES4000 multi-image equipment, co-producing spectacular shows with associates Colourart.

Typical is LUMINA-ITAL- IAMA, a time-journey of Italian Art, sponsored by ENEL, which uses 24 projectors and 1400 slides in a show which won the top art direction award at the AMI convention in the USA.



A Polaring 24 projector multi-image show ready-to-go in Naples.



## MOTION PICTURE

Special Venue Motion Picture Projection is a new business unit within the Electrosonic Group. It is based at the Burbank, California office, and is developing new concepts in this exciting field.

## TEN MOVIE SYSTEMS for EXPO 93

EXPO 93, in Taejon, Korea had many pavilions which depended on special format motion picture projection for their impact. Many of the Korean sponsored theme pavilions are permanent, so although the EXPO itself has closed, some of the shows can still be seen on the site which is now a science park.

The Burbank office of Electrosonic Systems Inc was responsible for the engineering of no less than ten movie installations at EXPO 93. These were in three different pavilions and used three different film formats.

## StarQuest

The most challenging installation was the one provided for the Samsung StarQuest Pavilion. Here the Landmark Entertainment Group of Hollywood devised and produced the entire pavilion for the client, and Electrosonic were contracted to Landmark to design, build and install the two special projection systems.

The pavilion provided a simulated space journey for visitors, with pre and post show exhibitions on a space theme. In order to provide sufficient ride capacity, there were two identical theatres, each in the form of a tilted 20m diameter hemispherical dome (built by Spitz Space Systems Inc).

Within each theatre there were two giant motion bases, made by Reflectone Inc and each taking 60 passengers. When visitors boarded them, they were completely enclosed. Only when the show started did the roof of the "space vehicle" open up to reveal the massive projected image.



An impression of the StarQuest adventure ride. Picture courtesy of the Landmark Entertainment Group of Hollywood.



The principle of 8/70 dome movie projection.



One of the two projection systems for StarQuest (proper lens not fitted).



The special lens developed by Hughes-Leitz for Electrosonic.

Dome projection technique can ensure a convincing illusion of being "in the picture" because the viewer's eye has no frame of reference, as it would have were a conventional screen with defined edges used instead. The StarQuest show is both thrilling and convincing.

The Electrosonic projection system used for the show was a completely

new development. Landmark decided to use the 8 perforation 70mm film format, but to work in this application the format needed a new projector, new lamphouse, new lens and new sound source system!

Electrosonic commissioned ORC to develop the Century JJ 70mm mechanism to be suitable for the application, and to design a completely new light collector to achieve no less than 150,000 lumens at the projector gate. They also commissioned Hughes-Leitz of Canada to design a completely new projection lens.

A detailed report of the whole development is available as a "Project Profile" document from our Burbank office (see address on Page 2).

## Kia Motors

Another massive installation was in the Kia Motors

as their technical project managers.

The screen system was designed by Sigma Design Group to use a Torus (TM) screen. This is a compound curved screen, with the shape being retained by a vacuum pump. It gives exceptionally even screen illumination, and, if required, a very bright picture. Because simulator films run at higher than normal speed, it is possible to use brighter images without flicker problems.

The projection system design allowed the viewers to be so close to the screen that while the show was running they were almost unaware of the screen framing – again ensuring a good illusion. The system used 5 perf/70mm running at 30 frames per second.

Both the Kia Motors and Samsung Pavilions used Electrosonic's newly developed optical timecode. In turn this synchronised a DTS sound source system using hard disc as the storage medium for the six-channel digital sound tracks.

In addition to the eight 70mm systems, Electrosonic also delivered two fully automatic 35mm movie systems, one for part of the pre-show exhibition in the Kia Motors Pavilion, and the other to run a 10m wide CinemaScope show in the Korean Housing Authority's "Dream Home" Pavilion.

Electrosonic Systems Inc designed the complete show automation packages for all these installations, and incorporated endless loop film cabinets from Trieste Engineering.



This control room served seven theaters in the Kia Motors Pavilion.

Film  
Timecode

Sound systems used in special venue movie installations usually have their sound track carried on some medium other than the film. Multi-track analog or digital tape have been popular, as have laser videodiscs used for their ability to carry digital audio.

Now the tendency is to use new digital playback media, for example CD-ROM, hard disc or solid state memory. While CD-ROM is ideal for feature length movies (and was used as the medium for Jurassic Park) for the short films used in destination and simulator theaters there are considerable advantages in using computer memory.

It facilitates doing the final mix in the actual auditorium. All main correction and balance can be adjusted on site using an audio workstation. The final result is then downloaded onto hard disc, for short run shows, or non-volatile solid state memory, for example flash memory cards, for permanent installations.

How do the film and the sound stay in sync? One method is to have a start marker on the film, and then



The EFM code is printed between the sprocket holes and the picture.

use tachometer pulses from the film sprockets to generate SMPTE code. Unfortunately this is not an absolute method. It is much better to put a timecode on the film itself. This should be an optically recorded code to simplify production and prolong print life.

While it is easy to put optical timecode on 35mm, until recently it had not been done on 70mm. Electrosonic Systems of Burbank developed their proprietary EFM ("Electrosonic Follow Me") code to solve the problem. This is printed on the 70mm film between the film perforation and the frame. It was first successfully used at EXPO 93, and is now being used in several other major installations.

John Baptista, Director of Engineering at Consolidated Film Industries, the company that did the optical printing, says "This system is absolutely ideal for the special venue application. There will be debate for some time to come about the best approach to digital audio for theatrical run movies. But for large-format and ride films there is no doubt that this is the way to go".



The Kia Motors Pavilion at EXPO 93.

## Space Shuttle America

Six Flags "Great America" Theme Park in Gurnee, Illinois, USA have recently opened "Space Shuttle America", their first motion simulator attraction.

The new attraction, built by Solberg & Lowe of Santa Monica, is a dramatic sight, featuring a lifesize replica of the space shuttle. Inside, guests see a giant 70mm film on a 45ft wide screen, produced by Dream Quest Images of Simi Valley, from two 50 seat Intamin hydraulic

motion platforms. They experience "a fast paced and perilous journey to the moon in the space shuttle of the future".

The complete motion picture system, audio system, video system and overall show control was engineered by Electrosonic Systems of Burbank, California. Main show audio is 12 tracks of digital sound, synchronised to the film by EFM code (see "Film Timecode", right). The pre-show uses multiple video

monitors, sourced by synchronised laserdisc players.

The entire pre-show and show sequence is under the control of Allen-Bradley PLCs on a twisted-pair network. Electrosonic Systems have developed special software for the show control application. It is modular, allowing customers to select the required level of control and monitoring, and allowing existing systems to have new control features added as required.



A full size replica of the Space Shuttle dominates the entrance to Six Flags Great America's newest attraction.



## MUSEUMS AND TOURISM

Electrosonic manufacture many products which have applications in museums and tourist visitor centres. Our Systems Division can also provide a complete audio visual project engineering service. These pages describe typical product applications and complete projects.

## HOLOCAUST EAST AND WEST

In 1993 two museums opened in the USA, one on the East Coast, the other on the West. They have in common two things; first the seriousness of their subjects - the Holocaust and racial intolerance, and second that both make extensive use of audio visual techniques, with installations by Electrosonic Systems Inc.

Both museums have attracted widespread attention, and both are having to put up the "house full" signs. While the subject matter dictates that the story told by the museums is similar, the way in which it is done is different. The museums are a great credit to their respective designers.

Ralph Appelbaum Associates of New York designed the exhibition area of the United States Holocaust Memorial Museum in Washington DC, and James Gardner Studio of London designed the exhibition for Beit Hashoah - Museum of Tolerance in Los Angeles.



Video is well integrated into the displays in the exhibition galleries at Washington.

## Washington

The Washington museum has three exhibition floors. Visitors start at the top of the building and move down through a chronological display which integrates artefacts, oral histories, documentary film and photographs. The designers have adopted an austere approach, which respects the historical facts, and provides a voice for the experiences and memories of victims and survivors.

The audio visual installation is simple in concept, but very big. Each section of the exhibition is supported by large screen monitors, mainly 28" and 35". Some subjects have their own small theatres. Large screen presentations use up-converters ("line doublers") to improve the image quality, and give the "film" look. While some of the archive footage is of



Visitors to the Holocaust Memorial Museum pass through the Hall of Witness to reach all parts of the building.

mixed quality, much of the filmed material looks as though it was shot yesterday.

## 130 players

Spread through the exhibition are 25 interactive displays using touch screens. The programming of these is simple, providing visitors random access to subjects of interest. The entire AV system uses 130 laserdisc players which are installed in an airconditioned room at the top of the building. They are all rack mounted and controlled by Electrosonic laserdisc controllers. The controllers store commands in non-volatile memory, but can easily be updated using a portable PC to download new commands.

The Los Angeles exhibition is divided into two sections. Visitors first enter the Tolerance section where they experience an open "workshop" which focuses on issues of prejudice and stereotyping. Highlights of this section include mannequins with video monitor heads, pop-up "eggheads" with EPROM stored voice tracks (using Electrosonic ESTA product) a 4x4 PICBLOC videowall presentation on the civil rights movement, and a computer interactive display based on the Los Angeles racial unrest of 1992. The section's final exhibit, entitled "Return of the Manipulators" uses 24 video monitors, 44 programmed lightboxes and four



Video integration at Los Angeles is somewhat less conventional!



Groups have simultaneous access to interactive systems.

channel sound to present a provocative show on crucial questions of social responsibility.

In the second section of the exhibition visitors are led in small groups through a progressive unfolding of the Holocaust story. As the groups proceed down the horseshoe shaped gallery, each exhibit comes alive in turn, with narration, sound effects, lighting, video images and slide projected images.

## BSC Control

In fact four shows are running simultaneously, with dead time programmed between shows to keep the visitors in their groups and to prevent sound spill from one show to another. The sophisticated control system installed in this area incorporates programmable lighting dimmers and audio attenua-

tors, digital delay units and a variety of image display systems, all precisely programmed using the Electrosonic BSC show control computer program.

The museum's exhibits incorporate 106 video monitors, 10 video projectors, 80 laserdisc players, 51 slide projectors, 23 interactive displays, 246 programmed lighting channels and 142 audio amplifier channels. All exhibit "shows" are totally automated. Daily operation is initiated by the pressing of a single "show start" button at the beginning of the day, and a corresponding "show stop" button at the end. "Cleaning" and "maintenance" settings for equipment and lighting are similarly selected.

Both museums benefited from the experience that Electrosonic Systems has in the design, construction and project management of large scale audio-visual installations.



Part of the central control room at Washington.



The entrance to L'Historial.

## L'Historial

L'Historial de la Grande Guerre (1914-18) is a new museum, recently opened in Péronne in France. It is unique in that it is a museum which is based on over 100 hours of movie film - representing almost the first time in the history of the human race that the follies and heroism of a war can be seen by succeeding generations.

The museum consists of five galleries in which the war is presented from three simultaneous points of view, those of Germany, France and Great Britain.

Electrosonic Systèmes de Paris were responsible for the technical installation. All the original films were transferred to laserdisc for museum use, and the central control room contains rows of rack cabinets fitted with 64 Sony Laserdisc players LDP1550 - all controlled by Electrosonic ES5003 controllers.

A central computer runs a calendar program, which not only ensures that the video shows run at the right time, but also controls the lighting throughout the museum. All lighting is under Electrosonic dimmer control, and the fluorescent lighting uses Helvar ballasts.

An Electrosonic VCU runs a major presentation in a 300 seat theatre. This show is presented in English and French, and is based on the recollections of an English soldier, who recalls his time as a young conscript. The soldier died in 1993, shortly after recording his memories.

The show uses 15 slide projectors and a video projector - ES4003 projector control and EASY (ACCES in France) programming. The original sound track of the soldier is in English, with French simultaneous translation via a Sennheiser MIA system.

## TOWER BRIDGE

...continued from Page 1

The "Celebration Story" Exhibition has been completed to coincide with Tower Bridge's centenary. Visitors enter the North Tower, and proceed through a series of exhibition areas. They move up to the top of the tower, and then walk across the high-level walkways 140ft above the river. They then descend the South Tower through further exhibits, and finally leave the towers and move to the old engine rooms.

Each area of the exhibition is presented as an automated sound and light show. The shows bring the bridge to life, using a mixture of programmed lighting, multi-channel sound, video, multi-image, animatronics and special effects.

The Systems Division of Electrosonic were responsible for the engineering, building and installation of the main show control system, and the audio, video, multi-image and lighting control systems. Electrosonic products used include dimmers, ESTA tapeless audio equipment, ES4003 multi image controllers and BSC Show Control. All video and main programme sound is carried on laserdisc.

## Animatronics

The bridge itself is fascinating to visit, and the exhibi-

tion, designed by Bowes Darby/Conceptor, is to a high standard and enhances the visitor experience. Animatronic figures, supplied by the Sally Corporation of the USA, bring the shows to life, so visitors meet the people who built and worked the bridge 100 years ago.

Some of the contributors to the "Celebration Story" include experts with whom Electrosonic have worked on several projects. Quest Technical Systems, whose Bob Gorton is an alumnus of Electrosonic, provided technical management on behalf of the designers. Sound was designed by David Collison of Adventure Projects, and AV Production was by The

Visual Connection. Lighting design was by Equation Lighting Design.

Tower Bridge is owned by the Corporation of the City of London. They have ensured that the bridge enters its second century in very fine condition, and with an interesting exhibition. Ruth Rossington, of the journal "Lighting and Sound International" commented:

"The exhibition works very well. It's not a high-tech whizz bang wallop affair, but more a gentle passage through history where the technology is put to subtle use, and the end result is one of understatement rather than overkill".



The finale show at Tower Bridge uses a miniature Victorian theatre to re-enact Opening Day 1884.



A 1930s Berlin café scene in Los Angeles.



# IDEAS in Navan & Dunluce

IDEAS, the York (UK) based design company have recently completed two contracts in Northern Ireland in which Electrosonic played a major role.

One was commissioned by Coleraine District Council. This was to design, co-ordinate and install the Dunluce Centre in the seaside resort of Portrush. This includes three major visitor attractions, a 30 seat Iwerks Turbo Tour theatre, Eco-play, a themed interactive area, and the "Myths and Legends" Theatre.

## Myths

Electrosonic's main contribution was the AV engineering and show control for the "Myths" theatre - an 18m square space with an 8m diameter turntable in the centre. An audience of 90 rides on this, and sees a complex mixed media show using 16 slide projectors, two video projectors, 96 dimmers, programmed special



Myths and Legends at Dunluce, with projection on moving gauze screens.



The Dunluce Centre at Portrush houses three main visitor attractions.



The Navan Fort Visitor Centre is built into the hillside to blend into the landscape.

effects and multi-channel sound.

## Other World

The other contract was for Armagh Management Ltd's Navan Fort. Here a visitor centre has been built into the hillside, and it uses two different approaches. In the "Real World" exhibit traditional display techniques are combined with computer interactive displays to pre-

sent archeology. In the "Other World" an automated theatrical show presents classic tales of Celtic Mythology. An additional automated show "The Dawning" completes the three-part visitor experience.

Electrosonic's contribution at Navan was, again, mainly concerned with the automated shows. These involved the control and sourcing of 12 slide projectors, five video projectors, 100 dimmer channels, three "countdown" clocks, smoke machine, wind machine and other special effects.

## BSC Control

Both the Dunluce and Navan shows use Electrosonic BSC control as the prime method of programming. ES4003 multi-image controllers, ES5003 disc controllers, ESTA sound and Celco E-Pack dimmers also feature in both installations.

However, while at Navan the lighting is controlled directly by ES7932AS analogue interfaces, that at Dunluce uses a Celco NAVIGATOR lighting console which is controlled by MIDI commands issued by the BSC program.

Navan opened to the public in July 1993, and in the first three months achieved the visitor numbers forecast for the first year. Dunluce opened in June 1993 and is also expected to exceed forecasts.



High definition projection in the vaulted Jewel House at The Tower of London.

# High Definition Crown Jewels

The Tower of London is known the world over, and every one of the 2.3 million visitors who go there each year wants to see the Crown Jewels. Peak visitor rates of over 15,000 per day led to a serious circulation problem in the old Jewel House, which, when opened in the sixties, was only expected to have to deal with 5,000.

Now the Crown Jewels have moved into a splendid new home, on the ground floor of the Waterloo Block. The New Jewel House can cope with peaks of 2,700 visitors per hour so visitors can see this great national treasure in greater comfort, without the queuing of the past. An introductory exhibition explains the significance of the regalia and the coronation ceremony.

This exhibition is believed to be the first permanent exhibition installation of High Definition Television in the UK. Within it there are three theatres, one devoted to the coronation ceremony, and the other two to a close-up look at individual items.

## Coronation

The significance of many of the items is best understood by reference to the coronation ceremony. The 1953 coronation of Queen Elizabeth II was filmed, and it is these films which form the basis of the first viewing theatre. It uses three large screens to display different aspects of the ceremony on a continuous 3 minute cycle.

Both of the other theatres have two screens. One screen

shows a whole item and provides explanatory captions, the other shows the item in close-up. Fourteen items are shown in all, again on 3 minute cycles.

It is the close-up screens which use High Definition. Indeed, it is a reasonable statement that without high definition the presentation quality would simply not be good enough for the subject.

The programme is sourced from Sony HDVS laserdisc players, and projected by Barco 1200HD projectors. The producers of the programmes, Lightworks Entertainment of Manchester, were literally "locked up in the tower" to do the high definition shoot, which was subsequently post-produced at Sony's Basingstoke High Definition facility.

The supporting screens and the coronation films are sourced by conventional PAL laserdisc players. But to ensure the "film look" and to eliminate visible line structure, all standard video is presented via Anna Valley "Line Doublers". All the projection screens were custom built by Harkness.

The Systems Division of Electrosonic were responsible for the system design and build of all the AV elements of the exhibition. They worked closely with the AV producers, Lightworks, the construction managers, Lehrer McGovern International and the client, Historic Royal Palaces, to ensure a cost-effective fully automatic AV showpiece of a standard befitting the subject.



3-Screen video of the 1953 Coronation. Up-converted video from laserdisc at the Tower of London.

# Ski Adventure

Our Norwegian distributors, Audio Grafisk of Oslo, have recently completed a number of high profile AV installations. The "Ski Adventure" permanent exhibition in Lillehammer, birthplace of skiing, and host to the 1994 Winter Olympics is typical.

This uses a mixed media method to show the evolution of skiing, and Norway's special contribution to it. Video, lighting, special effects and multi-image tech-

niques are all used, and the AV system is based on Electrosonic VCU controllers, IMAGINE lighting racks, and ESTA digital sound. The EASY mixed media program was used for programming.

The exhibition works on the "pulsed flow" principle, so the control systems all work in synchronisation. The finale is a 3 screen show using a mixture of multi-image and multi-screen video technique.



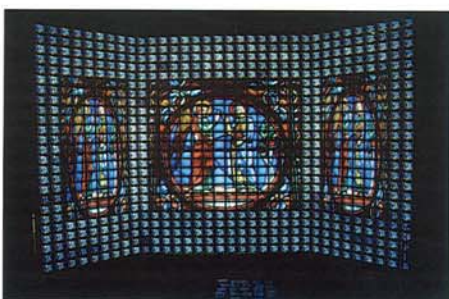
A set-piece using ESTA sound replay.



The exterior of "Ski Adventure" in Lillehammer.



An off-screen shot of the finale show, which uses both multi-image and multi-screen video.



The World's Biggest Videowall being re-commissioned at Futuroscope.

# World's Biggest now in France

The last issue of ELECTROSONIC WORLD described in detail the "World's Biggest Videowall". A 35 ton, 16m (53ft) x 10m (33ft), 850 monitor monster installed in the Telecommunications Pavilion of EXPO 92, Seville, Spain.

Now, we are pleased to report, the entire display has moved to Futuroscope, The European Park of Moving Image in Poitiers, France. It is installed in "Le Pavillon de la Vienne", a pavilion themed around La Vienne, the province of France in which Futuroscope is sited. The videowall has a new programme, produced by Bakelite of Paris, who have had a close association with the park for many years.

Futuroscope is an outstanding park, every "special venue" movie format can be seen there, and 1.5 million visitors go there each year. The second theatre in the La Vienne Pavilion uses 8/70 movie projection with motion simulation - the high power 12kW lamp-house was supplied by Electrosonic Systems, Burbank.



A view of the Futuroscope park.



## MIXED MEDIA AND MULTI-IMAGE

The programming of lighting, special effects, moving and still images is an important part of Electrosonic's work. Here are some interesting examples from around the world.



The revolving Environment Theatre.

## TAIWAN Environment

Some years ago ELECTROSONIC WORLD reported on the extensive audio visual installations in the Taiwan National Museum of Natural Sciences. Recently Electrosonic have been back to instal a major show system in a new part of the still expanding museum.

London based Met Studios were responsible for the design of the new Environment Theatre, which is designed to show three different mixed media shows. Audiences of 150 are seated on a turntable which rotates as they watch the show unfolding in front of them on a 22m diameter cyclorama.

The show uses a mixture of slide projectors, video projectors, effects lighting, multi-channel sound and stage machinery to achieve its effect. The mechanical installation includes not only the variable speed turntable, but also many moving screen panels.

### Computer control

Control of the 86 slide projectors, 10 laserdisc players and 10 video projectors is by two PCs, using Electrosonic's BSC and C-THROUGH software. The computers also drive the lighting system by MIDI commands, and the stage machinery PLC by auxiliary commands.

One programming feature is of special note. LCD video projectors are now being widely used in exhibition work, because they allow flexibility in projector placement, and do not require convergence procedures. They have one disadvantage, however. When not projecting an image, there is a grey

background because the projector cannot give perfect "black".

This is unacceptable in shows like the Environment Theatre, where projection is used to create an element of surprise. So Electrosonic have developed a special shutter unit for video LCD video projectors, to blank off the projection beam when not required. So far it is



Environment multi-image.

designed to work with models from GE, Sanyo and Sharp - but it will be adapted for other models as they appear. The shutter can be controlled by an auxiliary function of the programming system.

In addition to providing the shutter function, the device also puts the projector into "stand-by" between shows (i.e. lamp off, but electronics and cooling still on). Provided that there is a reasonable interval between shows, this extends the interval between lamp changes.

Electrosonic work as a member of a team when doing shows like the Environment Theatre. Teams are often multi-national, but in this case it was London based. This permitted construction and testing of the complete show prior to delivery, which certainly simplified final site installation.

### Environment Theatre Production Team

Overall concept and design:	Met Studios
Audio-visual production:	Lightworks Entertainment
Audio-visual and lighting control:	Electrosonic Systems
Lighting:	DHA Lighting
Sound production:	The Sound Experience
Mechanical design:	Peter Kemp
Structure and rigging:	Arrow Structures
Laser system:	Definitive Laser Company

# EVENT IN IRELAND

Event Communications Ltd have recently been responsible for the design and building of three new heritage exhibitions in Ireland.

Bru Na Boinne, at the Mosney Holiday Centre in County Meath, tells the story of four local heroes. It uses a set like a rocky cave, in which three gauze screens are set. A highly effective combination of front projection on the gauze, back projection



Projected video and slides at Cork Gaol.



The figures are behind a gauze in Bru Na Boinne.

behind the gauze, dynamic lighting and mechanical reveals makes an exciting show which is being enjoyed by 200,000 people a year.

In the Old Synod Hall, Dublin the Dublinia exhibition combines traditional museum techniques with a mixed media finale show to portray life in medieval Dublin. The exhibition was commissioned by the Dublin

Medieval Trust, and was developed in conjunction with the National Museum of Ireland.

Finally in Cork the gaol at Sunday Wells has been restored by a local company, Kenelly Enterprises, and they commissioned Event to produce a visitor attraction. This includes a show in which four different families from varying social groups

tell their stories and their association with the gaol.

All three audio-visual installations are based on a mixture of slide projection, video and lighting control. Each uses around a dozen slide projectors, one or two video projectors, laserdisc replay and programmed lighting and effects control. All were programmed using the Electrosonic BSC mixed media program. Show playback is via VCU, ES4003, ES7932AS, ES4044/16 and SYSTEM 12 dimmers.



Dublinia.

## and elsewhere



Multi-image in the UK Pavilion

The designers Event Communications Ltd of London had a very successful year in 1993. They were responsible for ten permanent or long term exhibitions, all of which used audio-visual techniques, with a strong emphasis on multi-image.

Event work on a team basis, and Electrosonic is often privileged to be a member of the team chosen

by Event to complete a project. Our role is providing AV engineering, and we work alongside other team members who include (but are by no means limited to) DHA Lighting, Lightworks AV, Pan Audio Visual, Tony Frossard (Audio), and McAndroids.

Besides the three exhibitions in Ireland, Event's work in 1993 included the UK Pavilion at EXPO 93, a touring exhibition for Alfred Dunhill, the Discovery Quay visitor centre in Dundee, and the "Searching for God" Exhibition at Canterbury Cathedral.

The UK Pavilion had a show based on dynamic lighting and multi-image, designed to make the maximum

impact with the highest practicable visitor throughput. 28 Simda projectors with wide angle lenses were used in the ES4003/BSC controlled system.

"Searching for God" includes an interactive video display, which was supplied by Electrosonic on a sponsored basis. The glass panels used in the display were similarly sponsored by Pilkington.

Alfred Dunhill Ltd recently celebrated their centenary, and to mark the occasion a touring exhibition visited Dubai, Hamburg, Paris, Tokyo, Hong Kong and Taipei. This uses nine video modules, each with programmed lighting, laserdisc and 33" monitor, and all controlled by VCU and ES5003 disc controllers.

Technically the most complex show is at the Dundee Industrial Heritage Trust's Discovery Quay Visitor Centre, now home to the RRS Discovery. Within a large exhibition area there is a 9 projector multi-image show, and various displays using video, audio and programmed lighting - all under VCU control.

The finale show is in a special theatre. It uses a combination of 35mm movie film



Searching for God at Canterbury Cathedral.

(with a fully automatic film handling system from Electrosonic Systems Inc) video rear projection and three rotating screen sections. Lighting control is by IMAGINE series dimmers, and the whole show is run from a computer using the BSC program.



Alfred Dunhill on the road.



Scott of the Antarctic in the exhibition in Dundee.

## EASY Accès in Paris

Electrosonic Systèmes de Paris have, under license from Electrosonic Ltd, created a French version of our computer program EASY. It is called "Accès", and is widely used for multi-image and mixed media shows in France.

The fashion salon Première Vision had 35,000 visitors to see their "audio visual parade" in four days in March 1994. This 12 part show used

89 Kodak Ektapro 5050 projectors (a special version from ES France which can be directly controlled by EASY). It also used 50 video monitors, 4 SYSTEM-12 dimmer packs and 12 VCU units - all under EASY control.

La Colline de L'Automobile is a permanent exhibition. Its main mixed media show uses 24 480W Carousel projectors on a 12m wide screen, synchronised to the lighting of a

large model. The show explains the history of the Upper Seine Département, and how, for France, it is the "birthplace of the motor car".

In addition to the main big screen show, there are three tableaux with animatronic figures.

Multi-image is very much alive and well in France and "Accès" is making it EASY for show producers!



Long line-up to see multi-image at Première Vision.



One of the tableaux at La Colline de l'Automobile.



# BLOOD ON THE SOUTHERN CROSS

Sovereign Hill, Ballarat in Victoria, Australia is the site of a goldmining township of the mid 19th Century. Real mineworkings and buildings of the time are combined with careful re-constructions. Local people dressed in contemporary costumes make up the "cast", and the whole place makes a splendid day out for 600,000 people a year.

Now the daytime experience has been joined by a spectacular sound and light show. Originally intended to run a maximum of twice nightly in the summer months, the show, "Blood on the Southern Cross", has been so successful that it is running 11 months a year, as often as four times a night.

The pure "sound and light" medium is a difficult medium to use for a 90 minute show, because of the problem of retaining the audience's interest. However, the producers of "Blood" have succeeded in creating a marvellous entertainment, and in avoiding all the pitfalls. They have done this by:

- realising that the medium only works if there is a good story line.
- writing a strong script in screenplay play style.
- understanding that, however spectacular a given "set" may be, it can only provide visual interest for a limited time.
- ensuring a well paced presentation with a number of surprises and spectacular set pieces.

When visitors arrive they enter an auditorium where they see a "pre-show". This is

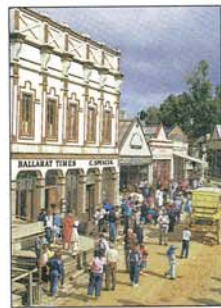


The magnificent sweep of the Eureka Lead, with the stockade in the foreground and Government House way in the distance.

a multi-image show which sets the scene, and gives the necessary historical background. In particular that in the 1850's the miners had to pay a mining license which was unfairly and corruptly levied.

## The Diggings

The group of 160 visitors then



Daytime scene at Sovereign Hill township.



"The Diggings" at night.

moves to an outside area, the "diggings", normally seen during the day. This part of the show evokes the hard life of the miner. From a technical point of view the amazing thing about this part is how all the lighting is concealed in an area where, during the day, visitors are free to roam around.

The party then boards two large trams which take them on a 1km journey to a "hotel" on the Eureka Lead, a part of the Sovereign Hill site which cannot be seen during the day. Once the audience is seated in the "hotel", the whole side wall of the building opens up, using hydraulic actuators, to reveal an entire hillside bathed in "moonlight".

The huge re-construction of the Eureka Lead includes tents, mineworkings, buildings, stockades and more. The dramatic story of the rebellion, triggered by the murder of one of the miners by a corrupt hotel owner, is told by a narrator, from loudspeakers in the audience area, and by actors' voices from loudspeakers located all over the hill.

Highlights of the show include the burning down of the Eureka Hotel. This is an excellent set piece involving a massive smoke machine and many gas burners.

## Explosions

Towards the end of this part of the show, a complete "stockade" appears in front of the audience, and the raid by troops which resulted in the death of several miners is

enacted. This noisy sequence uses "real" guns (actually based on acetylene/air explosions) lots of smoke and pyrotechnics.

The show comes to its conclusion, in which the miners' rights are recognised, as the audience is transported back to the main township, and as they hear the miners' leader (this time a real actor) thank them for their support from the balcony of the Victoria Hotel.



Trams move the audiences during the night time show.



The spectacular burning of the Eureka Hotel - up to four times nightly!

"Blood on the Southern Cross" is a deserved success. The audience feel involved with the story, and are well entertained by the spectacle and special effects. The show was co-produced by Sovereign Hill (the non-profit association which owns and runs the historical park) and The Shirley Spectra, an experienced AV production company from Sydney. The overall system engineering was by The Shirley Spectra and the lighting installation was by Lightmoves PES of Melbourne.

## BSC

The souvenir brochure claims "the totally automated show takes place across 25 hectares, and below ground are enough electrical cables to stretch from Ballarat to Melbourne". There are 400 major lighting sources, 1000 peripheral lamps and 17 sound channels.

All sound is from CD, played back from computer controlled Sony CDP-991 players. The show automation is, of course, by Electrosonic.

There are two large BSC systems, controlling 300 analogue dimmer channels (via ES7932 interfaces), the 10 CD players, and many switched circuits and effects (via ES4044/16 interfaces).

If there was a prize for the best outdoor Sound and Light show in the world, "Blood on the Southern Cross" could well be the winner. Go and see it when you are next in Australia!



Times Square, Hong Kong. Exterior lighting controlled by IMAGINE.

## Times Square

The opening of the new 46 storey Times Square shopping megamall and office complex, the latest addition to Hong Kong's imposing skyline, gave our distributor there, Light Sound Image Systems Ltd, the opportunity to use BSC mixed media programming in a 10 room presentation suite.

This suite was and is used to promote the building to prospective tenants. It sold much of the space before the building was completed. The BSC system controls slides, lighting, video and special effects. ESTA tapeless audio units are also installed.

Meanwhile, outside the building, IMAGINE dimmers are used to control the facade and clock tower feature lighting.

## Swiss Traffic

Our AV distributor in Switzerland, AV Ganz AG of Zurich, reports on a major "Communications" Exhibition sponsored by the Swiss PTT at the Swiss Traffic Museum in Lucerne.

AV Ganz were involved with the realisation of many of the displays using sound, light and video. Electrosonic ESTA products, VCUs and ES5003 controllers are widely used. Electrosonic Ltd's Systems Division helped with special software on an interactive exhibit that used both slides and laserdisc players.



The "Communication" Gallery at Lucerne. AV by AV Ganz.

## Trade Marks

We recognise the trademarks of other manufacturers. Our apologies if any trademarks have been used in this publication without (TM) acknowledgement.

The following are some of the registered trademarks of Electrosonic Ltd.

SCENESET, SCENEMAKER, IMAGINE, C-THROUGH, PICBLOC, PROCUBE, IMAGEMAG, ELECTROSONIC.

## DIGISTAR

Electrosonic Ltd's Systems Division at Hawley Mill, UK, has been appointed the European distributor for the Evans & Sutherland DIGISTAR (TM) digital planetarium projection system.

This unique system uses a hyper-brilliant 7" CRT with an 11" diameter 160° field-of-view lens to fill the 180° planetarium dome. The projector is "fed" from an E&S graphics processor which includes spherical correction circuitry. In turn a host computer carries the star database and is used for show editing and programming.

DIGISTAR simulates stars, planets, comets, nebulous objects and other special effects such as three-dimen-

sional flights through space. Virtually any image consisting of lines and dots may be displayed.

Currently Electrosonic and Evans & Sutherland are working on several new installations - read all about them in the next issue of ELECTROSONIC WORLD!

Meanwhile an existing European user of DIGISTAR, the Omniversum in The Hague, has been updating its mixed media system.

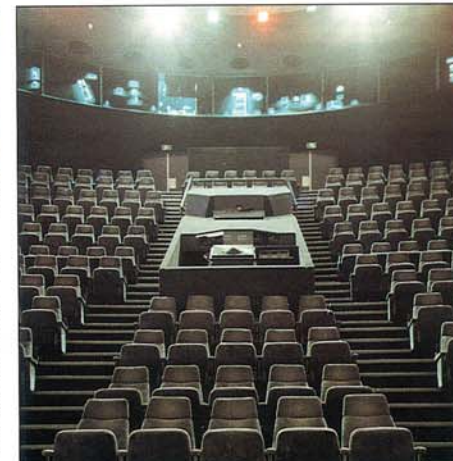
The Omniversum is equipped with an OMNIMAX projector, DIGISTAR Planetarium projector and a mixed media system based on slides, video and special effects. Our AV Dealers in Holland, Visual Hardware Systems BV of Amsterdam,



Multi-image system at the Omniversum. ES4000 control.

have equipped the Omniversum with a big BSC system.

ES4003 units run 42 slide projectors, ES4044/16 interfaces control audio players, the OMNIMAX projector and special effects, an ES5504 VCU controls Betacam (TM) tapes, an ES7932 analogue interface controls moving mirrors and zoom lenses and an ESR24 IMAGINE dimmer rack with DMX input controls all the lights.



The Omniversum in The Hague. The DIGISTAR projection lens is in the middle.



# PICBLOC in Geneva and Hong Kong

Electrosonic's videowall products are used worldwide. Sometimes we undertake the complete project engineering, but more often the system packaging is done by local partners. Two examples of the effective international application of PICBLOC™ image processing and PROCUBE™ displays are shown here.

The installation in Geneva referred to on Page 1 is to be found in an underground shopping concourse, beneath the main Geneva railroad station. It consists of a 4x6 videowall sourced by S-VHS tape and standard laserdisc. It is used for advertising and to promote cinema programmes. It is sited next to Café Video ROM, a café where customers can surf the Internet.

The videowall is well sited for promotion to the large number of people who pass through the concourse every day; and it is big enough to have impact at a distance.



An HMV store in Hong Kong using a 4x4 videowall for media product promotion.

The final installation and programming was done by local dealer 16.36 Productions Audio-Visuelles, supported by our video distributor for Switzerland, AV Ganz of Zurich.

## Hong Kong

The Helvar Electrosonic

Group office in Hong Kong supports group sales in the Pacific Rim markets, but it does not trade itself. Most trading is through local distributors. The Electrosonic distributor in Hong Kong is Light Sound Image Systems Ltd and in turn one of their main videowall dealers is Pro United.

Pro United have had success in selling videowalls into the retail display market, especially in respect of the sale of media products. Shown here is their latest installation for HMV Records. The 4x4 floor-to-ceiling PROCUBE videowall can be seen right across the large store, and is unaffected by the fluorescent lighting directly overhead.

In common with many other Electrosonic media-based customers, HMV uses the videowall to show the products on sale and for special promotions.



The Inspiration being completed at Helsinki's Masa-yards.

# IMAGINE at Sea

February 1996 saw the handing over of *M/S Inspiration*, the newest vessel in the Fantasy class fleet. Carnival Cruise Lines now have no less than six of these 70,367 ton, 2,040 passenger luxury ships which provide 3, 4 and 7 night cruises in the Caribbean from the Port of Miami and Fort Lauderdale.

All six ships are equipped with Electrosonic dimming systems for the public area lighting in restaurants, bars and lounges. The ships have been appearing at the rate of about one a year since 1990, so while the earlier ships had DIGIDIM™ equipment, the most recent have used the more compact IMAGINE™ dimmers. In the case of the *Inspiration* seven fully equipped dimmer racks were supplied to meet the lighting control needs of the interior designer, Joe Farcus.

The *Inspiration* is interesting because it is also the location for a lot of Electrosonic videowall equipment.



IMAGEMAG controlled videowalls above the bars.

68 Hantarex 28" video monitors are installed for video entertainment and advertising, mostly arranged in 2x2 groups. A total of 13 IMAGEMAG™ and nine VCU's are used for image processing and show control.

The project required international co-operation, with the end customer in the USA, the shipbuilder in Finland (Kvaerner Masa-Yards) and the main equipment delivered from the UK. Our distributor in Finland, Light & Sound Tech was responsible for the commissioning of both the video and the lighting control systems.

# ESTA down under

The Australian War Memorial in Canberra has a permanent museum area, and the most recent exhibition to open there marked the 50th anniversary of the end of World War II.

The exhibition makes extensive use of the Memorial's collections, from uniforms to crashed aircraft. Supporting sound tracks use the latest Electrosonic ESTA II™ products to enhance the atmosphere of the exhibition.



"Read all about it!" followed by an extract from Prime Minister Chifley's speech declaring war is over, part of the 1945: War and Peace Exhibition at the Australian War Memorial.

Len Skipper, the Senior Designer at the AWM says "Over the last ten years the AWM has been using Electrosonic Tapeless Audio machines as an effective and reliable method of presenting audio displays to our visitors, eight hours a day, seven days a week. We found this technology reduced our maintenance costs compared to conventional tape systems. The latest ESTA II product with its PCM/DA recordable flash card has provided greater flexibility, and meets our need for quick message changes when required."



The videowall under Geneva station has impact across the concourse.



## Centas revolve in Sweden

Centas AB is our videowall dealer in Sweden. Besides selling our IMAGESTAR, IMAGEMAG and PICBLOC products, they also have an active rental department, meeting the needs of conferences and exhibitions in the Nordic area.

They specialise in moving videowall displays; often using flown videowalls on traveller tracks. At the LLB Exhibition in Stockholm they demonstrated our products using a three-sided rotating display which showed IMAGEMAG and IMAGESTAR with monitors (above), and IMAGESTAR with cubes (below).



# SEAFARI in WAKAYAMA

The USA Systems Division of Electrosonic recently delivered two special format automatic film projection systems to Porto Europa, a theme park on a man made island offshore from Wakayama, a city just south of Osaka, Japan. The systems are used in a simulated underwater adventure ride.

While Electrosonic's main product lines are devoted to the electronic image, we recognise that there are limits to the size that electronic images can be presented. It is still the case that for really bright big images of very high resolution, film projection remains the most cost effective method (even if the images themselves have been created either on a computer or with computer assistance).

In theme park work it is often the case that projection systems are required to have a light output in the range 15,000 to 150,000 lumens, with a resolution far superior to HDTV. This compares to a maximum of around 6,000 lumens with HDTV resolution available from the

brightest of the current video projectors.

Electrosonic's Systems Division will, therefore, engineer fully automatic motion picture presentation systems when the requirement is outside the capability of an all-electronic solution, and are currently working on a large number of such systems for installation in the USA, Europe and the Pacific Rim.

## 8/70 Format

The Wakayama systems were

built to the requirements of MCA Recreational Services, the project managers, for an attraction called *Seafari*. In this attraction the audiences are carried on a large motion base, and they are very close to the screen. The image is back projected within a themed set, and the screen viewed by the audience is actually elliptical, with a width of 9m (about 30ft) and height of 7m (23ft). To get the required realism 70mm film in the 8/70 format (8 perfor-

ation pull down instead of the conventional 5) is used, running at 26 frames per second.

Electrosonic designed, assembled and installed the projection systems, film handling equipment, and projection control systems. This included the facility for generating timecode direct from the film for both the sound system and the motion base control computer to follow.

The *Seafari* film was made by the Special Projects Division of Rhythm & Hues, of Hollywood, CA. It was two years in the making, and needed a team of 20 people and a battery of Silicon Graphics Machines to produce. The film features a dolphin with a "back-pack" translator unit that allows the dolphin to communicate with the audience in Japanese or English. For those who cannot get to Japan to see this superb film, it can sometimes be seen on request at Electrosonic's Burbank, CA, facility. (But, sorry, we don't have the simulator base to go with it!).



A still from the undersea adventure film *Seafari* from Rhythm & Hues. It can be seen in Wakayama, Japan.



The sounds of machine gun fire and the jungle accompany this exhibit of a Japanese bunker.

The ESTA tapeless audio system is now in its third generation, with thousands of channels installed in museums and visitors' centres worldwide. ESTA II offers multi-channel CD quality sound with zero maintenance. Our Australian distributor, Electrosonic Systems, a division of Evans Deakin Engineering, supplied the ESTA equipment to the AWM.



Visitors can hear the reminiscences of sailors in this reconstruction of a corvette mess deck.