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International



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- Class for '92 at Canary Wharf
- Success comes in Scans: Martin Professional
- The Base: a bit more than Basic
- Laser and Lights at Dublin's Night Owls
- Outdoor Event: under cover at Wembley
- Simply Red on tour

FEBRUARY 1992

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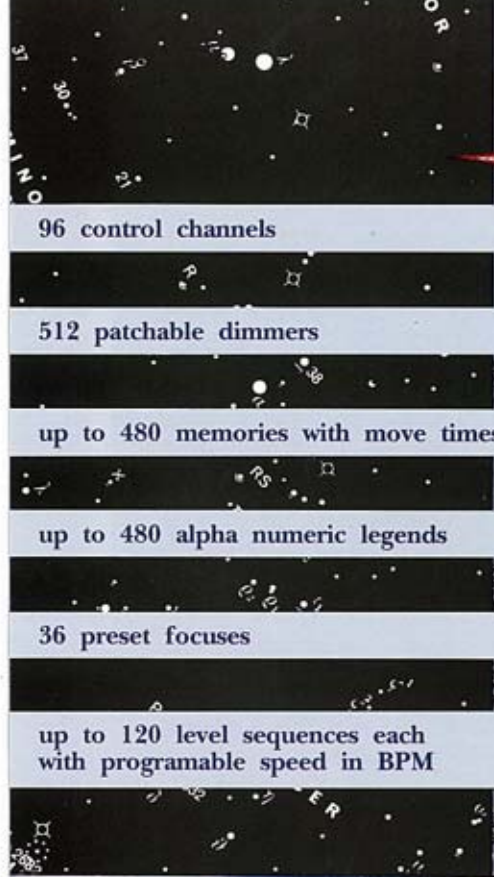
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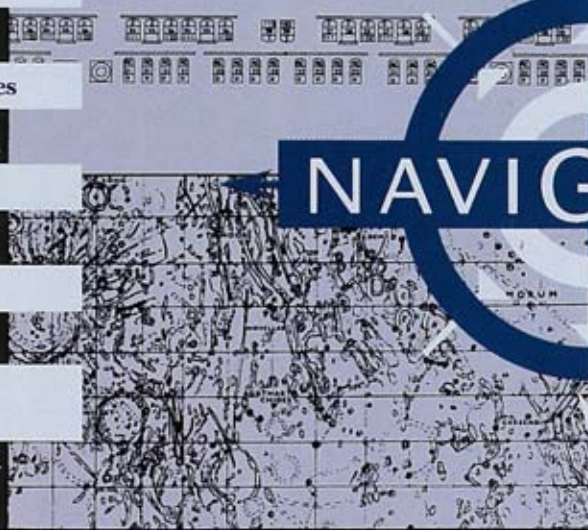
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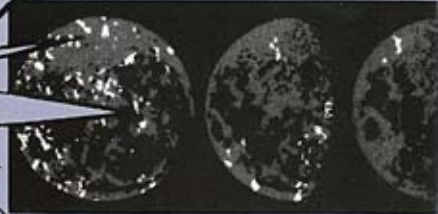
copy and gang facility

sound to light and bass step sequence

linking via MIDI in/out/thru connectors

Q-Card storage interface

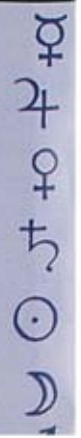
personality interface



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LIGHTING+ SOUND *International*

FEBRUARY 1992

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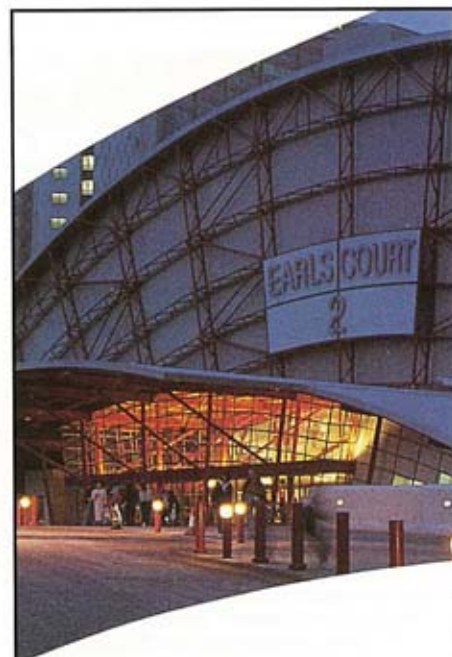
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LIGHTING|SOUND *International News*

Flying Start for PLASA's Light & Sound Show

Almost 80 per cent of last year's exhibitors, have already re-booked for the PLASA Light & Sound Show taking place at Earls Court 2 in London from 6-9th September, and more than half have increased the size of their sites. To date over 85% of available space has been allocated, already confirming that the show will be considerably bigger than the 1991 event.

The £80 million Earls Court 2 exhibition complex is the new venue for the 15th PLASA Show and offers the entertainment and leisure equipment industry unrivalled facilities and opportunities for the effective and creative demonstration of its products. Unlike recent years, the Show will take place on one level and the hall's ultra modern design provides a single span vaulted structure with a clear height from the exhibition level at the crown of 25m - a huge advantage for many exhibitors.

Savoldi Changes Horses



Following last month's revelations of a split at Clay Paky the concurrent rumours of erstwhile partner Julio Savoldi's intention to set up a rival business, have been confirmed by High End Systems.

A spokesperson for the Texas-based manufacturer told L+S I that Sr. Savoldi (pictured above), along with wife Gabriella, was busy establishing a new company in Italy, to handle the distribution of High End's products there. The company, which will be called Sagitter srl, will be based in Bergamo where they will have an office, warehouse and showroom. We would only comment that this should lead to some interesting 'fireworks' during the forthcoming SIB exhibition in Rimini at the end of March where the full range of High End products will be shown by Sagitter.

A Concert Hall for Manchester

The City of Manchester, which was this week awarded the Arts 2000 Year of Drama in 1994 which is partly sponsored by the Arts Council, also moved closer to the establishment of a major concert hall in the city. Beazer Projects, which had previously won a competition to become private sector partners with the city council and the development corporation for the Great Bridgewater scheme, has now submitted a planning application. The centre piece of this showcase development within the inner city regeneration programme, is a 2,400 seat concert hall, estimated to cost £42 million, which will become the permanent home of the Halle orchestra. Beazer hope to start work on the scheme later this spring.

The Year of Drama, which involves £10 million of private and public sponsorship, also anticipates the construction of the first arts centre and theatre run entirely by disabled people.

Electrosonic controls Expo 92

At the last count Electrosonic were working on more than 20 Expo 92 projects, and expect to have over 2,000 video screens and 600 slide projectors under their control - not to mention hundreds, or thousands of dimmers, special effects etc. In the British Pavilion, the company are supplying mixed media systems that combine move, multi-channel sound, live action, high brightness projected videowalls and sophisticated lighting and effects control.

Three show theatres are being engineered by Electrosonic for the Telecommunications Pavilion. One uses a 96 projector multi-image show, combined with multi-screen video. The second uses mixed video and live action, whilst the third houses what is believed to be the world's biggest, that is, greatest number of monitors, videowall. It was intended to use 936 monitors, but unfortunately the building wasn't quite big enough so everyone had to be happy with a mere 850!

Both the Finnish and Norwegian Pavilions feature multi-image on a large scale, each with over 100 projectors, whilst in the United Nations Pavilion, Electrosonic are working on the show engineering for audio, video and lighting.



Electrosonic with their satisfied clients from POET (Pavilion of European Telecom Operators) in front of just part (about one fifth) of the massive videowall destined for Expo 92 in Seville.

Action News

Somehow East Of Suez...!

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■*#*# * "Translation"

Ah, here's my latest export order from Lighting Technology.



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... It's arrived on time and yes everything is correct and complete ..



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... even a lovely English kipper for my cat !!!



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General view of interior of Purbeck Hall, Bournemouth International Centre.

Cannons Sound in Bournemouth

Luff Light & Sound Ltd have recently designed and installed the sound system for the Purbeck Hall, part of the Bournemouth International Conference Centre.

The Purbeck Hall presented quite a problem in achieving full sound intelligibility, a not unimportant quality for any conference centre. The hall is circular with a domed roof. The walls and ceiling are finished in hardwood, as is the floor. There are no sound absorbing surfaces anywhere, at least until the public arrive. When Luff first visited the hall they found that it was almost impossible for two individuals to speak together if they were standing more than a few yards apart, such was the reverberation.

Luff opted for a Bose computer-aided design programme. In this system a Macintosh desk-top is used, loaded with the 'Bose Modular' programme. The plans and sections of the space concerned are transferred, via a mouse, to the VDU (which allows preparation to take place whilst the building is still in the planning stages). Sound absorbency values are allocated to each surface, depending on the materials used or specified. The programme makes allowances for reflected sounds, whilst the 'listening points', which are also entered ensure that sound quality is appreciated fully by the human audience rather than by any bats that may linger in the belfry.

Another advantage of the system is that its use eliminates final 'tweaking' after installation. Bose has also patented a programme 'Rackmaker' which allows the system designer to put together the equipment rack in the most economic and aesthetic manner. Bose 802s were used backed by Acoustic Wave Cannons. High power amplifiers ensured that the speakers received only the impulses proper to them, while an Allen & Heath PA Saber with its microphone muting memory system provides the control.

The Bournemouth authorities have since used Luff to update the sound systems in the Pavilion Theatre and in the Tregonwell Hall, another part of the conference centre where Acoustic Wave Cannons have also been installed.



The Allen & Heath Saber PA desk.



A closer view of Bose 802W speaker rig.



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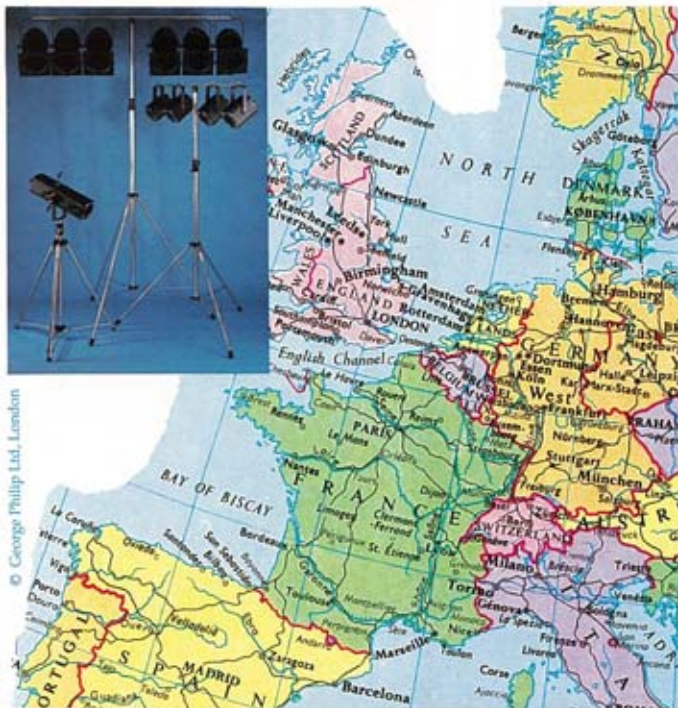
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LIGHTING



Max Allett, chief electrician at The Grand, on the Avolites QM500.

Avolites have supplied The Grand Theatre Blackpool with a QM500 TD lighting control console. As a major provincial theatre the Grand stages a diverse range of productions and chose the QM500 to accommodate these needs. The theatre is also installing Avolites dimmers to complement their existing Strand dimmers. The QM500 can cater for a number of different manufacturers dimmer profiles, so that all dimmers will have the same 'fade' characteristics.

When the 1992 Saint Paul (US) Winter Carnival planning committee first discussed planning of the Ice Palace, it was decided that intelligent lighting would augment the splendour of the USA's most impressive ice structure. Frattalone and Associates designed and specified the lighting plot and inventory with High End Systems supplying the fixtures for the two week event. 130 Lightwave Research ColorPros will wash the walls of the palace with an ever-changing palette of colours. ColorPro are also used to accent the arches with 3/4" fibre optic cable attachments. The towers of the Ice Palace will be illuminated with 76 Intellibeam 700HX fixtures swirling with gobo pattern changes and strobing effects. To create an explosive atmosphere, Frattalone is mounting 110 Dataflash strobe units throughout the towers. 52 Multiray and 24 Multiflash are used throughout the structure for special colour and strobing purposes, with 10 Emulators used over the palace entrance for a simulated laser effect.

The themes of this year's Carnival in Venice were peace and ecology. To highlight the need to save energy, the international Greenpeace organisation launched an energy-saving campaign. Light specialists Osram provided 1700 Dulux EL lamps to promote energy-saving lamps, 500 of these were used to illuminate the famous Piazza San Marco and Riva degli Schiavoni. The new electronic lamps with E27 bases were installed within the Venetian street lanterns.



View across to the Doge's Palace, illuminated by Osram lamps.

Los Angeles-based Laser Media has installed a laser display in Mexico that will encompass the downtown core of Mexico City. The permanent outdoor installation consists of a high powered 30 watt Argon laser creating a multiple array of beam sculptures with three dimensional atmospheric scanning effects, all emanating from a ten storey tower located in the central part of the city. Fibre optics have been utilized to transmit a laser beam to the top of the tower to scan effects over the city's skyline. The system has been designed for future upgrade including the addition of a Krypton laser that provides a seven colour display and other optical effects.

Illuminating Manchester

The National Lighting Conference, to be held from 5-8th April will be one of the first users of the new purpose-built Manchester Conference Centre on the campus of the University of Manchester Institute of Science and Technology.

It will open with an international session which will compare service and maintained illuminance and review European harmonisation and common standards. One new feature of the conference will be a session of workshops which will examine visualisation, scheme appraisal techniques and modern luminaire design.

For full details contact the Member Services Department on 081-675 5211.



The Impuls at work.

Arri Countdown

The Countdown studio in Bussum, Holland, has been completely refurbished by Arri agents Jansen & Jansen, ready for the start of a new season for Europe's leading rock show, of the same name. As well as a renovated interior, a complete new lighting rig was installed - and to a very tight schedule.

Jansen & Jansen's Rene Waerts designed a flexible barrel grid installation, featuring Arri 1kW, 2kW and 5kW Studio luminaires, Arri's Softlights and Par 64s, all controlled by an Arri Impuls console and 600 Series professional dimmer racks. "Impuls was a natural choice for Countdown," explained Waerts, "since it gives complete manual control with 108 submasters, as well as having plenty of special effects and all the software functions expected for television production. Another reason for choosing the Arri console is that the studio will continue to be used for all types of TV production, and Impuls will be able to cope with any type of show in the future."

MIDI Expansion

The MIDI Manufacturers Association (MMA), along with the Japanese MIDI Standards Committee, have announced ratification of an additional recommended practice within the MIDI protocol which has implications for the control of tape recorders.

MIDI machine control (MMC) as it is strangely called, will enable MIDI sequencing software to send out the necessary commands to control a tape transport, moving the tape to the current sequence location and putting it to 'Play' mode after which the two will be synchronized. MMC adopts a similar system to the one used by Fostex in recent months, which has enabled them to be among the first to offer the new facility, and is modelled on the appropriate section of the ESBUS standard. Tascam also offer MMC facilities on all their recorders with a serial port, via their MMC-100 interface.

The MMC specification can be obtained from the UK MIDI Association on 081-368 2245.

The weekly Countdown show started 12 years ago. The studio in Bussum is heavily insulated and was originally a theatre/cinema, but in recent years, it has become a favourite spot for budding musicians as well as established pop talent.

When money was made available for re-equipment Countdown's lighting producer Peter Pelgrom talked to Arri and its Dutch distributor. Pelgrom's company Cartilage, lighting contractor for the show, together with Jansen & Jansen made a unique agreement. By means of a special arrangement with the latter, Countdown is provided with a basic set of equipment (48 2kW and 57 1kW fresnels) with further access to a continuously updated stock of Arri luminaires, colour changers etc.

Pelgrom told L+SI: "If any idea in general comes up it can be done. Structurally, lightweight movable trusses plus all necessary connections cover all angles in the depth of the studio. Remote control points are available everywhere too - and we use them all the time for lighting on the fly."

Brits at Vienna

Visitors to the forthcoming AES Convention (Vienna 24-27 March 1992) will be treated to the full breadth of British expertise on display in the accompanying technical exhibition. No less than 40 of the stands will present UK products and services, in a Joint Venture promotion organised by the Association of Professional Recording Services (APRS).

The companies participating will be exhibiting a range of hardware and consultancy relevant to broadcasting, sound for motion pictures, recording and duplicating for the music industry, live sound and studio design.

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PEOPLE

Pete Western has rejoined Donmar as supervisor for the service and installation department, reporting to Bruce Tompsett as the department manager and John Waugh as projects manager. Pete was formerly with LHS and his extensive training there as a Strand Lighting service engineer will further strengthen Donmar's capability of servicing virtually every brand of stage lighting equipment.

Nick Kearey has joined the Donmar sales team after gaining lighting and sound experience in regional and London theatre.



Phil Coe.



Sean Martin.

European Leisure has appointed **John Casey** as group services director to head up departments providing central support to the group's operations in the areas of purchasing, property management, security and company secretariat.

Phil Coe has been joined the Professional Products Division of Bose UK as national sales manager. He has been with Bose since September 1989 when he joined as area sales manager.

Canon Audio has recently appointed **Sean Martin** as professional products manager. Sean has joined from Harman Audio where he spent five years promoting JBL professional products to the installers market.

Dave Webster has joined Crest Audio in the newly-created post of technical sales manager for Europe. He comes to the company from Klark Teknik where he spent the last 12 years gaining experience in all areas of modern professional audio technology, product development, system design and sales. Dave will be helping to support Crest's distribution base throughout Europe, and will also be involved in the development and implementation of NexSys - Crest's computer-based amplification control, monitoring and configuration system.

Ealing-based tour and event co-ordinators Sound and Light Productions have added a new senior executive to their management team. **Peter Flynn** has joined the company as technical production manager and will be responsible for the design and development of both sound and lighting rigs as well as supervising the assembly of all touring systems and providing customer liaison in all creative and technical areas.

Serious Skills

A series of short courses for sound technicians are planned to take place throughout March and April at The Half Moon Young People's Theatre Technical Training School in London. The courses are open to professional technicians with some available to beginners.

Introduction to Sound (March 7th) is as the title suggests a basic introduction to sound theory based on David Collison's book *Stage Sound*. The session to be led by Roger Norwood, sound tutor at LAMDA will cover the transmission and creation of sound, the five elements of a sound system, and creation of effects and their use in theatre.

Tape Rec/Playback and Effects (March 21st) is a continuation of the opening course. The emphasis on this session is a practical workshop. A mini sound recording system will be provided, and participants, who are expected to have some basic knowledge, will be asked to create a piece of 'theatre sound'. The session is again led by Roger Norwood.

A National Theatre Tour will take place on March 14th with Rob Barnard, head of the NT's sound department, conducting a tour of the workshops, and explaining the operation of the department.

Tapeless Weekend Workshop (March 27/28th) is an intensive weekend intended for those people who have already gained, or have knowledge and experience of tape recording and playback but who would like to gain practical skills in using tapeless systems. Participants are expected to come ready prepared to spend the second day preparing a short show tape using tapeless systems.

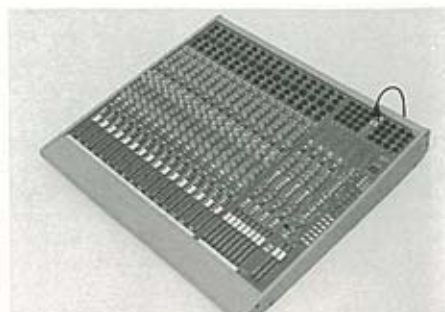
Live Music Workshop (April 4th) is in the form of a master class. Anthony Ingle, composer, lyricist, arranger and musical director for amongst others 'Invisible Man' and 'Mother Goose' at the Theatre Royal Stratford East will explore the use of live music in performances and its manipulation to enhance effects or atmosphere. This session also aims to encourage theatre directors to consider ways of maximising the contribution of a musical director/arranger.

For further details of the programme, contact Dipak Mistry at the Technical Training School, telephone 071-265 8138.

Soundcraft Expands

Steady expansion over the last few years has meant that Soundcraft has finally grown out of its Borehamwood manufacturing facility.

New premises have now been acquired in Potters Bar, more than doubling the company's present accommodation and providing central resources for all of Soundcraft's design and manufacturing operations. The new premises comprise some 80,000 sq ft to house all the company's R&D production, sales, marketing and administration.



Allen & Heath GS3 mixer.

Harman Portfolio

Harman Audio, who have recently purchased mixer manufacturers Allen & Heath to add to their existing Soundcraft, C Audio and JBL ranges recently invited dealers to a preview launch of new products from their portfolio.

First under the spotlight were the new JBL 4200 series of loudspeakers, which are two console-top monitor models designed specifically for use in the near field. The 4206 is a two-way speaker with a 6.5" low frequency transducer and 1" pure titanium diaphragm dome high frequency driver. The 4208 utilizes an 8" low frequency transducer and the same high frequency device. Both models incorporate a Multi-Radial sculptured baffle that directs the axial output of the individual components for optimum summing at the most common near-field listening distance.

Next up were the TA Series of professional power amplifiers from C Audio. The TA 600 has a stereo output of 300 watts/4 ohms and the TA 1200, a stereo output of 600 watts/4 ohms. Both are housed in 3u high steel chassis.

The GS3 is the latest addition to Allen & Heath's range of mixing consoles. Two versions are available: 16 (16/8/16) channel and 24 (24/8/24) channel both are which are expandable up to 32 channels with the use of an 8-channel add-on expander unit. The maximum configuration on mixdown is 72 inputs, all with EQ, auxiliary sends and mute automation. A&H's V4 mute automation software has been further developed and V4-Plus includes all its predecessors qualities with the addition of programmable MIDI function keys. This feature enables instant access for remote switching of sequencers, tape machine transports or merely sound effects.

Those present were also given a sneak preview of the new Allen & Heath Ace Series of recording consoles. In addition to all the existing facilities of the Spectrum mixer, A & H have added four-band channel EQ comprising 100Hz LF cut/boost, two overlapping parametric midrange controls and 12KHz HF cut/boost in place of the original three band system. Like all Allen & Heath consoles, Ace includes Mute Automation for all audio sources.



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High End Goes Live

In common with other manufacturers of the 'wagging mirror' type of automated luminaires, High End Systems of Austin, Texas are looking to the live touring market for future expansion. As part of this effort, international operations manager Laura Cowen flew to the UK this month to spearhead a series of targeted presentations held at UK distributors Lightfactor's Greenford premises.

With her came lighting programmer Mitch Peebles who set up a very effective light show/demonstration which included Intellabeams, Emulators, ColorPros, Viper and Dataflash.

Lightfactor's John Adams told L+SI that there had been considerable interest from the rental houses who, in his opinion, now seemed to realise they were missing out if they were not holding stocks of articulate lights. "We have been visited by 14 companies during these presentations including Sammys, Meteorlites, The Spot Co and Neg Earth and the level of enthusiasm seems high," Adams said, "and we already have Emulator out with the current Simply Red tour.

To provide support in touring situations, Lightfactor will be offering the services of LD Andy Jupp to programme, or run the High End control systems. High End offer similar facilities in the US, plus holding a stocks for 'dry' hire as additional back-up.

Paradoxically, Colin Whittaker, sales director of Celco, also attended this presentation and he told L+SI that Celco had dropped the UK distribution of the Summa HTI automated luminaire since they had been unable to meet the ambitions of the instrument's US manufacturers. Apparently, in the future Summa Technologies will sell the automated luminaire from its San Jose headquarters directly into the UK via existing Celco dealers.

Turnkey Projects

Turnkey Projects have just been awarded the contract to install a new fast film lighting rig in the Motor Insurance Repair Research Centre at Thatcham. The scheme has been designed in association with Arri GB to be compatible with the high speed film cameras they are supplying and the rig consists of a total of 250 x 1kW linear tungsten halogen floodlights.

The rig is designed to take high speed film pictures of vehicles being propelled into a solid concrete block, the film is then analysed to collect data which is used to aid car manufacturers when designing new vehicles.

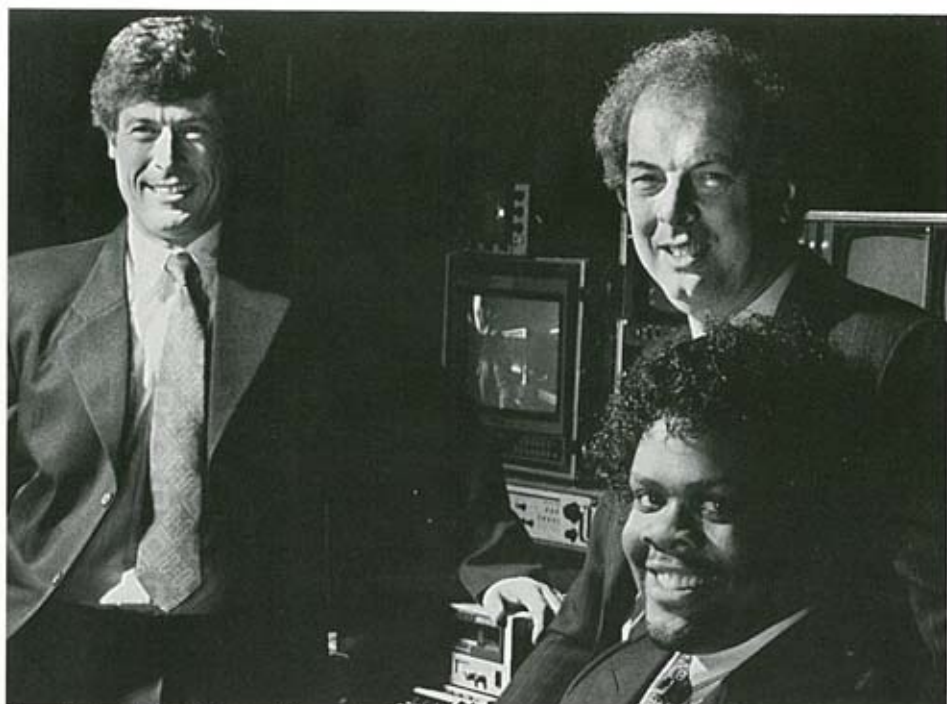
Audix win N.E.C. Contract

Audix has been awarded a contract worth in excess of £500 million to equip new halls at the National Exhibition Centre in Birmingham.

Audix's contract for the public address, voice alarm, audio visual and conference facilities is part of the £45 million Laing development of four new halls and a large conference and amenity block at the N.E.C. The project is due for completion in Spring 1993.

Audix won the contract from mechanical and electronic sub contractor Crown House. Alan Bond, general manager at Audix told L+SI: "The N.E.C. contract follows the completion of our other Birmingham project, the National Indoor Arena, where we worked with the same Laing and Crown House team. Winning this order is an indication of the level of confidence in Audix's work and the successful performance of our sound system in the Arena." (The installation at the Indoor Arena will be the subject of a detailed report in the March issue of L+SI.)

The N.E.C. project specifies Audix's recently introduced extended V32 Matrix Vector system for which the company has also recently announced an order for the new airport on the Caribbean island of St Lucia following similar installations in several major UK airports.



From left to right: Chris Scadding, director and general manager of Sam Com, Roger Dix, managing director of the lighting and sound division of the Samuelson Group, and Melville Davis, customer operations manager.

Sam Com: Investing in Success

In a remarkable turnaround of business performance under the helmsmanship of Chris Scadding, its new general manager, Samuelson Communications has enjoyed a successful six months in both its London and Manchester branches. This success is about to be reflected in a major new hardware investment programme.

Aimed at Sam Com's fastest-growing rental markets - production houses, graphics and data displays and large screen video replay for touring shows - the company is equipping with Panasonic's M2 digital video system, Hi-8 Video and new video/data projectors.

Sam Com London's recent contracts included a series of Grosvenor House presentations via Grosvenor Productions for the launch of Forte Crest. Designed by Laurie Robertson, it featured a complete package from Samuelson Group's lighting and sound division involving Vari-Lite, Theatre Projects sound and lighting alongside Sam Com's video projection, A/V and prompting systems.

In Manchester, general manager Brian Hirstwood has signed up Steve Horton as rental project co-ordinator to help with a UK and international work schedule for Glaxo Pharmaceuticals, Norweb and ICI. Manchester's 10,000 sq ft warehouse provides set building, storage and loading facilities for complete large-scale productions.

US Alliance

Vienna-based Waagner-Biro has formed a strategic alliance with US company Hoffend & Sons. As part of this association of two of the leading stage equipment firms Waagner-Biro has acquired a major interest in Hoffend & Sons but the company will remain in Honeoye, New York with the same facilities and workforce.

It is hoped that the joint venture will lead to the further development of products, technology and service.

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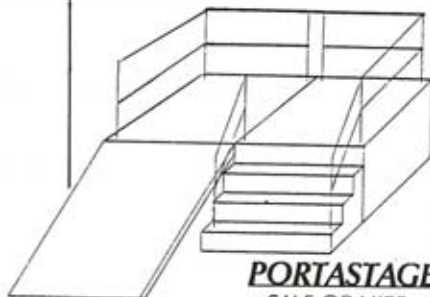
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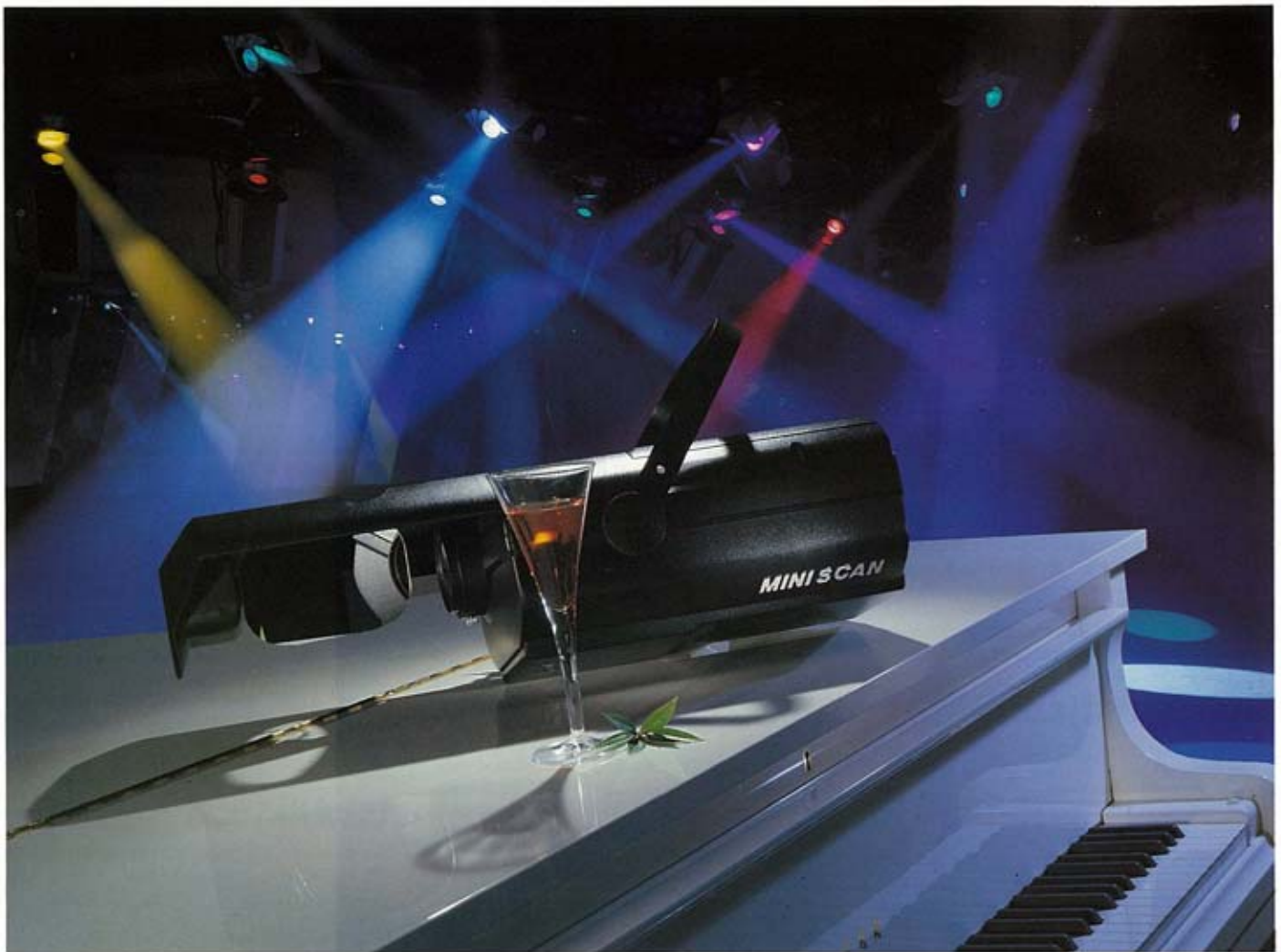


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Tel: 05251/409051 Fax: 05251/409931

Safety Within Entertainment

The Health and Safety Executive's (HSE) Entertainment Services National Interest Group (NIG) has established a Joint Advisory Committee with representatives from Broadcasting, Film, Television and Theatre, to discuss standards of health and safety within the industry. Members of the new committee, which aims to combine the industry's professional expertise and knowledge with HSE's experience, will be drawn from employers and unions in related disciplines.

The new committee, which met for the first time last month, will discuss among other things the drawing up of new guidance to cover existing situations and future developments in the industry. This will include new guidelines relating to substances and their use: electricity, scenery and pyrotechnics.

Lightwave Research for Glamour

CBS Television will broadcast the 41st Miss USA Pageant live from Wichita, Kansas in early February, and Emmy award-winning LD Jim Tetlow will be lighting the annual presentation. Incorporated in Tetlow's design are 72 Lightwave Research Intellabeam 700HXs, and the show will be programmed using Lightwave Research's Show Control Software, developed by software engineer Lary Cotten.

Current applications of Lightwave Research products include Dire Straits, Clint Black, Kenny Loggins and 'In Living Color.'

Soundtracs reaches Artic Conditions

Soundtracs' Finnish distributor, MS Audiotron has recently installed a Quartz 32 and Megas Mix console into the Oulo Music Conservatory, situated not far from the Arctic Circle, and probably the most northern location for any Soundtracs console.

A digital multitrack, DAT master recorder and digital hard disk editor were also chosen. Mac and Atari-based sequencers and a large variety of samplers, keyboard synthesizers and MIDI devices as well as a selection of signal processors and effects were added to complete the system.

MS Audiotron have also recently won the contract to supply and install the complete audio system for the new National Opera House in Helsinki. This is the largest single audio in Finnish history, according to the company, and is worth US\$3 million.

World-wide Agents Sought

A London-based company seeks world-wide agents in the leisure sector to expand their laser, holographic and multi-media equipment sales and hire.

They wish to promote their products and services in European, Middle Eastern, Asian and Far Eastern markets. For further information, please contact Anna Pillow at the PLASA office, telephone (0323) 410335.



Vari-Lite in Scandinavia

Vari-Lite has a new sub-distributor in Scandinavia. In December, Ruth Parkinson, sub-distributor manager for Vari-Lite Europe and Johan Sward (pictured above) of Svensk Film & Ljusteknik AB signed the agreement for the formation of Vari-Lite Scandinavia. Maintaining a Series 200 system, Svensk Film & Ljusteknik AB is based in Stockholm and will provide installation and operation for clients in the market areas of Sweden, Norway, Denmark, Finland and Iceland.

UK Agreement

Lighting Technology of Park Royal, London has reached an agreement with Oscar Lighting of Sweden to become UK distributors of the Lightpaint Colour Changer range.

In conjunction with Oscar, they will also be responsible for setting up a network of world-wide distributors. Lighting Technology now have Lightpaint units in their showroom available for demonstration. Contact Lighting Technology on 081-965 6800.

Zero 88 Winner



Pictured above is Les Allen (left) receiving a Lightmaster XL from Paul Fowler of Lancelyn Lighting as part of Zero 88's recent prize draw promotion.

What Recession?

Bedford-based Star Hire have taken on an additional 5,000 sq ft of space alongside their existing premises. Roger Barret of Star Hire told L+SI that this is to cope with rapidly increasing levels of business, including a big line-up of outdoor concerts this summer.

Selecon Relocate

Selecon, the New Zealand-based manufacturer of stage and display luminaires, have moved to new premises. With over four times the factory area the new factory has been designed to service the substantial increase in demand for Selecon products from Australia, Asia and now Europe. The new facility also includes product development and test facilities, offices, rental department and showroom. The latter features not only the luminaires but the many products handled by Selecon including Rosco, control systems (Jands Event Series, NSI Melange, Arri and Selecon production dimmers and architectural controls) as well as stage curtains and make-up.

Selecon can be located at: 26 Putiki Street, Grey Lynn, Auckland 2, New Zealand. Telephone 64 9 3601718

Projected Effects from Cyberdescence

New Barnet-based Cyberdescence now stocks the full range of 252 effects discs, including many obscure and forgotten 'favourites' such as the Psychedelic Mark II and the Vapour Trail. Several Patt 252 2kW Halogen projectors and a selection of lenses and masks add to this comprehensive effects service, and for high powered, compact 35mm slide projection, the company also have available Light Works' Daylight projectors, together with a range of lenses.

To extend the service further, Cyberdescence has returned to its sixties roots and revived, using the original equipment, a genuine psychedelic lightshow. The company claim that this is not automated liquid wheels, but a live mixing of chemicals, projectors and machines.

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SOUND

UK audio equipment specialists **Marquee Audio** have equipped The Consortium Sound Design company with their second Soundcraft mixing console and third JBL monitoring system. The Consortium, based at Shepperton Film Studios, specialises in digital audio post-production for full length feature films and television programmes. Marquee have also been busy at Warwick Arts Centre where the company have installed the new JBL Sound Power A loudspeakers, a DDA D Series console, power amps from C Audio and graphic equalisers from BSS.

Elsewhere **Soundcraft** consoles are proving popular, most recently with Yorkshire-based Radio Aire Dale who have purchased a complete studio package, Europe Vienna's new Akzentheater has just installed the new Soundcraft Europa console, BBC Radio Scotland has bought a Soundcraft Venue console from Edinburgh-based dealer, The Warehouse, and last, but not least, the Royal Concert Hall in Nottingham has replaced its existing console with a Soundcraft 200 Delta.

The Royal Albert Hall has installed a **Sennheiser** infra-red sound transmission system as part of a £150,000 programme to improve facilities for the disabled.



Nexo sound systems are fast becoming popular afloat. The company has recently undertaken several contracts to supply speaker systems to cruise liners and ferries. In Sweden, the Silja Line has recently commissioned systems for the MS Svea and MS Wellamo (pictured above), with the design and installation completed by Stockholm-based Nexo distributor LEAB Lilliehook Electronic AB. The two ships have both been fitted with PC Line systems which are used in the entertainment suites for PA for orchestra use and discotheque applications.

Turbosound have increased their factory space by 50% with the acquisition of an adjoining warehouse to their premises in Partridge Green, West Sussex. The move comes after a busy 1991 in which the company enjoyed increased sales despite economic recession. The new unit includes offices and warehousing totalling 4,500 sq ft and plans are already underway to build a demonstration and conference area for the sales department.

London-based **Electromusic** installed a new sound system in Shuffles Wine Bar in the West End last May. Now the club has come back for more and Electromusic has added six more Turbosound loudspeakers as well as further Crest and C Audio amplification, and Rane graphic equalisers and crossovers.

Entec has been contracted by Channel 4's The Word programme for its second series. The company will provide stage monitor systems and studio audience PA throughout the 20 week run.

Broadcast installation specialists **Elliott Bros** have been awarded the contract for the major studio refurbishment of the south east wing of the BBC World Service, Bush House, London. The original four studio areas have been re-designed into six studios and four studio workshops. Elliott Bros have placed orders for six Calrec compact desks and four Audionics Ace mixers for the workshop systems.

The existing Probel and NTP switching controllers will be integrated into the new studio furniture. The company have also recently installed studios at BBC Radios One and Five.

Northern Light has installed a sound and communications system into the Barbican Centre in York, comprising a complex paging and background music system running throughout the centre as well as a production sound system in the central auditorium. The package is based around JBL loudspeakers, with BSS crossovers, Yamaha EQs and Toa power amps were also installed.

Five Star Cases of Wisbech was recently contracted to design and manufacture a complete system of flight cases for Sony Broadcast & Communication Products for their latest Professional Betacam showcase. The case system of eight full edit suites, is made up from 18" and 19" racks, 17u in height, eight control desks and ten triple bay monitor racks. A host of other back-up and ancillary equipment was also flight-cased by Five Star.

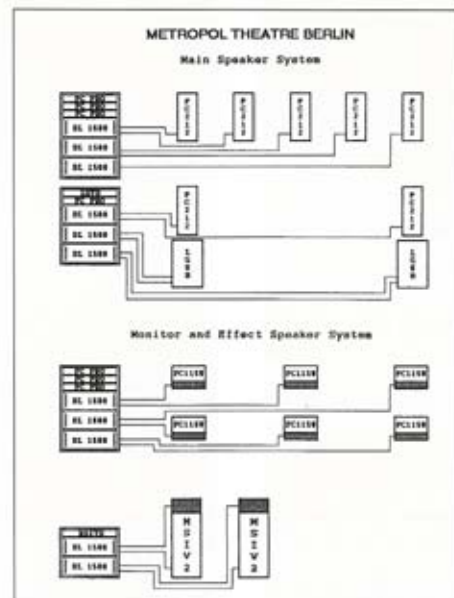
Clive Green & Co, the manufacturer of Cadac live mixing consoles has recently completed a specialised portable mixer for The Royal Opera House in London. Built to the ROH's specification, the multi-purpose Cadac is designed for a variety of roles, from live mixing to multi-track recording. The system comprises four 19" x 11u rack frames, capable of being bussed together as one unit or used as four identical frames. Each frame contains 12 module positions, and all inputs and outputs are transformer-balanced, with all gain and frequency selections are switched.

Bognor Regis is the latest of Rank's Butlins Holiday Camps to upgrade its sound system. The installation has been completed by **Richmond Electrotech** who work closely with Rank on a number of projects. Bognor's system comprises four full-range JBL 4756 AP for speech, two JBL 4785 A sub-bass cabinets and six JBL 4716A as delay units, driven by three C-Audio SR 606s and one SR 707.

Another production of the hit musical 'Les Miserables' is due to feature system design from theatre specialists **Autograph Sound Recording**. Autograph will be designing and installing the sound system for the new Manchester production of the musical, which opens in April.

Berlin-based **Camco** has recently completed the sound installation at the Metropol Theatre located in East Berlin, near the Reichstag and Brandenburger Tor.

As a result of the project, the theatre now has stereo imaging on each of the 1,407 seats, and integration of the sound system into the scenery, with a wide frequency and dynamic range. As shown in the diagram below, Camco installed five PC212s flown under the roof, two PC212s for the near-field control on every stage side, six PC115Ws for monitoring, two portable MSIV2s for effects and two LS1500s for the sub-bass.



The required amplifier power of approx 16kW is produced by 11 of Camco's DL1500 amplifiers. For special effects it's possible to send each speaker a different signal, because every speaker gets its own amp channel.

Making Light Work

Originators of the PALS automated luminaire for Strand Lighting and the 'bright' Daylight projector, London-based Light Works are putting their royalties to good use funding a number of ambitious in-house R&D schemes according to Charlie Peyton.

A five year development project, labelled Seawater Green house, is designated to create a self-sustaining vegetable cropping system for use in arid regions of the world where lack of water and too much heat mitigate against successful plant growth under cover. By a combination of optics and thermo-dynamics Light Works hope to develop a solar roof which will filter the sunlight and, as a by-product, tap off the excess heat to drive a desalination plant. Peyton told L+S: "The output is significant, a one hectare greenhouse of this sort can produce 400,000 litres of fresh water per day, very important when you consider that it probably takes 1,000 litres to produce a kilo of tomatoes." Apparently, the cost of producing the same volume of water from an oil-fired desalination plant can be as high as £2,400,000.

Now the government of Cape Verde have agreed to the building of a prototype in one of the most plat-hostile regions on Earth, where such a development could revolutionize the local economy since they presently import some 80% of food consumption. "It's a simple matter of turning the PALS concept upside down," quips Charlie.

And on the subject of re-cycling, money that is, another team at Light Works are currently hard at work designing the lighting for part of the 'Science of Life' exhibition for the Wellcome Foundation. Commissioned by the MET Studio, the exhibit is an animated optical construction called 'The Funding Machine'. Light is used as an analogy for the financial resources shown flowing through the system, from collection to distribution, via a series of mirrors and lenses.

Another long term project is called 'High Performance Projection' in which, over three years, Light Works aim to produce a number of new products, enabled by recent advances in technology. At the end of it they hope to establish an 'intelligent optical lab', adaptable to a number of architectural and SFX applications.

After all of that, it seems a little tame to mention that the company will also be replacing the Science Museum's 20 boosted Kodak Carousels, which currently run the displays in the main entrance atrium, later this year. Apparently, in tests carried out on site, the Daylight Projector delivered three times the intensity and true daylight colour resulting in crisper, clearer imaging.

Cambridge Corn Exchange Upgrade

Continuing a current trend in the Cambridge theatre scene of upgrades, a new lighting control system was installed into the Cambridge Corn Exchange in January. The venue has opted for an Arri Impuls 2 which will control the existing 72 ways of Pulsar dimming via a Reflexion Universal DMX backup console and an output module with diode protection.

Optex Lighting were responsible for the supply and installation of the new system which is fully 'loaded' being provided with both infra-red and wired remote control, a designer's remote graphic tablet, alpha-numeric keyboard, and remote prompt-corner VDU. The installation has been implemented in such a way as to allow maximum flexibility of operation, with 'break-out' boxes provided as suitable points throughout the auditorium.

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ARCS, LIGHTS AND LASER ART

'Light Year' launches 1992, Year of New World Order

A loose consortium of artists and lighting specialists were allowed the run of Canary Wharf to sing in the New Year. Using the building as a canvas, a contemporary alternative to Nelson's column traditional focus for seasonal revelry, shone out from the winter mist. Tony Gottelier discovers how the developers were persuaded and how the project was implemented.

Living and working under the shadow of the giant Canary Wharf development, monumental artist Peter Fink and performance artist Anne Bean suffer the same stresses and strains as other local inhabitants, resulting from the massive and on-going redevelopment of the entire London Docklands area. While others banded together to sue the LDDC, an action paradoxically made public while Fink and Bean were actually fulfilling their alternative action, they had a different vision.

Why not use the building, itself a monumental construction - the UK's tallest building, a fifty-plus floor office tower capped with an illuminated glass pyramid and possibly the only real architectural monument to the Thatcher era - as the canvas for a vast artwork and in this way return some immediate and tangible pleasure to the long suffering people of the area?

Having rejected the Cristo option and others, though there are those who would still like to wrap the building, the field of choice was narrowed down to a light painting, using the tower as an easel supporting a huge kinetic sculpture. This perception, they say, was

inspired through living nearby, where, through artists' eyes, they constantly see the building changing colour in the different lights of sunrise, sunset, the changing seasons and so on. This they also felt, erroneously as it turned out, would have the added commercial value to help sell it to the PR and marketing people at Olympia and York, the building's Canadian owners, struggling to let the rest of the two-thirds empty floors of high-rise, high-rent offices. But these are not traditional artists' materials, so how to set about it?

Peter had already achieved considerable acclaim for his audacious, 21m long steel wave, which is installed on the promenade in Newport, Gwent, on which project he had met Martyn Butler, survivor of a thousand laser shows and commercial laser associations. Butler would provide the technical solutions and the link to the mysterious twilight world inhabited only by laser and lighting people and other readers of L+SI.

I imagine that many hours of brainstorming followed, before a formula with sufficient pizzazz was evolved to sugar the pill for the marketing people, the anticipated paymasters. Speaking for the trio, Martyn Butler told me, "Our vision of the tower as an Icon of the 90s, and more significantly '92, was an obvious hook to us, and its convenient location close to the Greenwich Meridian gave the final touch to the concept to herald in the Year of Europe." With the provisional title for the project of 'Light Year', the three formed Map Productions in June 1991.

Peter went off to sell the concept to O&Y, while Martyn talked to the various legislative authorities, including the CAA, for the various consents, not expected to be an easy task following the 'little local difficulty' incurred by Jean-Michel Jarre who had a similar idea at an earlier date.

Surprisingly, it was Peter Fink who found that he had picked the short straw for, as he quickly discovered, Olympia and York were distinctly cold on the idea in the UK. "The PR and marketing people really didn't understand what we were on about, although they did finally get the picture during the eventual 'dry-run' over Christmas."

Not to be deterred, and armed with computer renderings, drawings, and video simulations, Fink headed across the Atlantic to beard Mrs Thatcher's favourite property developer and O & Y owner, Paul Reichmann, in his Toronto penthouse. "It was the same story, I spent nearly an hour with him, but until I put over the simple notion of a digital grid, counting down the time to the New Year, I knew I was struggling to put across the relevance." More importantly, perhaps, Peter discovered that Reichmann, through his company, is a substantial patron of the arts and that there was a whole department in Canary Wharf called Arts and Events. So the sponsorship was to come from their budget, placing it exactly where Fink wanted it to be - as Art!

(While it's easy to be cynical about such philanthropy, 'it wouldn't happen without a

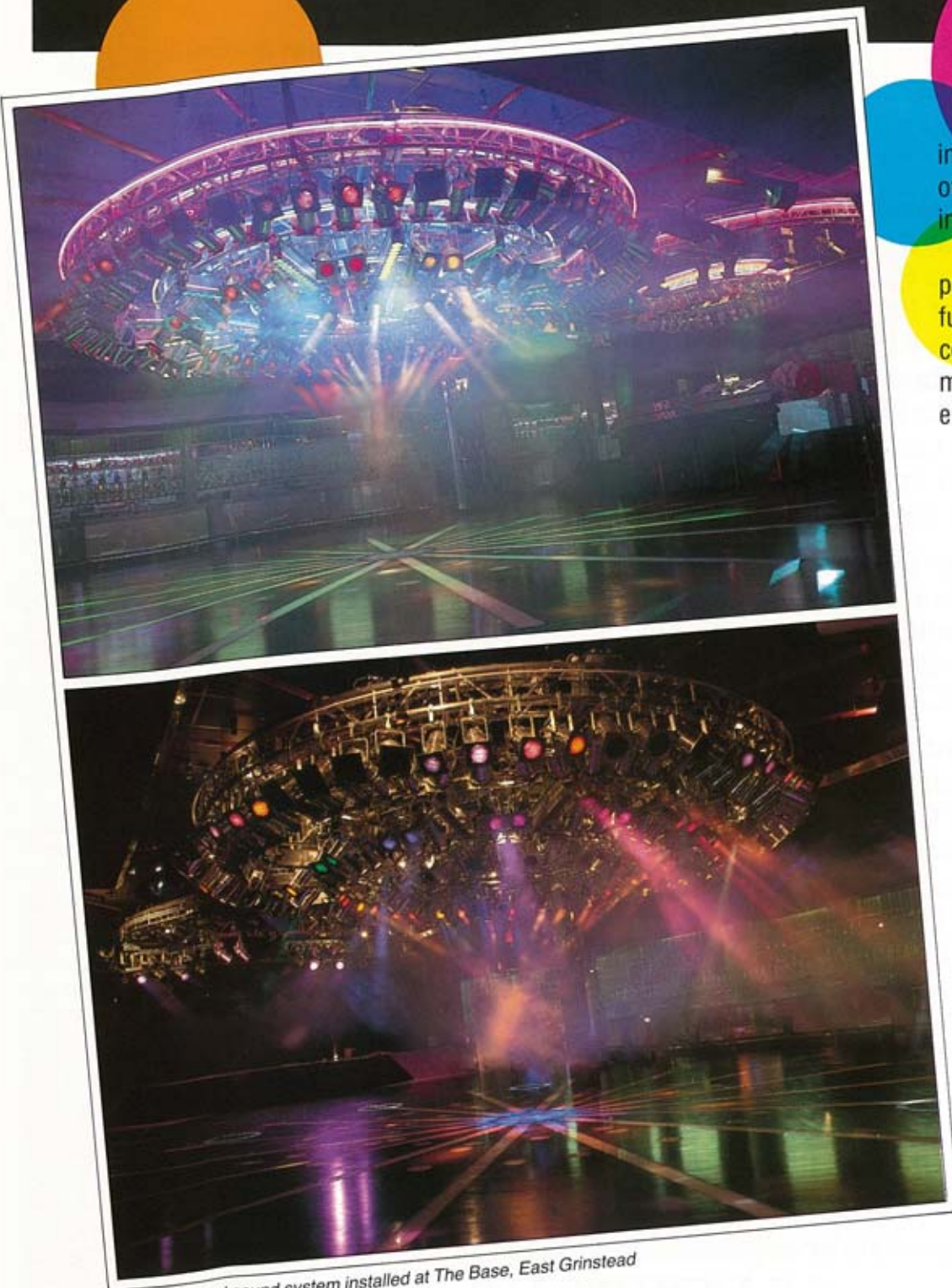


Aimed at the City - west-facing xenon STX skylights 'putting their best beams forward.'



Window display: close-up of the digital grid in X formation. Note also the interesting STX cloud effects. photos: Robin Chaphekar

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Lighting rig and sound system installed at The Base, East Grinstead

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commercial edge, would it? - though Peter Fink believes it's absolutely straight up, art for arts sake - does it really matter as long as it happens? And if, as a by-product, it helps to make such developments viable, rejuvenating dilapidated, down-at-heel districts, arguably to the benefit of all, and the arts get some money, and the community gets the art, who cares? This has become a routine part of the enlightened North American approach to property development, especially in erstwhile dying Cities, and it works, so why knock it?)

While Fink might have preferred not to play such an obvious card, as his artistic sensibilities would have tended towards a less structured approach, he at least persuaded Reichmann to grant him a further fifteen days of performance after New Year's Eve to allow a little more artistic licence. So the green light for 'Light Year', now the agreed title for the event, and back to the UK and to face the huge scale of the task in front of them.

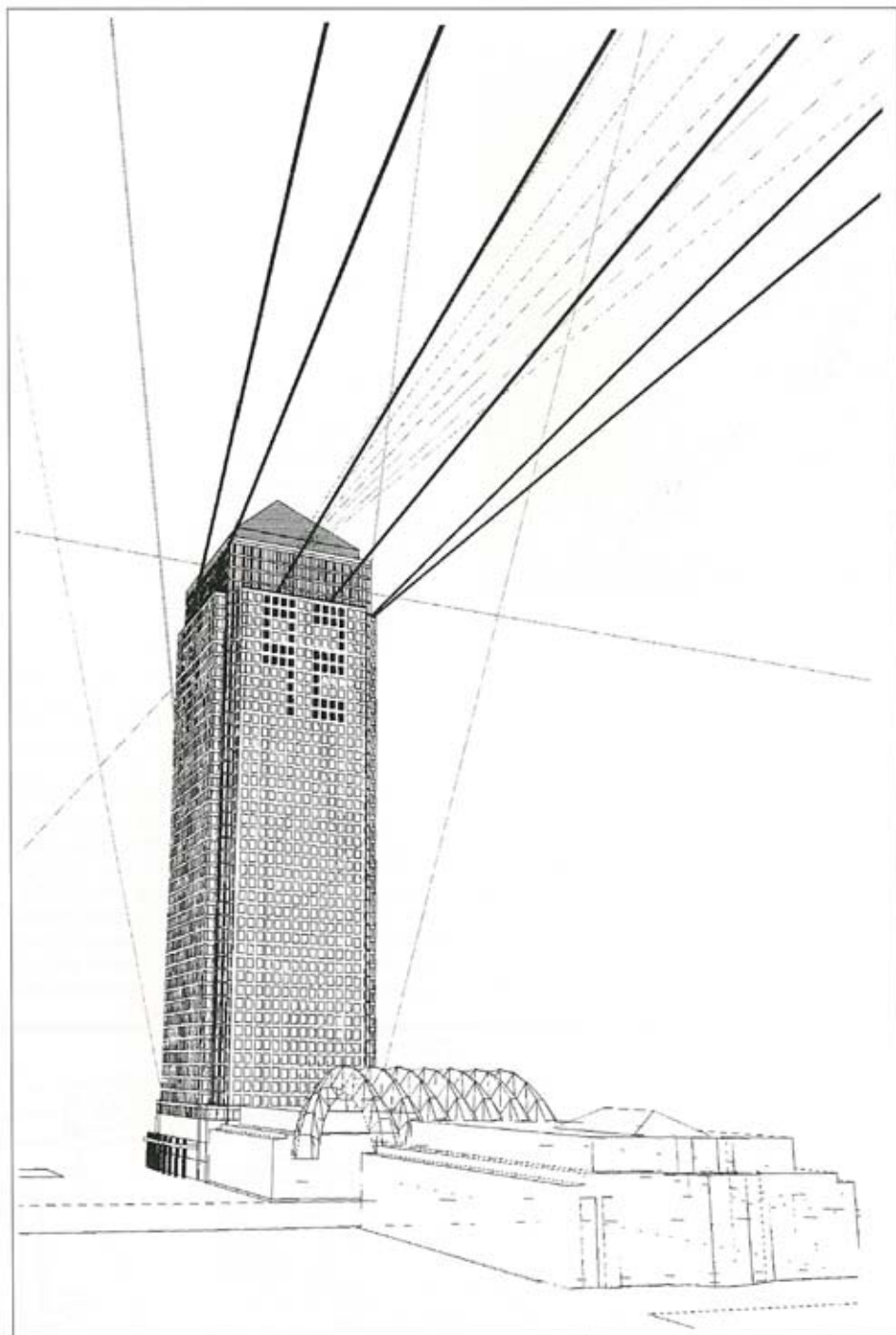
In the meantime, Martyn Butler had made good progress with the authorities and when he surveyed the building for services he was staggered to find adequate power and water on every floor, including three phase! Also, now that they were dealing with Canary Wharf's internal Arts and Events department, headed by Helen Marriage and Luke Sapsed, experienced in organising performances in the Cabot Hall and other events within the complex, matters took a decided turn for the better. "They really couldn't have done more to accommodate us in very difficult circumstances with hundreds of building contractors still running all over the building," Butler commented.

"Mind you, it was as well that there are so many empty floors at present, as this really did facilitate matters."

Armed with CAA clearance Butler and his partners in Map Productions formulated the final touches to their ambitious concept. Light Year would involve a composite of three main lighting components, lasers firing out the compass points, xenon searchlights to emphasize the structure and provide animation, and a larger than life-size back lit digital grid which, on New Year's Eve would count down to '92, sourced from the atomic clock at Rugby by radio signal. Later, this would take on a more random form as the grid was reshuffled every three days as the fifteen day performance evolved. And on the 31st, for one night only, the mandatory fireworks.

Butler now set about building his technical team and sourcing the required equipment. In many cases the two were synonymous, via his own Horizon Laser company he engaged Howard Batchen and Rob Calderwood of Image Systems and RSVP respectively to provide and install the four 5 watt Argon heads with control by Mike Fielding of DRAIG to create a radial compass in the sky. Additional beam effects directed at the City centre would be provided by a 5 watt Krypton and a 20 watt large frame Argon supplied by Continental Lasers, complete with the nomadic Gino Malocca at the helm. Following the success of Jean-Luc Michaud's Alien Products joint performance with LD Andy Doig at the Salisbury Cathedral Spire Appeal, the same combination was selected with fourteen Alien 4kW xenon STX Skylights (actually Martyn and Jean-Luc first met each other at September's PLASA Show). Through a previous contact with his new partners in Leisure Services (UK) based in Westerham, Ian de le Vingne late of LSD-Le Maitre, took on responsibility for the digital grid and its control which would be by two Pulsar Masterpieces. The New Year firework spectacular would come from Andrew Joliffe's Fox Fireworks.

The fact that none of the three control systems



One of Andy Doig's CAD 'looks' for Light Year.

could talk to each other - even Doig's pet Apple, rotating 'looks' on a CAD program, couldn't be in direct touch with Alien's board sitting next to it - seemed of little significance. "This is art, man," I was told forcibly by Peter Fink. "It's supposed to be spontaneous, not a programmed show." Well, I am sure that wasn't the case on December 31st, but I take the point, it probably wasn't vital and everyone was in touch with each other by radio. (Though not on the night of my visit, the loaned handsets having been summarily withdrawn when, without anticipating the consequences, Canary Wharf's security company were sacked.)

So, starting at the top, the lasers were set up on a convenient all-round balcony at level M2, above the fiftieth floor, and located at the base of the pyramid which houses all the plant for the building, making the requirement of 1200 gallons of water per hour, 800 feet off the ground, something less of a problem. A convenient overhang below the pyramid also provided weather protection for the lasers, although a temporary cabin was erected as the control station and to house the large frame system and the Krypton.

Alien and Andy Doig, fresh from Meteorlites' contribution to the Laserpoint's Oman venture reported in December, plus STX operator Brigitte Lacoste, set up camp on the 48th floor with two luminaires at the same level, eight more one floor below, and four, with gel scrollers fitted, right down at floor six to give some proportion and scale to the whole vista. All external luminaires were secured to the structure with 150kg of ballast in anticipation of inclement weather, which was just as well, when winds of 70 mph were recorded on December 23rd. Parametric synchronization from level 48, some 700 feet above, involved a data network of over 2km of cable passing through the building. "Thank God there was plenty of room in the ducting," commented Jean-Luc Michaud, "though M16, who are rumoured as a possible future tenant, may not have been so impressed."

Two floors below, de le Vingne set up his control station consisting of two 108 channel Masterpieces into 160 dimmer channels which were distributed over ten floors in individual dimmer racks, in this case involving over 10kms of mains and data cable. The idea, for New Year's Eve, was to simulate a digital grid by using



Everything blazing - arcs, lights and lasers together.

80 windows on the West face of the tower to form the individual pixels, ten windows high and eight across, with a gap of two between. Each window was filled with a gauze on a transmobile frame, these would then be moved to different widows in successive performances, to allow for the five proscribed changes. "A medium had to be created especially in order to maximize colour registration on the inside but with good daylight reverse transmission to avoid obscuring the windows during the day," Ian explained. "This involved a special weave of fabric and gauze in a hitherto unused combination."

Astute readers will have noticed that 160

dimmer channels were not necessary to achieve the initial display envisaged, but by allocating two dimmer channels to each window, with different colours on each and two lanterns per channel, it allowed for both colour change and more flexibility for the successive days of performance when all the screens were moved to form new, more random, patterns. On subsequent nights these sequences would stretch across at least two elevations of the tower at a time, interfacing across a corner, so that eventually the effects would be seen from all angles of viewing. The intricacy of the format made programming pretty complex, to say nothing of the numerical display, and an LED mimic was found to be essential to enable the operator to set up his cues.

The complexity of creating these looks also meant that Pulsar's Andy Graves, whose prime role is one of customer support, put in a great deal of time helping at the kitchen sink of the control system to assist Ian and his team to familiarize themselves with the new board, while cooking up cues concurrently. Through his close involvement it was discovered, early enough to take avoiding action, that linking two of the Pulsar boards together in the conventional way does not give a simultaneous response from the second of the two, which would be essential for precise synchronization of the display in the second-by-second countdown. To overcome this, a remote time-clock module was connected to the external control sockets of both boards in parallel, and this in turn also facilitated the radio input from the atomic clock at Rugby. Commenting on the role of Masterpiece, de le Vingne told me, "the fact that such a powerful, yet moderately priced control system came into existence was pivotal for us, because the budget, in relation to what we had to achieve, was not exactly what you would call

generous."

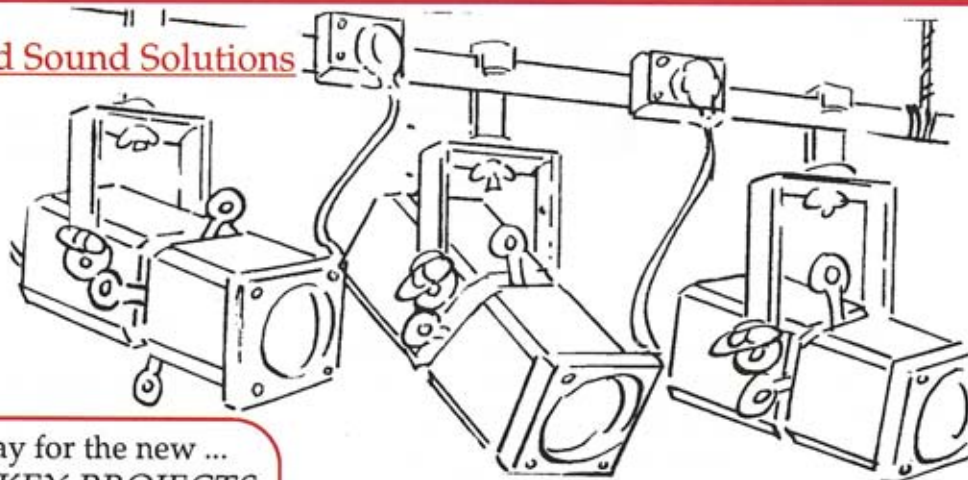
By this time, of course, the marketing men had seen a rehearsal and were beginning to get the point. Suffice to say that, come Hogmanay, the streets below were jammed with thousands of people, to the extent that the reciprocal countdown to midnight could be clearly heard from the top of the tower. And, of course, at the zero hour, for 15 seconds, the sky was alive with the sound and colour of, what Fox describe as, 'a pyrotechnic salute of awesome proportions'. Fired from a site below Westferry Circus and based on a thematic of silver and violet, the display consisted of a rapid crescendo of coloured star shells (peonies and chrysanthos) and noise effects (maroons and maroon and cracks.)

The acres of newsprint and miles of video tape consequently generated, and a world-wide TV audience of multi-millions, are testimony to the power of the event as an attention-getter, which must have caused some retrospective red faces in that particular department.

And the picture on the front page of the London Times on New Year's Day, with Canary Wharf blazing out '92 in 150 foot high pink and red characters and wreathed in exploding fireworks, twinned alongside a similar picture of the Kremlin, not only heralded the dawning of a new era in world order, but elevated Canary Wharf to the monumental status of that other great traditional focus of seasonal celebrations, Nelson's column and Trafalgar Square. And I can tell you that the view from M2 with the lasers and searchlights reaching into the far distance was even more breathtaking for the privileged few who were allowed access.

One wonders if it will be repeated in years to come? Possibly, but Peter Fink has a grander vision, which explains the subsequent visit of Lord Palumbo, president of the Arts Council, to see for himself what it was all about.

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MORE THAN BASIC AT THE BASE

Corroboration between lighting designers Maurice Brill and sound and light installers Kelco wakes up sleepy East Grinstead: Tony Gottelier reports

East Grinstead might not be everybody's idea of the hotbed of the South East, but I suppose its reasonable proximity to Crawley, one of the fastest-growing towns in the country due to Gatwick Airport, must make it potentially a target for leisure operators. (And I seem to remember a highly successful Sunday night disco running at the Old Felbridge Hotel 20 years ago, when the airport was probably still operating bi-planes!)

Nevertheless, it was certainly quite a bold decision for the proprietors, who are restaurateurs and have limited experience in this part of leisure market, to take on the development of a multi-storey building in the centre of the town and fill it, not just with shops and restaurants, but also two



Through the dark lightly - controls and the two non-performance rigs.

bowling alleys, two cinemas, a snooker club and a discotheque. The fact that the site is cheek by jowl to a public car park is obviously a great asset. The centre is called the Atrium, after the exposed glazed stairwell which faces down the street and is the building's main visual attraction from the outside.

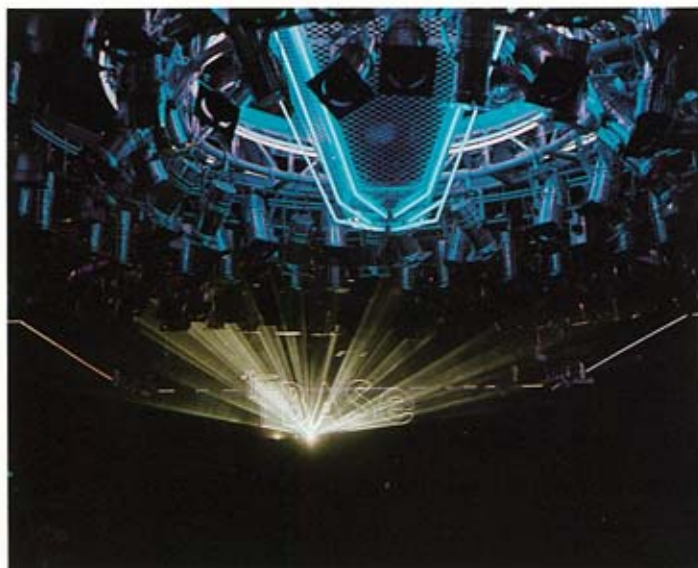
Maurice Brill Lighting Design, whose two associates Graham Large and the eponymous Maurice worked on the project, were appointed to carry out the architectural lighting design for the whole complex and, of greater interest to us, the special lighting for the nightclub and the specification of the sound equipment therein. As Brill are more normally associated with lighting theatre, this was not a



Based on a theatrical lighting concept - the dance area rig.

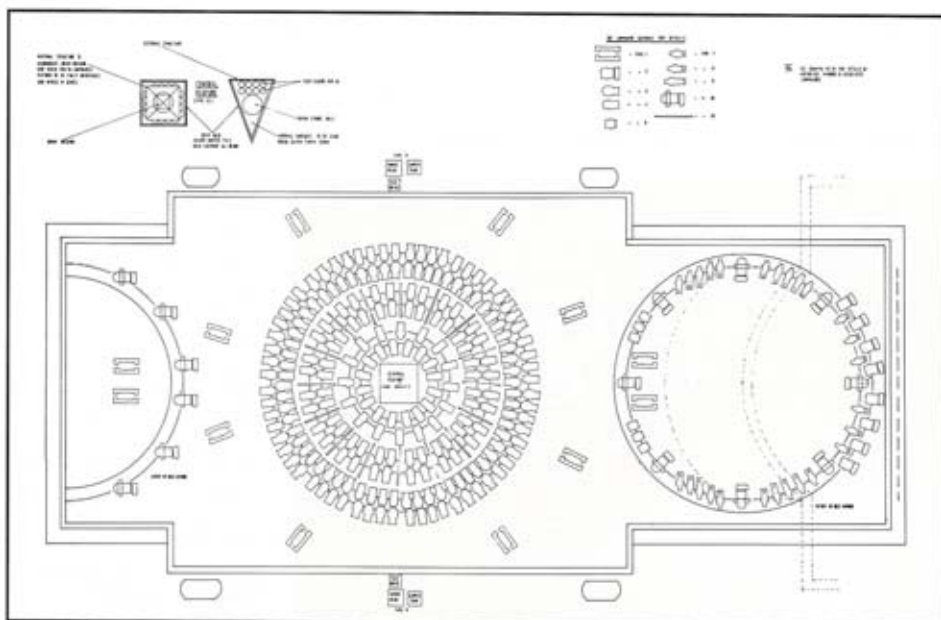


The atrium of 'The Atrium' - striking neon detail in the main entrance.



Above and right, Laser Grafix's Purelight laser installed at The Base.





Part of Brill's lighting plot for The Base. There is another layer to the central rig which is also reflected in the effects embedded in the dance floor.

routine project for them either. Nor is it possible to ignore the other aspects of their work at the complex in sole favour of the subject which will be the close focus of this report.

For when you approach the Atrium, especially at night, your eyes are immediately riveted to the electric blue neon display which traces the line of the wide sweeping spiral of the main staircase from the ground floor to the roof - a design decision which had Brill in conflict with the interior designer, but about which he now feels his obduracy has been amply vindicated. The added bonus of double reflections in the glass walls gives the whole display a random yet incisive visual link. For it should be remembered, for the numerous different activities within, that this building is supporting both day and night operations. Its night-time presence, and how this impacts on the general image, will therefore be crucial to the public's perception of the whole.

The area set aside for the nightclub is 900 sq.m located in the basement, so I suppose the name is highly appropriate, aside from which it also has quite a nice minimal ring to it. The Base has been laid out as a wide open space, at least it feels that way as you enter by the staircase in one corner of the large, almost square, area. There is an immensely long bar, it must be all of 25m, running the full length of one wall and a dance area in the middle, which looks all of its 120 sq.m, and a small stage at the far end which is to be used for live performance nightly. As you stand with your back to the cocktail bar adjacent to the entrance with the control desk in front of the dance area, there is an avenue of steep-backed semi-circular banquettes on a raised area along the whole of the left hand wall, across the dance floor opposite the long bar. I think perhaps it's because these spaces are so large that one gets a sense of 'openness' despite the change in levels.

Considerable efforts have been made by the designers to create a visual connection between the decor and the decorative lighting. These take the form of the ID's 'Chinese hat trick' where a series of faceted, polished metal coolie hats are inverted to rotate on various bar and counter surfaces, interacting with MR16s appropriately placed in the ceiling above.

Additionally, and in my book even more effective, are Brills' wall features which slowly drift from one hue to the next, via a fibre optic feed from Absolute Action's 150W HQI controllable colour changers. But what really makes them very pretty indeed is the use of

acrylic bubble rods in the visible part of the feature itself. Specially made in Germany, these clear 70mm diameter extruded rods contain 'flaws' or bubbles which give all the allure of the old underlit water tubes, without the attendant aggravation. I have to admit to being very envious of this delightful concept.

An indication of just how out of touch with current design thinking the client actually was is reflected in his brief to the lighting designers: "I don't want a discotheque full of helicopters and that sort of thing. . ." Well, he certainly hasn't got that, but what he has got is just about everything else you can think of.

Maurice Brill were keen that the design should have a firm theatrical foundation and I suppose that this reflects in some of the lighting decisions, but most of what has been included makes few concessions to anything else, other than 'get down and boogie'.

Which is probably just as well because, in my experience, the crossover between the one genre and the other can be a perilous process if you try to appliqué too many techniques which have been carefully honed for an altogether different purpose. Graham Large: "We had visualized an even more racy concept with a great deal of lateral movement and things flying about all over the place, but in the end the cost and the 4m high ceiling mitigated against that and the idea returned to the back-burner." Mind you this did not stop them building movement into three of the five James Thomas manufactured circular rigs. These three are formed into concentric rings around a central neon and mesh feature which conceals a spinning Clay Paky Orion. Overall diameter of the combined rigs is 6.6m, each with the ability for motorized descent, to form a kind of inverted wedding cake.

When I asked whether the limited movement available had really been worthwhile in lighting terms, Brill himself was adamant: "I am really very pleased with the difference in beam angles which is achieved even over such a small distance of travel, and it's an exciting moment for the dancers when the rigs move."

This central feature is stratified in another sense also, in that there is another layer of effects flat to the ceiling before you even get to the rigs, which consist of hundreds of Mode Sparklite strobes, one for every day of the year, and Arcline set out in a 16 arm star format. Additionally, there are a number of Light Engineering half mirror balls which are picked up by Light Projects' 'Superspots' (6v 35W

Halostars) recessed in 'ashtrays' under the floor with remote transformers. This last and fifth layer also reflects the star design above in protected neon, guttered into the dance floor and arranged around a hub of four Optikinetics Terrastrosbes. (Unfortunately, we were unable to photograph the floor effects due to damage caused by flooding, in the wet sense, soon after the opening.)

The three rigs, which are the meat in this sandwich, are also loaded with a vast array of lanterns and effects, 60 Par 36, 160 Par 46 and 64 Par 56 polished aluminium Thomas cans, the latter using the economical Q500 lamp, 16 'Tomcat' 20-way birdie battens, plus rings of blue, red, orange, yellow and green neon tracing the tiered circumference, all wired to a total of 75 control circuits.

One last nice little touch to these rigs were some custom-built pan and tiltable mirrors, eight of them on the perimeter of each of the rigs, redirecting beams from pinspots, which were used for random and unsynchronized movement.

To generate really graphic light animations Cerebrum Lighting supplied 14 Amptown 'Posispots' with gel scrollers, six of which are used on the dance floor, with the rest focused onto the stage. There are also 12 Martin Professional 1020 Roboscans, the 700MSR model selected in preference to Intellabeam on cost/performance grounds, some of which are placed so that they can cover the stage also. The noise on switch-on, with both Roboscans and Posispots resetting themselves at the same time, was quite an ear opener I can tell you and not something that you would want to repeat in the middle of a theatrical performance, should the mains to those units have been accidentally switched off meanwhile. But OK for disco, and both luminaires performed well otherwise.

The separate stage rig also carries six 1k CCT Starlet fresnels for Cycs, and 24 Lekos in three different beam parameters, some of which are fitted with gobos, all of which were supplied by White Light. Added to this, there are two Coemar 'Testa' MSR575 followspots mounted in the ceiling, alongside the FOH control booth, under raised platforms to enable the operators to reach them without risk to the public. There is also a small semi-circular rig above this control point to carry the Posis and some Par 36 and 46 fittings and yet more neon with magenta and violet added.

I counted over 300 control channels, including 'intelligent' control, although this may have been reduced a little by last minute economies. Virtually all of this was handled by an ALS Enigma, which was also running Martin protocol to the Roboscans. Though Brill and Large were not totally satisfied with this latter function when we met, I have been told subsequently by Cerebrum, who supplied the unit, that any quirks were being corrected forthwith.

Needless to say, with such a complex system a specialist was needed to carry out the programming, and the ubiquitous Carl Dodds was on hand for a week after handover carrying out this task. Dimmers are 12 Mode WU16DMHP, 16-channel DMX512 compatible packs, and one similar non-dim power pack.

It wasn't until the very last minute that the client panicked and decided in favour of installing a laser, just in case the aforementioned wasn't enough! Laser Grafix subsequently replaced an Argon system provided on loan, with a full 4.5W Purelight seven colour system with Prisma controller.

The beam table, which was especially adapted to give a 140 deg. output, instead of the more usual 45 deg., because of the width of the

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6 x Green Ginger Micropack 510 DUK, 6 x 10 amp dimmer, analogue with 12 x 15 amp sockets	price on application
6 x Green Ginger Micropack 310 BSH, 6 x 10 amp dimmer, analogue with 6 x Schuko sockets	price on application
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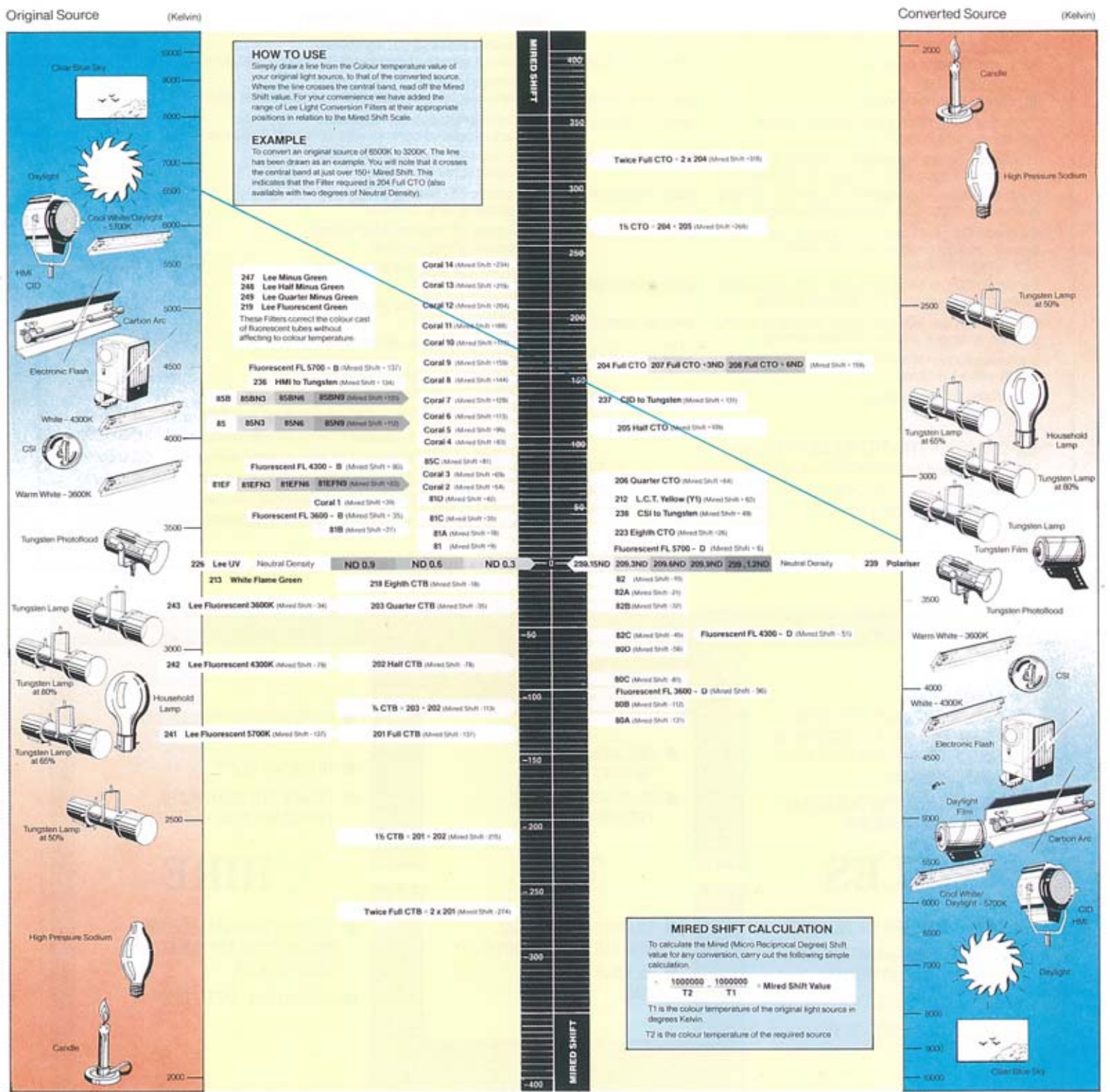
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room, is installed at the back of the stage in one of the neatest and least obtrusive configurations I have seen. This was achieved by only exposing the beam table, while the laser and all the supply equipment is concealed behind the rear stage wall, linked only by a fibre optic feed.

"The graphics look three dimensional with the interaction of smoke from behind the black gauze screen," says Laser Grafix' Mark Brown, "and the room comes alive with beam sculptures with our comprehensive mirror kit which includes ten motorized down beam effects, six diffraction gratings, four expansion mirrors and 12 fixed 'beam zap' mirrors." Smoke is provided by a Jem Smoke 'Detector' system.



Sound Power - The Base non-performance sound racks by Kelco. The stage PA has its own.

The specialist lighting and sound contractor appointed by the lighting designers to supply much of this equipment, and carry out the installation, were Kelco UK who are based in Manchester. They pre-assembled all the rigs at their workshops forming the trunking to shape, installing the wiring and termination boxes, and all the G clamps (and safety chains, I assume?), plus all the fittings and plugs to enable testing. These were then broken down and sent to site in kit form to be connected to the on-site wiring which was being installed in a parallel operation by another of their crews.

"When you consider 365 'Sparklites' in random formation, all wired in steel conduit and each one with a plug and socket, it gives some idea of the scale of the installation," Kelco's Dave Kelland told L+SI. Kelco were also responsible for other 'specials' such as converting the Terrastros to fire upwards and building the articulating mirrors, as well as constructing the ceiling central hub. They also designed the control console, before it was beautified by the interior designers, though this was a point of some contention as it changed shape five times and position four times!

"Actually the same happened with the bass bins, the DJ truss, the stage PA and the attendant audio rack, all of which moved location four times, the latter ending up mounted two metres in the air," Kelland told me, ever so slightly exasperated, "and halfway through the job we suddenly had to allow for a false ceiling, which meant dropping everything 175mm."

Kelco also supplied and installed the sound systems of which there are three: dance floor, stage PA, and background music. Like Brill, they were also responsible for other sound systems within the complex.

The equipment list for the discotheque performance and dance floor systems is based

on JBL speakers, always a sound (whoops) choice in my book, and a combination of C-Audio and Amcron amps. Mixers are Cloud CXM for the disco and Soundcraft 24 channel for the stage. A full list appears alongside this article. Background speakers are Bose 102s.

There has been confusion all the way through preparing this piece as to whether the subject of the article is actually called 'The Base', or 'The Bass' as in Maurice Brill's specifications and drawings. Though I know from the evidence of my own eyes the correct version, I am sure nonetheless that 'The Base' will be making a big noise and a big impression in sleepy East Grinstead and that we will hear more from the technical design and install team who were responsible for the finished result ere long.

The Base: Equipment List

Main and BGM Systems

- 1 x Cloud CXM modular mixer six music modules, two microphone modules
- 2 x Technics SL1210 turntables f/w stanton 680EL carts
- 1 x Carver TLM 3600 multi CD player
- 1 x Carver PST15 cassette deck
- 1 x Dual XLR microphone input socket plate
- 2 x Beyer M300 TGS microphones
- 1 x EMO CR6 remote switcher
- 2 x XIXIN 34u racks 'en suite' f/w 12 cooling fans and containing:
 - 2 x Citronic SPX3-51 compressor/limiters
 - 2 x BSS FDS 360 electronic crossovers
 - 3 x Citronic SPX7-21 graphic equalisers
- 1 x Bose 102c Controller
- 3 x C-Audio RA3000 amplifiers (mid, top)
- 2 x Amcron MA2401 amplifiers (subs)
- 3 x Mustang A280 amplifiers (background)
- 1 x Mustang A140 amplifier (background)
- 1 x EMO CM6 switcher
- 2 x EMO CS6 switchers
- 4 x JBL 4756A mid/tops
- 4 x JBL 4785A subs
- 51 x Bose 102F ceiling loudspeakers
- 6 x Mustang R.V.C.
- 2 x Bono room mates
- 6 x Little Lites
- 8 station A.S.L. Intercom System

Stage PA System

- 1 x Soundcraft Delta 24-4-2 FOH desk
- 1 x Soundcraft Delta 24-10-2 on stage monitor desk
- 1 x Kelsey stage box and multicore (custom fitted into dip trap)
- 1 x Carver PST15 cassette deck
- 1 x TEAC Tascam DA30 DAT machine
- 4 x Samson RX3 radio mic receivers, flight-cased for use in either stage or console location
- 4 x Samson CH2 hand held radio mic with EV757 n/dyne heads
- 2 x Yamaha SPX900 FX units
- 1 x XIXIN 40u equipment rack f/w six cooling fans and containing:
 - 1 x Citronic SPX3-51 compressor/limiter
 - 1 x C-Audio 2 x 31 graphic equaliser
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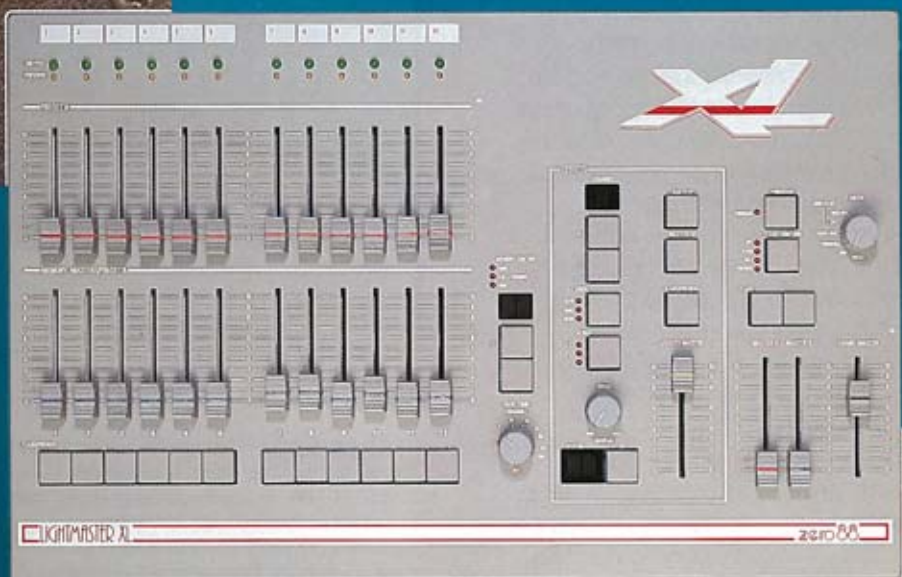
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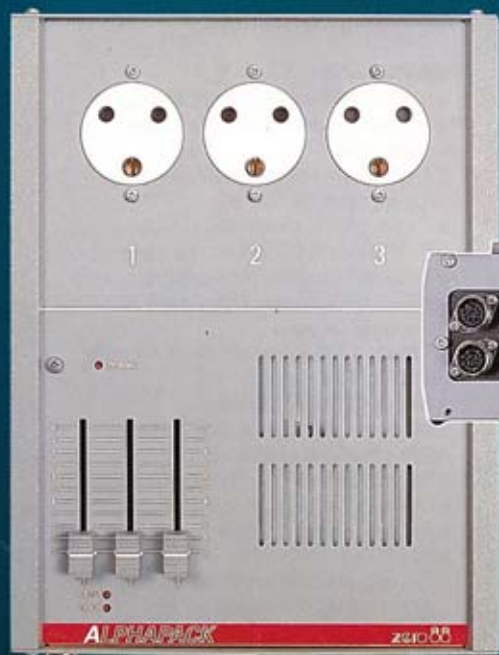


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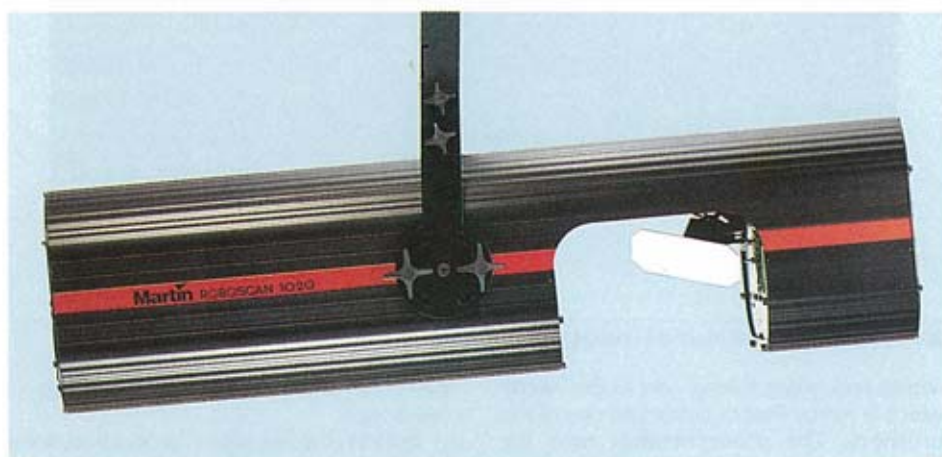
A LIFE IN THE DAY OF THE HOUSE OF MARTIN

Tony Gottelier asks how a small Danish manufacturer of smoke machines acquired intelligence and showed both the Italians and the Brits a thing or three when it comes to smart projectors.

When Martin Professional from Denmark announced at LDI '91 that they have sold 20,000 Roboscans in just over two years, it not only raised a few eyebrows, but all of a sudden everyone became aware that this was a force to be reckoned with. The announcement had its calculated impact. And then, in parallel, and by a brilliant piece of lateral thinking, they launched their assault on the live touring market by offering all their projectors cocooned in flight cases and, ready to go: the boxed set, instantly ruggedized, at the same price. You couldn't fail to admire such inspirational marketing.

It has been a matter of some obsession with me as to why it is, following the last economic debacle in the late 70s, when we Brits first lost the initiative and acceded the mantle of the world's SFX lighting epicentre, that UK manufacturers for the most part have simply thrown in the towel and let the Italians get on with it. That is to say, projection and projected effects had always, until then, been our Gladstone bag. The new generation of so called 'articulate' luminaires, though I prefer the term 'articulate' which seems an altogether more accurate description, are nothing more than fancy projectors. Thus was a small industry of great invention turned, by the shortsighted politics of the time, into an importer of other people's inventions. Of course Tasco tried, and didn't seem to get far, with Starlite and now there are hopes for Optikinetics' Solar 575, though this does not have mechanical animation as yet.

Jingoism to one side, what is disturbing is not just missing the last boat, but that we will never get back on board at all, and thus completely miss out on the next great leap forward. For the moment we have the electronics, but for how much longer as microprocessors get more and more powerful and less and less expensive. It may well be possible, once again, for dedicated university students to produce very sophisticated control systems in their own front rooms. Others who started out in just that way two decades ago, now develop the control electronics to



20,000 Roboscans sold, according to manufacturers Martin Professional.

drive Latin designed mechanics and optics. Plus ça change, Richard Thornton-Brown and Paul Mardon.

Still, now that we are all Europeans it probably doesn't really matter a damn.

Yet, in recent months a new name has been heard loud and clear from off-field, and in only two years a small Danish manufacturer of smoke machines, has not only stole what remained of the limelight from us Brits, but shown even the Italians a clean pair of heels. Martin Professional is skippered by the impish Peter Johansen, who indulges the passion for sailing inherited from his father as aggressively as he navigates the course of his business. I had interviewed Peter for the magazine at LDI, but realized that the only way to find out what was really behind it all was to visit Martin's Risskov flagship headquarters, which I did for a day more recently. How had this previously little-known company, not even a lighting manufacturer two or three years ago, done it?

I suppose I should not have been surprised to find, among the 30 or so passengers on the SAS flight to Aarhus (where? asked the travel agent), in own-badge bomber jackets in the, by now,

instantly recognized, black and red house colours, two other passengers en route for camp Martin. These two guys turned out to be the 'Carl and John' of the company, providing both customer support in terms of initiating and setting up light shows at clients' premises, while also instigating demonstration shows for the Martin showroom and the 1992 exhibition round. Organisers take heed, Johansen promises to make even more noise this year than last!

In the meantime, he is justifying his assertion to have become the world's largest producer of articulate lighting in a little over two years, by brandishing the claim of 20,000 Roboscans, in celebration of which he is planning a move to new 1,500 sq.m offices, which will incorporate the aforementioned showroom to which a massive 250 sq.m will be allocated. Not that there is anything wrong with the existing admin and R&D building you understand - all Scandinavian sci-fi furniture and squeaky clean, no BO only B and O - but it couldn't accommodate the showroom nor the ambitious plans Peter has in mind for the coming months.

This move follows earlier expansion into a 1,700M sq factory in Friederikshavn, a now



Peter Johansen, impish skipper of the Martin lightship.



The new production line at Friederikshavn: 1,700 sq.m factory with planned 1,000 sq.m extension presided over by Peter's father and two brothers.



2032 Controller - most practical control surface for the intended purpose.

almost redundant fishing port in the North, which is run by Peter's father and one of his brothers. The other brother runs the metalwork shop, which is at present isolated from the rest of the operation, having been acquired in a bankruptcy. This will also shortly move to Friedrikshavn in a planned 1000 sq.m extension to the existing facility, which will also include an ultra-modern powder-coating plant.

These visits to the various premises, including the electronic assembly unit manned entirely by the disabled and consequently heavily subsidized by the Danish Government, and the four hour journey to the North and back in the car with Peter, were beginning to give me a clue as to what made this helter-skelter growth possible. Maybe the previous history, garnered in the earlier interview, would complete the puzzle.

In 1977, Peter Johansen was starting out on a career as a recording engineer when he was approached by the founder of the PUK Studio, later used by Elton John and others, to join them to do the editing. As the result of initial underfunding, Peter found himself constructing mixing desks and rebuilding secondhand tape recorders, modifying and updating them. Later when the studio was up and running he got to meet a great many musicians and one of them liked the studio's sound desk so much that he asked Johansen if he would make another one for him.

"So I made a mixer for him and suddenly all the other similar bands in Denmark wanted the same mixer and so we started up a business making audio products, such as mixers and amplifiers," Peter explained. This led them eventually into the disco market to installing equipment under the name of Disco Productions. "Suddenly we needed a smoke machine and I remember we bought the first piece of equipment and on the opening night somebody slipped and burned themselves so we thought we would have to find a way to make our own machines. We sold the Manhattan Fogger from England while we spent some time at home developing our own system." (These days Martin fog machines, of which there are three models, claim a unique system to overcome the endemic problem of clogging. While the auto-reversing pump leaves the element cleaner than would otherwise be the case, the heat exchanger is readily dismantled for self-cleaning after the

eventual and inevitable build up of sediments.)

In 1981, the first year of production, some 700 DP Foggers were sold in Denmark alone. This success tempted Johansen to follow the example of his Viking forebears and look further afield for sales expansion. So in September of the following year he packed his bags into the longboat and set out for the BADEM Show, forerunner of the PLASA Light and Sound Show, at the Bloomsbury Centre. From this he started to make a few international contacts and eventually, in 1984, he was to meet, in the most unlikely circumstances, the man who through a quirk of fate was to have the single greatest influence on his future business, though, of course, neither of them knew it then. At the time Gerard Cohen, now owner of US lighting distribution company, Trachoman, was running a small business in France called BSE, selling hi-fi loudspeakers under the name of Martin. "I met him one evening through a friend in a Danish speaker manufacturer, and he asked me what I was doing. I told him I made smoke machines and he thought a smoke machine was something that removes smoke from the atmosphere to clean the air. Anyway, he came to see my factory and after I explained to him that the Fogger was used as a special effect in discos, he took one home. It was sold after a few days, so he ordered two more, then three more. Suddenly, within six months, he was selling hundreds of machines in France under his own brand name Martin." The rest, as they say, is history.

In fact, by a convoluted route, this was the start of the company known today as Martin Professional. Suddenly Cohen announced that he was leaving France for the US with his entire family, a very brave decision apparently taken with very little capital, even less English, and at a time when the discotheque market, at least, was in savage decline. In fact, disco was already a dirty word. Nevertheless, within six or seven months 80% of Johansen's production was going to Trachoman, the name Cohen gave his American company, but the products were still being shipped under the Martin badge. "At this stage we realised that we were very dependent on each other and this close relationship has continued to develop ever since. In a way, you can say that we are partners but without any formal partnership."

In the meantime, there was a hiatus in 1985, when Johansen sold Disco Productions to some private investors who succeeded in driving the company into the ground inside seven months. So Peter bought the assets back from the liquidator, starting again this time under the Martin name which over the years had passed from Gerard Cohen, through a joint stewardship and nowadays to his sole property.

Now it was time to think about expansion and Peter came to the conclusion that as making smoke machines had its limitations a little re-positioning was called for. "People can get excited about brilliant lighting, whereas foggers are just a necessary tool," was his wry comment. Unlike other similar companies, who have moved on to different special effects, Johansen saw his company's main asset as the ability to design and produce control electronics, having previously developed a computerized sequential smoke control. "We looked around the marketplace and came to the conclusion that there was a big hole in so-called intelligent lighting, because it was all too expensive, particularly the controllers." Considering that this doesn't take account of the fact that they had no prior knowledge of optics, or the software necessary to control stepper motors, or that they developed their own data protocol rather than use the industry standard, I think that this is making light of the task somewhat, if you'll excuse the pun. Although it is always easier to follow someone else's original pioneering development, this was no mean task and it took two years before, in 1989, the first Roboscan was unveiled before an unsuspecting public.



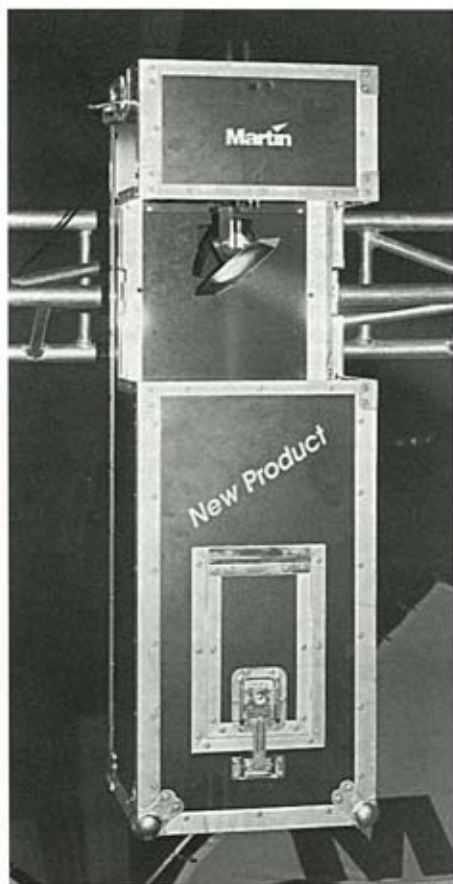
Finn Kallestrup: 'Electronic genius behind the Martin name and Peter Johansen's madcap ideas'.

An enormous amount of the credit for this achievement must obviously go to Finn Kallestrup who is the man responsible for all Martin's R&D. And Peter Johansen is not slow to offer praise, where due. "Without Finn none of this would have been remotely possible; he's the electronic genius behind the Martin name and he's the one who has the daunting task of converting my madcap ideas into reality." Naively, they named their new baby after the two most successful units already in the field, Robo (for the Robot) and Scan (from Golden Scan). There followed a bewildering series of Roboscan models from the low to the high end, the eeny, meeny, mighty mo of the advertisements, all less

expensive than the competition, culminating in the 1200MSR model introduced at LDI last year. Also there were two controllers, the budget 2208 which could, nevertheless, program and control eight Roboscans or other similar devices or 128 dimmer channels; and the 2032, really quite a sophisticated unit, capable of handling 32 of the smart projectors or a combination of those and up to 256 dimmer channels and with the simplest but most practical control surface for the intended purpose I have seen. For these purposes they developed their own protocol which, without going into great detail, has the benefit of simplicity, and like DMX512 is based on RS485, though using a different baud rate and transmitted data. Some in the industry might have doubts over the security of the 'send and forget' principal used, but interfaces to analog and DMX are available.

In the meantime, various more standard products emerged, Moon and Star effects, but all based on similar principals and using dichroics, gobos and projection lamps. Then came Robozap, basically the old faceted mirror trick in a self-contained package, a product which happened by accident when a stray beam from a Roboscan hit just such a mirror in the development lab. Now they also have Robocolour, a dichroic colour changer based on the 250W 120V ENH Halogen lamp, with gobos and shutter added.

Johansen says that his secret for keeping costs down and under-selling the competition, is to make a small number of different high volume products where each product shares the same components. In this way he is able to buy parts, such as stepper motors, in big quantities and pass the benefit on to the customer. Also this enables him to run a dedicated production line for each item producing substantial daily quantities of each. At the same time, through efficient working, assembly costs are kept to a strict percentage of the selling price, and the fact that this is achievable, despite high labour rates and social security in Denmark, must be something for UK manufacturers to note. Indeed, Johansen claims to be able to make Roboscans cheaper than the Taiwanese and



Boxing clever - Roboscan 1200 MSR, flight-cased and ready to go.

he has proved it since the Chinese copy is already doing the rounds! "Basically, we treat the products as Lego, making different models from the same kit," is how he sees it, "and we don't operate JIT, we have found almost-in-time to be much safer, so we always hold three months stock of all parts." This latter strategy has also enabled Martin's policy of a 'no quibble' guarantee, where they promise to immediately replace a part or product - within 24 hours on site in the UK - through one of their dealers somewhere. "If the national dealer is short we will move it from somewhere else."

In the UK, which is probably the most price

sensitive market, Martin Professional have paid off their original distributor and set up their own company under Ian Kirby, thus eliminating one level of margin which must also be beneficial to their marketing strategy.

Other contributory factors to the Martin success are undoubtedly the Danish Government's willingness to support long term export credit, which enables the company to ship everything on open account, once a distributor's credit line has been agreed with the appropriate authority. So perhaps high tax levels can pay off. Another factor is the timing of Martin's expansion, good luck Peter would say, but then all businesses need that. Introducing new, low cost products into a recessionary market can have its advantages, in that if you get it right you have nowhere to go but up. And other things get cheaper: property, for example, for the new factory and offices; plant also, the presses and metalwork machinery resulted from bankruptcies, as did the new finishing equipment soon to be installed. "We used to have everything sub-contracted until our supplier of heating elements went bust and I asked my father if he would take it over," Johansen commented. "Now we do virtually everything in-house and it has great cost benefits. Also it means that we can send a drawing by MODEM in the morning and have sample metalwork back in R&D by the same afternoon."

So it would seem that a combination of macro-economics, inspired marketing and blind faith in their own ideas and abilities is what makes Martin Professional tick so loudly. Raw guts would be another way of putting it. You could say that their 'success comes in s'cans not in s'cannots. The kind of courage and risk-taking one would expect from a born seaman who, in yet another adjacent factory unit, is indulging his obsession for wet racing by hand building what he claims to be the fastest competitive inland water sailing boat afloat. And he claims that with sponsorship, from Pampers of all people, that the project will probably make a profit over the season. With all I have seen and heard of Peter Johansen I am not about to argue.

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NIGHT OWLS, DUBLIN

Ruth Rossington reports on the specific use of laser in Ireland's newest nightspot

Des Wootton's Night Owls club must be one of the best equipped in Ireland, but then he's had time to think about it and get it right. He's owned the successful Richard Crosbie Tavern in Dublin for over 20 years and has wanted to use the large upper floors for a nightclub and restaurant for the last 18 of them. It took nearly that long to get the various planning permissions, authorisations and licences, but a long-held ambition was finally realised when Night Owls opened in January.

With such an extended period in which to contemplate the trappings for the prospective club, products must have come and gone, and designs and ideas gained currency and subsequently been lost to the dictates of fashion with an alarming turnover rate. Many might envy Night Owls' gestation period which has afforded Des Wootton the time to literally travel the world searching for the right combination of design ideas to suit the Dublin locale.

From the very early days he worked closely with Jon and Zandra Feast, now directors of Leisure Services UK, in designing the project, which was to include a laser array from i-Laser of London. A sound and lighting design and specification was submitted, with the lighting scheme including some standard product as well as a number of custom-designed and built lighting effects, together with a Turbosound

sound system.

A suitable supplier was sought and after much negotiation Light and Sound Distribution in the form of Ian de le Vingne and Myke Lavelle (also now directors of Leisure Services) were brought in to fulfil the role.

The club is divided into two areas, each with a dance floor, with the option for separate or combined use. Central to these areas sit both the DJ and LJ booth, with the sound and lighting control behind, and the Image Synth v.2E laser which serve both dancefloors. Above and around are a whole host of eating, drinking, and be merrying add-ons that are part and parcel of nightclub furnishings. There's even an a la carte restaurant to cater to more sophisticated tastes.

As already mentioned a laser display system was considered central to the lighting design but for i-Laser there were certain difficulties to be overcome first. The laser needed to be more than a match for the low ceiling heights and the two dance floors at opposite ends of the building, added to which it had to have a high degree of accuracy to make complex beam geometrics over a relatively long distance. The lighting rig had to be vertically compact, again because of the restricted ceiling height, and the sound system had to prove itself capable of producing high pressure levels across the full range on each of two dance floors, while

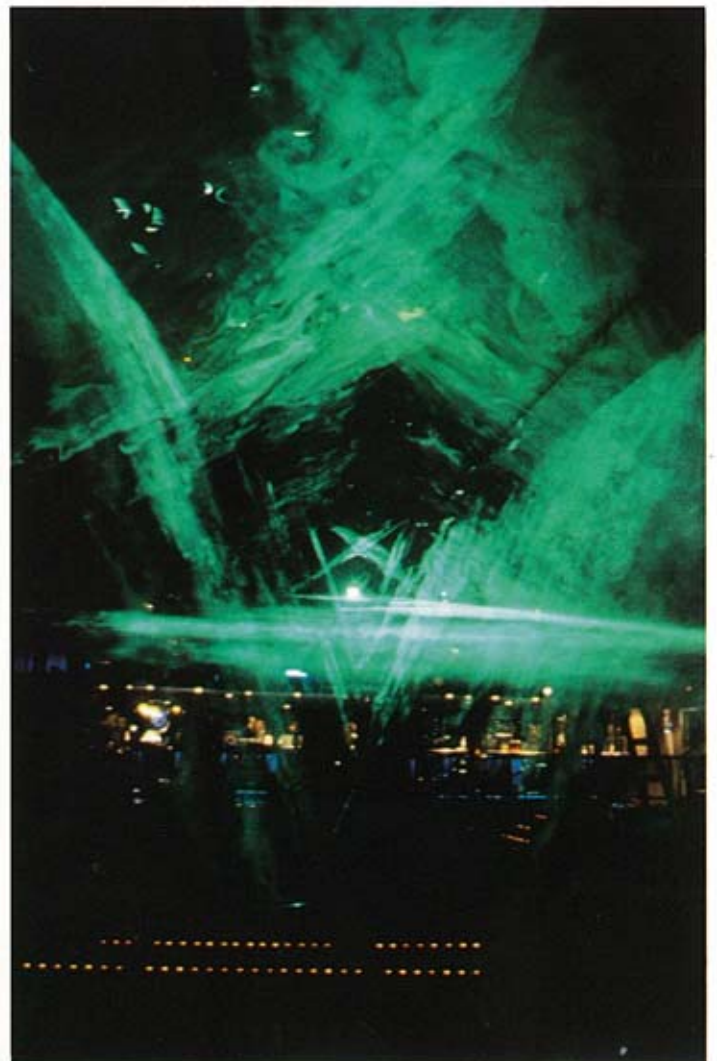
allowing the punters to return home at night with vocal chords still intact. The laser system was also required to be upgradeable to full colour with the addition of fibre optic remote scanning heads placed around the venue and on the roof to send sweeping beams across the sky (despite the interminable delays with other authorities, the CAA approved this immediately). These upgrades were to simply bolt-on with no redundancy of equipment, and minimum time and cost penalties.

So did the planning match the reality?

For the sound system Crest amplification works in tandem with Rane graphic equalisers and BSS active crossovers. A core of 20 Turbosound TSE loudspeakers provide the high pressure on the two dance floors with extrasub-bass TSW units on the large dance floor. JBL Control 1 speakers fill in the background, and if you stick your nose in the DJ console you'll see a Formula Sound PM 80 eight channel mixer and CX4 Guardian being put through their paces. As far as the sound system goes it's possible (with the limiters off) to rupture your diaphragms on the dance floor while still allowing some sotto voce seduction, if that's your bent, at any of the stylish bars. It's not difficult to order a few pints of Guinness either, but that's another story - if only I could remember it.



The main dance floor and argon laser.



The main dance floor and inverted pentagon.

On to the lighting. As with the sound and laser systems (more of which later), independent or dual control is provided from one centrally-placed DJ console via Light Processor Commanders, interfaces and power packs. The lighting equipment specification for the larger dance floor reads like a who's who of the effects industry, and if, like me, when you go to nightclubs you spend the better part of the evening ignoring the all too close hoarse whisperings and BO invasions of your companion, and (neck craned) examining the lighting and sound equipment, you'll come across a veritable cornucopia.

Several hundred Par 36 pin spots pick out a stylised clover leaf pattern on the lighting rigs which are further embellished with neon lightning bolts, strobes, Arcline and ultra violet tubing. The focal points are provided by Soundtech 12 head and 40 head harvesters, Fal Blow Stars, Aligators and Light Flowers, ProgramSistem Aliens, Clay Paky Astroferras and Astro Spiders, and Lampo Wheeler Discs.

The large dance floor is also blessed with 16 ColorPros with the usual dedicated controller. The smoke machines, in this case Le Maitre Optimist units are ceiling-mounted, and operated by remote control, with the mirror balls and laser targets fractionally below the rig following the contour of the folded ceiling.

The main idea behind the use of two dance floors is to allow the operation of the club on less popular nights using the smaller floor only, while offering more variety and interest when the two floors are open together.

When it came to the choice of laser system, the most obvious solution lay in two separate lasers to service each dance floor. However, i-Laser felt this route to be a waste of money and came up with a customised, centrally located system which scans from either side.

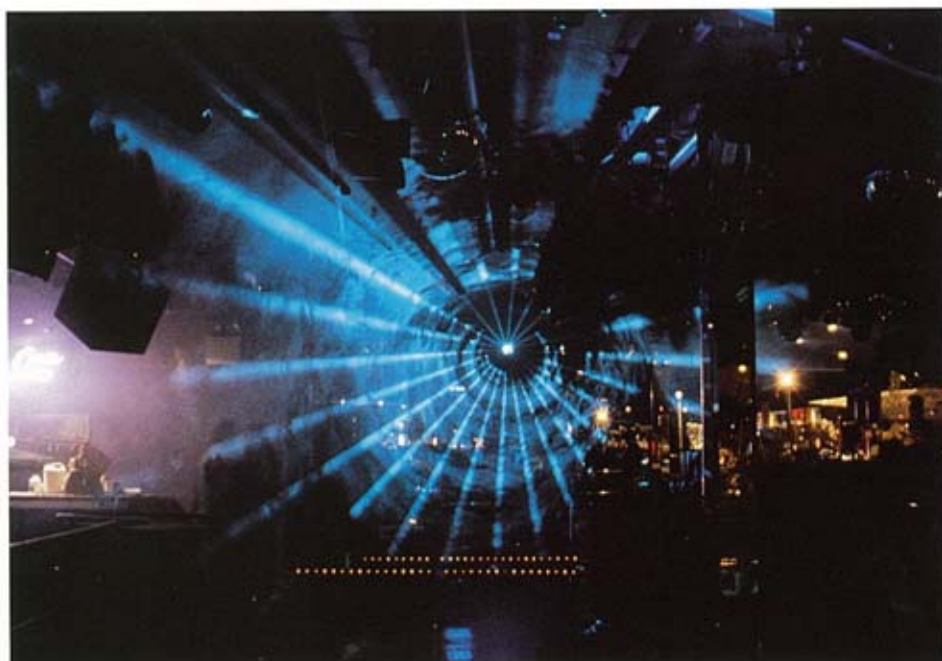
A Spectra Physics 2011 Argon laser was selected as the laser source, guaranteed at the standard five watts optical power but typically producing over seven watts. These lasers have no space between the tube itself and the mirrors at either end that are required to amplify the laser beam. As contamination of this space with airborne pollutants is one of the main causes of laser failure, this helps make the model 2011 laser particularly suitable and it will often, apparently, exceed 5,000 hours at full power.

The construction of the laser head, engineered using triple invar rods, results in stability which maintains the mirror alignment, even when subjected to kilowatts of noise. This means that the laser, if optically tuned for maximum power on set up, should keep chucking out high intensity light throughout its lifetime.

Another very important factor in the choice of



The Image Synth v.2E laser controller.



Another view of the main dance floor.



The small dance floor.



Small dance floor with twin-scan argon laser.

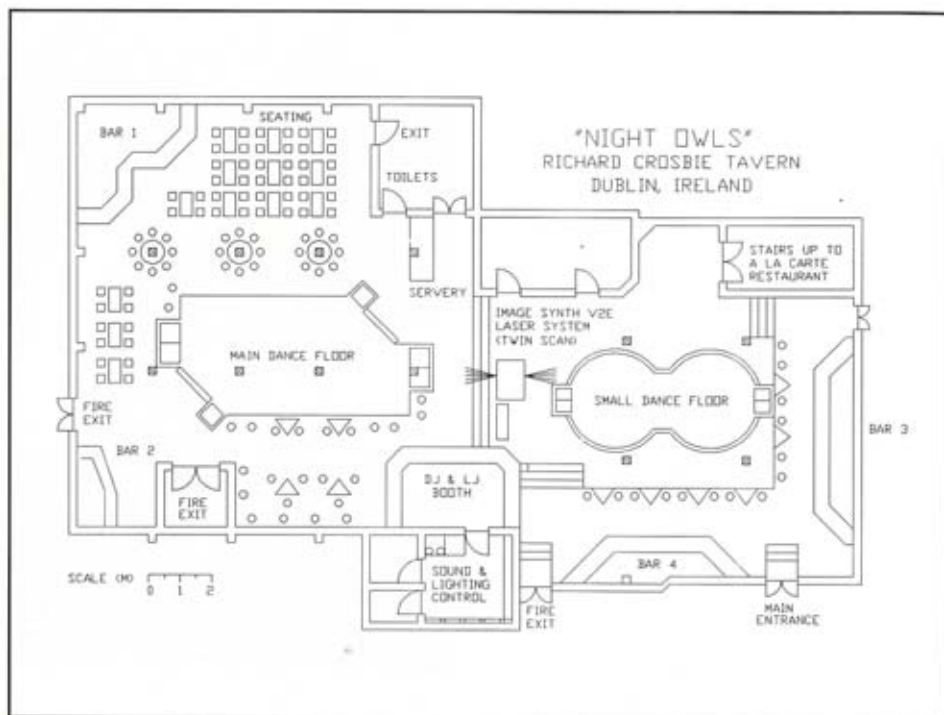
the laser was the requirement to upgrade the system to full colour at a later stage with minimum cost and inconvenience, and to produce the high power needed in a large venue. When a model 2011 krypton laser (red) is bolted-on in tandem with the Argon (blue/green), eight or nine watts of full colour (white) laser power is theoretically available (256 colours with an Image Synth laser system).

Moving on to the control system for the laser, the Image Synth v.2e was the prime choice. The computer is a bus-based industrial type that apparently won't lock-up in even the most adverse environments (the development team at i-Laser are experienced with mil.spec systems and reckon the club environment approaches a similar level of hazard for computer equipment as that of aerospace and non-nuclear battlefields. And there was I thinking nightclubs resembled the more mundane quarters of the cattle market - must be the company I keep.)

With 512 modules to choose from, all of which are re-programmable, and multiple levels of modulation and automated control, the Image Synth is hard to beat on functionality. As it was designed for use in corporate as well as leisure markets, it's not surprising to find that its graphics quality is extremely good. i-Laser have also developed a special scanning system which they claim moves the laser beam ten times faster than the 'norm'.

A special consideration at Night Owls was the need to hit compact down-range targets such as cone spinners and sweep sheets, along with complex mirror geometrics over a long distance. This required full 12 bit system resolution along with temperature stabilisation of both the scanners and the scanner drive amplifiers.

To take advantage of the high beam-pointing stability of the laser and high accuracy scanners,




A schematic of Night Owls' interior layout showing the two dance floors, together with the central positioning of the laser and control consoles.

the laser 'bed' or scanning platform that holds the laser and its colour-changing and scanning optics in alignment is constructed from precision engineered aluminium alloy, anodised in black to prevent stray reflectance. At Night Owls, because of the low ceiling height and attendant safety considerations, the entire system is mounted upside-down on the ceiling to gain maximum height with good access for set up and maintenance. The masking is a combination of

opaque and 50/50 beam splitter so that beams below three metres can remain safe. In addition, the laser beam has been expanded which further increases safety by lowering the energy density. A further benefit of expanding the beam is that the divergence is lowered.

Despite the technical talk the bottom line is that it all makes for good entertaining stuff, and Des Wootton for one must be glad he took his time.



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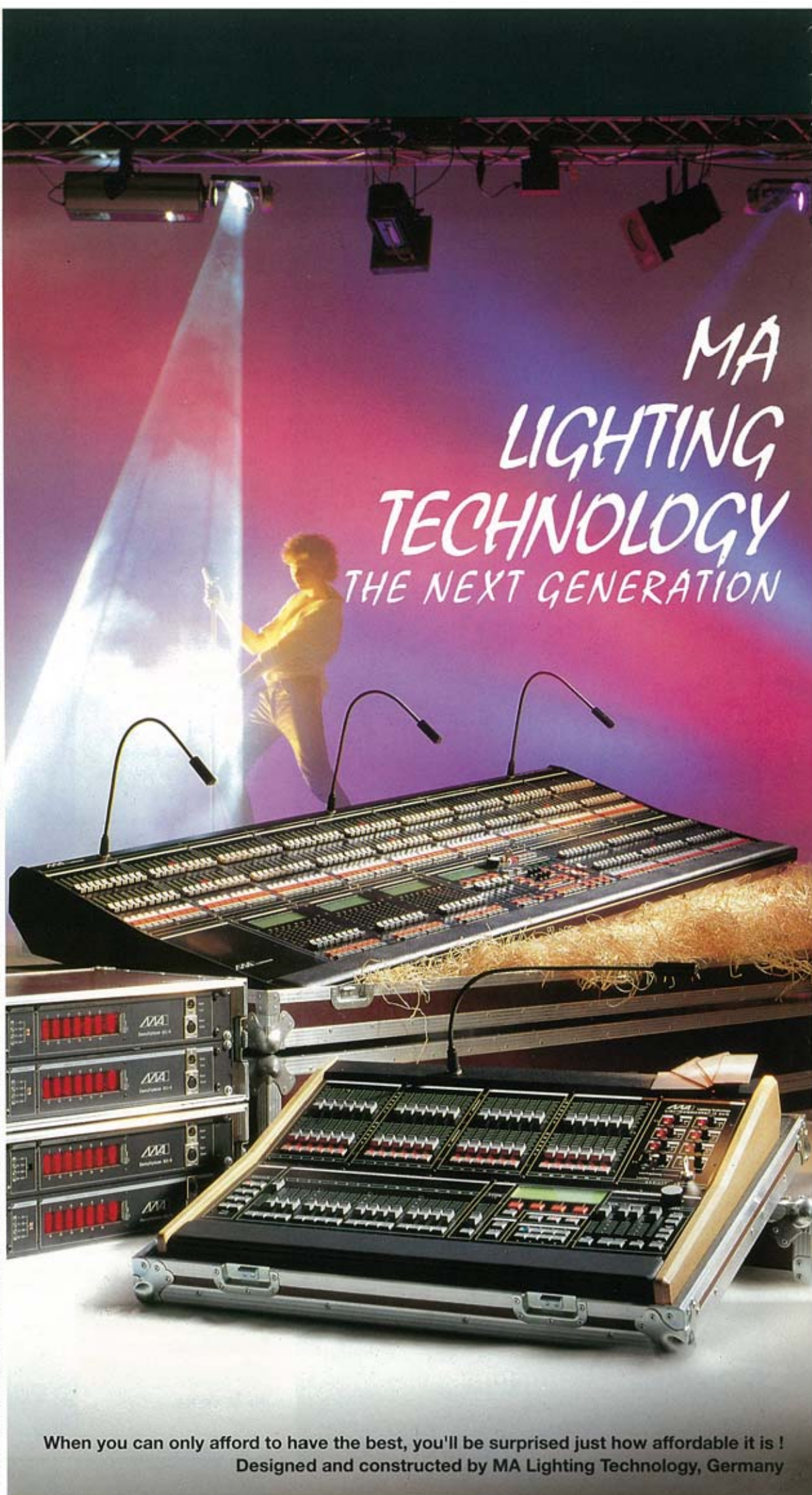
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OUTDOOR EVENT '92

John Offord went to Wembley to sample the second national exhibition for organisers of outdoor events

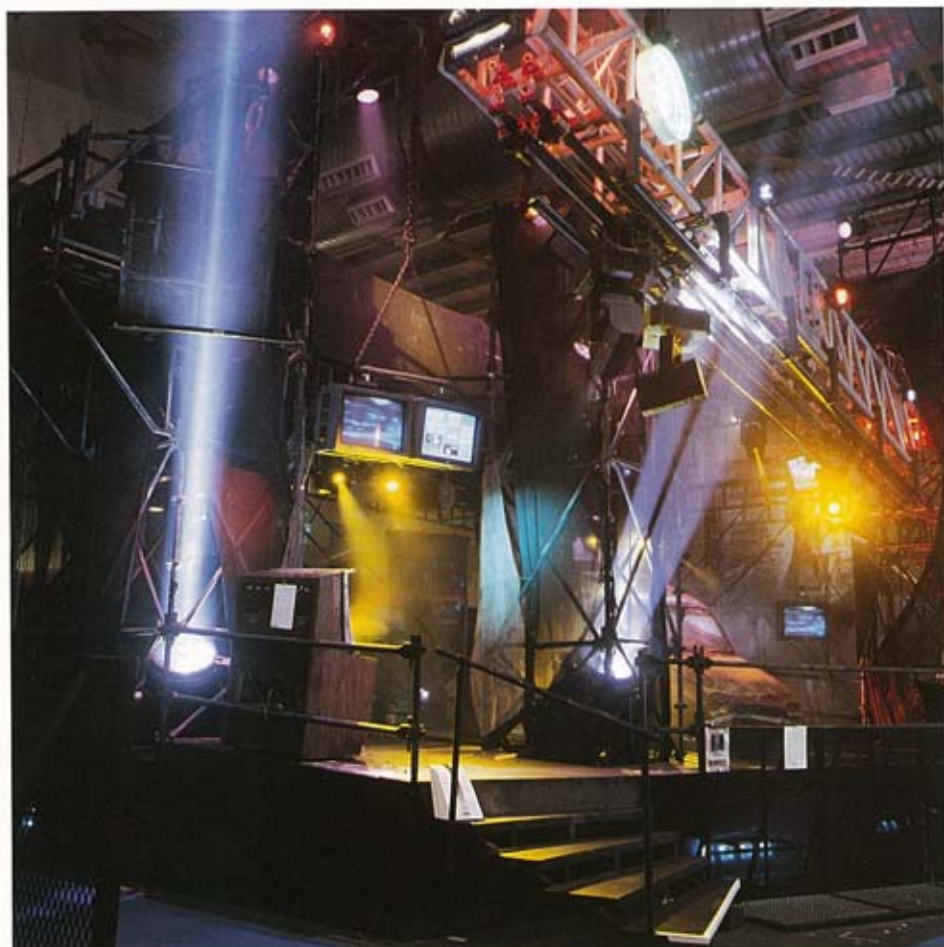


Part of the Northern Light stand.

Edinburgh and Glasgow-based Northern Light were the only member of the light and sound brigade who exhibited here in 1991 at the start-up event. Naturally, as soon as one sharp-eyed operation takes a lead, others follow - quite often to the good of all. So lighting, sound, concert, laser and firework outfits arrived this year to liven up Outdoor Event 92, joining in with flying pigs, hospitality tents, security firms, Alton Towers, Andy Loos, Old London Buses, Scunthorpe United FC et al.

It wouldn't have been much good for companies offering only a product segment within live entertainment presentation. Organisers of shows, more often than not, want a package, and most companies from our industry at Outdoor Event ganged up to offer this sort of service.

Not the largest stand, but certainly most 'active' was the centrally located one that combined the talents of GLD Productions, Screenco, Edwin Shirley Trucking, Arrow Rigging & Technical Services, Mojo Barriers and the Lighting & Sound Division of Samuelson Group. Split the Samuelson bit up into its four parts and



Guy Rose and Oliver Watts designed the stand for Edwin Shirley Trucking that also incorporated presentations from the Lighting & Sound Division of the Samuelson Group and Arrow Rigging.

photo: Oliver Watts

you had a total of nine companies on one stand.

As far as product was concerned, seven Vari*Lite VL4s and 11 2Bs were involved and a gang of these were tracked by Arrow on two of their Camtrack systems. (Those grand prix overhead close-ups you see on television come courtesy of Camtrack-rigged television cameras that wizz along the length of the pit-stop areas, out of harm's way, but right in on the action.) There was the Sky-Art searchlight system too.

Jonathan Allen of Northern Light reported on the excellent quality of visitors. "There are very

few casual punters," he told me. "However, in no way is the show technician orientated. We are seeing local authority leisure bosses and the like." Northern Light can offer a wide range of support services for the presentation of entertainment events and although their two bases are north of the border they are well used to making forays into any part of the UK. A good background of experience from major events such as the Edinburgh Festival and in-depth theatre and leisure installation work is proof of their wide-ranging skills.



Julian Baycock and Mark Buckingham of Stage Electrics with the company's new mains distribution system.



Gruesome variations overhead at Outdoor Event 92.



Hall 3 at Wembley: the Star Hire stage entrance is in the background.

Across the gangway Playlight, who have driven generator trucks to Moscow and supplied lighting and sound equipment for such people as the Sultan of Oman, have years of experience in setting up and serving both live entertainment and television almost anywhere, and on demand, from a huge hire stock based on three UK centres, in Manchester, London and Birmingham. Here they were doing a double act with Laser Hire of Birmingham who in turn were presenting in tandem with Midlands Electricity. So, if it's your stately home, castle or garden (or

anything else) you want brought to life you could take one, two or all three elements from stand 77a.

Star Hire's fully equipped mobile and weatherproof stage was about the biggest single thing in the show, and housed the skills of both Chameleon and The Spot Co. They offered 'millions of watts' worth of state-of-the-art equipment in an out-of-Ealing package of lighting entertainment technology - both for sale or hire. Control systems and representative equipment was there to prove the point.

Stage Electrics of Exeter and Plymouth launched their new Mains Distribution System and had their CAD event planning system on screen. Based on ModelShop from Mackintosh the company claim a 'first' for its application for event planning.

They've been using it for some time back at base to aid their own planning and customer service, but I can happily report back that their decision to 'go public' is a good one and based on proven experience. I got the hang of it very quickly, and that alone is an excellent recommendation. Stand leader was Graham Puxley, and he reported interest in their equipment from many event organisers and a few health and safety people from local authorities - a strong hint here for the future that you'd better begin to take notice of the rules and regs when these chaps are out on the street learning up on their latest misses.

I left Graham Puxley in the company of PLASA Standards Officer George Thompson who'd come down for a seminar. They'd got to talking about bar coding of equipment, so I headed off to look for the stand of London Marriott Special Events where I'd been told Mushroom Lighting had looked after the lighting in turn for a regular supply of food and beverages. Smart stand, smart food.

Laserpoint had their Pixelite monitor based videowall showing on the stand of FAST Structures and Sarah Bradford reported that both companies had been pleased with the level of enquiries received. Keith Webb, Colin Freeman and Wilf Scott were manning the Le Maitre Fireworks stand, ever ready and willing to talk to the special event organiser looking to go for the big bang and pretty lights.

It was interesting to note that there was only



The Northern Light team (left to right): Ken Christie, Glynne Dewar, Gordon Blackburn, Mike Smyth and Jonathan Allen.



Keith Webb and Colin Freeman present Le Maitre's new brochure.



PLASA's George Thompson (right) with Graham Puxley of Stage Electrics.



Lee Frankcom of Vari-Lite with Carol Welsh of Theatre Projects.



Mike McMullan, Tim Coles, Barry Hampson and Jeff Demain (left) of Playlight with Gail Fletcher, John Kersley and Andy Lancaster of Laser Hire.

one company (B & H Sound Services Group) singularly offering public address systems, although some organisations present, including the PLASA members mentioned, had PA equipment as part of their package. Maybe next year the sound boys will be following hard on the heels of the lighting people.

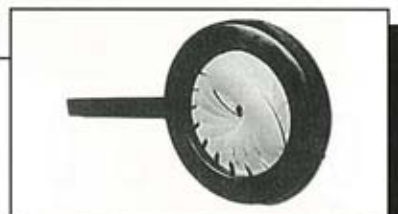
The show had a 'quiet' feel to it - by numbers, I mean - but in this game one good contract from a major client can mean it's been worth attending, and all the exhibitors I spoke to were philosophical about it all and quite content to

wait for the right people to walk onto their stands. The organisers, Touchstone Exhibitions, reported an attendance of 3,283.

The event was sponsored by TESA (The Events Suppliers Association), a new Association officially launched at the Show and which states, amongst other tenable objectives, that it will dedicate itself to the setting and maintaining of high standards. The National Outdoor Events Association, founded in 1979, states very similar aims and objectives. I hope they talk to each other.



Laserpoint's Sarah Bradford with Roger Elton of FAST Structures.



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BOOK REVIEW

Professional Lighting Handbook
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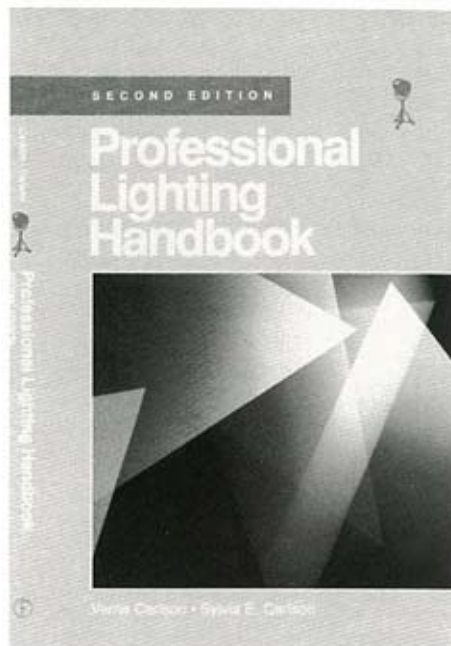
I must admit that when this book landed on my desk, with a request to review it, I was somewhat taken aback. Here was a weighty tome of over 200 pages, which to do it justice, I was going to have to plough through. However, I needn't have worried because even though the book is written in American-speak, it is remarkably easy to get to grips with. That is not to say that it's simplistic, it is packed from cover to cover with useful facts, clearly aimed at the cinematographer and lighting director.

This book does not attempt to teach lighting skills in any way, beyond its final chapter making reference to the various luminaires which would make up a lighting plot, i.e. Key, Back, Fill etc. What it does attempt to achieve is to provide a single reference source on all matters related to lighting. It does this, more than adequately, in my opinion, in a clear and concise fashion.

The Professional Lighting Handbook is broken down into three logical sections, with a chapter devoted to each sub-section. Thus section I is entitled Light Characteristics and Lighting Fixtures, with chapters entitled Elements of Light, The Fixture, Fixture Lenses, Fixture Reflectors and The Lamp Socket. Section II is then devoted to Light Sources, and Section III to Lighting Unit Accessories and Fixture Use. Each chapter is then packed with useful theory and facts, presented in an understandable fashion.

Where this book wins as a 'handbook' is as previously suggested in the presentation of the information, coupled with a very detailed contents listing which makes finding, for example, the facts of 'flickering' HMI's and their consequent interaction with various shutter speeds extremely easy.

In conclusion, therefore, this book is highly recommended, both for the experienced



exponent and the student. For sure a practising L.D. probably knows most of what is contained between the Professional Lighting Handbook's covers, but how much of that practical experience will be better understood following an explanation of the theory behind it?

As for the student, well I feel sure that this book will serve you for all your lighting days, or at least until it is replaced by the Third Edition!

Ian Lake

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ON TOUR

Catriona Forcer

Simply Red

Wembley Arena

L.D: John Dipple/
Mark Payne

Although Simply Red had only been on their Star tour for two weeks when they arrived at Wembley Arena, the stage set and lights had already been through a complete transformation. The tour started with a set that was based around the group's album sleeve for their LP 'Stars' and was nicknamed Desert Storm.

Then Mick Hucknall, Simply Red's flamboyant lead singer, decided that he wanted to change to a black set more reminiscent of a nightclub with a few rave elements added. Extra Parcans and some strobeblowers were added to the lighting system. And this is only the beginning; apparently radical changes to the set and lights will occur throughout the planned 14 month tour.

When Simply Red return to Wembley next summer, you can expect to see a totally different show. The next stage set is currently being planned and it will incorporate plenty of neon and yet another lighting system. Each separate 'look' should be available on a whim. The initial budget for the tour was quite low but, as the album is selling extremely well, a lot more money has fallen into the coffers, and as a consequence is now available.

The designs for the Simply Red tour are the result of an artistic collaboration between three well-known people in the industry. The tour's production manager, Nick Levitt of GP Presentations, designed the stage sets and played an important part in the overall design of the show. He is still developing different 'looks' as the tour progresses and is coping well with the radical changes required by the band.

The lighting system is designed by John



The men behind Simply Red: (l-r) Robbie McGrath, sound engineer, Mark Payne, Vari*Lite operator and John Dipple, lighting designer.

Dipple, who looks after the generic lighting and rock'n'roll side of the show, and Mark Payne who, with his background in opera, is responsible for the more theatrical elements within the production, together with the Vari*Lites. As well as having to frequently adjust the lighting system in accordance with the different required looks, John and Mark have also had to programme over 30 different songs, as the set list changes every night.

No lighting plot is available because of the constant changes that are made, but the rig does include 50 Vari*Lites and up to 400 Parcans. One particularly stunning effect is the star cloth, supplied by Blackout, which isn't used, as might be expected, during the song 'Star', but for one of the group's major hits, 'Holdin Back The Years'.

A couple of times during the show a panel is revealed to display a slide show, most noticeably during the song 'Wonderland'. The slides, in this case of world political leaders, were chosen

by Nick Levitt.

With the original show John Dipple told me he felt a Celco desk would have been most suitable as it was a rather theatrical at the outset. For this part of the tour he is using an Avo desk as well as Avo dimmers.

On the sound side, SSE Hire of Birmingham supplied the tour equipment. The sound system is a 90 kilowatt ElectroVoice MT4 system, and the front of house engineer is Robbie McGrath who is using two 40 channel TAC SR 6000 consoles. Assisting him on the tour is the monitor engineer Steve (Flakey) Flewin who is using a 56 channel Midas XL3 console.

The system is essentially a distributed design, utilising, in addition to the main cabinet arrays, a large stereo delay system, which gives good coverage throughout the auditorium without deafening the people at the front. With the new Health and Safety regulations coming along, SSE is trying some new approaches in order to address some of the problems which the new

Hollywood Rock

Rio de Janeiro

LD: Patrick Woodroffe

After Rock in Rio came Hollywood Rock 92 which took place in Sao Paulo and Rio de Janeiro last month. Lighting designer Patrick Woodroffe was keen to work with Brazilian equipment on the project, provided by two companies - Lucifer Productions of Sao Paulo, and Compania de Luz from Rio. The project manager and coordinator with the Brazilian companies was Steve Nolan of Chromatic Productions.

Woodroffe used 362 feet of trussing with 25 motors and various other rigging to mount 15 Molefays, 530 Pars, ACLs and Raylites, five Super troupers, 20 Vari-Lite VL2Bs, and 18 Vari-Lite VL4s, operated by Dave Hill. In addition to these, four followspots were utilised on stage.

Other equipment in use comprised 18 Mopheus par-size colour changers and a Leprecon LM850 control board, together with three cracked oil machines. Control was courtesy of a Celco Gold Series 2 desk.



Programming for the Hollywood in Rio Festival at the 4:1 Studios in London.



Above, the star cloth backdrop, and right Margaret Thatcher, projected overhead, watches over Simply Red.

regulations will target.

The speaker system features a new drive/control system which utilises a digital crossover system allowing all parameters to be modified under software control, with an Apple Macintosh computer providing the central

processing hub. Room analysis is achieved by a combination of a Sound Technology RTA4000 real time spectrum/RT60 analyser and a Techtron TEF20 measurement system. Room equalisation is via TC1128X programmable equalisers, which are also controlled from the system computer.

Bedford-based Star Hire supplied the StarGrid ground support facility for the 'Star' tour in Europe. A single ground support grid enabled both the SSE PA system and the LSD lighting rig to be flown with a total weight in excess of 14 tonnes.

Joe Cocker Helsinki LD: Robbie Morror

The success of the Rolling Stones Tour of 89-90 set in motion a wave of 60s nostalgia tours. By the end of 1991 every superannuated rock star in Britain and America had been coerced into hobbling and fumbling their way back on stage, much to the embarrassment of those who hold fond and treasured memories of such artistes when they were at the peak of their careers. One only has to remember the calamitous come-back tour of ELO last year, to recognize that publicity and a burgeoning production are not enough to satisfy today's audience, and that performers must progress with the times and produce contemporary and pertinent material.

Joe Cocker, unquestionably a star of the 60s, is not to be lumped in with the financially motivated band wagon jumpers. As an artiste who has continued to perform throughout his lengthy career he has, as was witnessed by an enthusiastic Helsinki audience on the opening night of his latest tour, improved and refined his performance and is now showing all the signs of becoming a classic vintage. The slide show curtain raiser featured stills of Joe spanning the full breadth of his career, from the long hair and mutton chop whiskers of the 'Mad Dog' era, to his slightly less hirsute appearance today. This

set the scene for a man who is neither embarrassed or ashamed of his past (flares and all) but nor is he prepared to rest upon his laurels. A well balanced show, Joe shifted effortlessly from rock to ballad to blues, from the powerful opener 'Cry Me A River' to the gently crafted 'Up Where We Belong' he brought warmth to an otherwise chilly Finnish ice rink. For all his spastic, idiosyncratic movements and thinning

grey hair Joe is not a figure who evokes pity (unlike some of his contemporaries) rather, his presence enhances and gives credibility to the sensation that - caged by inhibition - all emotion is poignantly expressed through that impossible, raw gravelly voice.

The apparently simple lighting rig of four hexagons and a front and back truss actually comprises over 300 Pars, 24 VL2Bs, eight VL4s



Close-up on Joe Cocker.

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Above and right, Joe Cocker fronts the lighting designs of Robbie Morror.

and eight 'on-truss' followspots.

The use of rear projection screens stretched across the 16 feet diameter hexagons, a shape reflected in the white stage set enabled lighting designer Robbie Morror to make strong, emphatic mood changes without compromising his ability to remain sensitive to the song. Although this is not Robbie's first tour with Joe Cocker he has managed to maintain spontaneity, this is in part due to the self-discipline he brings to his work. He is, however, quick to point out that there is a pervading atmosphere of freshness and excitement both within and without the tour. This he attributes to the sure and certain hand of Roger Davies (who took over management of Joe last year), the enthusiasm of the band, particularly Derek Dyer the saxophonist, and the support of the main equipment rental companies, Clair Brothers Audio and more

especially - in Robbie's instance - Samuelson Concert Productions who have gone to great lengths to ensure a good relationship between client and supply company.

Robbie Morror and Show Vision

Robbie first came to prominence as a designer when working for Bryan Adams. Since then, he has divided his time between earning a living as a designer and devoting his surplus energy to developing a custom-made computer design package with his partner Kurt Wagner. Based in Vancouver, Canada, Show Vision Inc. will be offering computer-aided design to all areas of the performing arts.

They already have an extensive library of truss, lamps and colours, along with a spread sheet that will calculate point loads, dimmer loads and cable runs. It's possible to draw your plot in basic 2D and have the software re-draft

it in 3D whilst you are drawing. As well as 3D modelling and the usual ability to download animation onto VHS for presentation purposes, the package also offers virtual beam projection with colour and beam angle, it also calculates and projects accurate shadows from target objects. One of the most exciting aspects of this package is the ability to view the stage from any position, especially useful for truss spots and automated lamps, where sightlines and blind spots can be encountered and rectified. On the subject of automated lighting, moving light cues can be plotted with their associated colours, gobos and beam angles.

Show Vision are looking to provide an industry service, and they will also be giving a two day tutorial with the package, which Robbie confidently claims is enough for even a complete computer novice to master the system. Show Vision can be contacted on (604) 682 3237.

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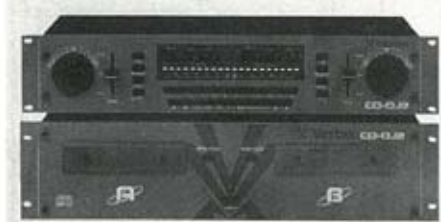
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New Twin CD Player

With CDs now beyond the crossroads of indecision for most DJs, and the record companies intent on scrapping vinyl, the search will be on in earnest for reliable, mixing CD systems. One newcomer to the scene, though no strangers to mixing technology, are Japanese company Vestax who introduce their programmable CD-DJ2 to the European market this month.

Deserving of a more 'pro-audio' profile than their current image portrays, for Vestax offer a large range of audio processing equipment well outside the 'scratcher's' ambit, the company claim that the unit offers the first double suspension system to resist skipping when under hostile conditions.



The unit comes in two parts, both of which are standard 19" rackable, the first houses the twin disc transports and the other hands-on controls. Each disc is provided with a dual pitch control with full +/- 8% or a fine control of +/- 4% to allow beat matching. Jog, dial and scan functions, via a large dial, give access at speed and adjustments to the critical timing as required, thus scratching and cutting are possible.

It is also possible to preselect up to ten tracks from the two discs for a continuous music programme and a large LED display monitors what is going on at any time. For further information contact Vestax (UK) in Haslemere, telephone (0428) 653117.

GAM Light Mover

Recently added to The Great American Market's range of products is Beamer, an accessory that can convert existing theatrical fixtures to moving lights. This lightweight unit mounts in the gel frame holder of a 6" or 8" lensed fixture, and adjusts to accommodate a variety of focal lengths. The Beamer moves light by the remote controlled rotation of a full specular aluminium mirror which provides a pan range of 160 degrees and a tilt range of 90 degrees. For details ring The Great American Market in California, telephone 213-461 0200.

Power Variations

MA Lighting Technology dimmer packs form part of the extensive range now being distributed by Lightpower Showtechnik GmbH of Paderborn, Germany. 110v/60Hz versions are available in 60 x 1kW, 12 x 1kW and 6 x 2.5kW. The dimmers have been designed to be used in different configurations. For example the DMX512 option with the facility to softpatch and with selectable start-up address. These packs are equipped with electronic PLL in the main power supply to overcome frequency fluctuations. A further enhancement is that there will be no temperature variations, or changes in performance characteristics, as the exact time of Thyristor start-up is stored digitally. Instead of the usual thermal fuse, special slow-trip magnetic circuit breakers have been installed, and in the event of excess voltage, the power packs shut down automatically. For further details, contact MA Lighting in Paderborn, telephone 05251/4184.

Doughty Line 'Em Up

Doughty Engineering have released no less than nine new products, five of which are additions to the Studio stand range, the remaining four being accessories.

The Followspot stand is a heavy duty two stage stand, incorporating steel tubes with aluminium legs and fixings. Doughty have paid special attention to achieving smooth lateral movement. The Comet is a two stage stand with box sectional steel legs, steel tubes and aluminium fixings. This particular unit has a wide leg span with a maximum height of 2.1 metres. The Studio 2000, 3500 and 5000 stands are heavy duty triple stage stands constructed from chrome plated tubular legs and centre tubes with aluminium fixings available in a range of heights.

Doughty's Cross Bar assembly is finished in bright zinc plating and dismantles into three sections. It will find application in the mobile DJ/ small band markets. The Vee Clamp is designed to suit Doughty Tee Bars and Cross Tubes, and the Tee Clamp is specifically for use with the new Cross Bar assembly. Completing the range is the Ramsa/Bose speaker adaptor for use with all Doughty or compatible stands. All these products will be on view at the forthcoming Siel, Frankfurt Musik Messe and SIB Rimini exhibitions. Further details are available from Doughty in Ringwood, telephone (0425) 478961.

Safety First

Audio Design Services have designed and manufactured a flameproof black box and flange, the material of which can withstand 1,000 deg.C for more than four hours, according to the company, an endurance well beyond the capability of any ceiling. The material used complies to British Standards and has now been patented.

The Vanguard unit, which is the brainchild of David Hopkins, Audio Design's managing director, is also non-conductive in electrical terms and should increase its application across a variety of venues.

For further details, contact the company in Stockport, telephone 061-476 1010.

Yamaha Introduce Midi Storage

The MDF2 Midi Data Filer is a compact device that allows for the transmission and reception of midi data via a 3.5" floppy disk drive. System Exclusive bulk dumps of up to 600 kbyte can be received and stored. The device also allows sequence or song data of up to 80,000 notes to be recorded or read as a Standard Midi File (format 0) and played back.



The MDF2 unit is compatible with Yamaha format ESEQ (SY77, QX3, etc) as well as Midi files and can work off of six AA batteries as well as the usual power supply. For further information contact Yamaha-Kemble in Milton Keynes on (0908) 366700.

NJD Electronics Ribbon Lighting

For many years Nottingham-based NJD Electronics have been searching for a serviceable alternative to decorative Tube lighting; they now believe they have found it in the form of Ribbon Lighting.

Consisting of a flexible transparent strip with miniature lamp holders mounted at 100mm intervals, the company believe that Ribbon lighting offers many obvious advantages. Each lamp holder contains a push-in 24 volt miniature lamp allowing quick and efficient lamp replacement. All the lamps are wired in parallel so that when one lamp fails the others remain lit.

Ribbon Lighting is available by the metre and comes in four different types: 2LA two conductor with vertical lamps, 2LB two conductor with horizontal lamps, 3LA three conductor with vertical lamps and 3LB three conductor with horizontal lamps.

For further information contact NJD in Nottingham. Telephone (0602) 394122.

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Based on a series of modular components, the company can make speakers with power outputs in the 1-10W range and with impedances between 3 and 70 ohms. Ceramic or Ticonal magnets can be used, the latter having very low stray magnetic fields to ensure non-interference with electronic circuits in close proximity. Frequency response is typically in the 100Hz to 12kHz range.

The company offer a full development and prototyping service and will manufacture speakers in small or large quantities.

For further information contact Vitavox in Stanmore. Telephone 081-952 5566.

Laser Productions' Chiller

Miami-based Laser Productions are introducing Lasercool, a series of production chillers from three to 60kW. Standard features include laser safety interlocks, audible and visual alarms, automatic protective shutdowns, positive metering of water level, water temperature, water flow and freon pressure.

The output water temperature is adjustable from five to 35 deg.C and stable to within one deg.C. Chillers intended for permanent installations can be ordered with squirrel cage blowers to allow the ducting of excess heat away from the chiller locations. Custom and OEM models are also available.

For further details contact Laser Productions in Miami, telephone (305) 754 6885.

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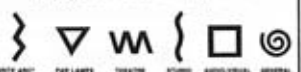
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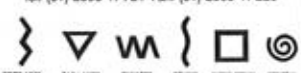
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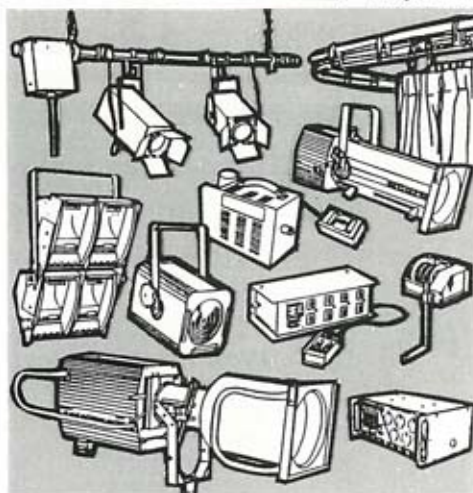
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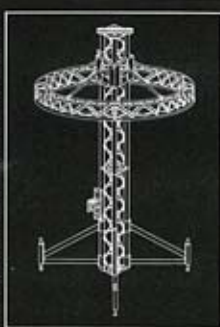
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VIEWPOINT

David Hopkins on Maintaining Sound Safety Ceilings

It is perhaps ironic that two disciplines which strive for the benefit of public safety can often create the opposite effect when brought together at one and the same time.

For years the architectural profession and the building industry have worked hand in hand to produce designs and materials which would prevent the spread of fire and the resultant flow of toxic gases. Apart from containing fire and asphyxiating gases to the area of origin a great deal has been achieved in legislation to ensure that the means of escape and safety lighting are adequate to enable staff and members of the public to leave the immediate area of danger quickly and safely. The horrors of Kings Cross and Hillsborough are still painfully, and indelibly, uppermost in our minds and it graphically underlines the devastation that can result from human panic.

Many years ago it was sufficient for an alarm bell to ring, or a siren to sound, to ensure that evacuation would follow in an orderly fashion. Since those days shops and department stores have given way to supermarkets and hyper-markets, and arcades have been replaced by shopping cities. In sporting terms the enthusiastic spectator has been dwarfed by the advent of the hooligan and everything has become a problem which can be embraced neatly under the umbrella of public safety. Even terrorism has brought a new dimension to the equation which previously only had to concern itself with accidental and natural causes. The days of the bell and siren as the sole methods of communication are numbered. The possibility of a car bomb placed in a pre-determined staff assemble emergency area made an alternative to the alarm signal essential.

For years the public address system has been the method of finding people and also the vehicle for relaying music. Those old enough to remember will be reminded of the 'music while you work' programmes designed to increase production at times during the day when one was inclined to wilt - these periods were supposed to be mid morning and afternoon. However humorous such concepts may seem now, it cannot be denied that in terms of communication and effectiveness, the amplified sound system has no equal.

It was therefore logical in terms of safety, the PA system had a major role to play and now the loudspeaker can be seen in most public areas, whether the activity be business or pleasure. In keeping with design and decor the surface-mounted cabinet loudspeaker has given way to the more unobtrusive ceiling



David Hopkins worked for Pye Communications in the early seventies. He then formed Delta Sound before selling out to Cray Electronics. In 1987 he was awarded the OBE for his work with redundant people in the Stockport area. He held the presidency of SCIF from 1988-1990 and over the past four years has organised the Children in Need Appeal at Manchester Airport. In 1990 he founded Audio Design Services of which he is managing director.

loudspeaker. Nothing could be easier than cutting a relatively small hole into the plasterboard, or ceiling tile, and popping in the flush mounting loudspeaker unit. This has become the point where the public address advantage has compromised all the work and effort expended by the architects and builders, especially now that ceilings which are rated to withstand high temperatures in a fire are suddenly peppered with ceiling loudspeakers. Many units are made of plastic and most operate by means of a paper cone diaphragm. In a fire plastic malforms and invariably drips in the heat and the paper cone will quickly burn through. At this point the holes in the ceiling become airways to the upper voids and the floors above and the chimney phenomena is created and it is this chimney effect that carries the asphyxiating fumes which usually cause death. Some companies fit aluminium covers over the ceiling loudspeakers but as this metal melts at such a relatively low temperature, the method only pays lip service to the problem. Spun steel domes as evolved by Audio Design Services have proved to be every effective, but even they are capable of heating up and could transmit heat.

In an effort to beat the problem, the company has designed and patented a new flame retardant system comprising a hood and a flange

which can withstand 1000 deg.C for up to four hours. The material is also electrically non-conductive and will go a long way in containing the difficulties which have been allowed to go unchecked for too long.

Audio Design's Vanguard system employs a Fast Fit steel grille and loudspeaker which is encapsulated by the flameproof dome. Connections to the unit are contained within a separate flameproof box, the box in the ceiling is protected by a circular flameproof flange upon which rests the springs of the Fast Fit mechanism. The metal grille has a computerised punched pattern giving a pleasing aesthetic effect. Many companies have reversed the Henry Ford cliché in that they supply their units in any colour as long as its white. In this day and age, it must be most frustrating to co-ordinate colours and finishes and then find that the ceiling furnishings are only available in one colour. With advanced manufacturing techniques, ceiling grille finishes are available in any international colour code as well as a precise reflective co-efficient in other words you should be able to match your grille with anything. Metal plate finishes are available in any style including 22 carat gold so the days of the mismatch are a thing of the past.

They say that necessity is the mother of invention and the need to provide good precise communication in an escalating emergency has certainly had a profound effect on the public address industry. Recent legislation will ensure that installations are wired and installed to the highest safety standards and there will be no excuse for systems which do not comply.

With the advent of the digital announcer both the fire alarm and public address industries are becoming more closely associated and once a PA system is designated a public safety system, then the question of line and equipment monitoring with battery back-up are going to be everyday requests. Surely the old PA systems we came to cherish will change almost beyond recognition and in terms of our safety that might not be such a bad thing.

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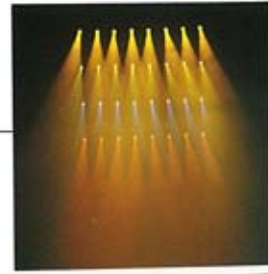
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The RoboColor is a high-performance, intelligent, special-effects projector which is a true alternative to the traditional PAR 64 but with many, many more features. 8 different built-in gobos can be selected and the super-fast color changer can instantly change between the 4 dichroic colors, plus white and black-out. You can mix two adjacent colors and there is also a strobe effect and adjustable focus.

The RoboColor controller supports 4 RoboColor projectors and can be used with or without an external controller. When used as a "stand alone" controller the built-in microphone triggers the projectors in time with the music either in random or factory-programmed sequences. You can also connect up to 32 "slave" RoboColor sets to one "MASTER" RoboColor set and all the "SLAVES" will perform the same program as the "MASTER" in perfect synchronism.

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