ELECTROSONIC WORLD

LIGHTING CONTROL, AUDIO, AUDIO VISUAL, VIDEO

No. 4

INSIDE

RECENT CONTRACTS

ORDERS received by Electrosonic at the time that this issue of ELECTROSONIC WORLD went to press show the wide range of work we undertake. They include a near $1 million subcontract from Design and Production Inc for Audio Visual systems for the Smithsonian Institution, Washington; a complete Presentation Room System (including Electrosonic PRC) for the Executive Briefing Centre at Brentford Park Plaza, Headquarters of Wang (UK) Ltd; and an 84 Projector Multi Image System for Mietzner & Mattis of Munich which they will instal in the Siemens Museum.

Other contracts are as diverse as Video Walls in Hong Kong (through our new office there) and Zurich (for AV Ganz) and a huge computer controlled fountain, lighting and sound system for the Municipality of Greater Istanbul (in association with Bora Insaat).

PICBLOC launches ES Video Range

ELECTROSONIC announce their entry into the manufacture of video products with the launch of PICBLOC. This is a Programmable Image Controller, suitable for Video Multi Image techniques, including Video Walls.

For several years we have been undertaking projects based on video presentation, and for them we have used both other manufacturers' equipment and custom built equipment to our own design. We have been researching product ideas that fit our Presentation Market, and the idea of "Video Multi Image" is a natural extension of our existing business.

PICBLOC uses a new generation of Large Scale Integrated Circuits to achieve Programmed Image Splitting, Freeze Framing and Special Effects. When it is linked to our existing high level programming systems, it provides an extremely powerful and creative display system. Full details are on Page 14.

PICBLOC controlled Video Wall. Photo courtesy British Rail AV Department.

The British Pavilion at EXPO 85 Tsukuba used a mixture of slide and video projection integrated into the exhibits. Electrosonic's Hire Department also equipped the EXPO 86 Vancouver Pavilion. Photo courtesy COI.

Tourism and Leisure

THE opening of "The New Zealand Experience" in Picton, the ferry port of South Island, is one of the most recent examples of the use of Audio Visual in Visitors' Centres. This fully automatic 20 projector system has been installed by Electrosonic in association with our New Zealand Distributors, Reynolds Photographic.

The increase in leisure time, and the changing ways in which people use that time, has led to an increase in the number of Museums, Visitors Centres and other Tourist Attractions all over the world. Visitors have increasingly higher expectations as to the quality of entertainment and interpretation at such places.

Electrosonic are uniquely well qualified to engineer complete systems, or supply products for incorporation by others. Naturally we enjoy doing "The Big Show," like the 96 Projector Show at the Churchill Downs Museum in Louisville, Kentucky or the London Experience (see p9). However we are just as happy supplying a single screen AV show system to the Shipwreck Heritage Centre in Hastings, special video disc control systems for museum applications (see p11) or a small sound and light system to the Dudley Canal Trust (see p6).

The introduction of "Solid State" audio (see page 10) for most of the smaller applications will bring both enormously increased reliability and new possibilities. Our Multi Image Equipment designed for permanent installations, special control equipment for Video Disc Displays, new Multi Media Control Programs, and our unrivalled range of Lighting Control Equipment, together mean that we can help with all aspects of Audio Visual, Sound and Lighting Control as applied to the Tourism and Leisure markets.

Electrosonic link with Helvar

ELECTROSONIC Ltd are pleased to announce an association with OY Helvar of Finland. Helvar have taken a substantial minority shareholding in Electrosonic in a move which will strengthen the marketing position of both companies.

OY Helvar employ over 400 people in Finland, and are major manufacturers of Fluorescent Lighting Ballasts, Commercial Dimmers and Professional Lighting Control Systems. Over 80% of their output is exported, mainly within Europe.

Electrosonic Ltd employ 240 people in the UK and Overseas. They sell worldwide, with 65% of their business outside the UK.

Both companies depend on exports for their continuing expansion, and both have realised that to maintain present markets and penetrate new ones requires greater resources than either one of them has at present. They feel strongly that their present expertise is best exercised independently and both have resisted advances from public companies whose need for short term results could inhibit long term development.

Helvar will bring to Electrosonic finance for future growth, specialist product know-how, and shared sales opportunities. Electrosonic will bring to Helvar its Systems Engineering capability, extensive knowledge of world markets and a wider field of activity.

Electrosonic and Helvar are complementary. They will therefore work together to develop new markets and new products, but will continue as entirely separate and independent businesses to serve their existing distributors and customers. This will bring the benefits of their combined resources to meet the evolving needs of the lighting control and audio visual markets.

The Nederlandse Credit Bank-Chase Bank Boardroom in Amsterdam. Complete AV, Data Projection, Audio, Video and Lighting Control installation by Electrosonic.

Presentation & Lighting major markets

PRESENTATION and Lighting Control Systems remain and are intended to remain the major markets for ELECTROSONIC products and services.

Our Architectural Lighting Control products have gained wide acceptance with lighting designers and consulting engineers. So far they have mainly been used in the UK, Scandinavia, the Middle East and the Far East. They have also been used in the USA and Canada on several prestige projects.

Now we expect to expand the market for these products; in existing markets new unit products and Test House Approvals on existing products will widen our customer base. Our association with Helvar will allow both of us to open up new markets where at present we either have no representation, or where it needs strengthening.

In Lighting Control all our products are "system oriented". The aim is to ensure that the benefits of lighting control are actually obtained, by reducing operation to "one button" or, in some cases, fully automatic control. Our Presentation and Audio Visual Products and Systems are designed in the same way.

Thus Audio Visual Show Systems are designed to work on an "Autopresent" basis, and the introduction of the PRC concept to Corporate Presentation Systems will help ensure the *effective* use of Audio Visual and Visual Aids in Presentations and Meetings.

This issue of ELECTROSONIC WORLD shows just a few examples of our products in action. Our way of working is that our project engineering effort supports our products and ensures their correct application. It also leads us to develop new products as we find a proven need. However we cannot be involved in every job that needs our products, and we are therefore actively developing trade customers able to assist the distribution process.

One of five training rooms at Northern Telecom in Toronto. Each room has an Electrosonic AV and Lighting Control System.

The Council Chamber of the Chartered Institution of Building Services Engineers, near London, uses an Electrosonic Lighting Control System.

ELECTROSONIC WORLD

EDITORIAL

WELCOME to our fourth issue of ELECTROSONIC WORLD. We report again on the activities of the Electrosonic Group of Companies and their customers. Our emphasis, as usual, is on successful applications of our products and systems expertise, and we hope that you find something of interest whether it be in corporate communications, lighting control, audio visual or entertainment.

We hope that it will encourage you to use new ideas. Maybe the fact that someone has tried it before will give you re-assurance; or maybe you can develop one of the applications described into something better. If you do, please tell us about it!

Markets do not stand still. One of the jobs we did in our first year, 1964, was a programmed multi slide projector show. We treated it as an exhibition project needing an engineering solution; but of course what we were doing later became known as "Multi Image". This was the "Whizz" medium of corporate communication in the seventies, which has now matured into just one of the available methods of AV Communication.

But the need for group communication and spectacular display remains. It is therefore a natural move for us to enter the Video Display market — since Multi Screen Video is really just another manifestation of the Multi Image principle. There will remain many cases where optical projection is the correct and superior medium; but where video works best, or creates a completely different effect, then we should be there too.

We work internationally. In turnover terms our sales do not compare to those of "big business", and yet the influence of the work we do, and the value added as a result of the use of our products is considerable. However the projects we are being asked to undertake, and the resources that we need to develop ever more sophisticated products, are getting bigger all the time.

Our association with Helvar recognises this fact. Both they and we wish to operate independently, because we believe this is the best way to develop. Nonetheless there are many products and markets that neither of us could afford to develop on our own; but we feel we can effectively develop together. We both look forward to the benefits of new ideas and new methods of working that will arise from our co-operation.

While the first fruits of such co-operation are surely going to be in the lighting control field — a stronger marketing presence for both companies and some exciting new products — we are both committed to new activities in Audio Visual. Our collective work is, and will remain, LIGHT, SOUND and IMAGE.

ELECTROSONIC WORLDWIDE

ELECTROSONIC specialise in the manufacture of lighting control, audio, video and audio visual products and systems.

We are represented in many countries throughout the world. If you do not know the name of your Electrosonic Distributor, please contact any of the principal offices listed below.

ELECTROSONIC WORLD

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Electrosonic have distributors and correspondents in other major countries throughout the world.

THE PRESENTATION ROOM

We specialise in the technical needs of the Presentation Room. We can supply individual components or fully integrated systems. Our expertise covers Lighting Control, Audio, Video, Optical Projection, Data Display and Special Control Systems.

The RTZ Boardroom, one of the many "first class" Presentation Room installations recently completed by Electrosonic. Notice the two infra red controllers, one for table top use and one hand held.

Unique Product Range

IT is easy to be enthusiastic about the use of Audio Visual Methods; but just as easy to be exasperated by the difficulties of using them effectively because of the inadequacies of the environment.

Our mission in life can be seen as making AV and Visual Aids effective by controlling the environment. Consistent results can only be obtained by the use of the Presentation Room. In some organizations this will be a special room serving no other purpose. More usually the room will have some other functions, such as board room, visitors centre or training facility.

Electrosonic bring to the Presentation Room a unique range of products which can either be bought separately (for example by other systems houses, or by those improving an existing installation) or can be bought as part of a complete package; including items not manufactured by Electrosonic.

Pride of place goes to our PRC system (Presentation Room Controller) that reduces all main room operations to "One Button Control". This device eliminates complex control panels with lots of buttons and lights (unless the customer actually wants them!). An important companion product is the Electrosonic Industrial Infra Red cordless remote control system that likewise does away with the tyranny of fixed wiring. Although with the PRC system all controls can be multiplexed, so if a wired panel is used, only a 4 core cable is needed.

Lighting Control is fundamental to satisfactory presentation; and we try and see to it that when a "scene" is selected, all aspects are taken care of by the one selection. This can include moving screen panels, window blinds etc as well, of course, as Electrosonic Dimmers.

Few users can afford a full time operator for their Presentation Room system, and yet that is what some conventional Audio Systems need. We ensure that the audio system works unobtrusively, with automatic control of signal routing and sound level. Our ES1320 mixer forms the heart of such systems.

We factor several exclusive products, such as SCANSCREEN High Gain Video Screens, MERIDIAN Objective Lenses and special versions of the Kodak and Simda Projectors. In addition we are dealers for the major lines of complementary audio and video products, so are well resourced to complete the system.

Finally we have a large in house project engineering team of qualified engineers — our most important "product".

A rack like this one is always "Behind the Scenes". This is one of two supplied to Gallaher plc.

New Book on AV

A new book on Audio Visual is being published by Focal Press (an imprint of Butterworth Scientific), and we believe it will be of interest to many readers of "Electrosonic World".

Entitled "Effective Audio Visual — A User's Handbook," it covers all aspects of AV from Overhead Projection to Video Walls. It is divided into chapters designed to be read on their own, and is profusely illustrated. It is expected to be of value both to the Audio Visual user, in Education Commerce, Industry, Museums, Tourism and Government; and to the AV professional needing outline information on fields parallel to his own.

The chapters range from "AV in Museums" to "Choice of AV Media", from "Multi Image" to "Methods of Video Presentation". Special emphasis is placed on the Presentation Room and the Public use of AV, and there is a useful introductory chapter to the mysteries of Inter-Active AV.

The book is written by Robert Simpson (who is also Editor of "Electrosonic World" and therefore has no hesitation in giving the book a "plug"!) Publication is set for July 1987, and the book will be available from the Publishers, specialist booksellers and, of course, Electrosonic. If you would like to reserve a copy please contact any of the addresses on this page or your Electrosonic Distributor.

Our own booklet "What is Audio Visual?" will shortly be out of print, and in future we will be recommending "Effective Audio Visual" to those of our customers who want a book covering the possibilities of Audio Visual.

Reuters Presentation Room uses two video projectors, random access slide projection and a comprehensive infra red control system. Interior by BDP Industrial and Interior Design.

Blue Chips

WE are pleased to say that many major corporations are building Presentation Rooms, or are including presentation facilities in new meeting rooms. We are sure this trend will be followed by all companies needing to present themselves or hold internal meetings.

Electrosonic have been directly concerned with many prestige installations of this kind. Some recent examples are illustrated on this page and on other pages of ELECTROSONIC WORLD. We are also pleased to have been involved with many others which we cannot illustrate here.

They include installations for Kleinwort Benson, Marks and Spencer and Lloyds of London. For West Deutsche LandesBank, Ruhrgas and Klockner Humboldt Deutz in Germany. For Control Data, Northern Telecom and Parks Canada. For Britoil in Glasgow and Statoil in Stavanger.

In addition our Independent Overseas Distributors are increasing their Presentation Room activity. Here special reference should be made to Australia (Electrosonic AV Systems) Switzerland (AV Ganz) Sweden (Ljus & AV Teknik) and Norway (Audio Grafisk).

ELECTROSONIC WORLD

Dunhill & BDP

RICHARD Todd of Dunhill writes:

In January 1984 we embarked on a total redesign and refit of the Dunhill Boardroom. Since we are increasingly using visual aids in meetings, a priority in the brief to our Design Consultants (Building Design Partnership) was to incorporate into the room a sophisticated yet practical AV facility.

Electrosonic are recognised as one of the top specialist AV Companies in the UK, and were invited to pitch for the project — they succeeded for a number of reasons: presentation, track record, after sales service and value for money.

The equipment has now been in use for over two years and is viewed as an indispensible part of most meetings and presentations. At the touch of a button we can control three projector slide programmes, off-air, VHS, and U-Matic Video programmes, Computer Data and Live Video — all linked in with automatic lighting control. No more clumsy pieces of machinery perched on the meeting table, and no more wires trailing round the room!

To return to the original brief. Our requirement was for a sophisticated yet practical system. This has been achieved

The Dunhill Boardroom in London has a comprehensive but compact AV System. Here the Equipment Cupboard is shown open. To the right of the Video Scanscreen is a video overhead facility used for displaying products and packaging on the screen.

Holland leads in Control

OUR Office in Holland has specialised in Presentation Room Control for longer than any other company in the Electrosonic Group. They have built up an excellent reputation, and specialise in installations of the highest technical specification and quality. Indeed it was the Amsterdam Office, under the direction of Coen Margadant, that originated the ideas for the Presentation Room Controller, and they have been closely concerned with its subsequent development.

Typical of recent Electrosonic Installations in Holland is the system for the Nederlandse Credit Bank/ Chase Bank in Amsterdam. The room is illustrated on Page 1, and includes a 24 channel conference microphone system, Electrosonic Lighting Control, Video and Data Projection, Movie and Slide Projection and motorised screen cover panels and blackout blinds. Everything is under PRC "one button control".

Similar "Electrosonic" facilities are to be found in several other Banks in Holland; De Lage Landen, a financial and leasing bank, being another recent example. Again the Audio Visual Wall, that includes rear projection and writing facilities, is neatly covered by a motorised panel when not in use.

The Sint Antoniushove is a major hospital near The Hague. Its new PR and Training Centre is also neatly equipped with AV facilities. Here the Video Presentation is by Multiple Monitors and the system includes microscope video viewing.

Joining the Banks and the Professionals are many commercial and manufacturing company installations. One of the most recent of these is the all Infra Red Controlled AV Facility at the Demonstration and PR Centre of VESCOM, a major manufacturer of high class wall coverings.

De Lage Landen in Eindhoven has a well equipped conference room.

At the Sint Antoniushove in The Hague multiple video monitors are used for microscope video projection.

Factron Schlumberger in the Picture

FACTRON Schlumberger manufacture Automatic Test Equipment and other factory automation products. Here STEPHEN MUDDIMAN, Marketing Communications Co-Ordinator, Factron Europe, describes their Presentation Facilities, and the coincidence that led to Electrosonic's involvement.

Our initial interest in a purpose built Presentation Room arose in November 1985, and shortly afterwards the department I work for, Marketing Communications, responsible for promotions throughout Europe, was asked to take over the project. Fred Santamaria, our manager, started looking for specialist companies able to handle all technical aspects of the modern presentation room, and was anxious to find one able to treat the project as a whole. We did not want little bits of the job being done by numerous subcontractors!

However it was not until January 1986 that contact was first made with Electrosonic; and this was in a rather surprising way. Fred Santamaria was taking a flight to the USA, and, in conversation with the passenger on his left, raised the subject of presentation methods. This was of more than a little interest to said passenger, who was Ian Simpson, Managing Director of Electrosonic Ltd.

We needed to meet the needs of a wide range of users from different groups within the company. Our major need is the high quality presentation of live computer data, which we derive from any of:

- — our mainframe computer
- — one of many VAX computers within the building
- — Automatic Test Systems (our products) in the adjoining demonstration facility.

With this facility we can present all our software based products to both high level customers and engineers, and we can tailor presentations to specific demonstration needs.

We also need to present standard video material in both VHS and U-Matic formats, to all world TV standards. It is therefore important to have a system that can easily switch between the different data and video sources.

Slides

Not all is video and data. The same screen system has to handle slides; and while the initial requirement was for a three projector system able to show AV Shows, Speaker Support Slides and to provide a random access facility, the whole system can be expanded to nine projectors.

We regard sound as important, so besides low level speech reinforcement provided by ceiling loudspeakers; we specified a programme sound relay system of quality — as opposed to being just adequate.

Showcase

We had decided at the time of committing ourselves to this venture to include the Presentation Room within a completely new customer orientated area; and establish this into our European HQ as a showcase for our UK and overseas customers.

The total package consists of a conference room, a large demonstration facility, a refitted reception/assembly area, and the AV Presentation Room. All are linked by a colour co-ordinated corridor that leads directly from the main reception. The aesthetics of the whole package are important, so at the design stage we were careful to ensure that the inside image we present to our top level international customers matches both our high tech corporate image, and the modern look of the exterior of our new building.

The actual building and equipping of the Presentation Room was a race against time. We were finally able to place the order in March 1986, but our deadline for completion was July 11, in time for a high level presentation to the Schlumberger Board of Directors on July 16.

The deadline was met thanks to the commitment of building contractors, electricians, furniture and carpet suppliers and not least by John Davies of Electrosonic who spent many days and nights making it all work.

Constant use

The room has now been operational for several months, and we have been able to train a small group of presenters to be conversant with the basic running of the equipment. Asked whether the facility has been a success Fred Santamaria said "The room is being used constantly, and is proving to be an excellent means of presenting our company, its business, and our product".

During October 1986 an International Marketing Meeting was held at Ferndown and our counterparts from Latham in New York were able to see the new facilities for the first time. From this developed a need to submit a proposal based on our UK experience for the USA HQ. If it is accepted we intend to link the two facilities by satellite and use Tele-Conferencing for both large and small scale international in-house meetings.

The Factron Schlumberger Presentation Room at Ferndown.

Lex & Wool

HERE are two typical Presentation Room Installations from the many recently carried out by Electrosonic Ltd in the UK. The top picture shows the meeting room of the Marketing Centre of the International Wool Secretariat, set on the edge of the beautiful Yorkshire Dales at Ilkley. The room shown is part of a complex of three rooms that can be linked by the use of partitions. The Electrosonic Sound and Lighting Control System is automatically correctly configured by sensors on the partitions.

The lower picture shows the Boardroom of Lex Services plc in London. In this case the comprehensive AV facilities have been integrated into the room in an unobstrusive way. All room control is by Electrosonic PRC, and the cordless custom made Infra Red control makes it convenient to use. The Electrosonic Lighting Control System integrates the control of motorised window blinds into the lighting "scenes".

Cantel

MULTIVISION Electrosonic recently designed and installed an audio visual facility for Cantel Inc; Canada's National Cellular Telephone Company.

Cantel's new Toronto head/regional office required a sophisticated customer training facility, designed in keeping with their high tech image. Multivision advised Cantel and their architect on the most efficient ways in which to use the available space. So flexible is the resulting room, that it is now also used for internal training and sales presentations.

The room includes Electrosonic Lighting Control, Video and Computer Graphics presentation, comprehensive audio, and an Electrosonic APOLLO Slide Presentation System.

The Cantel Customer Training Room in Toronto shows how to get the best out of Cellular Telephones.

LIGHTING NEWS

Lighting Control Equipment based on Thyristor Dimmers and Microprocessor Programmers is an important part of Electrosonic's Product Range. We manufacture Unit Dimmers and Multiple Dimmer Systems for Commercial, Architectural, Leisure and Entertainment Applications. On these pages we report on just a few of our recent installations.

SETTING THE SCENE IN HOTELS

LIGHTING Design for First Class Hotels is a combination of art and science. The art makes a major contribution to the Interior Designer's work; and hence to the ambience, feeling and image of the hotel. The science comes in designing lighting schemes that will themselves help generate revenue for the hotel; and in designing them for minimum maintenance and running costs.

Lighting Control has, in turn, made the Lighting Designer's job a little easier. Lighting Control helps solve both aesthetic and functional problems. Functional by ensuring that public areas such as banqueting suites can be satisfactorily multi-purpose; by extending lamp life — using "soft switch" and planned under-running; and by minimising running costs — using time and zone control. Aesthetic by allowing the correct balance of light and colour, and by the introduction of dynamic effects.

Control Products. These products now set the standards by which others are judged; they are particularly suitable for the Hotel market, and for other architectural applications where the lighting control system is a long term investment.

Some recent installations show the versatility of SCENESET. The Banqueting Suites at the London Tara Hotel have to cater for a wide range of events including conferences, banquets, exhibitions and dances. The suites have recently been refurbished and the lighting redesigned. The new lighting scheme uses special decorative fittings designed by Connections to provide both general illumination and visual effect. Additional general light is achieved by using discreet downlighters and concealed fluorescent wall washers. Accent lighting is provided by concealed low voltage spotlights.

One of the two Banqueting Suites at the London Tara Hotel. Recently refurbished and updated with SCENESET control.

Control of the complete installation is by two Electrosonic SCENESET Systems, one for each of the two suites. Each suite can be divided into six different areas. SCENESET allows each subdivision to be controlled either independently, or as part of a larger area. Each sub-division has eight pre-programmed "scenes" corresponding to the different use or function of the room. To cover the separate scenes in each area, and those arising from the different possible area combinations; the SCENESET has to store 100 different lighting scenes.

This sounds complicated, but in fact the user control is simplicity itself — just a series of eight button panels in the different areas. The determination of which scenes are to be selected, and which control panels are to work in parallel is done automatically by the SCENESET reading proximity switches fitted to the movable partitions. Lighting control is therefore easy for both customers and hotel staff to understand — and all lighting changes are executed smoothly.

Sceneset at the London Tara

In 1984 we introduced the SCENESET System of Lighting Control as part of our then new DIGIDIM ES7000 Range of Lighting

The restored Brighton Grand Hotel uses five DIGIRAKS for Public Area Lighting Control.

hotel were properly met.

So behind the Victorian splendour lies the latest technology in lighting control. Five racks of ES7000 DIGIDIM and SCENESET equipment serve the needs of the Grand's public areas such as the Foyer, The King's Restaurant, the Conference and Banqueting Rooms, the new Hobden's Health Spa and the late night pub/disco Midnight Blues.

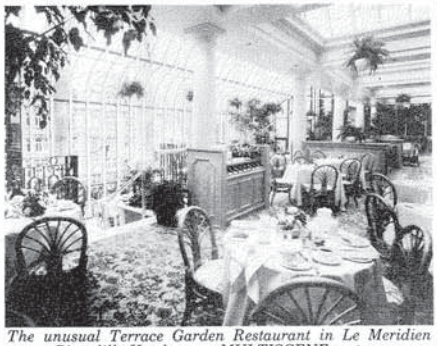
Brighton Grand

De Vere Hotels re-opened the Grand Hotel in Brighton in August 1986 after an £11 million rebuilding and refurbishment programme. All the best features have been retained — the main façade, the central staircase and the pillars in the restaurant, together with the original Victorian elegance and style. However the Interior Designers, Richmond Design Group and the Consultants, Hoare, Lea and Partners, also relied on their past experience to ensure that the needs of a modern first class hotel in the heart of London's West End. Here the Consultants, Wallace Whittle and Partners chose to use a number of separate Electrosonic MULTISCENE Controllers for the public area lighting. In this system the dimmers are mounted in groups of up to six on a compact wall mounting assembly known as DIGITRAK. Each group of dimmers is then controlled by a MULTISCENE Module; which, while not giving the full sophistication of SCENESET, does give similar facilities for the single room situation.

For example the Terrace Garden Restaurant uses a single MULTISCENE. The different scenes are programmed to match the requirements of different times of day, and, because the restaurant has a lot of daylight available, different times of year and different weather conditions.

Meridien Piccadilly

Another major hotel refurbishment is to be seen at Le Meridien Piccadilly Hotel in



The unusual Terrace Garden Restaurant in Le Meridien Piccadilly Hotel uses a MULTISCENE system.

SCENESET Lighting Control in the Function Rooms of the Portman Hotel helps ensure maximum revenue from the diversity of uses.

The well known profile of P&O's "Canberra", recently equipped with Electrosonic MULTISCENE equipment.

SYSTEM 12

ELECTROSONIC have recently introduced SYSTEM 12, a compact and economical lighting control package that brings the benefits of scenesetting to the smaller retail and leisure installation.

When we introduced the SCENESET concept in 1984 it was immediately accepted by Lighting Designers as the standard for sophisticated installations. In principle it treats any area as a "theatre set" which requires a number of different lighting combinations for different purposes.

Regardless of how many dimmers are used, each combination can be set as a "scene", with any dimmer adopting any required level. Dimming speeds are also programmable, so transitions should always look perfect. Programming of the lighting is carried out on site, using a convenient hand held programmer, the "SCENEMAKER". Once programmed, the settings can be committed to non volatile EPROM memory, so, in use, the system always executes the Designer's intentions.

Until recently the full SCENESET System was only available with our Plug-in modular dimmers, which are ideal for hotels, auditoria and large scale systems. However, we found that designers wanted the benefits of SCENESET applied to the smaller installation that could not justify the "Big System" approach.

Wall mounting

Our answer was SYSTEM 12. This is a compact wall mounting unit with a lockable front cover. Inside are 12 thyristor dimmers, each with its own MCB and each rated 10A 240V. Also in the cabinet there is a memory module to give multi-scene control. There is plenty of space for Electrical Contractor's connections, so installation is simplicity itself.

Key to the success of SYSTEM 12 is a new four way dimmer sub-assembly. This sub-assembly carries four dimmers, all with hard firing and with suppression to BS 800 standard. One dimmer in each group also has a 10A relay for switching auxiliary circuits (e.g. cathode heating for fluorescent loads).

SYSTEM 12 is being specified for use in Retail Displays, Art Galleries, Pub-restaurants, Small Exhibition Areas and similar applications.

ALL AT SEA

IN the last issue of ELECTROSONIC WORLD we announced that we were supplying the Public Area Lighting Control Systems for the P&O Flagship "Royal Princess". Since that time the SCENESET Lighting Control System on board has been all round the world, and we can now report several other floating systems.

In principle the lighting control systems supplied to Cruise Liners and Luxury Ferries are similar to those that we supply to First Class Hotels. The SCENESET principle, combined with the modular dimmer approach for ease of maintenance is exactly what is needed for the application.

However there are some special considerations for equipment supplied to ships, both to do with safety regulations and with ships' electricity supplies. For this reason we often supply equipment with double pole input protection, and built to standards acceptable to NEMKO (Norwegian Standards, which are possibly the most stringent of the international standards).

"Royal Princess" is operated by the P&O Company "Princess Voyages." In 1986 we supplied the same company's ship "Sea Princess" with SCENESET and DIGIDIM equipment for the Promenade Deck, Night Club, Pacific Lounge and Look Out Bar.

P&O also operate the well known ship the "Canberra" through their company "Canberra Cruises." This went for a refit at the end of 1986, and, naturally, Electrosonic Lighting Control equipment was installed. Because it was a refit it was found better to use MULTISCENE with DIGITRAK mounted dimmers. The equipment for both Canberra and Sea Princess was supplied in conjunction with AJS of Bournemouth.

OY Wärtsila

The Royal Princess was built by OY Wärtsila of Helsinki, who are now the biggest builder of Cruise Liners in the world. They have also been building luxury ferries for use in the Baltic, all of which are fitted out to the most luxurious standards. They include fine restaurants, bars, and conference facilities.

Two ferries recently built for the Silja Line have included Electrosonic SCENESET and DIGIDIM equipment for lighting control in these public areas.

One of two Silja Line Ferries recently built by OY Wärtsila, and fitted with Electrosonic SCENESET.

LIGHTING CONTROL IN RETAIL TAKES OFF

We are seeing a great increase in the application of lighting control to retail display spaces. Here JOHN BULLOCK of Equation Lighting Design explains why.

WHEN we talk about controlling light, the mechanistic act of adjusting levels of illumination is only part of the story, and is the least important factor to the high street retailer.

What the retailer is looking for is the control of mood and atmosphere, the creating of an environment that encourages the spending of money and maximises the sales per square foot.

There is nothing new in this approach. Adjusting environments to suit customer needs is an age-old skill of any high street operator. Until now, however, environments have necessarily been static, and have relied heavily on stage settings, through shopfitting design, to achieve the desired effect.

The development of dynamic lighting control within the leisure industry is now creating an interesting spin-off within the retail sector. It is interesting because it is happening across the gamut of high street shops, and not just within the predictable fashion stores.

Retailers are waking up to the advantages of a changeable environment which does not mean a refit, and which can draw customers back to their shop on a regular basis.

Villeroy Boch sell China and Glass in Regent Street. Each part of the shop has separate lighting control. Design Consultants: The Design Solution.

Villeroy Boch

In practical terms this is being approached in a number of ways, and the Electrosonic SCENESET control system is proving an asset to the Lighting Designer in helping to realise them.

For example a number of shops use the technique of programming lighting zones, each with several channels. Sometimes these zones are based around different physical areas within the shop, as is the case with Villeroy Boch, a china and glassware shop in Regent Street, London W.1. The front of the shop and the main window are programmed separately from the lighting within the body of the shop, and each zone plays a simple or sophisticated crossfade depending on the time of day.

A slightly different technique is used in a new chain of shoe shops called BLFA. Here the interior is exciting and animated, and the lighting responds in a like form. The shop is treated as a single space, but the "zones" are made up of different lighting elements; downlights, coloured fluorescent tubes and spotlights. Each element is wired to a number of dimmer channels, enabling zones to act independently or in concert. The final programme is a work of art!

Time Zones

One thing which these projects have in common is their relationship with the customer. The programmes are designed on the assumption that a customer will be attracted to, and stay within, the shop for a set length of time. The lighting programme runs through its complete performance several times in this "expected" time so that the changes in light pattern are obvious.

The second method, now being discussed with a number of retailers, is that of dividing the trading day into different time zones. To an extent this is already the case with BLFA, where an Electrosonic SCENE MANAGER introduces different programmes at different times of day.

While it is unlikely that a customer can be encouraged to spend time and money above a certain level in a single visit, it should be possible to "re-introduce" the shop in a different style. For example, a cool and sophisticated blue wash interior in the morning; a warm golden evening glow in the later afternoon.

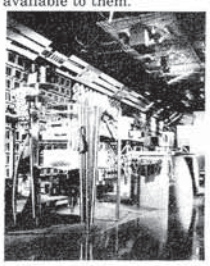
Lighting Designers for Retail Spaces are taking and learning from the techniques of theatre; not in a simplistic "copycat" use of equipment, but in the more subtle relationships of light and colour. Until recently this trend has been limited by the type of lighting and control equipment available. Programmed changes were impractical because they could not be automated at a reasonable price, and the development of special light fittings was slow.

Rolling Refits

Now the Lighting Industry is falling over itself to produce commercial and architectural versions of theatre lanterns. Fresnel lenses, colour filters, focusing lenses and gobos are now commonplace. This means that the Lighting Designer is able to combine theatrical lighting techniques with the electronic control systems which have also been designed to meet commercial needs.

There is a final important point about this trend in Retail Display Lighting. Budgets need to be adjusted to accommodate lighting control. Until recently this has not been a serious item of cost, but it must now be recognised as an important capital item.

Retail refits are taking place more frequently than ever before, with some retailers operating a "Forth Bridge" policy of rolling refurbishments throughout their outlets. This in turn demands a more careful approach to the electrical design behind the lighting equipment. Designed well, with future needs in mind, the central core of a lighting system should be able to cater for both major and minor refits for years to come. A properly planned investment at the early stages gives retailers even greater planning options as they come to understand and appreciate the lighting possibilities available to them.



Bright and Animated Lighting brings the BLFA Shoe Shop alive. Design Consultants: The Jenkins Group

A new SCENESET based lighting system at Bristol Street Motors at Solihull makes for more desirable cars.

DULUX PAINTS WITH LIGHTS

NEW retailing methods are introducing new sales opportunities. For example the trend to big out-of-town Superstores, especially in the Do-It-Yourself and Furnishing fields, allows for larger and more adventurous display spaces; even "stores within stores."

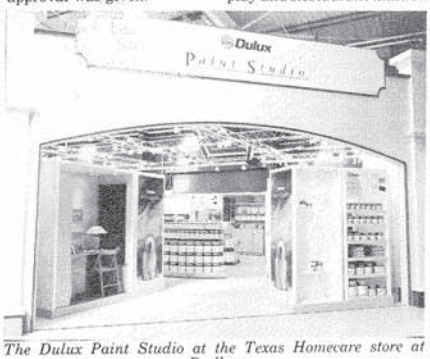
Texas Homecare recently opened a new store within an Enterprise Zone at Dudley, near Birmingham. Within it they worked with ICI plc Paints Division to create an up-market display area for the promotion and sale of "Dulux" paints.

David Davies Associates are the designers of the "ICI Dulux Paint Studio", and it is hoped that the one at Dudley will be a prototype for similar installations throughout the country. They appointed Lightplan of Putney to act as Lighting Consultants, and over a 6 month period various lighting schemes were put forward and tested before the final approval was given.

The aim of the lighting design was to use lighting to enhance the 'designer look' of the Paint Studio. Each area was given special attention to ensure that the lighting matched the associated paint colours.

Within the main display area the paint cans on display have been further emphasised by the use of "light movement" which ripples down the length of the "waved" display unit. Off the main area "Room Sets" include fabrics and furniture to show the paints in a domestic environment, and these again use dynamic lighting control to simulate different times of day and room uses.

The Dudley Dulux Paint Studio represented one of the first installations of Electrosonic's SYSTEM 12 Lighting Control. This compact, economical lighting control package, which includes all the sophistication and flexibility of the SCENESET system has been specially developed for the Retail Display and Restaurant market.



The Dulux Paint Studio at the Texas Homecare store at Dudley.

DESIRABLE CARS

Here PATRICK CASEY of Upson Associates presents a case study of the contribution that design makes to the improvement of retail efficiency.

"WHY don't our cars look as desirable as the cars at the Motor Show?"

This was the reaction of Peter Hill, Managing Director of Bristol Street Motors after a visit to the Motor Show. So he decided to do something about it for "after all, a car is the largest purchase most people are likely to make in their lives after a house. Therefore we want our customers to feel relaxed, secure and comfortable, and to go away feeling that they have spent their money wisely."

Mr. Hill commissioned Upson Associates to develop a showroom design that would properly reflect Bristol Street Motors' position as Britain's number one Ford dealership; and would provide a showroom, sales closing area, offices, service reception and parts and accessories shop that would provide a coherent corporate image, and, of course, would make the cars look desirable. Bristol Street Motors Shirley, Solihull Branch was chosen for the pilot scheme.

The Problem

The design problem could be summarised as:

— To provide ample lighting to create the right atmosphere, and to show the cars to their best advantage, both within the showroom and from the street.

— To provide an easy passage from viewing area to closing area; and for the closing area to be a comfortable and unpressured environment.

— To make the offices a place where people would want to work, both attractive and practical.

— To co-ordinate the services and parts reception with the rest of the building.

The Solution

In the showroom a Structura Lighting System was chosen as it allows a greater flexibility than most suspended systems. It also creates a presence without being overpowering.

A variety of fittings are used; including fluorescent modules, metal halide fittings, PAR36 and low voltage spotlights. The complete lighting system is under the control of an Electrosonic SCENESET and DIGIDIM system to provide a variety of lighting moods throughout the day and night.

Because of the enormous amount of daylight sometimes available a photocell system selects different scenes depending on daylight level. For example when it is bright outside it is important to have a high level of light at the back of the showroom; on the other hand at night and on darker days the lighting can be much more subtle.

A wide spiral staircase provides easy access from the main showroom to the closing area. This has been changed from the traditional "businesslike" desk and two chairs to a more intimate atmosphere with comfortable lounge chairs, coffee table, warm lighting and planting.

DIGIDIM-SCENESET FOR CAMERON TOLL

LIGHTING control for retail is not confined to the stores themselves. When the ES7000 DIGIDIM Range was introduced in 1984, one of the first installations was for a complete Shopping Mall.

The mirrored Cameron Toll Shopping Centre in Edinburgh uses a SCENESET System to control both dimmed and switched lighting. 24 DIGIDIM units control tungsten lighting, and 11 relays control remote contactors for discharge lighting.

The whole system is arranged to give 8 lighting scenes. The scene selected is based on a combination of the time of day, day in the week and exterior lighting conditions. This is achieved by using a four level Photocell to monitor the daylight, and a four channel time clock to establish the time and day.

The lighting at Cameron Toll was designed by Lighting Design Partnership of Edinburgh and London.

SOUND LIGHT AND MULTI MEDIA

THE programming of Lighting and Audio Visual devices in synchronisation with a sound track is an important part of Electrosonic's work. The applications are as varied as they are interesting.

New light sources at the London Planetarium

THE London Planetarium has given more public performances than any other planetarium in the world. It has recently modernised its perimeter lighting system using new light sources. Here PETER FARLEY explains the new installation.

Perimeter lighting within a Planetarium Dome is used both functionally and for effect. It provides part of the basic "house lighting" and is used for such effects as simulated sunsets.

The original lighting fitted round the 20m dome consisted of 300 75W 240V architectural tungsten strip lamps placed around the 63m circumference. Concealed at low level in a trough, they provided wash lighting of the dome in three colours, red, blue and white, each independently controlled by dimmers with manual faders sited on the main control console.

Obtaining the red and blue colours from the standard opal white 24" tungsten tubes required spray painting. The disadvantages were many; breakages from extra handling; difficult of controlling initial colour conistency; and tendency for paint to flake off in service.

All this resulted in unacceptable lamp maintenance costs if good colour rendering was to be maintained.

In addition to this unsatisfactory state of affairs, it was also apparent that the original lighting design no longer met the creative requirements of the London Planetarium — neither for its "traditional" planetarium shows, nor for the Laser Light shows that take place in the evening.

Primary Colours

We took the decision to install a full four colour system; with the three primary colours, red, blue and green, plus white. This allows us to produce any required saturated or unsaturated colour. The first problem to be solved was the type of lamp to be used.

The new Thorn M27 12V 20W tungsten halogen lamp with a rated life of 2,000 hours appeared to be suitable for our application. Given it's greater lumens/watt compared to the existing lamp there was clearly the potential for lower maintenance and running costs, despite the greater number of lamps likely to be employed.

The remaining problems were to devise a method of getting colour from the white lamps, and to determine the pitch centres of the new lamps that would produce good colour mixing without "blotchiness". For example there would be the need to create such colours as orange, yellow, magenta etc. by mixing the primary colours.

The primary colours were achieved by the use of high temperature polycarbonate colour medium mounted within a tempered glass tube. Because this arrangement might have resulted in the pinch temperature of the tungsten halogen lamp exceeding its 400 C rating, Thorn's Lamp Laboratory at Enfield carried out tests of this method of construction, using an aluminium end cap on the end of the tube to simulate a worst case condition.

Trials indicated that the primary colours produced a broad spectrum of colours without flaring when mounted at 60mm centres.

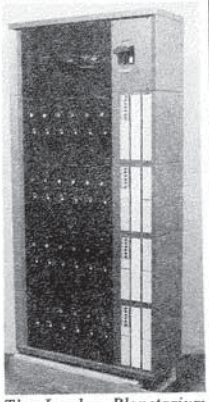
10,000 Metres of Cable

The installation of the new lighting system took place over the annual two week shutdown period (used for maintaining the Zeiss Planetarium Projector) in January 1986. 90 special brackets were welded into place to provide support for the specially designed cable trunking and its cover, which also acts as the lampholder. The 1,150 lamps needed 10,000 metres of cable; and care was taken to ensure that volt drop was equalised.

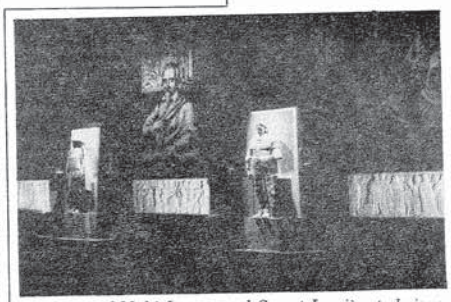
To give us flexibility in control of lighting, it was divided into six zones. This better enables us to locate lighting effects such as sunrises, and allows for dynamic effects. This meant that 24 dimmers were needed to control the four circuits in each of six zones.

Lighting control is by Electrosonic ES7000 plug-in modular dimmers, all under the control of a SCENESET system. The SCENESET has been programmed to produce a number of static and dynamic lighting effects. For example for a good "sunrise" we use one or more zones, starting with the grey crack of dawn, followed by typical amber, orange and yellow colours on the horizon, which expand finally into filling the auditorium with the blue sky of day.

The new approach to perimeter lighting at the London Planetarium is, we believe, unique; and the methods used may well be seriously considered by others. The final design was a "team effort" between the London Planetarium, Messrs. Engineering Design Consultants, Thorn Lighting and Electrosonic.

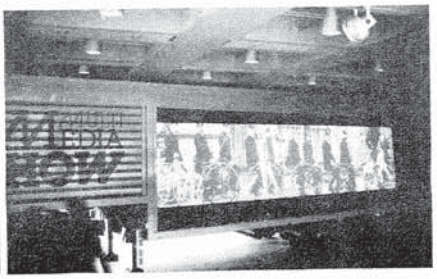


The London Planetarium uses a SCENESET Lighting Control System, synchronised to the show soundtrack.



A mixture of Multi Images and Son et Lumière technique made a big impact at Geneva's 450th Anniversary of the Reformation celebrations.

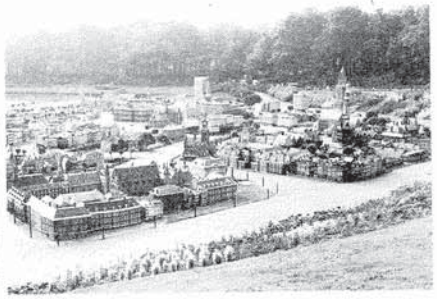
Multivision from Video Disc



IN Permanent Exhibitions and Museums many of the most effective applications of AV use a mixed media approach. At the recently refurbished Daimler Benz Museum in Stuttgart one of the presentations combines Video Projection with Multi Image. The combination is effective both artistically and technically; the latter because the video material and the sound track can be carried on a video disc, with resulting high quality and minimum maintenance.

The top picture shows the front projection housing (top left of picture) and the video projector, and the bottom picture shows how the side of the Mercedes Benz truck rolls up to provide a projection screen. Synchronisation between the video disc and slides is achieved using a special Electrosonic Video Disc Controller, and a code converter that converts video sync pulses to clock signals. There is an on site SYSTEM 4000 computer with bubble memory to ensure the show program never gets "lost".

The show was made by Gallo Audiovision, and technical installation was by Mietzner & Mattis, both of Munich.



Madurodam is known as "Holland in a nutshell". The Miniature City now has a Son et Lumière show.

Son et Lumière in Geneva

THE Son et Lumière Medium, when applied to outdoor ancient monuments, is a problematic one. In principle it can be an exciting and evocative way of presenting a subject, and we at Electrosonic have a vested interest in its success. We hate to admit, however, that it can actually be ***boring***.

This is because Son et Lumière is like any other Audio Visual Medium — it depends on the *visual*.It should be a stimulating combination of sound and light, not a radio talk with somewhat irrelevant lighting accompaniment. The problem is often that a particular building, or whatever, can only be lit in a few different ways, and it is easy to exhaust these in the first five minutes of a show. Further, unless the visual part of the show is relevant to the story being told, the show does not make a lot of sense.

The Reformation

A good example of how to get round these problems was to be seen in Geneva during the summer months of 1986. This year was the 450th Anniversary of the Reformation in Geneva, and to celebrate it the Foundation of the same name commissioned Pierre Piguet to make a show based on The "Reformation Wall" located in the Parc des Bastions.

This wall is 100m long and features individual statues of the Principle Reformation Characters, as well as a number of bas reliefs and moats. The site satisfied the major conditions for success, in that the story was strong, and able to sustain a presentation of the required length. Also that the site itself had visual interest and variety.

Even so it could not really sustain a long show on its own, so to make a complete presentation, the Producer introduced slide projection, using six large motorised screens (each 6.6 x 5.0m). In this way the considerable amount of the available graphic material, paintings etc, of the Reformation time could also be used in the show — making for a much more complete and satisfying presentation. The use of motorised screens allowed the Wall to be seen in its proper state, at the same time ensuring the highest possible quality of projected image.

Ganz

Our distributors in Switzerland, AV Ganz AG, were responsible for the technical installation. All programming and control was achieved by using standard ES4000 equipment, both for the slide projection and the lighting. Electrosonic dimmers controlled 60 spotlight circuits, and ES4003 units controlled the 18 Simda 400 watt Slide Projectors.

The same Reformation Anniversary celebrations called for another mixed media presentation at the Calvin College (see picture on page 8) and Ganz are also installing a permanent system using the same techniques within the Historical Museum of the Kanton Argau.

High power for a Lilliput city

THE world famous miniature city of Madurodam, in The Hague, has for many years been one of Holland's top tourist attractions. Now Electrosonic is controlling the city's electricity supply in a spectacular Son et Lumière display that runs every evening from May 1 to September 30.

It might be thought that the control of lighting for a miniature city was considerably easier than that for a large monument; however the sound and light control techniques needed for models, and even for indoor displays, can be more complex than those needed in a Son et Lumière for a Cathedral or a Castle. While the latter may need a lot of light measured in kilowatts, the smaller scale display may well need more circuits and a greater complexity of control.

This is certainly the case of Madurodam. The management commissioned Leo Schepman Audiovisuals of The Hague to create a new show "Moonlight Miracle" that would fully exploit the model, and make for an entirely different visitor experience than that given by a daytime visit.

Multi Language

Electrosonic Systems BV received the contract for the complete audio distribution, lighting control and computer synchronisation. The audience seating can accommodate 500 people, and each seat is equipped with a special listening point that allows the visitor to hear the show in stereo in his own language. A choice of four languages is provided, Dutch, German, French and English.

A multi track tape carrying the sound also carries EBU time code; this is fed to an Electrosonic BSC computer system that synchronises the switching and dimming of no less than 500 spotlight circuits. The power used is 70 Kw; it would be interesting to speculate what the equivalent of this would be in Megawatts if Madurodam was scaled up to full size!

Electric Boat "George" enters Dudley Tunnel.

Canal Show

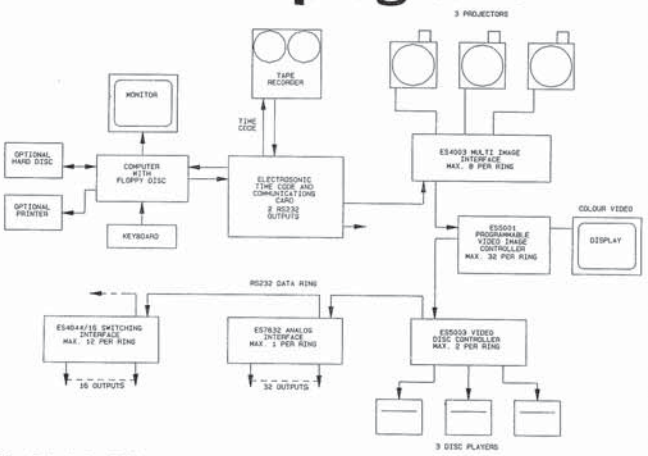
THE Dudley Canal Trust runs electric trip boats into the tunnel and limestone caverns of Dudley Canal, near Birmingham. It is a fascinating visit, showing something of the times of the Industrial Revolution, that has now been enhanced by a Sound and Light sequence that is automatically triggered as a boat moves into the "Singing Cavern".

Technically the installation is of interest because it uses an Electrosonic Digital Sound Store to carry the sound track, this can be supplied in a version to automatically control lighting in sync, and has the great advantage of no moving parts, and of no tape to wear out — important considerations in an "underground" enviroment.

New multi media programs

ELECTROSONIC have been involved in multi media presentations since their founding in 1964. At the beginning most of the work was the synchronisation of sound and light, but very quickly, particularly as a result of the worldwide influence of EXPO 67, what we now call "Multi Image" came to represent the largest part of the market.

Now we are seeing a greater need than ever for true "multi media" programming. Many shows that are based on slide projection, also use lighting and mechanical movement programming. Even more of a potential problem is the demand to integrate video methods into programmed presentations. We have therefore recently taken the opportunity to completely review the way in which show programming is done, and this article sums up both our progress to date and our thoughts for the future.



The Principle of Electrosonic Multi Media Programming. A personal computer stores the sequence and provides editing facilities. Actual control is by special interfaces.

Interfaces

The fundamental idea in the Electrosonic System is that any device whose activities are to be programmed should be controlled by a special purpose "Interface." The interface isolates the central programming unit from the device being controlled; is sited next to the controlled device to simplify the installation; and carries out local control routines that are peculiar to the device being controlled.

The best known example from the Electrosonic range is the ES4003 Multi Image Controller. This unit is designed solely for the control of Automatic Slide Projectors. Each unit can control three independent projectors in respect of lamp brightness, slide position, shutter control and magazine zero position. It responds to instructions that it receives via a data link that is "daisy chained" round the necessary number of interfaces in the system.

However the ES4003 is only one of an increasing family of interfaces, the latest of which, the ES5001 PICBLOC, is used for video image splitting in "Video Walls" and similar applications.

The Computer

Ten years ago multi media programming was achieved by special purpose programmers, but as soon as the "personal computer" appeared the trend was to use a computer for programming, primarily because it allows changes to shows to be easily made — especially in respect of timing and editing. So now shows are made using a small computer connected to the required number of interfaces. Obviously the number of devices that can be controlled depends on the size and speed of the computer.

Until two years ago we based our programming on the APPLE II computer, and we still offer extremely cost effective programs that run on it. Then we introduced a much bigger program, MSC, requiring a larger computer; and this was soon followed by our new "standard," BSC, that runs on IBM* and compatible personal computers. It is available in various different "sizes" to suit different applications.

Time Code

In fact a standard personal computer is not able to communicate fast enough with the outside world for our application; so in all cases we supply one or more special printed circuit cards that must be added to the computer to turn it into a multi media programmer. Between them these provide the high speed communications to the external interfaces (on one or more data links) and provide a time code facility.

All shows that are to run synchronised to an audio track (or film or video tape) are now programmed using time code. In the usual case of audio tape, a time code signal is laid down the length of the tape, and control cues for the slide projectors, lighting or whatever are entered into the computer by reference to the time code.

We used our own time code, which we invented back in 1968, until recently; but now we also use the SMPTE/EBU code, which while not as robust as ours, has the advantage of being an international standard and of matching video and film frame rates.

Playback

Shows can either be played back using the computer, or the show data can be recorded onto magnetic tape alongside the audio. Until now the great majority of show, playback has been done using tape data, but now the cost of computers has dropped so much that it is certainly economic to use them as part of the show replay chain in the larger permanently installed show.

It will also soon be the case that the small fixed installation show will use computer playback, especially as in many cases audio tape will not be used at all (see various articles in this issue about "solid state" audio). Our developments in this area will follow the availability of high density memory chips at affordable prices — we already have the necessary technology and will work closely with users to configure our products to the various different applications. The show will go on ... and on!

** IBM is a registered trade mark of International Business Machines Corporation.*

THE PROGRAMS

MSC 192 Projectors, 1536 Auxiliaries, 256 Analogue.
BSC24 24 Projectors, 192 Auxiliaries, 32 Analogue.
BSC48 48 Projectors, 384 Auxiliaries, 64 Analogue.
BSC96 96 Projectors, 768 Auxiliaries, 128 Analogue.
All now with Video Option for Videowall programming.
All with SMPTE/EBU Time Code Synchronisation

The travelling theatrette used in the "Cease Fire" campaign.

Cease Fire in Victoria

THE combination of slide based audio visual and special effects can have a profound effect on audiences — and can be especially effective when an important social or safety message is to be put across.

Parts of Australia regularly suffer from bush fires, and in 1983 there were a particularly horrifying series of fires resulting in many deaths. The sad thing was that many of these deaths could have been avoided, and great efforts are now being made to prevent a repetition of the tragedy.

The County Fire Authority of Victoria run a continuing campaign "Keep Victoria Green. Support the Cease Fire." Their problem is that the people who are most in need of advice live in isolated communities, so their solution was to bring the show to the people.

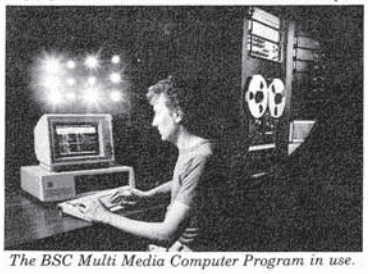
Fire Truck

A bright green, yellow, orange and red semi trailer has been fitted out at a total cost of A$120,000. For waiting visitors there is a continuous video display on the outside of the truck, but the main show is in a specially built 20 seat theatrette within.

The show starts with a frightening re-enactment of the events of "Ash Wednesday." This is achieved by a combination of projected images on the screen, and flame projectors and special effects lighting that surround the audience. The additional use of hot air blowers and directional sound, combined with the already claustrophobic theatrette makes for a presentation with a terrific impact.

The show continues on the main screen; giving practical advice to householders as to how they can minimise the effects of fire by laying out their garden plots correctly, and what to do if caught in the path of a fire.

The original concept for the show came from Cunningham Cummings Industrial Designers, the AV show itself was made by Mike Vernon of the Images Factory and programmed by John White. Local Electrosonic Dealer Hay Communications Pty Ltd supplied the Electrosonic "Autopresent" System that runs the show. It uses an ES4603 AV Presentation Unit, with ES4000 Slide Projector Control and ES4045 Lighting Control.



The BSC Multi Media Computer Program in use.

FACTORED PRODUCTS

Electrosonic distribute certain key products not manufactured by them. These products are supplied either as part of a complete system, or through Electrosonic AV Dealers.

"VideoShow" is becoming a standard component of the Presentation Room.

The 70/125mm Perspective Control Lens.

Meridian for a sharper image

THE MERIDIAN range of Slide Projection Lenses are of the highest quality, and are available in focal lengths of from 25 to 400mm. They have been designed for the AV Professional, each lens being matched to a specific application.

The Zoom lenses, with metal barrels, multi coating and zoom locks are the choice for the travelling show. They are available in 70/125, 110/200 and 200/300mm versions.

For fixed installations using back projection the "Perspective Control" lenses eliminate keystone distortion. The fixed 45, 60 and 90mm PC lenses have recently been joined by the first "Zoom PC" lens — 70/125mm. This range of lenses is ideal for the permanent multi image installation and for presentation rooms.

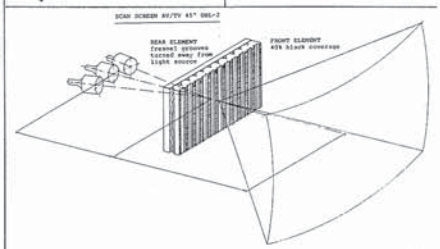
VideoShow

MANY users of personal computers are impressed by their ability to tabulate and store information; but are frustrated by the difficulty of organising this information into a form that can easily be presented to a group of people. They can also be disappointed by the illegibility of computer screen information when presented by projection.

The VIDEOSHOW is a device that solves the problem, and looks like becoming a standard feature of Presentation Rooms. Graphic images are stored on floppy disc, and shown like video "slides" with the advantage that they can be animated.

The procedure for image creation is sufficiently simple that anyone can do it using "Picture It" software on an IBM* PC. Text, graphs and charts can be prepared in a few minutes; and more sophisticated software is available for those wanting greater creative possibilities.

Images created on the VIDEOSHOW system can also be converted to hard copy, slides and OHP transparencies; however we see its main use in day to day meetings and presentations using video projection.



SCANSCREEN Fresnel Lens Screens make the most of the available light.

Scanscreen

A PROBLEM with video projection in brightly lit rooms is the disappointing picture brightness using conventional screens. The SCANSCREEN Videoscreen solves the problem with a complex fresnel lens construction to achieve a bright image with a screen gain of 5. The screen has a wide viewing angle and good rejection of front incident light. The lens construction is such that it eliminates the three colour "hotspot" that arises from three tube video projection.

Scanscreen A/S of Denmark also manufacture an excellent conventional rigid rear projection material in sizes up to 2250mm x 1500mm. The pigment and diffuser are cast into the material, a process resulting in an excellently diffused image even with short focal length projection lenses.

Sound control in Hong Kong

THIS picture shows the Sound Control Room of the Lyric Theatre at the Hong Kong Academy of Performing Arts. The complete system was built and installed by Electrosonic as a very small part of a major contract to supply all Video, Audio and Communications Systems to the three theatre complex. The complex includes a professional video studio and is described in detail in the feature article on Page 12.

DDB

DOYLE Dane Bernbach Advertising's Canadian Headquarters have new Screening and Board Rooms. The complete technical installation is by Multivision Electrosonic Ltd.

The colour co-ordinated Electrosonic infra-red controls operate video, slide and audio equipment, with a selection of 30 functions for different presentation modes. The Boardroom shown here has two motorised screens; one for single image format, and the other for side by side images.

Lighting Control in both rooms is by ES10 Unit Automatic Dimmers.

Rusacks Mirrored Hall

RUSACKS Marine Hotel overlooks the world famous St. Andrews Golf Course in Scotland. It was recently purchased by Trusthouse Forte plc, and, under the direction of the THF Design Department, was immediately subjected to a £2 million refit.

Clare Knapp-Fisher Design was responsible for the Project Management, and they in turn appointed Lightplan to design the lighting for the public areas. One of the most striking of these is the Mirrored Hallway shown here.

Lightplan specified the use of Electrosonic SCENESET Lighting Control. All 24 dimmers for the public areas are ES7000 Series Modular Plug-in Dimmers and are mounted in a central DIGIRAK.

Lighting for a Princess

ON Page 4 we report several installations of Electrosonic Lighting Control Equipment that are to be found on board ship. One of the most luxurious is the SCENESET installation on P&O's "Royal Princess", built by OY Wärtsila and now operated by Princess Voyages.

Sheraton Oslo

THE New Sheraton Hotel, just outside Oslo and designed by F.S. Platou Arkitekter, makes exciting use of lighting to enhance and set off the unusual architecture.

Lighting Design Partnership of Edinburgh were responsible for the lighting design. The Main Atrium is lit by no less than 53 circuits of mostly "theatrical" lighting, that can establish 8 main "scenes" depending on the time of day and external light conditions. The evening scenes include "dusk" and "starlight" effects, and there are even gobo projections onto the atrium floor.

The complete lighting system is under the control of an Electrosonic SCENESET System with Electrosonic NEMKO approved DIGIDIM Dimmers; all supported by our Norwegian Distributor Audio Grafisk A/S.

Calvin

1986 was the 450th Anniversary of the Reformation in Geneva, and to celebrate it the Calvin College, founded in 1558, was the setting of a spectacular mixed media show made by Mirto Tanner. Big Screen Slide Projection, the illumination of the historic facades of the school, figure illumination, smoke and snow effects all combined to evoke the Spirit of the Reformation, crucial to Geneva's destiny.

The presentation spanned the Paradise of Genesis to Today's World, and mixed poetry, passions and reflection, dreams and reality.

Audio Visual Installation by AV Ganz AG, using Electrosonic ES4000 equipment.

Digital Palace

THE way in which the techniques for exhibition sound and light displays are changing is well exemplified by the magnificent 1:50 model of Buckingham Palace that is available for hire from Upton Displays in London (phone 01-794 8444).

Intended for use in Department Store Promotions and similar exhibitions, the model has already been on display in Selfridges and was the "hit" of the British Trade Exhibition in Bahrein, mounted to celebrate the visit of the Prince and Princess of Wales.

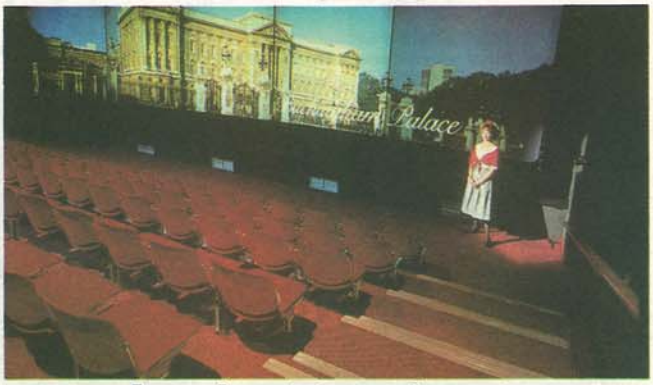
Clive Agran, Director of Upton, realised that the finely detailed model would benefit from the addition of some kind of presentation technique, and consulted Doug and Anita Lear who suggested that a short "Sound and Light" sequence would best bring the model to life. This is effectively "24 hours in the life of Buckingham Palace" presented in two and a half minutes.

The sequence depends on effects lighting only; while slide projection was considered as an addition, it was dismissed on the grounds that the sequence needed to be no longer than a couple of minutes and it was essential that any system installed required an absolute minimum of maintenance — since the model would be travelling all around the world.

Exactly the same considerations were applied to the sound. Until recently a display of this kind would have used a pulsed tape; but tapes need regular replacement and tape deck maintenance. Now, often for little greater cost than a tape based system, it is possible to store both the control sequence and the sound in a solid state memory.

The Buckingham Palace model uses an ES1320 Digital Sound Store, both to carry the sound track and to control the lighting. All the control equipment, which also includes switching relays and ES10 Automatic Dimmers, fits in a compact rack under the model.

OSONIC
RLD



London Experience

AFTER an absence of over 4 years "The London Experience" re-opened under a new management in the New Trocadero Centre in the Spring of 1985. Caribiner updated the show, and Electrosonic not only did the technical installation, but built the complete facility — a real "turnkey" project. Next time you are in the middle of London, have a "London Experience."

Swedish Steel

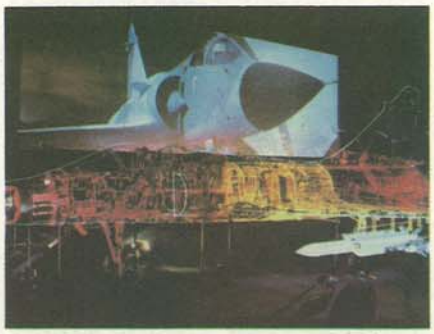
1986 was Swedish Steel Corporation's 25th Anniversary. To celebrate it they built a special Exhibition/Presentation Centre (in steel of course) outside the plant in Oxelosund.

Our Swedish Distributors, Ljus & Teknik AB, installed a complete multi media presentation system, that was used both for Automatic Shows and Live Presentations. The equipment included a complete SCENESET Lighting Control System, and a double 15 Projector Show System using ES4603 and ES4003 Control.

Mirage

THE GIFAS Stand at the Paris Air Show staged this spectacular multi media show produced by Studirec. An 18 projector show with 16mm film surmounted the magnificent full sized sectional model of the Mirage 2000. 10 groups of fibre optics and 20 spotlight circuits provided the striking lighting effects that were synchronised to the projected images.

The whole show ran on SYSTEM 4000 Equipment, supplied by our French Distributors, Technitone.



E.N.I.

AT the 1986 Milan Trade Fair E.N.I. (The Italian State Oil Board) used a 42 Projector Multi Image Show, Produced by Aldo di Russo, as the main feature of their stand.

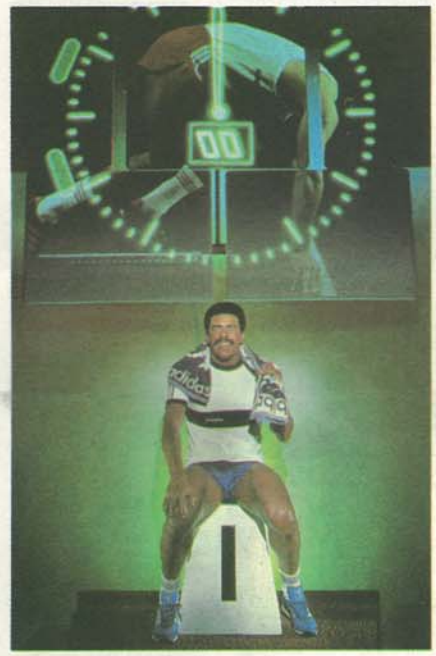
It used Electrosonic SYSTEM 4000 equipent supplied by our Italian Distributor, Electrosonic SpA. This company continues to specialise in the needs of the top end of the AV market, both for users and producers. Other important installations have included Multi Image Systems for the Italian Pavilion at both EXPO 85 in Tsukuba and EXPO 86 in Vancouver.

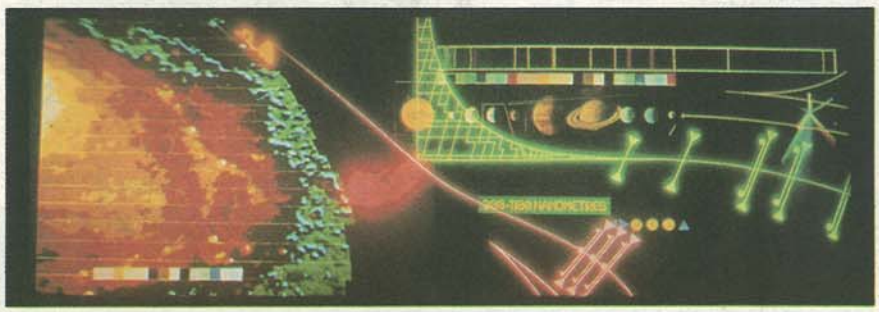
Daley Superstar

MADAME Tussaud's have made superb use of Light and Sound Techniques for over 20 years at their Baker Street Exhibition. Because the Exhibition is always changing they need a technical infra structure that can easily be re-programmed to adapt to new exhibits.

Nowhere is this more important than in the new "Super Stars" gallery, where 3 separate Sound and Light Systems using studio quality reel to reel tape decks working in tandem mode, Electrosonic System 4000 Programming Equipment, and DIGIDIM Lighting Control Equipment keep the show "alive" 364 days a year.

One of the current super stars is Daley Thompson, decathlete supreme. His likeness is surrounded by light, sound and a multi image slide show. Besides posing for his waxwork model, he also went through his paces for the photo session!





Light Fantastic

IN 1985 we decided that we needed a new Demonstration Show that would promote the medium of Multi Image, indeed the specification included the requirements that it be a show that would not transfer to any other medium. After a small "competition" in which a number of producers were invited to submit their ideas, we appointed Malcolm Lewis to produce the show. While we made some restrictions as to format (in order to ensure that it would be easy to show) we made none at all as to subject matter.

The result was the brilliant "Light Fantastic" which received a Gold Award at the 1985 BISFA "Images" Festival. Apart from the occasions on which we use the show for seminars and exhibitions, it has done a "season" in the IMAX Auditorium at Bradford, and is available (on hire, loan or outright purchase, depending on circumstances) for those who would like to use it for their special occasion.

"Light Fantastic" explores the theme "light" in a stimulating and, yes, a light hearted way. It is a "must" for Multi Image fans!

Underground Video

LONDON Transport Advertising were one of the first, if not THE first, users of the Video Wall technique for consumer advertising. The Underground Station at London's Heathrow Airport has 3 video walls built and installed by Electrosonic.

They use the multiple laser disc technique (see p 14) to give images of superb quality. Programme production for the LTA has been by Filmedia. Programmes are about 4 minutes long which matches the train interval, and are changed every few months.

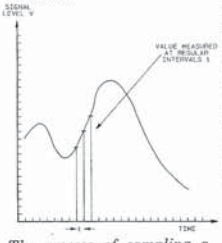
SOLID STATE AUDIO

Sound in Exhibitions, Displays, Museums and for Public Information is often now best sourced from Digital Sound Stores with Solid State Memory. Electrosonic are at the forefront of this development.

HOW SOUND STORES WORK

MODERN Digital Electronics have opened up all kinds of possibilities in the processing of sound, and it is easy to get confused about the different techniques being used. The aim of the Electrosonic Digital Sound Store is, however, a simple one. It is to provide a reliable method of storing recorded sound. Thus it is a method of *recording* an existing sound with as great a fidelity as possible. It is *not* a system of sound synthesis.

The Digital Sound Store stores a sound in EPROM memory chips. It could equally well use other types of memory, such as RAM; but EPROM (Electrically Programmable Read Only Memory) was chosen since part of the specification is that it should not be possible to lose the recording under any foreseeable circumstances. An EPROM is a "non volatile" memory that does not lose the stored information when power is disconnected.



The process of sampling a waveform to turn it into a series of numbers.

The method by which a digital device could store sound was invented by Alec Reeves of STL in the 1930s. This was the principle of "Pulse Code Modulation" whereby an analogue waveform could be converted into a stream of on/off pulses. The principle is that the original waveform is "sampled" at frequent intervals, i.e. its momentary value (in volts, for example) is measured. This measurement can then be stored as a number in binary code.

The recovery of the signal is the reverse process, whereby the string of numbers is converted back into the original waveform. The great beauty of the technique is that all numbers are stored as "0" and "1" (or ON and OFF) values, so once converted to digital the sound quality is maintained even under adverse circumstances.

Sound Quality

The obvious question is: "what determines the audio quality of the recorded sound?" There are two main factors:

— The number of Samples taken per second.
— The precision with which each sample is measured

The first determines the frequency response of the system.

The sampling rate needs to be double the required frequency response; for example to achieve a 10kHz response it is necessary to take at least 20,000 samples per second.

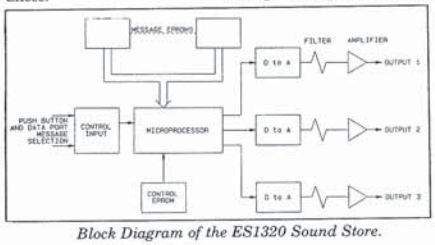
The second determines the dynamic range. For example if values are stored to a 10 bit accuracy (1024 possible values) there can be a dynamic range of 54 dB. The CD (Compact Disc) is the best known manifestation of digital audio storage, and this uses 44,000 samples per second with 13 bit resolution to achieve a true "high fidelity" performance.

At present it is not economically realistic to use EPROM storage to achieve the CD performance; indeed until recently it was not even practical to use "chips" at all since hundreds or even thousands would have been needed for even the shortest message. However the new generation of memory chips that can economically store 256,000; 512,000 or 1,024,000 bits of information allow compact stores with a useful message duration to be constructed.

ES1320

The first Digital Sound Store Product from Electrosonic is the ES1320 Series. This has been designed as a "System Product" that can be configured to many different applications. Since there is a trade off between memory cost and sound quality, it is available in two standard versions. One stores sound with a limited frequency response (4kHz) and with digital compression to save memory space. This version gives excellent speech quality and allows three different messages to play simultaneously from the same unit.

The "E" or extended version can process two simultaneous outputs. It has a frequency response of 6kHz and stores "10 bit" sound without any compression technique. The result is a very clean sound, quite suitable for high quality speech, music and effects in display and exhibition applications. A 12 kHz version is also available to special order, but in practice the "E" version gives a significantly better performance than systems based on Tape Cartridges or Cassettes. This may seem surprising, but the fact is that unless tape systems are maintained on a daily basis, they are unable to give a frequency response much in excess of 5kHz.



Block Diagram of the ES1320 Sound Store.

An important feature of all ES1320 equipment is that it is microprocessor based. While this is not a *requirement* of digital sound stores; since in theory they can be made as "hardware only" units; the use of microprocessor control gives enormous flexibility, and is the key to the ES1320 being able to directly meet such a wide range of applications. In particular it allows:

— Easy Random Access of Messages.
(a 64 way message selector is available as an option).
— Synchronised Lighting and Effects
— Variable speed delivery without pitch change (for speech only).
— Automatic timing of message release.

On Safari and on Wheels

The Monorail at Chessington Zoo

TWO very different theme park ride systems neatly demonstrate both the problems that arise in delivering sound to moving vehicles, and the elegance with which Electrosonic Digital Sound Stores solve the problems.

Chessington Zoo are in the process of introducing many new rides and attractions to make it into a theme park with universal appeal called "Chessington World of Adventures". One of the new installations is a monorail, "Safari Skyway", that travels over the zoological gardens. As you ride in the monorail car, you hear the familiar voice of Johnny Morris as he describes the fauna beneath you.

Johnny's voice is stored in an Electrosonic Digital Sound Store fitted into the train. At Chessington there are 12 trains on the monorail, each with three cars. The technical requirement for each of the 12 sound systems was as follows:

— There are eight separate messages each of an average length of 30 seconds.
— While power is available in the car, there is no provision for any sound pickup or signal rail.

The problem, therefore was the need to ensure that the right message was released at the appropriate moment.

Infra Red

The ES1320 Sound Store is ideal for this application, since it is very easily configured to give a choice of eight messages on random access demand. With no moving parts, small size and negligible power consumption it is an undemanding passenger on "Safari Skyway". The remaining problem was how to trigger off the required message, and this was solved in an elegant way using another standard Electrosonic product.

The underside of each of the trains is fitted with an ES8001 Infra Red receiver head, and this is wired to a standard decoder card that is sufficiently compact that it fits within the sound store. On the monorail track itself, sited at the start of each zone requiring sound, is an ES8015 Infra Red Transmitter in a special all-weather housing that continuously transmits a single command. This means that, as a train runs over the transmitter position, the required message is automatically triggered.

Wheels

A ride sound system of a different kind can be experienced on the "Wheels" Dark Ride at the National Motor Musuem, Beaulieu. Here visitors ride on a continuous transport system consisting of linked "pods", each of which carries two or three people. The ride was installed as part of Beaulieu's celebration of the centenary of the Motor Car, and was opened by Prince Charles in June 1985. The theme of the ride is the impact of the automobile on how we live.

This kind of ride, with its emphasis on education and interpretation, benefits greatly from a sound commentary system, and the problem, of course, is how to ensure that each of the separate cars or "pods" on the ride received a synchronous commentary.

An analysis of this kind of installation shows that you need a sound replay source for every car on the ride, plus some means of delivering the sound to the car. A full explanation of the system is given in an article "Dark Rides" in the September 1985 Issue of "Studio Sound" (reprints available from Electrosonic) and this shows that the most economical solution to the problem is achieved by:

— dividing the track into zones of equal length, each equivalent to three car lengths.
— feeding each zone with three separate sound signals, with a car length's delay between each. (This delay is dependent on ride speed).

David Willrich, in charge of matters technical at Beaulieu, shows off the ES1320 Sound Store.

At Beaulieu the ES1320 sound store is ideal, since one store can replay the same stored message through three outputs, with the appropriate time delay between each. Signals are distributed to the cars at 100V line level via industrial power pick up rails.

A particularly neat feature of the Beaulieu installation is its ability to adjust the speed of delivery to the ride speed. The silences between words are stored as separate quantities to the words themselves, and they can be scaled to the ride speed. In practice this means that the commentary can be delivered at plus or minus 20 per cent of its nominal speed without any change in pitch or intelligibility!

Each "pod" on the "Wheels" Dark Ride at the National Motor Museum, Beaulieu, has a synchronised sound commentary.

BELLS AT THE BBC

THE ES1320 Digital Sound Store is suitable as a component in Broadcast Systems; especially for line identification, station identification and service announcement.

The BBC External Services run not only their own Broadcasts, but also organise the relay of some other countries' broadcasts. They have installed ES1320E units as part of their control system.

One ES1320E is used for the BBC World Service. It is used to generate the station identification signal, and also stores the well known pre-war recording of Bow Bells.

Additional units are used in the relay of Radio Canada and Voice of America programmes. Here the emphasis is on service announcements, covering planned and unplanned breaks in transmission. The ES1320 is ideal for this purpose since it can store a number of messages that can be recalled on an instantaneous random access basis.

BBC External Services have also purchased an ES1330 Digital Recorder to enable them to make their own "recordings" into EPROM for their sound stores.

The ES1330 Digital Recorder records sound into EPROM.

DROPPING A CLANGER IN SCOTLAND

IN April 1986 our specialist dealer Avtech Services Scotland Ltd installed an ES1320 Digital Sound Store in the Clock Tower of the Midsteeple in the centre of Dumfries. The application was an ideal one for "solid state sound" — one requiring daily continuous use with, if possible, zero maintenance.

For the celebration of the Octocentenary a local benefactor wished to add a carillon of bells to the clock, such that it would play well known Scottish airs at specific times of day and on special dates. Avtech recorded the tunes using a sampling synthesiser to get the correct sound, and we duly "dubbed" the recordings into EPROM. Avtech completed the installation, with loudspeakers, amplifiers and clock connection.

Burns

The tunes chosen for the project were "Bonnie Galloway", "Bluebells of Scotland", "Scotland the Brave" and, of course, "Auld Lang Syne" There was, however, outrage at the "prehear" (or whatever the equivalent of a preview is when referring to sound).

Dumfries is closely associated with Rabbie Burns, so when the local citizens, councillors and Burns Club members heard the first version of "Auld Lang Syne" there were dark mutterings about a Sassenach plot. The last line of the verse is correctly "For Auld Lang Syne", although, outside Scotland, it is usually rendered as "For the Sake of Auld Lang Syne", which is easier for the English and other foreigners to sing. It was this extended version that was first recorded into the sound store.

Nobody is owning up as to how the offending extra notes got in; suffice it to say they were VERY quickly removed — just a matter of whipping out the sassenach EPROM!

VIDEO

Our Project Engineering Division undertakes video installations of all kinds, particularly those for display and presentation purposes. We also use video discs in both conventional and unusual ways

The Control Gallery Exhibit in the new Television Exhibition at Bradford uses 10 laser disc players running in sync.

Video discs in sync at Bradford

THE two new galleries at the National Museum of Photography, Film and Television, "The Story of British Television" and "Television Behind the Screen" make appropriate use of Audio Visual Techniques to tell their story. There is, of course, the need to show a considerable amount of video material, and the majority of this material is replayed from video disc. The way in which the video discs are used shows considerable imagination on the part of the museum and their designers, and demonstrates many of the possibilities of the disc as an exhibition video source. These possibilities are of relevance to all museums and visitors centres, regardless of subject.

Simple video

In a museum with several exhibits showing simple video it can now be less expensive to install the requisite number of video disc players AND pay for making a disc than it is to put in heavy duty tape players. This assumes that all the video segments are relatively short. Thus at Bradford there are several exhibits showing sequences of three or four minutes. The disc players are sited centrally, and all are controlled by a microprocessor based multiple disc controller. This device ensures that each player only plays the segment of disc required; and this is selectable to continuous run or demand start.

Random access video

The video disc has the great advantage that video segments can be very quickly accessed. This is neatly demonstrated in an exhibit called "The Magic Carpet", which explains and demonstrates the principles of colour separation overlay (Chromakey). Here visitors sit on a carpet set against a blue background, they then choose to "fly" over a background selected from six sequences held on the disc. They and their friends can see themselves flying over the desert or through mountain passes.

A more elaborate exhibit called "Making the News" allows visitors to try newsreading. They can choose to be a "reporter" in "News at Ten", "The 9 O'clock News", "John Craven's Newsround" or "Channel 4 News". In each case the appropriate introduction sequence is run, from disc, and then the visitor "reads the news" into the camera, from a real Autocue. Their effort is recorded, this time on Sony U-Matic, and they finally see the whole sequence, with their participation, as a complete "programme".

Both these "Audience Participation" exhibits are extremely popular with the public.

Multi screen video

It is relatively easy to make two or more laser video disc players run in "frame sync" and this opens up a number of interesting possibilities.

It is also practical to synchronise lighting to a video disc. The best method is to use the controller that runs the disc player to count frame pulses, and then do the switching on the precise frame required. This method allows timing adjustments to be made on site relatively easily. At Bradford an exhibition called "Still or Moving Pictures" shows a series of news stories on video, but accompanying them are the corresponding newspaper photographs, shown as backlit transparencies that light up in sync with the video sequence.

Mixed media

The most ambitious exhibits at Bradford combine the principles of synchronised effects switching and multi screen video. The "Studio Drama Set" is a complete set of "Beauty and the Beast" designed by LWT. Monitors show a pre-recorded sequence, taken on the actual set, from various camera angles; this is achieved by running laser discs in sync. While they are playing, the full Lee Colortran lighting system operates in sync, exactly as it did during the recording. The sound tracks on the video discs are used to replay the "talkback" between the producer, the lighting director et al; so that each lighting change is explained.

The "Regional News Control Room" uses a special edition of Yorkshire Television's "Calendar" to show the complexity and excitement of a control room monitoring a live current affairs programme. Here no less than 10 laser disc players are run in frame sync to simulate the operation of such a room. At the same time many other items are switched or dimmed at the appropriate time in the demonstration sequence, including indicator lamps on the various consoles, cue lights and spotlights over the figures of the producer, lighting director, production assistant, vision mixer and sound mixer. This is probably the most complex exhibit in the whole exhibition.

Hardware

The new galleries at Bradford have been generously sponsored by the Industry (BBC, Yorkshire Television, Thorn-EMI and Philips in particular) and some of the sponsorship has come in the form of equipment — such as Microvitec monitors, Abekas Cox vision mixers, Calrec audio desk and Philips VP835 laser disc players. There was, however, still the problem of putting it all together as a system.

The NMPFT at Bradford is part of the Science Museum in London, and their technical staff in Bradford and London drew up the operational specification of the control system. Electrosonic Ltd were awarded the contract to carry out the specialist engineering, and to deliver complete working systems incorporating specially built, purchased and donated equipment. Over the last two years Electrosonic have developed a range of special system products for the control of video disc players, and, as a result, were able to do most of the video disc control with standard equipment.

While the "News" Exhibit needed a specially made controller, the other exhibits were able to use one of three standard units.

— a random access controller
— a multi player controller
— a multi screen video controller.

The latter device has the option of being able to control lighting effects, etc. in sync with the video, either directly or via a multi media computer. Similar units have recently been supplied to such places as the Chicago Museum of Science and Industry, The Shipwreck Heritage Museum, and the Mercedes Benz Museum.

The NMPFT video disc installation is an excellent application in its own right, and a useful example to other museums and exhibitions.

The "Beauty and the Beast" set at Bradford. The set lighting changes in sync with the video disc replay.

Inter-active in Chicago

THE Junior Achievement National Business Hall of Fame at the Museum of Science and Industry in Chicago is designed to stimulate an interest amongst young people for business and industry.

It does this both by demonstrating business concepts, and by showing how the "Laureates" of business — people like Walt Disney, George Eastman, Henry Ford and Andrew Carnegie — built up their businesses; often from nothing. The whole exhibition is based on the use of video techniques, and again it is interesting to see how the video disc can be the basis of a great variety of displays.

Business history

One exhibit, "The Laureates Business Challenge" presents a series of conversations between young people and the laureates. The two characters on display at any time seem to "float" within a set, and this is achieved through a Pepper's Ghost Display containing two monitors replaying from two video disc players running in frame sync.

Another on "Business History" invites visitors to select one of 20 dates; this uses a video disc in random access mode, and the corresponding 60 second video sequence is seen on a large screen by projection.

A similar random access display "Rags to Riches" uses touch screen selection, via a menu display. It is important when using many video displays in one exhibition to vary the techniques of selection and presentation.

The "Laureate's Honor Roll' is the biggest random access system, giving a choice of 105 selections. This requires the use of multiple players to accommodate all the material.

The Central Video Rack for the Junior Achievement Exhibition being assembled at our Minneapolis plant.

Business challenge

Electrosonic Systems Inc. were responsible for the complete technical installation, working to specifications prepared by Robert Kirchgessner and Associates. The systems consist of a mixture of the standard (such as Sony video disc players) the semi-standard (such as the Electrosonic video disc controllers) and the downright special.

Most special is the "Business Challenge" computer based game. Here four sets of six computer terminals are devoted to "finance", "production", "management" and "marketing". Visitors can "sign on" at any of the terminals, and they are given a notional "capital" with which to back their own business decisions.

These decisions are made against situations presented by the computer. Each visitor can play each subjecct only once in a day; those who earn the highest scores are shown on the "Highest Scores of the Day" indicators.

Training at Missenden Abbey

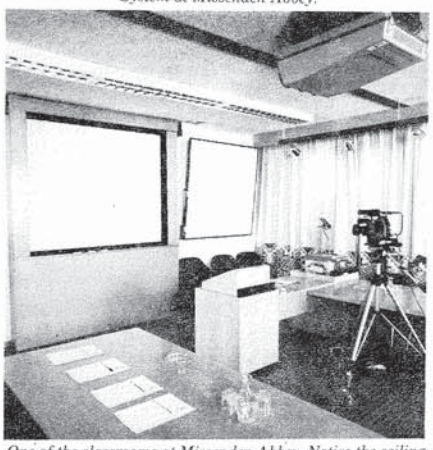
1986 saw the opening of the Residential Management Training of the Buckinghamshire College of Higher Education at Missenden Abbey, set in seven acres of rural Chiltern countryside. Electrosonic were awarded the contract to supply and instal the comprehensive audio visual facilities, which are mainly video based.

Besides a fully equipped 100 seat lecture theatre there are four class rooms and eight syndicate rooms, all linked together by a flexible CCTV system. The control room is equipped with a professional VHS editing suite and effects generator.

Each classroom is equipped with a custom-built screen system which contains front projection and OHP screens, and two counter balanced magnetic dry wipe boards. The lecturer can present from either a standing or sitting position from the purpose-built teaching desk.

The video projection system shows both the CCTV material and computer generated graphics. The pictures on the right clearly show both the central equipment, and the facilities to be found in the classrooms. Notice the lectern and OHP, both with raise and lower facilities.

The Central Editing and Control Equipment for the CCTV System at Missenden Abbey.



One of the classrooms at Missenden Abbey. Notice the ceiling mounted video projector and the special teaching desk.

THEATRES AND AUDITORIA

We have considerable experience in meeting the technical requirements of Theatres and Auditoria, especially in the realms of Sound, Communications, and Audio Visual Facilities. We have the resources to undertake large projects.

Theatre Technology at Hong Kong APA

Here MARTIN CARR of Carr and Angier, Theatre Consultants to the Hong Kong Academy of Performing Arts, describes the technical systems in the Academy.

This article first appeared in "Lighting and Sound International" and is reprinted with their permission.

FROM its initial concept the application of three principles has given the Academy its unique character. Firstly, the teaching programme includes both Chinese and Western performing arts. Secondly, the Academy comprises four different schools within one complex: Schools of Music, Drama, Dance and Technical Arts. Thirdly, the performance and production facilities were designed from the outset for the highest standard of professional attainment, allowing the development of an "entrepreneurial" programme of public performances by visiting companies from which students will gain direct benefit.

The combination should be extremely powerful, and particularly valuable to technical students who so often elsewhere are enrolled largely to service the productions of their performing colleagues. In Hong Kong the intention is to produce skilled "technicians" rather than "stage-managers", but technicians who in the course of their studies have acquired knowledge not only of carpentry and scene shifting but also of mechanics, electronics, production administration, front-of-house management, design, costume, lighting, sound and video.

Problems of adaptable Theatres

Credit for this visionary approach must go largely to the then Government Music Adviser; though initially his technical horizons were limited to more traditional methods, he did not favour the "entrepreneurial" approach, and had been mistakenly advised that all types and scales of performance could be housed in a single "adaptable" theatre through elaborate mechanics.

During the Brief Development we were able to argue successfully the value of close association with professional companies and resultant need for reasonable public facilities; also that three purpose-designed theatres of complementary size and form would be more effective than a single adaptable one, but should be supported by a small recital/lecture hall and a large orchestra rehearsal hall.

The value of a production department that could service not only the Academy's own somewhat limited requirements, but could also undertake some contract work for outside companies — of benefit to technical students — was also recognised, and the facilities now provided would grace any professional theatre in the outside world. They include generous scenery and production wardrobe facilities, a forge, machine shop, GRP, electrical and property shops, photographic dark room and sound studio. The paint shop can handle both vertical frame and flat floor painting, and rooms for production management, designers and technical instruction, are fully integrated.

Technical standards everywhere were devised to give students practical experience of real value in their later lives where sophisticated machinery may be the exception; thus whilst there is sufficient "high-tech" to give them reasonable understanding of mechanical systems, they should develop a healthy respect for manual operation and the effects that can be achieved by simple means. There are hydraulic elevators, some electric flying sets, sophisticated memory lighting controls and sound systems, but the installations generally are those which should be found in any well-planned "touring" house with emphasis on space, ease of access, and capacity to accommodate future developments as technology changes.

Lyric Theatre

The most obvious feature of the Lyric Theatre is its size stemming from the need to accommodate Chinese Theatre with its accent on width. The proscenium extends up to 18m at which it is ideal for orchestral concerts, but for Western Opera and Ballet can reduce to 12m with the transition from the auditorium effected smoothly through a series of adjustable side towers and overhead ceiling units. The grid is at 25m above the stage behind the traditionally located safety curtain, whilst over the forestage/pit is another grid at lower level. The pit holds up to 90 musicians.

Control and projection rooms are available at stalls and circle levels, with options to place consoles/mixers on open galleries. There are three lighting bridges, corresponding side wall perches, and a follow spot box, all interconnected through the roof void. The acoustic favours lyric performances, but is a compromise between the extreme requirements of the spoken word and symphonic music.

Middle Theatre

The Middle Theatre is predominantly for Drama but will be ideal for small scale opera and dance. The auditorium derives from the Wolsey Theatre, Ipswich, but the stage is proscenium with full fly tower. Elevators form an orchestra pit or extended forestage which then connects with an actor's entrance vomitory beneath the seating. Control rooms are at the back of the single steeply-raked tier, with direct access onto the lighting bridges and side galleries.

The studio is a development of the Plymouth "Drum". It has flat floor with trapped area, flexible seating, a single public gallery level and a higher technical level with catwalks.

A feature of the Orchestra Hall is the variable acoustic achieved by mechanically rotating wall panels. This is not a "concert hall' though it can hold 175 spectators in its balcony and more on the floor, but provides a purpose designed rehearsal and recording hall for commercial use as well as by the Academy's own musical ensembles. It has lighting catwalks, control rooms, power supplies and cable ducts for TV recording on an O.B. basis, and structurally comprises a totally suspended "box within a box" to achieve acoustic isolation from the underground railway below. It has a 41 stop tracker action pipe organ and can accommodate a complete symphony orchestra plus choir and soloists.

TV Studio

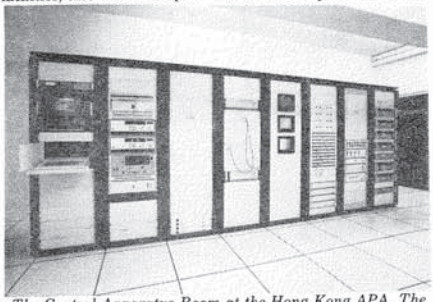
A facility thought to be unique in an Academy is the TV Studio, which though only on a medium scale (270sq m. floor area) is professionally equipped and staffed. This provides facilities both for training performers and technicians in video techniques, and for preparing taped teaching material for external use. The studio has a full complement of motorised lighting bars and cyclorama, and a comprehensive control suite which includes post production and editing facilities. In an associated installation the building is comprehensively wired for CATV distribution, and the largest rehearsal studios are also equipped for simple TV recording work.

Tenders

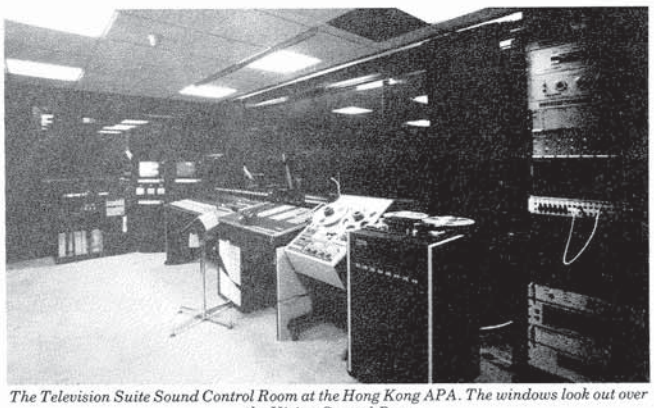
Though equipment tenders were sought on the basis of international competition against our detailed specifications, they were all eventually let to British Companies. Given the natural orientation of the Client and specialists in the Design Team, and the high profile of the UK in the field of Performance Arts, this was perhaps somewhat inevitable, though we did make strenuous efforts to ensure that natural patriotism did not hold sway at the expense of the Academy. **We were pleasantly surprised at the determination of British Companies to gain a slice of the action, and the efficiency with which they completed the installations at a distance of 8000 miles from home.**

HONG KONG ACADEMY OF PERFORMING ARTS

Client: The Royal Hong Kong Jockey Club
Architects: Simon Kwan Associates
Theatre Architect Consultants: Peter Moro Partnership
Theatre Technical Consultants: Carr and Angier
Acoustic Consultants: Bickerdike Allen Partners
Theatre Machinery: Telestage Associates
Stage & TV Lighting Controls: Strand Lighting
Luminaires: CCT and Strand Lighting
Rostra and Orchestra Shell: A.S. Green & Co.
Drapes: Mick Tomlin
Theatre Sound & Communications Systems, TV Studio Recording Studio, CATV Systems, Facilities Boxes: Electrosonic Ltd.



The Central Apparatus Room at the Hong Kong APA. The CATV Origination system is on the left, and the theatre calls control on the right.



The Television Suite Sound Control Room at the Hong Kong APA. The windows look out over the Vision Control Room.

Electrosonic at the Hong Kong APA

THE accompanying article by Martin Carr describes the technical facilities at the Hong Kong Academy of Performing Arts in detail. It is gratifying that he expresses satisfaction with the way that the technical contractors performed, because we were one of them.

In fact our £1.25 million contract is one of the largest single site contracts we have undertaken. Our ability to complete it demonstrates the depth of both our technical abilities and our manufacturing facilities.

We were responsible for the detailed design, manufacture, installation and handover of:

— The Performance Sound Systems
— The Stage Management Communication Systems
— The Video Distribution Systems
— The TV Studio Video and Sound Systems
— The manufacture of the several hundred special outlet and distribution boxes.

A Corner of the Vision Control Room.

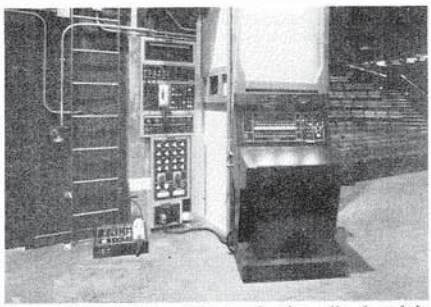
Projection at Westminster

The Churchill Auditorium at the Queen Elizabeth II Conference Centre. *Photo Crown Copyright*

THE Queen Elizabeth II Conference Centre is opposite Westminster Abbey, and was opened in June 1986. It is designed to be suitable for international gatherings involving up to 1200 delegates.

It was built by the Property Services Agency, and is available for hire by government, commercial and private organisations alike. Naturally the Centre is well equipped, and Electrosonic Ltd received the contract to supply Projection and associated Sound Equipment.

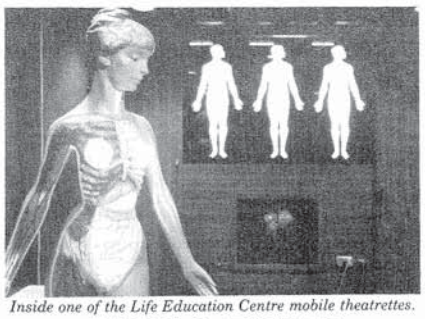
Equipment supplied and installed by Electrosonic included ORC Xenographic Xenon Arc Slide Projection Equipment, Kineton 35/16mm Movie Projectors with Magnetic Sound follower, special control panels, screens and programme sound equipment.



Stage Left in the Drama Theatre. On the wall a few of the many hundred of special outlet boxes. On the floor the portable rehearsal control desk. Centre the Stage Manager's Desk All built at Electrosonic.

MULTI IMAGE

Electrosonic have been in the Multi Image business since 1964. Our new generation of equipment gives unrivalled flexibility, and is in use all over the world.



Inside one of the Life Education Centre mobile theatrettes.

APOLLO FIGHTS ADDICTION

THE Australians seem to be experts on the use of travelling AV Shows (see also the story "Cease Fire in Australia") and a particularly interesting application is the "Life Education Centre" sponsored by Wayside Chapel, a major Australian charity and more.

The application demonstrates two things. First of all the effectiveness of AV in presenting a social or behavioural message, and secondly the importance of having an appropriate environment in which to present the show.

The Reverend Ted Noffs, founder of Wayside Chapel, who had spent some years helping young people in the King's Cross area of Sydney overcome the effects of drug addiction; decided that the important task to be undertaken was to try and prevent the onset of addiction in the first place. He arranged for school classes to come to the Chapel where they saw a presentation on the care of the Body — and the dangers of addiction in it's various forms, such as alcohol, tobacco and drugs.

Life Education Centre

This was so successful that it was decided to extend the influence of the presentations, first to other parts of New South Wales, and eventually to most of Australia. The only practical way of doing this was to use travelling classrooms that could visit schools and town centres. Each "Life Education Centre" consists of a 10m caravan ("trailer") that is fitted out as a small AV theatre. It is equipped with exhibition material, teaching aids, and an automatic AV Presentation System based on the use of Electrosonic Apollo.

Our Australian Distributors, Electrosonic AV Systems Pty Ltd, have now installed the AV Presentation Systems in more than 20 of these Life Education Centres — one of which is now in the USA where the founder's son David Noffs is starting a similar movement, and another in the UK under the sponsorship of the Variety Club of Great Britain.

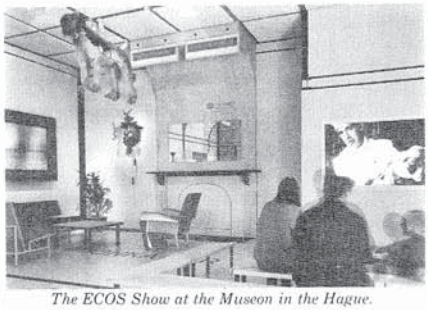
Biltmore House in Asheville, N.C.

Multi image at Biltmore

THE Biltmore Estate has been called "The heart of Europe in North Carolina". Originally built by George Vanderbilt in 1895, it is still owned by one of his descendants, and is now a popular visitors' centre; for it's 250 room "Chateau", it's splendid gardens, and, most recently, it's winery.

The winery has recently moved into full scale production — producing 35,000 cases of fine wine a year, and has also become a focus of organized tours. These now include orientation theaters using Multi Image technique. Each of two theaters, describing the history of wine and the wine making techniques at Biltmore, use nine projector shows.

The AV facilities at Biltmore were designed by Robert Kirchgessner & Associates of Orlando, Florida, and were installed by Long Communications Group. The systems are based on Electrosonic ES4000 equipment and were supplied by Electrosonic Systems Inc.



The ECOS Show at the Museon in the Hague.

COWCLOCK AT ECOS

Whoever heard of a cowclock?

When the design group Samenwerkende Ontwerpers were commissioned by the Dutch Ministry of Housing, Physical Planning and Enviroment to create a show to explain to visitors the problems of pollution; they came up with an original mixed media display that stimulates it's audience to think by using the element of suprise.

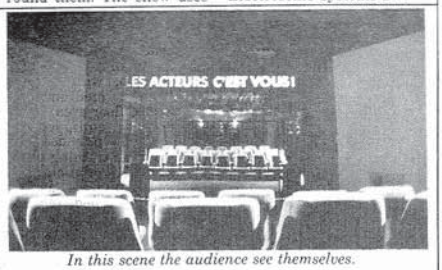
The clock that looks like a cuckoo clock, turns out to have a cow inside (by the way, the cow does moo, it's not cuckoo). The refrigerator door opens to reveal an oil refinery; two large windows turn out to be slide projection screens, and an enormous dog, with an alarming amount of it's insides on view, descends from the ceiling.

Mixed media

The 'ECOS' display is permanently installed at the Museon in The Hague. Visitors watching the show almost become part of it as suprising events happen round them. The show uses six automatic slide projectors, programmed sound switching to 10 different loudspeakers to accurately locate the sound to the object being described (or mooing, barking etc!), and automatic dimmers and switching relays to light up the different sections of the display.

This kind of presentation, whether it is being used to interpret a historical display or to present a scientific concept, has wide application in museums and visitors centres; and Electrosonic have developed a range of specialist products to enable these shows to use "off the shelf" sound, lighting and audio visual control equipment. Such equipment greatly simplifies the engineering of these shows, and ensures that they can be easily maintained and properly supported throughout their life.

The ECOS display uses ES4003 Multi Image Controllers for the slide projection; ES10 dimmers for lighting control and ES4044/16 Auxiliary effects controllers for sound and effects switching. All supplied through Electrosonic Systems BV.



In this scene the audience see themselves.

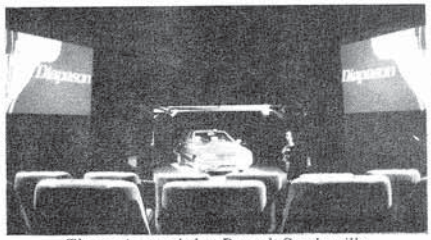
Une Usine au diapason

ONE of the most important markets for Electrosonic SYSTEM 4000 is France, thanks to the efforts of our Distributors, Technitone S.A.R.L. They report an interesting application, "L'Operation DIAPASON" involving all the staff at the Renault Factory at Sandouville.

Those who build cars do not necessarily know their history, their place in the market or the competition. To make good this deficiency and to instil a new spirit within the factory in time for the launch of the Renault 21, a special internal presentation was created that has already been seen by 6,000 people.

The 45 minute show is presented in a special auditorium in which the "stage" is a turntable, able to present five different scenes, including a reveal of the new product itself.

It runs fully automatically from push button start. Sound is replayed from an eight track tape deck, and the Electrosonic Control System synchronises the actions of 44 slide Projectors, two U-Matic Video recorders and 60 stage spotlights.



The car is revealed at Renault Sandouville.

Images of Washington State

ONE of the problems facing the sponsor of a pavilion at an international EXPO is that of pavilion capacity. A throughput of 3000 a day might well be considered good going for a permanent visitors centre; but is almost useless for an EXPO.

For example at EXPO 86 in Vancouver there were about four million visitors in less than six months. Obviously a sponsor wanted to get as many of these through his pavilion as possible, and a typical design capacity would be in the range 12,000 to 20,000 per day.

One way of achieving a high capacity is to have a "walk through" exhibition. The problem here can be that the pavilion then does not have the hoped-for impact; also there is no control over the "audience", and no certainty that they have seen what you wanted them to see.

On the other hand the putting on of a "big show" requires a lot of money, and a big auditorium, typically 500 seats, which might well be bigger than the whole space allowed for the pavilion. So how does the medium size exhibitor get the throughput of a "walk through" with the impact of a "big show"?

Travelator

Washington State had a pavilion that showed a neat way round the problem. Here visitors stepped on to a travelator and viewed a spectacular Mixed Media Show presented on a 130ft long screen. It was flanked by mirrors to give an "infinity image" effect.

One of 3 Endless Loop 35mm Movie Systems.

The speed of the travelator was adjusted so that if you stood still (which you had to, because of the people standing in front of you — and the show was always full) the "ride" took about eight minutes, which was exactly the length of the show.

The show was a clever compilation showing all aspects of life in the state, each "cameo" only lasting 30 seconds or so; there was thus no beginning and no end, it did not matter where you "joined in". The exciting show was much appreciated by the 14,000 or so who saw it each day; it was made by New York Producers Zaks and Perrier.

The Audio and Control Racks.

Endless loop

The Audio Visual System needed to present the show was quite complex, but typical of the kind of system that is engineered by Electrosonic for a fixed installation. Robert Kirchgessner & Associates drew up the specification, which called for continuous no-break running for 14 hours a day; and the whole system was built, installed and maintained by Electrosonic Systems Inc of Minneapolis.

The show used three 35mm movie projectors, 69 slide projectors and four channel high fidelity sound with enhanced bass. The three movie projectors were run in sync using selsyn interlock, and each projector was equipped with an endless loop film handler.

SMPTE Time Code carried on the optical track of one of the movie projectors was then used to synchronise an eight track tape deck, using a standard time code synchroniser. Besides time code, the eight track carried three control tracks for the slide projectors and four tracks of audio.

But of course the eight track sound deck did NOT have an endless loop attachment, and needed rewinding every 30 minutes or so. In order to ensure a continuous performance TWO tape decks were used with a special auto rewind and deck changeover system. This system caused the second deck to run in frame sync with the first deck for a considerable "overlap" period in order to ensure an undetectable changeover.

The long projection gallery, the picture shows only a few of the 69 slide projectors. All part of a standard Electrosonic System 4000 installation.

THE VIDEOWALL

THE Videowall is an exciting means of video presentation. Electrosonic can offer several different ways of engineering Videowalls. On this page the principles are explained, and the new PICBLOC concept introduced.

Video Multi Image

IT WAS only a matter of time before "Multi Screen Video" arrived. First attempts at achieving this have revolved around using a number of video tape recorders operating in frame sync. To do this they must be editing machines, and must have some system allowing them to be accurately "cued up." Applications of this approach are likely to be confined to Conferences and Single Venue Presentations, using between three and five sources, where the medium will either augment conventional Multi-Image systems or will replace them.

Exhibitions

While the multiple tape approach is satisfactory for conference work, it is far too cumbersome for exhibition applications. Although it is possible to fully automate a multiple tape system, using relatively low cost playback machines, in practice it is found that the machines need daily head cleaning attention and frequent tape replacement.

Since most exhibition applications require relatively short programmes, they lend themselves very well to the use of video discs. Now the playback system becomes very simple, with excellent picture quality and minimum maintenance requirements. The playback equipment is significantly less expensive than the tape alternative, and the saving is usually more than enough to cover the cost of disc origination.

A single side of an NTSC CAV Laser Disc will take 30 minutes of programme material. This is sufficient for a 10 minute programme on three screens, a six minute programme on five screens or a five minute programme on six screens. PAL Discs give 36 minutes. Obviously more disc sides must be originated for longer programmes or more screens. The actual playback system is shown in the diagram. There is one Laser Disc player for each screen, and they are all under the control of a microprocessor based controller that ensures that they each only play their designated disc segment.

Videowall

The idea of using multiple video monitors as a "display wall" is an attractive one because it results in a dynamic display of high image brightness, suitable for using in high ambient light surroundings. In principle such a "videowall" can be of any shape, however for production purposes it will break down into arrays of monitors that have an equal number vertically and horizontally. For example 2 x 2, 3 x 3, 4 x 4, etc. This is because the resulting array has the same format as a single TV image (4:3 ratio).

A videowall can be fed on a multiple source basis, i.e. one laser disc player per monitor. This arrangement has the advantage of the highest possible image quality, and of no restriction as to the nature of the pictures on each screen. Thus in a 16 monitor array it is possible to have everything from 16 *different* moving images to one moving image covering all 16 monitors.

Framestores

An exhibitor wanting the highest image quality and total flexibility in image juxtaposition for a short, permanent installation show will be justified in using the Multiple Laser Disc approach. However there are many potential users of the Videowall who would find the production methods required far too restricting; not to mention expensive. What they want is a gadget which allows them to feed an existing video signal into a black box which then automatically splits the image over as many monitors as required.

This can be achieved by using a digital framestore for each monitor. The principle is shown in the diagram. The incoming image is first digitised by an analogue to digital converter; and the resulting digital picture information is "bussed" to the framestores. These can then be program controlled to process the digital information such that they pass on to the monitor the whole picture, or any specified part of it.

The PICBLOC

THE new Electrosonic System is based on the concept of the "Programmable Image Controller." This is a device that receives a ready digitised signal; and can either display it in its original form; or can display any specified part of the image. The unit can either give an "automatic split," set by switches on the front panel, or can be programmed by an RS232 signal.

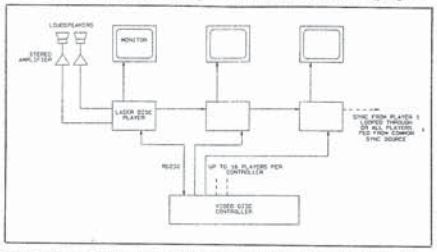
In fact the standard PICBLOC can accept up to FOUR different inputs, and can be programmed to select source, split factor, position in array, colour wash and freeze frame effects. It is supplied either as a rack mounted unit, or, where only a single source is required, built in to the modular monitor.

Applications

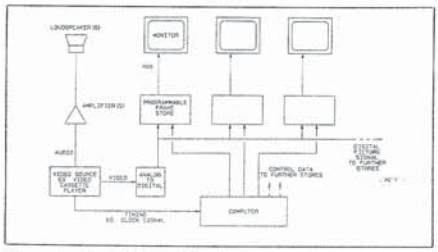
Applications for the Videowall are emerging every day. We are at present involved in schemes for their use in such diverse applications as:

- Retail Advertising in stores, shop windows and shopping malls.
- Advertising and information display in airports, railroad and rapid transit stations.
- Discotheques.
- Trade Exhibitions.
- Theme Park Shows.
- Visitors Centres and Museums.

The Videowall is a new display and presentation medium that will take its place alongside other Audio Visual Media. It will do a good job for its sponsors; and programme makers should have a lot of fun too!



The principle of multiscreen video using multiple video disc players.



The principle of Videowalls using computer controlled framestores.

A PIBLOC based Videowall under test in the factory. Here it is being programmed using "BSC."

The WALLMASTER.

Easy Programming

THE PICBLOC concept allows for several different methods of "Programming" a Videowall.

In the simplest configuration there is no need for any programming at all, since the system can operate in a preset "automatic split" mode. The Videowall then just becomes a large TV set.

Many users need a simple "real time" programming system. This is provided by the Electrosonic WALLMASTER, which is available in versions for nine monitor and 16 monitor walls. A wide range of preset effects, colour cycles and freeze frame cycles are available at the touch of a button. If required the effects can be directly recorded onto a spare audio track on videotape, via an ES4025 Tape Interface.

While WALLMASTER is ideal for Discotheque and similar applications, there is a need for more sophisticated facilities. Here we offer several different variants of the BSC Multi Media program. This is able to give a huge range of effects, all precisely to SMPTE/EBU Time Code. A professional system that, in principle, can be expanded to any size or configuration of Multi Screen Video Display.

PICBLOC uses latest technology

THE Electrosonic PICBLOC System will be applied to a whole range of products for Video Display. The basic principle is that a composite video image is first "Digitised" and the resulting signal then passed to the appropriate number of image processors that process the signal in various ways. For example the image can be split, "frozen," coloured, fragmented or combined with other images.

Our first products are the ES5001 Programmable Image Controller and the ES5002 Digitiser. The latter is available for PAL and NTSC. While both these units are supplied as independent rack mounting units; alternative variants of the same basic system will soon be available where the Image Controllers are fitted within the video monitors.

Thus ES5001 based systems will be for the professional user requiring every possible facility, and the "built in" systems will be for those requiring simple standard arrays with limited facilities. The ES5001 has FOUR Digital Video Inputs (so walls using them can have up to four simultaneous sources) and has RS232 remote control. It can drive TWO displays simultaneously.

The PICBLOC System uses an internationally agreed standard for digitisation, equivalent to a Luminance Bandwidth of 5.5MHz and a Chrominance Bandwidth of 1.3MHz. The system uses 7 bit resolution, which ensures that the original image quality is well maintained. In "pixel" terms the array is equivalent to 720 x 575.

Each PICBLOC uses 14 CCD (Charge Coupled Device) Memories for video frame storage. The way in which these devices are used for programmed image control is the subject of a UK Patent Application.

The ES5001 Programmable Image Controller.

Peter Smith, Product Development Manager (left), Peter Bucknell and Martin Banfield. The PICBLOC Team.

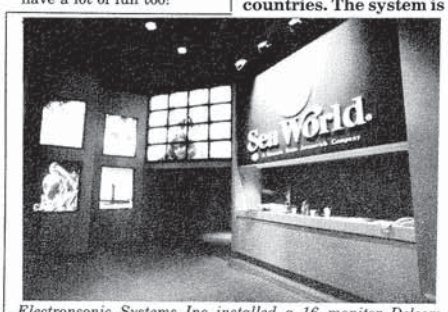
The Videowall makes an impact at exhibitions. The RIBA stand at Architex, designed by Douglas Stephen and Partners.

Videowall Projects

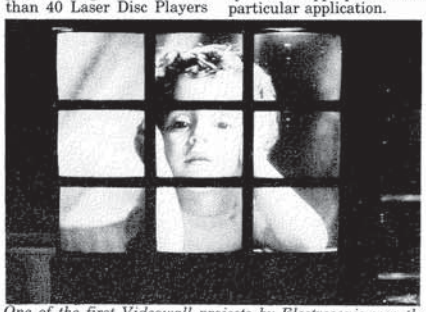
THIS issue of ELECTROSONIC WORLD coincides with the full launch of Electrosonic's own programmed framestore system for Videowalls. We have already delivered the new PICBLOC System to the USA, UK, Turkey, Denmark and South Africa; and have orders for many other countries. The system is specified for several exciting projects for delivery during 1987.

As project engineers we have been involved with Videowall and other Multi Screen Video projects for some time; in 1986 we delivered several Delcom Videowalls in the USA and UK. We have also delivered many systems based on the Multiple Video Disc Principle, the largest using more than 40 Laser Disc Players on a single display.

We are sure that the Videowall principle will rapidly become an accepted addition to the AV armoury. There will be many variants, ranging from low cost single format displays, to displays embodying the full sophistication of PICBLOC. Multiple Laser Disc driven displays will continue to have their place, and we will be happy to engineer whichever system is appropriate for a particular application.



Electronsonic Systems Inc installed a 16 monitor Delcom Videowall at the Information Center for the new Sea World at San Antonio.



One of the first Videowall projects by Electrosonic was the supply of two multiple disc based walls for the Bulgarian Pavilion EXPO 85 in Japan.

COMPANY NEWS

Electrocue Expands

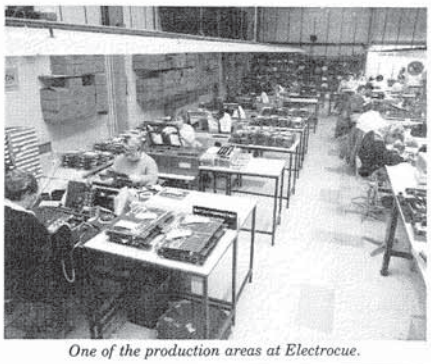
IN THE UK the Electrosonic Group has two main sites. At Woolwich our main building houses our Head Office, Sales, Accounts, Development, Project Engineering and Project Manufacturing Departments. A separate building next door houses the Hire and Service Departments.

At Maidstone, about 60km away, we have three buildings housing all our standard product manufacture. Until 1986 our sheet metal shop was at Woolwich, but this has now also moved to Maidstone so that product manufacture can be better integrated.

The Maidstone operation is run as a separate business, Electrocue Ltd., which is a wholly owned subsidiary of Electrosonic. This arrangement allows it to take on other contract manufacture work, and now a significant proportion of Maidstone's output is "non Electrosonic," serving a range of customers in many different industries. The factory is approved to BS 5750 and has over 100 employees.

While Electrocue is gearing up to manufacture larger quantities of both Electrosonic and Non Electrosonic Products, the extra space available at Woolwich will soon be filled by some large systems due to be built during 1987.

Electrocue Ltd.



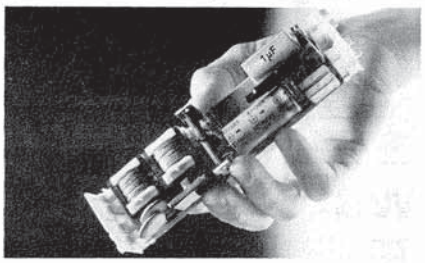
One of the production areas at Electrocue.

Founding Director retires

DENIS Naisbitt, one of the founding directors of Electrosonic, retired on February 1 1987. He made a major contribution to building up the company, and was particularly concerned with product mechanical design and the building of factory facilities. We very much hope that we shall be able to continue to avail ourselves of the benefit of his experience for special projects, and wish him a long and happy retirement.

Electrosonic was founded in 1964 by Denis Naisbitt, Michael Ray and Robert Simpson, and until recently was owned equally by them and Investors in Industry (3i). Denis Naisbitt's retirement marked the point at which both he and 3i realised their investment, and the company is now owned by the two remaining founder directors, other executive directors and by OY Helvar.

Denis Naisbitt.



One of the Electronic Ballasts manufactured by Helvar.

Helvar success

OUR new Associates, OY Helvar of Finland, were founded in 1921. At one time they made radio equipment, but now concentrate on the lighting business. Their factory at Karkkila makes fluorescent lighting ballasts on highly automated equipment of their own design; and their head office and second factory in Helsinki houses their development facility and the manufacture of electronic equipment.

This latter consists of a range of dimmers and electronic ballasts. Helvar were one of the first companies to successfully market such a product, and have gained an excellent reputation amongst both consulting engineers and fittings manufacturers. Electronic ballasts and related products are expected to create a big expansion in Helvar's sales (currently £25 million p.a.).

Helvar have sales offices in London, Frankfurt and Stockholm. They operate as an independent company, but are wholly owned by a private trading company, OY Mercantile, which has assets exceeding £60 million.

Double honour for EW Editor

THE above photograph shows Dennis Boxall (left), President of the BKSTS, presenting Robert Simpson with his Honorary Fellowship of the Society at the Fellows Luncheon in 1986. The BKSTS is the professional society for Film, Television, Sound and Audio Visual in the UK.

Robert Simpson is Chairman of Electrosonic Ltd. and the Editor of ELECTROSONIC WORLD. In December of 1986 he was also honoured by the Multi Image Group of BISFA with one of their first "Pat on the Back" Awards for significant contributions to Multi Image in the UK.

Hong Kong Office

WE ARE pleased to announce the opening of a new office in Hong Kong. Electrosonic Limited in Hong Kong is an associated company set up in late 1986 both to promote Electrosonic products, and to carry out systems engineering for Theatres, Auditoria, Commercial Developments and High Tech Presentation Rooms.

The Managing Director is Brian Smith, previously of Avtech in Scotland; and he has been joined by Ian Fuegle; previously of our Projects Engineering Division in London. See Page Two for address details.

Electrosonic's Hong Kong office.

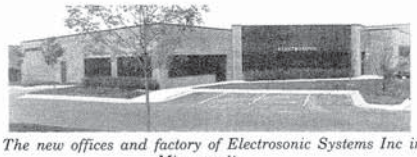
Training Courses

ELECTROSONIC Ltd. in London has recently been running a series of Technical Training Courses. These are aimed at Systems and Service Engineers from our distributors and customers who require a full technical explanation of our products in order to utilise and service them more effectively.

The courses are modular, in that they cover most of our unit products arranged in related groups. As far as possible the detailed design information is given by the Development Engineers responsible, and each product is supported with full descriptive documentation and diagrams. The courses are arranged to take place over a week, but participants who only want information on certain products can attend by the day.

It will be appreciated that these courses can only be run when there is a reasonable number of people to attend them (minimum 20). Please therefore tell us if you are interested in attending and we will advise you of the next planned dates.

The introduction of these courses coincides with a considerable expansion in the London Service Department under Mike Hope. This department will service (or arrange service of) any equipment supplied by us — in the case of our own products we will service anything made in the last 23 years unless (in the case of old products) parts are unobtainable. Our service technicians will travel as required and within the UK are equipped with radio paging.



The new offices and factory of Electrosonic Systems Inc in Minneapolis.

ON THE MOVE

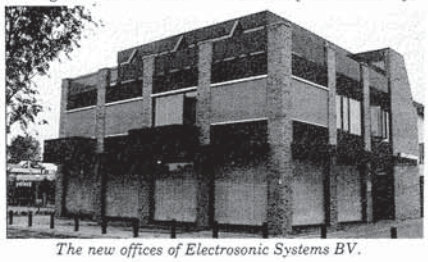
ELECTROSONIC has been on the move. Apart from the changes in the UK practically all our overseas offices and associates have moved house or are in the process of doing so.

First to move (in 1985) was Multivision Electrosonic. They have moved into a splendid restored building, close to downtown Toronto, which both gives them plenty of room to carry out their project work; and makes an excellent impression on customers.

1986 saw Electrosonic Systems Inc moving into purpose built new premises in Minneapolis. These are probably the best facilities of any in the Electrosonic Group. However Electrosonic Systems BV are in the process of moving to new offices near Amsterdam Airport, and no doubt will seek to outdo the North Americans.

A photo taken in 1940 of Electrosonic SpA's Villa.

Electrosonic GmbH of Duesseldorf has not moved yet — but it may only be a matter of time! In the meanwhile our Italian Distributor Electrosonic SpA has commissioned Professor Paolo Portoghesi to oversee the refurbishment of their new offices which will be in a villa in the centre of Rome (a former Japanese Embassy).



The new offices of Electrosonic Systems BV.

Doug Lear and friend with the Wright Projection Microscope.

Magical Microscope

WE HAVE written in previous issues of "Electrosonic World" of the splendid traditional Magic Lantern Shows presented by Doug and Anita Lear. The shows are both entertaining and instructive — a must for any one in the AV business, and ideal for special occasions. The last Electrosonic International Distributor Meeting featured one of their shows on the opening evening.

Now Doug Lear writes to tell us of his latest acquisition that forms the basis of a completely new show. He and Anita have recently restored one of the very few Lewis Wright Polarizing Microscopes ever made. The instrument was made to Wright's design in about 1892 by the Newton Optical Company.

The show is based on a collection of Victoriana, from microphotographs to diatom arrangements. Apart from the possibility of seing the tongue of a blow fly projected as a 12ft wide image, and the projection of 180 portraits of Eminent Victorians from a microphotograph less than the size of a pinhead; the highlight of the show is the demonstration of polarizing technique.

Lewis Wright fully realised the advantages of polarized light in revealing details of microscopic samples that would otherwise not be seen. The Instrument is fitted with a pair of extremely large (and rare) Nicol Prisms. The presentation, via the polarizers, of hand made mica pictures, and of thin rock sections produces the most amazing colour effects on the screen which have to be seen to be believed.

You can contact Lear's Magical Lanterns on (UK) 0908 605262.

TRAFALGAR GOES SOLID STATE

FOR the last 20 years Madame Tussaud's have sought to exploit the latest display techniques, using technology to the best possible advantage in ensuring an effective and reliable display, every day except Christmas Day, for more than TWO MILLION visitors a year.

At Madame Tussaud's near London's Baker Street, the entire exhibition has been rebuilt over the last two decades; and there is also a continuing replacement and updating programme, so that there is always something new to see.

This programme includes the "Battle of Trafalgar", the first area to adopt audio visual techniques back in 1966; and still a popular feature of the exhibition.

The Battle of Trafalgar at Madame Tussaud's uses Electrosonic ES1320 Sound Stores (above) and DIGIDIM Lighting Control (below).

Smoke and Smells

The Battle of Trafalgar exhibit is a life size re-creation of the gundeck and the orlop deck of Nelson's Flagship, The Victory. The whole display is brought to life by dramatic lighting, a splendid cacophony of authentic sounds, palls of smoke and the smell of gunpowder and sea water.

The exhibit was designed by Timothy O'Brien and the light and sound design was by Theatre Projects. Electrosonic Ltd. supplied the automatic dimmers, sound system and synchronising equipment. Over the years some parts of this equipment have been updated, but the last major update was about 12 years ago, and even then the venerable ES1006 dimmers were retained.

In December 1986, however, the Battle of Trafalgar received a major face lift. Besides a complete spring clean, the last of the old control equipment was retired, the exhibit was relit, and the whole show had its sound, lighting and control system brought right up to date.

Bells and Bangs on Chips

The lighting control was updated to use the latest Electrosonic DIGIDIM Modular Dimmers, and the overall control was put on to computer with Bubble Memory to ensure that the control sequence can never get lost by computer breakdown, and to ensure there were no moving parts in the central control. But the biggest change was in the sound system. Until the change all sound was carried on endless loop tapes in NAB cartridges. To maintain reasonable quality these cartridges needed changing every 8 to 12 weeks, and the tape decks required regular maintenance.

The tape deck installation has now been completely replaced by Electrosonic Digital Sound Stores, whereby all the sound tracks are recorded into non volatile, solid state EPROM. As a result there is no need for ANY regular maintenance on the sound distribution system.

At "Trafalgar" there are 11 separate sound tracks, some of which switch to different loudspeakers in the two and a half minute sequence. The computer ensures that all the sound stores start replaying together, and thus that the lighting is "in sync" with the sound. Although the original master recordings are still the basis of the show, the sound quality is reported to be better than that produced by the tape system when working at its best — and, of course, the beauty of the new system is that the quality remains high.

For the statistically minded we can give the information that the new system uses 150 Megabytes of EPROM. For the cost conscious we can give the significant information that the capital cost of the solid state sound system was only five per cent more than that of a tape based alternative

AT the 1985 World Gas Congress (IGU), held in Munich, the opening session was in the Bayernhalle. The 3500 delegates saw a "super multivision" on a 95 sq m (1000 sq ft) screen.

The whole show used 24 projectors on 12 image areas under the control of Electrosonic SYSTEM 4000. Five separate multi image sequences were run as "modules" between the speakers. The main programmes were produced by AV Contact of Dusseldorf, with additional material from the USA and from Gallo AV of Munich.

Planetarium Special Effects around the World

THE modern Planetarium Show is a Multi Media Event. It combines the fascination and precision of the special star projector with multi image technique, multi track sound, lighting control and special effects projection. Electrosonic have a lot to offer this specialised market, and the lessons learned within it are applicable to many other Multi Media Applications.

Our main offering to the Planetarium market is, of course, our multi media programming system. SYSTEM 4000 is a mature range of products, with specialised interface for controlling most of the peripheral devices likely to be encountered in a Planetarium, and a choice of Computer Programs to drive them.

Toronto

An excellent example of the application of our products is to be found at the McLaughlin Planetarium in Toronto. In early 1985 the automation system was completely updated by the introduction of an Electrosonic MSC Computer Control System. At Toronto this system is configured to control 192 Slide Projectors (120 already in use) 256 Dimmers or Analogue outputs (72 in use) and 1536 Auxiliary Switched circuits (approximately 700 in use).

The McLaughlin Planetarium in Toronto uses the Electrosonic MSC system of Multi Media Control.

McLaughlin runs shows in repertory, with the possibility of several different shows in the same day. The "autoload" facility, based on the use of SMPTE Time Code User Bits, provided by MSC is of great help here. In addition to supplying the Computer System and all the necessary Dimmers, Interfaces etc, we completely rebuilt the main control console — thus combining our role of standard product manufacturers and "systems engineers".

Dr Thomas Clarke, Director of the McLaughlin, ensures that this Toronto Showcase is up to date both in the shows it presents and in the techniques used. He and his colleagues (especially Fred Jessop on the technical side) have provided us with valuable "input" in ensuring that MSC meets the demands of Planetarium work.

The Flandrau Planetarium, Tucson.

Memphis and Tucson

While Toronto is an example of the North American "Super Planetarium", there are many medium size facilities that do not require big control systems, but do want the benefit of low cost automation of special effects and slide projection.

Typical of these is the Memphis Pink Palace Planetarium. They installed a 12 projector SYSTEM 4000, using the ESCLAMP program in 1983, since then they have expanded it to 48 projectors and 100 special effects, neatly demonstrating the modular nature of the system. Acting Director George Brown reports that his SYSTEM 4000 "is a very reliable workhorse of a system". The system was locally supplied through dealer Memphis Communications.

Recently the Grace H. Flandrau Planetarium in Tucson, Arizona installed a similar system, starting with 24 projectors and limited special effects, but with expansion to 48 projectors and 192 special effects already planned.

Singapore, Madrid & Riyadh

Where an existing Planetarium is modernising its facility we normally work direct with the customer. In the case of a new installation we work either direct for the customer, or as a sub contractor to the supplier to the main Planetarium Instrument.

It is our pleasure to work with the leading manufacturers, and recent examples of co-operation include:

- The supply of the sound system for the Riyadh Planetarium, under subcontract to Zeiss Oberkochen (BDR)
- The supply of an MSC System to the Singapore Omniplanetarium, under subcontract to Spitz Space Systems (USA)
- The supply of a SYSTEM 4000 for 48 projectors for the Madrid Planetarium under subcontract to Zeiss Jena (DDR).

Dancers are dwarfed by the huge screen.

Weltgaskongress

The projectors were equipped with 400mm lenses. Special rigid lens mounts were used to avoid any picture shake on the 100 times magnified image. Because it was not possible to instal the projectors in the ideal projection position, over 1000 special offset slide mounts had to be used to avoid image distortion.

Installation and service of the projection system was a joint effort between Electrosonic GmbH and their local distributors in Munich, Mietzner and Mattis GmbH.

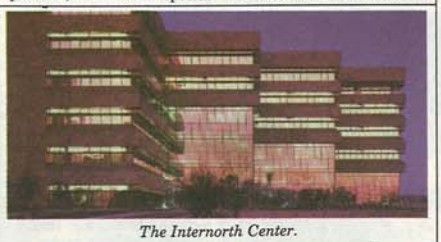
Sweden in Japan

The Swedish Pavilion at EXPO 85.

OUR Swedish Distributors Ljus & AV Teknik AB carried out a most unusual installation for the Swedish Pavilion at EXPO 85, Tsukuba, Japan. It used over 50 Slide Projectors with ES4003 control, 42 Electrosonic Dimmers, 4 ES4044 Auxiliary Controls and 45 CCT Profile Spotlights; all synchronised to tandem tape decks under ES4049 Automatic Rewind Control.

The 20 x 25 m auditorium was 12m high, and accommodated 400 people for the 20 minutes show which played over 6000 performances during the 6 months of EXPO. The walls of the auditorium were made of "Prismavision" sign panels with 3 faces, white, black and mirror. The appearance of the auditorium was co-ordinated with the projected images.

The Swedish Pavilion was only one of many at Tsukuba to use Electrosonic Equipment. Our Japanese Distributors Kodak-Nagase KK had equipment in several of the Japanese Pavilions; Electrosonic Ltd had contracts for the British and Bulgarian Pavilions, Electrosonic SpA for the Italian Pavilion and Multivision Electrosonic Ltd were responsible for major installations in the Canada Pavilion.



The Internorth Center.

Internorth & Motorola

OUR USA Company, Electrosonic Systems Inc, specialise in the technical installations needed for Presentation and Training Rooms. Two recently completed contracts are for the Internorth Center in Omaha, Nebraska, and for the Motorola Center Campus in Schaumburg III.

Motorola have a commitment to "growth through training", and the Schaumburg facility is one of the most advanced training facilities in the country. Video, sound and film systems are interconnected and networked within the complex.

At Internorth, Electrosonic Digidim Lighting Controls are integrated with video, sound and projection equipment in the Boardroom, Auditorium, Executive Meeting Rooms and Conference Rooms. Here the Systems Design was by Jamieson & Associates of Minneapolis.

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