

LIGHTING+SOUND

International



ROYAL ALBERT HALL. TECHNICAL INNOVATIONS AT THE PROMS

- Birmingham Nights at the Institute
- Le Maitre's Tinder Box Opened
- The Proms: New Technology and an Age Old Tradition
- Rigging for the Bolshoi in Glasgow
- Sounding Out: JBL and Martin Reviewed
- London and Edinburgh: Theatre Styles

SEPTEMBER 1990

The VL4. Smaller. Lighter. Faster. Brighter.

Vari-Lite Inc.'s new VL4™ wash luminaire is the latest addition to the Series 200® system — with superior response and the latest in technological advances.

Smaller. The compact size of the VL4 luminaire (14 3/8 inches X 20 3/8 inches) makes it ideal for versatile placement, particularly in limited spaces.

Lighter. At a mere 38 pounds, it is easy to handle and requires far less truss support.

Faster. The VL4 luminaire can pan and tilt as fast as 240° per second or as slow as .75° per second. With smooth continuous motion.

Brighter. The HTI® 400 watt source produces an extremely bright beam of 2000 foot candles at 20 feet.



The new high-speed shutter douser provides instantaneous blackouts, bumps, and strobe-like effects — in less than 0.1 seconds.



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The beam angle of the VL4 luminaire can be programmed to vary from spot (as narrow as 4°) to flood. Textured glass panels intercept the beam to provide a continuous range of diffusion — up to a 28° field angle.

The VL4 luminaire is an extremely versatile instrument. And is ideally matched to Vari-Lite's VL2B™ spot luminaire. Both instruments use a 400 watt arc lamp and can be color corrected to 3200° tungsten.



Vari-Lite is the leader in automated lighting technology. We will help you create the look you want — with our new VL4 wash luminaire or any of our other wash and spot luminaires. Back you up with experienced operators. Reliable service. And support that's unmatched throughout the world.

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Strand technology moves further ahead...

Strand's new Precision Automated Lighting System (PALS) represents a major advance in lighting technology.

With computer-controlled luminaires incorporating integral microprocessors and motor/gearbox assemblies, PALS achieves high precision positioning to a resolution of one in a thousand — quietly, smoothly and effortlessly. So with PALS, the lighting designer can create and

record complex lighting sequences, safe in the knowledge that they can be accurately repeated time and time again. This also means the designer needs fewer luminaires and shorter set up times. And the entire system can be controlled by one operator.

PALS is the latest in a long line of Strand innovations. For more than 75 years, Strand Lighting has maintained a continually high level of



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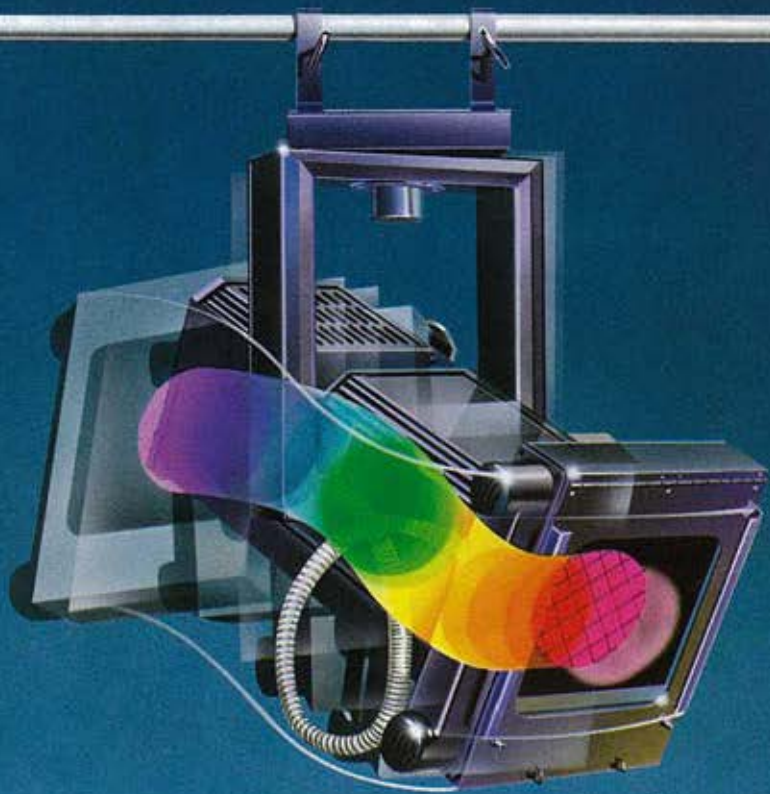
Micro-
dimmer



Taskmaster
Control Desk



Action 24
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investment in research and development. Every year, we introduce increasingly sophisticated and reliable products — from follow spots for schools and halls to dimmers and controls for theatres, film and T.V. studios.

This commitment to creative product development ensures that Strand will always lead the way in entertainment lighting. Leaving others even further behind.

If you'd like to find out more about Strand technology, fill in and return the coupon. It could be the best move you'll make all day.



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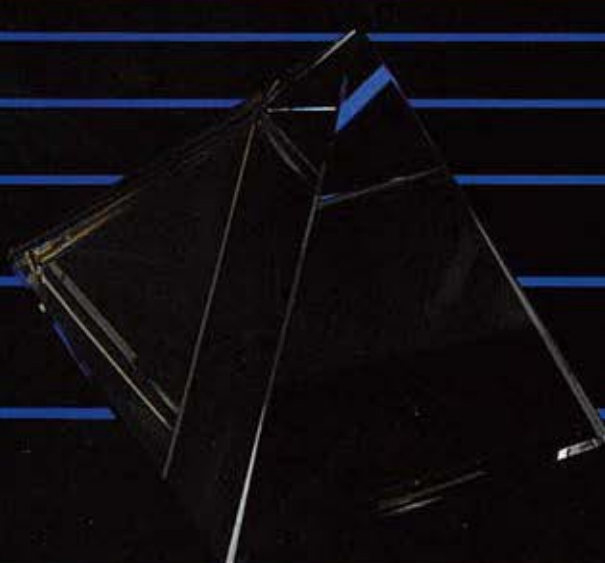
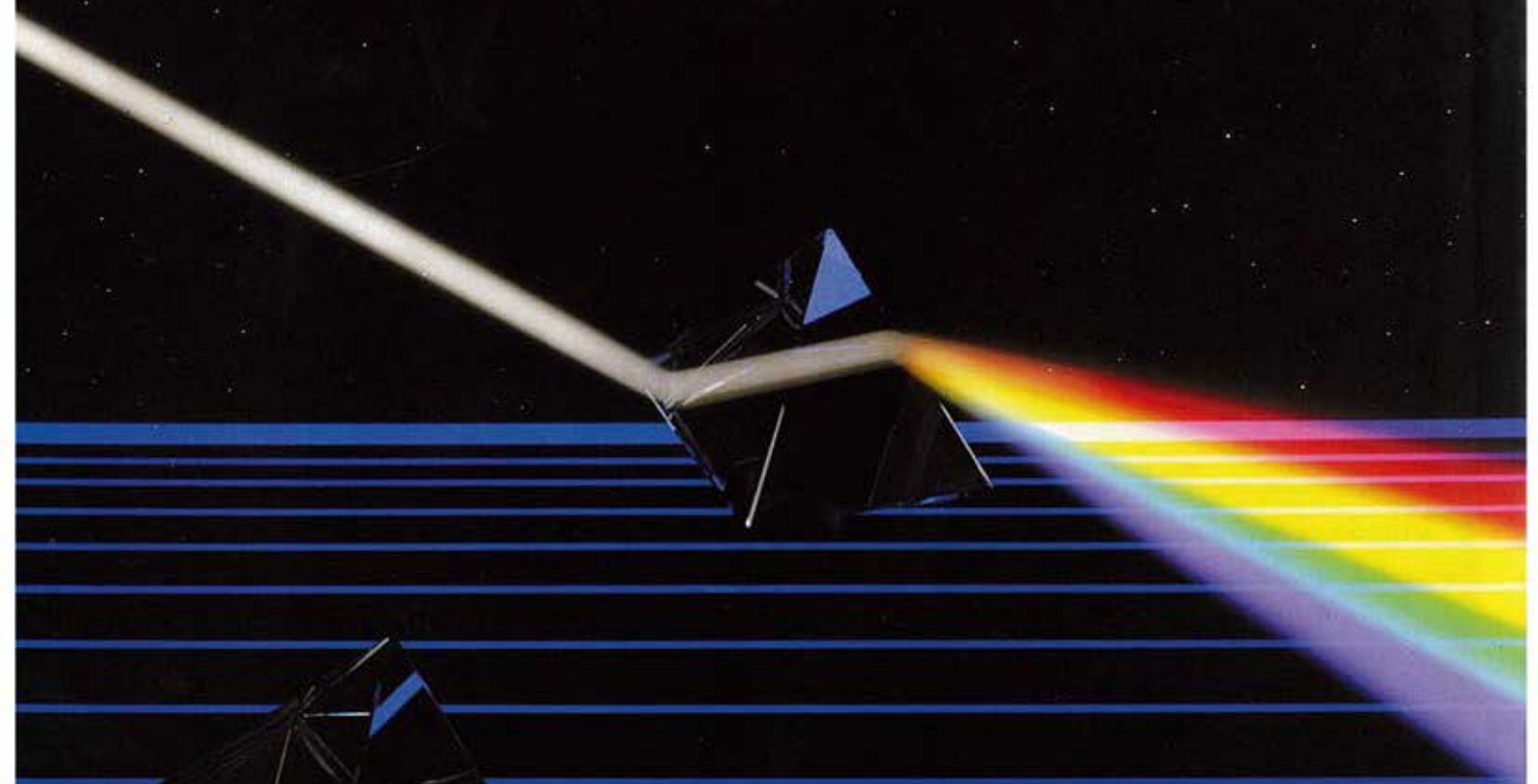
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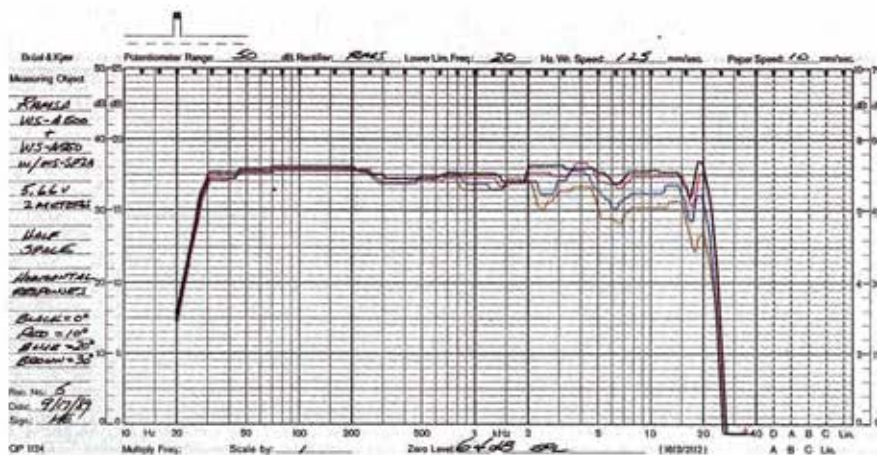


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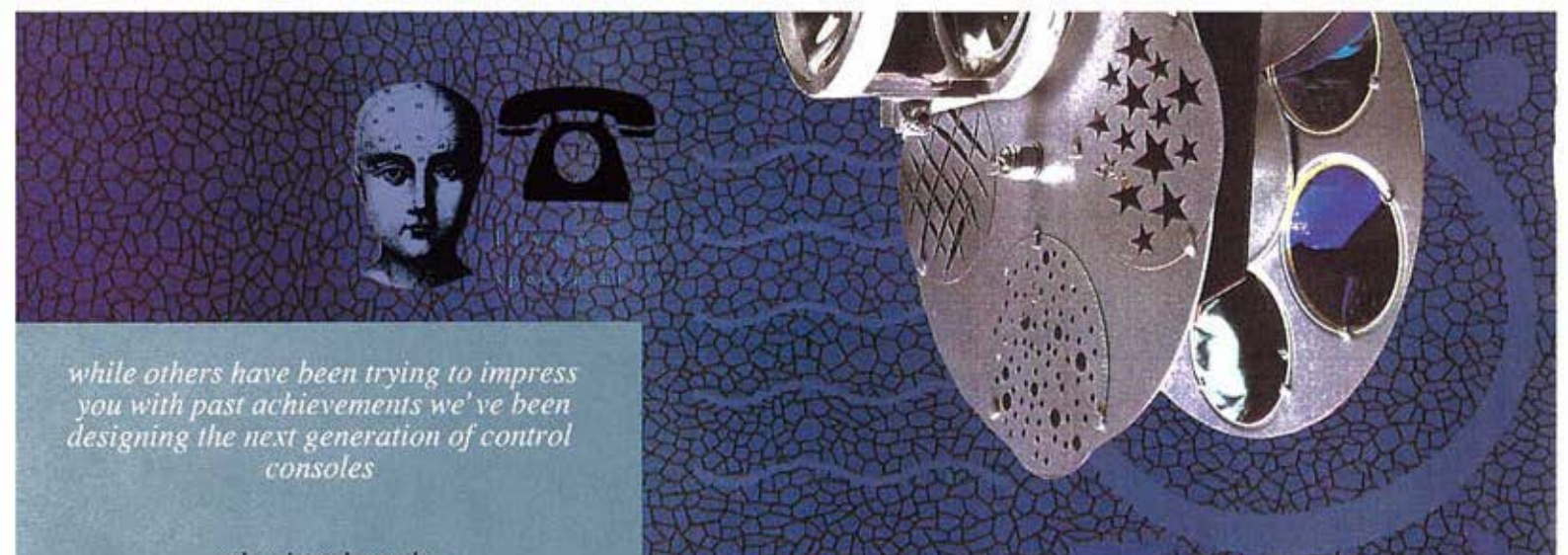


If you think this looks good,
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Show 1990

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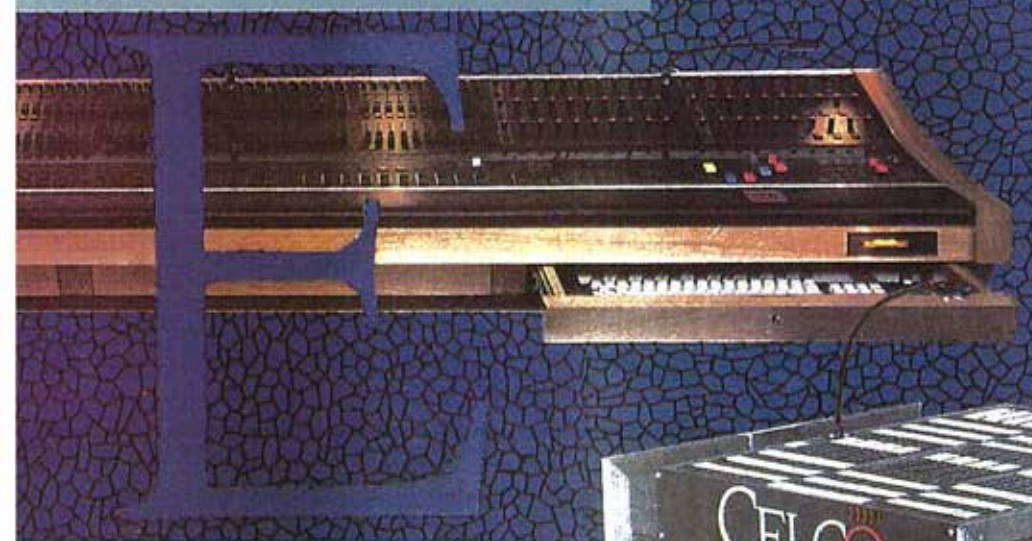


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designed to synchronise and automate the control of moving lights, colour changers and generic lighting in one console.



and, whilst others have been making their dimmer systems bigger we've been shrinking ours.

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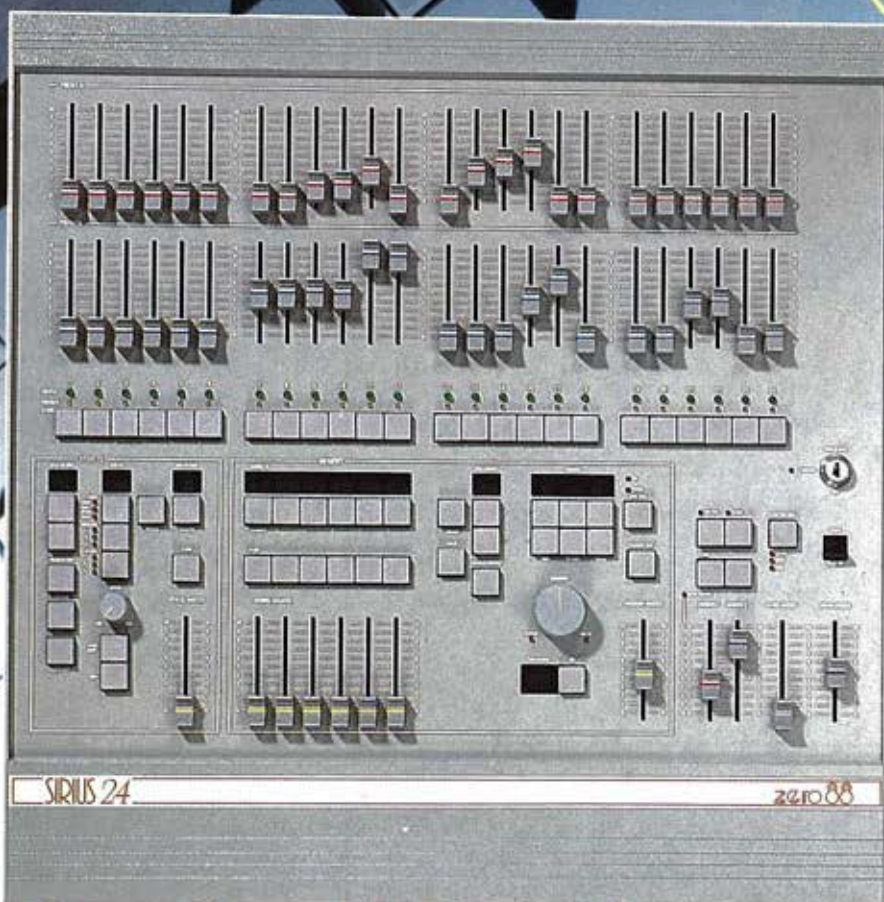
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Manufacturers Go Into Battle With Biggest Range of New Products Ever Seen at PLASA Light & Sound Show

As the economic situation tightens its grip on the money supply, manufacturers are having to come up with more and better products to attract the buyer; and this year's PLASA Show will probably see a greater number of new products launched than any other industry show this year. In fact, more than have been launched at several shows added together.

The 1990 Light & Sound Show will consolidate on launches already made across Europe earlier this year, and combine them with a massive spread of totally new products from many of the major manufacturer's stables. I gave up counting the number of new products announced in the Show Catalogue included with this issue soon after I started, and even if I had had the patience to complete the task, it wouldn't have rested there. No names, but some key players in the game have kept a few surprises under wraps in an attempt to make a bigger impact.

So the Show is certainly one not to be missed, and for more reasons than just coming to see the latest equipment and ideas.

The Seminar Programme has proved a big hit, with many sessions exceeding the half-capacity stage three weeks up-front. With just 150 seats for each seminar there aren't likely to be too many places left if you leave booking until you get to the Show. If you decide to take the chance, then go early to the PLASA stand (S249) on the second floor to see if you can get in.

An innovation this year, and an attempt to help both visitor and exhibitor alike, is the Visitor and Exhibitor Information stand which will be located on the ground floor adjacent to the escalator. A computerised product index will enable you to ask for a list of exhibitors by product and service groupings. A printed list will be handed out together with a location plan. In addition, and for more specific help, our equipment consultant Brian Davies will be on hand to answer more detailed questions and put you in touch with the right exhibitors, making introductions if necessary. For the overseas visitor two multi-lingual staff will also be assisting on the stand.

Including the Conference Centre on level 3, the 1990 Light & Sound Show spans a total of five floors, so there's plenty to see and do. But this year make sure you give yourself time enough to get round it all. Smaller stands often have little gems hidden at the back, and there are no less than 64 new exhibitors this year — a show in itself.

On the second floor, the PLASA group of stands consists of the popular Book Bazaar, much bigger this year, the PLASA stand itself (where you can get hold of information about the Association itself and its work) and, of course, the Lighting and Sound International stand where we look forward to meeting as many readers as possible.

Don't miss this one!

John Offord

Image Pro At PLASA

Image Pro Incorporated of Minneapolis, USA, will be exhibiting at the Light & Sound Show, Olympia 2, September 9-12, Stand No B35. On show at Olympia for the first time outside the USA will be their exciting new product the 'Image Pro'.

Image Pro is an optical accessory that converts standard spotlights to powerful full-colour or standard-pattern projectors.



The Image Pro features a lightweight, heat resistant, shatterproof, polycarbonate fresnel lens, computer designed to utilize standard lamp and fixture optics to provide maximum clarity and efficiency. Image Pro Inc have appointed Optikinetics Limited of Luton as their exclusive distributor for Europe (telephone (0582) 411413).

JBL Dance Music at PLASA

Visitors to this year's PLASA show will be presented with Harman UK's new Control Series Package, consisting of two Control 12s with two SB15 bass bins, designed specifically for them, together with mounting poles that join the two cabinets in the familiar 'E.T.' configuration.

Picking up on recent success in the club market, the JBL demo booth takes on a new identity as the Sound Power Club! — fully equipped with Sound Power A Series products.

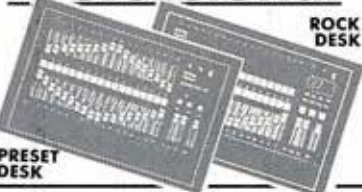
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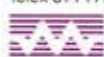
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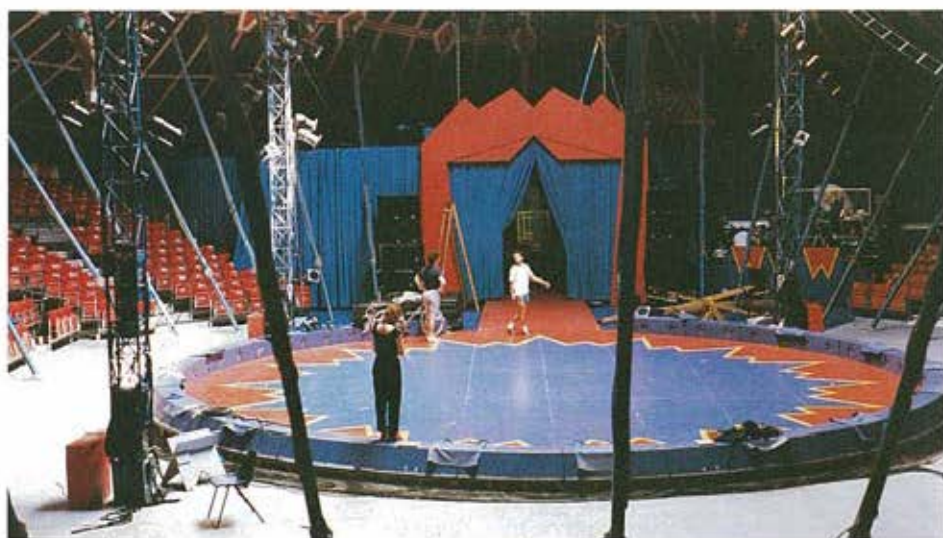
Two PLASA Show Specials



Graffiti from Coemar (Stand G62).



Spectron III from Avitec (Stand G66).



Cirque du Soleil

Canada's Cirque du Soleil who justly claim to have 'reinvented the circus' have recently played to enthusiastic audiences in London's Festival Gardens at the start of their European Tour. The lighting for this theatrically-choreographed show was provided by Celco Ltd of London.

"This is the first time Celco has provided a complete lighting package" Celco's marketing director Keith Dale told L+S, "and it has worked incredibly well, enabling us to ensure that all the component parts perform as they should."

Amongst the vast array of equipment provided was a Celco 60 Major, two customised Series 2 MPP3600C dimmer racks, all mains and low voltage multicores and various lanterns, trussing and bars from Thomas, and profile spots from Rank Strand.

Pictured above is the Big Top, and right Claude Boissonneault (left) chief electrician for the circus with Celco's Ian Mailer.



$$C = \pi d$$

(Archimedes: 250 B.C.)

$$I = E/R$$

(Ohm: 1827 A.D.)

$$F = M.a$$

(Newton: 1687 A.D.)

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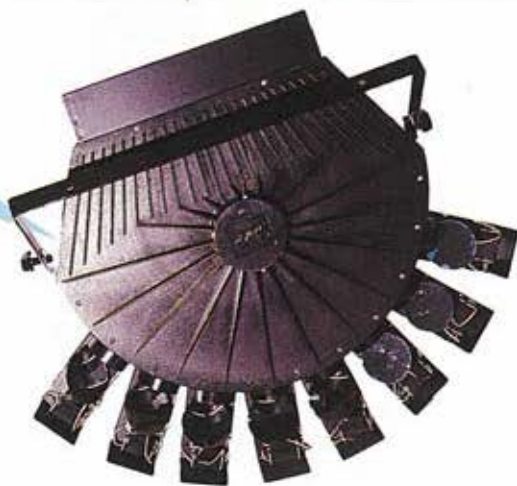
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USA Celestion Industries Inc., 89 Doug Brown Way, Holliston, MA 01746, USA. Tel: (508) 429 6706

LITEBEAM BUNNY

This interesting device utilises a centrally mounted high power MSR400 lamp projecting through lenses on to eight x/y scanning mirrors. Each lens has a fixed dichroic colour filter, and the mirrors have eight pre-programmed patterns, each with 60 steps, to produce a clutch of coloured, swirling beams. These patterns can be speed controlled or stepped to music, via the dedicated controller, which allows direct access to each mirror scanning servo to enable further programming and pattern creation. A giant of an effect, with beam power to match!



LED DUET

Two lenses and two lamps combine to create a veritable duet in light. Each lamp and lens produces a conical spray of coloured beams which are rotated in sound activated synchrony to pass through each other creating tunnels and wave like effects.



AVI

the Autumn



METEOR XYLON

New to the UK, this unit uses two centrally mounted A1-239 lamps and an arc of optically efficient lenses to pack quite a punch. Exceptionally bright beams twist around and through each other. The Xylon has its own dedicated controller, which provides sound activation or continuous movement and individual switching and flashing of the lamps, which can also be remotely enabled. A multiplex link between controller and head makes installation easy and further heads can be synchronised via 'daisy chained' cable links. Colour filters are easily fitted.





FAL ITALY - COLOURED SCORPION

Eight lenses, a powerful lamp and dichroic colour filters make this unit incredibly effective. Richly coloured spikes of light dart out from the lenses only to disappear and be replaced by other equally pure colours, all driven from internal sound activation circuitry for ease of installation. Also available - Static Scorpion, with white beams.



FAL ITALY - COLOURSTAR

An extremely versatile and economic alternative to fully intelligent lighting. Although not individually addressable, the heads feature five pure dichroic colours plus white and four gobos any of which can be selected manually, sequenced automatically or to music. A blackout shutter is also provided. The mirror is automatically sound activated in both planes ensuring a wide coverage by the remarkably bright beams. Non-programmable so no programming headaches!



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Twin ENH 120v 250w lamps produce astonishing power, with a choice of five rich dichroic colours to create a wide angled wash of light, suitable for many applications, from stage to disco. The unit has a quick and easy lamp change facility, and is fan cooled - the fan circuit has a separate feed to allow continuous operation, giving extended lamp life. The fan cooling permits usage in applications where continuous illumination is required. Fitted with barn doors to control beam size.



PLASA Show Specials



Masterpiece is Pulsar's brand new 108 channel memory control desk. (Stand G61)



Modelbox computer aided design are launching the long awaited AutoLight – illumination with intelligence. A sophisticated AutoCAD based software product, designed for the modern lighting professional, AutoLight includes symbol libraries, lantern editor, report generator and beam command. AutoLight has all the facilities required to help design your rig, produce the plans and automatically generate all of the paperwork from a single drawing.

CCT With The Kirov

CCT Theatre Lighting, a leading British manufacturer of stage lighting equipment, has recently supplied some £75,000 worth of stage luminaires to probably the world's best known ballet company, the Kirov of Leningrad, USSR. Over 70% of the Kirov's lighting is now by CCT.

This adds to CCT's growing export successes which have recently included an order of 600 zoom Silhouette spotlights to be installed in a major new arts complex in Tokyo.

Purelight Update

Laser Grafix Sales & Hire Ltd, who installed the world's first Purelight, seven colour laser into The Camden Palace in March this year, were again upgrading the installation last month. The system was removed for a few days, and upon its return registered a 50% improved power output.

Starlight Rainbows

In the biggest update of equipment since the show opened six years ago, 28 DMX Rainbow Scrollers have been installed in the London production of Starlight Express.

Driven by an Arri Image desk, the Rainbow Scrollers, which were supplied by M & M Lighting, were all installed over one night, eliminating the need to lose a show. Capable of scrolling through 11 different colours in approximately one second, the Rainbow offer inaudible, dramatic lighting effects, and are ideal for a show such as Starlight Express.



The Name Game

A completely new lighting effect will be unveiled at the PLASA Light and Sound Show by Starlight Design. The product is so new it has not been named, and a competition will be held at the Show to name this 'stunning' effect. The winner will receive one of the effects that they name. All one has to do to enter is visit the Starlight Stand no. B14, B15 and B33 in the basement. Pictured above is the cross which is also to be released at the Show.

A German Move For Cadac

Clive Green & Company one of the leading manufacturer's of theatre sound consoles, has recently delivered a 58-input 'E' type desk for the Hamburg production of 'Phantom of the Opera', now rated as one of the world's most successful musicals.

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Considerable attention has been paid to ensuring long term reliability, and the superb optics give a precise beam coupled with optimum beam output from both lamp options. Beam movement is 180 in both planes, another significant advantage over mirror driven devices, and six superb dichroic colours plus white are available, as are six gobos.

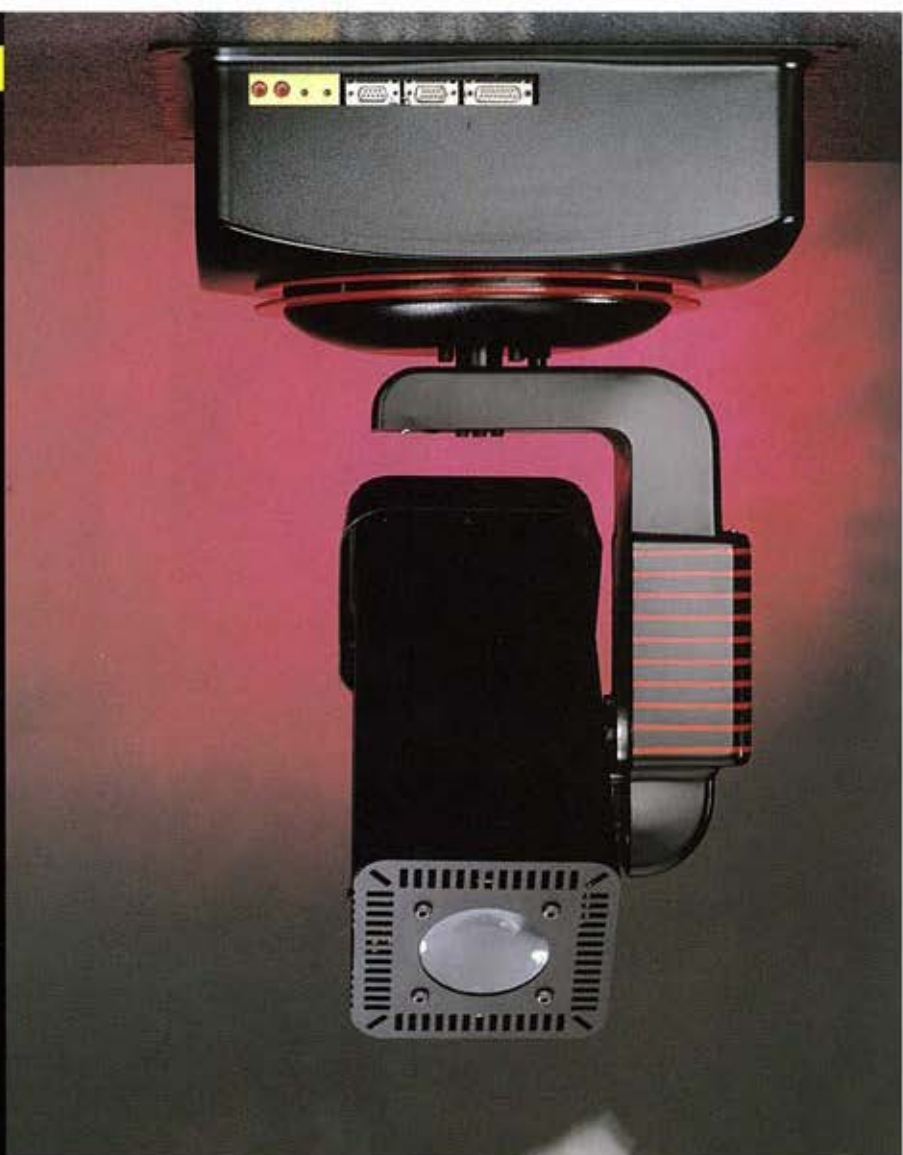
The Spectron Processor offers comprehensive and versatile control, directly addressing up to sixteen heads, with extension to forty eight possible.

Spectron 3 - the cost effective alternative to the wagging mirror - **it's an airtight case!**

Spectron head options:

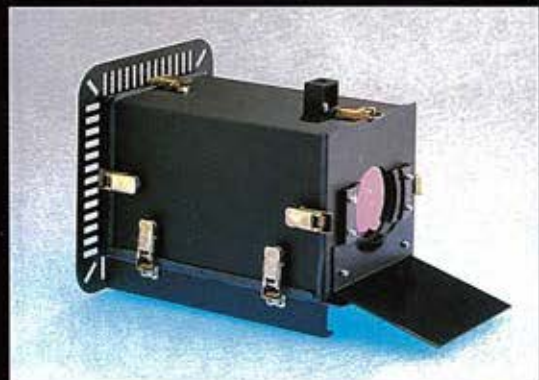
HT 250 lamp version

ENX 82v 360w lamp version

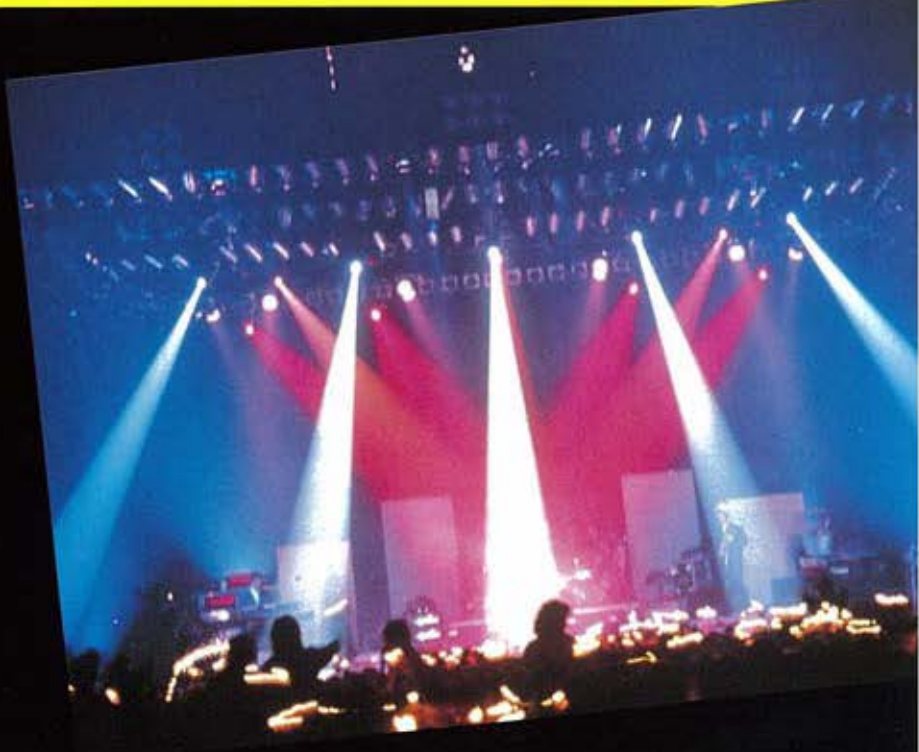


SPECTRON 3 HEAD

An airtight case for ACR



ACR's 'AIRTIGHT' OPTICAL CLEAN ROOM



AVITEC

THE ATMOSPHERE CREATORS

Show of Force from Le Maitre

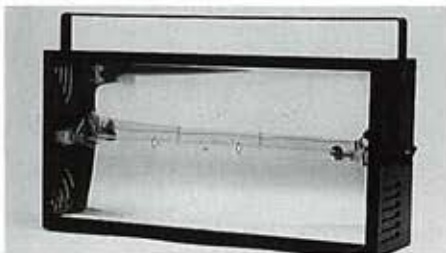
Five Companies owned by Le Maitre Holdings plc will be exhibiting this year — Le Maitre Lighting & Effects, ICElectrics, L.S.D., L.S.D. (Contracts), and Jivelight (with Sapro).



Icelectric's Packmaster 4.

Le Maitre will be exhibiting their range of smoke machines and pyrotechnic effects. New products on show will include a new 2 way and 6 way firing system.

Icelectrics will be showing their range of DPA Mosfet amplifiers, strobes and low voltage lighting controllers. New products include the SP 300 amplifier and Packmaster 4 low voltage lighting controller.



The Mega StarFlash strobe from Ice.

L.S.D. will be demonstrating the new Q12 controller from Light Processor, and unveiling a new range of pro loud speakers called D.A.R.E.

Spearheading the Jivelight display will be several new products from Sapro. The new colour scans (8 colour 8 gobo) budget priced intelligent light system — its control desk will run up to 16 heads with built-in S.T.L. and joy stick control. Also the new super tracker and control desk. Other new products include: the Proton multi mirror projector, Canon Ray searchlight projector, Scanlight and Lite Beam effects projectors, all utilising the new HLX 250W 24v lamp. New from Coperluz is the ET flat beam effect with built in S.T.L., also Rayon 6 — a multi mirror effect, and the Colour Rain multi colour beamed projector.

Jivelight will also be showing their range of UK manufactured lighting effects which include the award winning CR16, CR8 mobile harvesters, JL70 super pinspot, 2.5k manual dimmers, party light, ropelights and controller products for the mobile jocks.



From Sapro, the Canon Ray.

Eurolight at Work

Eurolight has been extremely busy recently with a number of major installations. These have included the complete electrical and control installation at the Black Forest Chateau Theatre at Chessington World of Adventures, installations of dimmer, patch panels and houselight controls at West Yorkshire Playhouse, a complete new lighting system for Surbiton Assembly Rooms, a complete new lighting system for the Link Centre Swindon (carried out in conjunction with Lighting Technology Group), and new dimmers, control and electrical installation at Campus West Welwyn Garden City. In addition to these, the company have supplied new Micron controls to TIS Hire, two Ovations to Austria, new Ovation, dimmers and installation for His Majesty's Theatre, Aberdeen and a new Applause control for Laban Centre for Movement and Dance as well as various overseas contracts.

On other fronts Eurolight is currently completing the stage lighting package for the new Glasgow Concert Hall. Projects also in hand include the working light system for the Lyceum Theatre Sheffield, communication and stage management systems for both the Lyceum Theatre, Sheffield, and the Arts inCarshalton project, both supplied via Shuttlesound. Three new directors have been appointed to the board of Directors of Eurolight. Andrew Stone has been appointed sales director with particular responsibility for Eurolight products in the UK and some export markets. Ian Segal has been appointed financial director and Graham Bowen marketing and export director. They now have Units 1, 3 and 8 at Maple Industrial Estate, with the new administration and sales office now based at Unit 3.

The Accent Profile from Selecon



**Accent Profile
(26-45°)**



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For further information on the low voltage Accent Profile, Spot, Demispot, Metal Halide Accent Fresnel, PC and Zoomspots and the comprehensive range of Selecon's Stage Luminaires, contact:

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Barbican technical manager Roger Fox (left) with Odeum's Peter Edwards.

Barbican Go Teatro

Odeum Light & Sound, Teatro's Surrey-based distributor, have won an order to supply 28 Teatro Acuto 9/15G 2kW profiles to the Barbican.

The acute lighting positions dictate total reliability, power and a client preference for the G38 lamp base, and all 28 lanterns have been factory fitted with the G38 without any fuss or alteration, according to Teatro.

Odeum have also announced they are expanding their operation by moving into the consultancy and production management areas, in addition to their existing sales and hire operations.

Project services offered will include design, co-ordination, hardware supply and installation. The production of conferences, theatre and trade shows, promotional roadshows etc. will be undertaken at all levels of the market. They will be on stand S218.

LMC To Distribute EAW

LMC, the London-based professional audio sales company, have been appointed as the official distributor for Eastern Acoustic Works' full range of loudspeaker and electronics products.

The EAW line up includes product that is ideally suited to both the installation markets and large scale touring. In keeping with the high end nature of these products LMC will be setting up an approved installer network.



The EAW KF300 Nearfield Virtual Array System

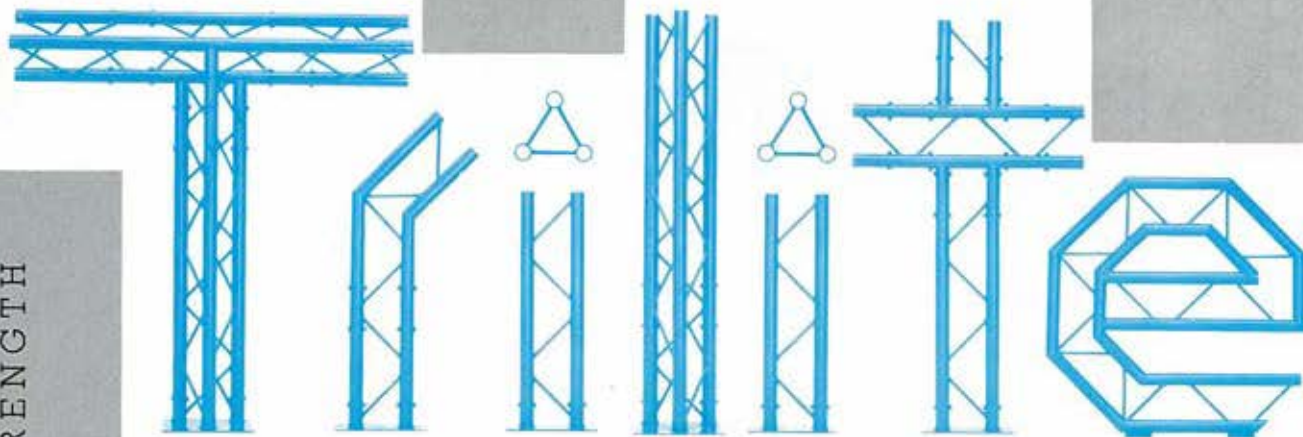
The company will also provide technical support and communication for the professional touring companies in the form of the VA Users Club which is designed to assist users of the larger scale 'KF' series product, incorporating EAW's patented virtual array technology, with technical information and communication between users. The EAW range will also be on show at PLASA on LMC's stand S193.



MetroVideo's Jumbotron

MetroVideo, the specialist video and audio company, recently announced the acquisition of the exclusive UK rights for the new Sony Jumbotron. The Jumbotron combines high picture quality with its large screen size, and measures 10' x 8'.

MetroVideo claim that the unit is ideally suited for both indoor and outdoor use, and that almost any visual presentation medium can be shown on the Jumbotron. Valued at over half a million pounds, the Jumbotron is available for hire complete with service crew from MetroVideo.



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LASERPOINT AT THE POINT

Located on its hilltop site overlooking Strathclyde Park, approximately five miles from Glasgow, Hamilton Point, opened in July, has already established a prime position for itself.

The complex, owned and operated by local entrepreneur and self-made millionaire Gordon Bavard, is one of the most impressive venues ever to be opened in Scotland. The general layout includes a nostalgic fun pub called 'Memory Lane' which has been fitted out to the highest standard and boasts 'The biggest bar in the UK'. The decor is dominated by brasswork, mahogany wood and hand painted lead glass paintings featuring well known cartoon characters of years gone by.

In total contrast the pub has had five 3x2 Laserpoint Pixelite videowalls installed and a JBL sound system.

Situated directly above Memory Lane, the Gloss nightclub has a sound, lighting and video show second to none. Installed on and around the dance floor are nine 3x3 Laserpoint Pixelite Videowalls, the latest Martin Intelligent lighting which includes eight Roboscans, three Giant Kremesa Genesis effects fitted on elevators, along with an extensive array of moving and

rotating lighting effects.

The sound system is in the form of a 10k JBL sound power rig. The remainder of the complex, to be completed in November 1990, will consist of two licensed restaurants, a 'live music/piano bar' and another lounge bar alternative to Memory Lane.

The sound, lighting and video package was supplied and installed by Teknique Systems of Glasgow, dealers for Martin, JBL and Laserpoint Communications.

Equipment List: Videowalls

Gloss Nightclub System 1: 5(3x2)

30 x 28" FST monitors

Electronics in one rack

Software: ShoGo custom

PPC computer and monitor

sound to effect module

Laserpoint video distribution system

System 2: 4(3x3)

36 x FST 28" monitors

Electronics in one rack

Software: ShoGo custom

PPC computer and monitor

Sound to effect module

Laserpoint video distribution system



Yamaha's PLASA Line-Up

Yamaha-Kemble will field an impressive line-up at this year's PLASA show. The spotlight will be on the latest addition to the successful MS Series, which utilises the ST technology patented by Yamaha Corporation, allowing efficient tight, clean bass reproduction from small cabinets.

The MS family of monitors includes the MS60S, with built-in amplifier, which provides 60W output from a compact and robust 10kg cabinet. Three inputs — balanced XLR mic/line level input and two unbalanced phono inputs — allow the connection of a variety of sources, with master volume control.

Its sister, the MS20S which stands less than 12 inches high, incorporates a 20W amplifier driving a 12cm woofer and 3cm tweeter, which yields a powerful full-range reproduction usually associated with much larger units. As with the MS60S, the MS20S incorporates magnetic shielding so they can be used with audio-visual systems.

The new Yamaha DDL3 features multitap digital delay combined with a flexible digital crossover/equaliser. The PM1200 four bus console is aimed primarily at live sound applications although its flexibility and high sonic quality make it equally suitable for recording and broadcast work.

The PC4002 is a power amp capable of delivering high output power while still maintaining sonic integrity. Offering 430W into 8 ohms and 700W into 4 ohms stereo, a single back panel switch configures the amp for bridged mono operation letting loose 1400W into 8 ohms.

Both the PC4002 and its twin peak level

metered version, the PC4002M, have frequency responses of 10Hz-50kHz within 1dB and THD figures less than 0.005% over 20Hz-20kHz at 215W stereo into 8 ohms.

The new PC2700 delivers stereo 350W into 8 ohms and 500W into 4 ohms, while in stereo the P2350 outputs 175W and 250W into the same impedances. Both these units can be bridged for mono, offering 1000W and 500W into 8ohms respectively. The Yamaha display will also include many other products.

Electrosonic Move

Drivers on the M25 enjoying an involuntary few minutes delay waiting to get onto the A2 or into the Dartford Tunnel will have noticed that, over the last 12 months, a distinctive new building has arisen next to the A2/M25 junction. Similarly, people on the A225 Hawley Road will have noticed some road widening, a new wall, evidence of new landscaping and a noticeboard — 'Hawley Mill' — The New International Headquarters of Electrosonic.

Since its formation in 1964, Electrosonic has consistently increased sales and built upon its international reputation as a specialist manufacturer in the markets of business communications, leisure and entertainment, architectural lighting control and display systems.

The 55,000 sq ft headquarters building consists of central administration, sales, product development, project engineering and special systems building.

The five acre development is conveniently situated for the airports and motorway network; and Electrosonic hope

to be in by the 20th August. The company's new headquarters can be located at Hawley Mill, Hawley Road, Dartford, Kent DA2 7SY.

More from Multiform

Complementing the Quattro four zone club controller, Multiform will be unveiling a brand new 16 channel programmable touch controller code named TSB441, featuring 8 programmable scene pads with add/swap and flash/latch selectable as required. The scenes can be selected manually or set to scan automatically at any rate from 6 seconds to 10 minutes. In addition the controller has eight programmable chase patterns of 64 steps which can be single stepped, run automatically or sound triggered. The name and price of this exciting new controller will not be revealed until the show. Don't miss it.

To assist in the installation of Multiform's low voltage discotheque controllers an interface unit (CIU442) will also be released, designed to simplify the interconnection of Quattro or Light Mix controllers with touch panels and the associated slave packs.

Also on show for the first time in the UK are the Aquarius 18 channel, two preset, manual control desk and the Rakpac 605 portable dimmer packs. Both of these products have been designed for portable stage lighting systems and offer an exceptional specification for a modest price.

Multiform will also be displaying their full range of Multiphase integrated controllers, the Scorpio programmable rock desk plus their large range of switching and dimming packs.

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Arri Lighting's new Sales Counter provides immediate "take-away" sales for a wide range of consumables, accessories, spares and equipment. The new facility, based just off the M4, gives rapid cover against all kinds of emergencies and late decisions.

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MAM Scores at Newport

MAM Communication Systems of Reading have completed another Megabowl audio and video installation for Allied Leisure. This latest site is at Newport, Gwent. As one of the largest 10 pin bowling sites currently operating in Europe, MAM have designed and installed a comprehensive 83 loudspeaker audio system ranging from high quality ceiling units for the main concourse and associated areas to a combination of Bose 101 and 301 units for the adjacent bar area. A pre-select zoned PA paging is available and music sources are derived from compact discs and hi-fi stereo VHS videotapes.

As with the audio system, the video system is operated as two independent systems — the main bowling area and the bar. 16 High Quality 28" monitors are strategically sited across the main public areas and a microprocessor-controlled twin VCR system for continuous and unattended video operation. The videotape output is also interfaced with the 40 AMF scoring monitors over the bowling lanes so that any of these can also display videos when that particular lane is not in use.

In the Megabowl Bar, MAM Communications have achieved a UK first by supplying and installing the brand new Memotech Videowall Ribbon. This first site features a 15 x 1 format and is run by second generation videowall software. It represents an exciting departure from the more usual multiple unit line of monitors behind a bar server. It is videowall technology and videowall high impact visual effects — but in a straight line and around corners!



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Paul Normandale



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Knowledge of lighting control products and the touring industry useful, but not essential.

Essential attributes are commitment, integrity and the ability to close a sale.

Applications should be in writing including full c.v. to the address below, and should include details of current remuneration package and notice period to be served. All applications will be treated in the strictest confidence.

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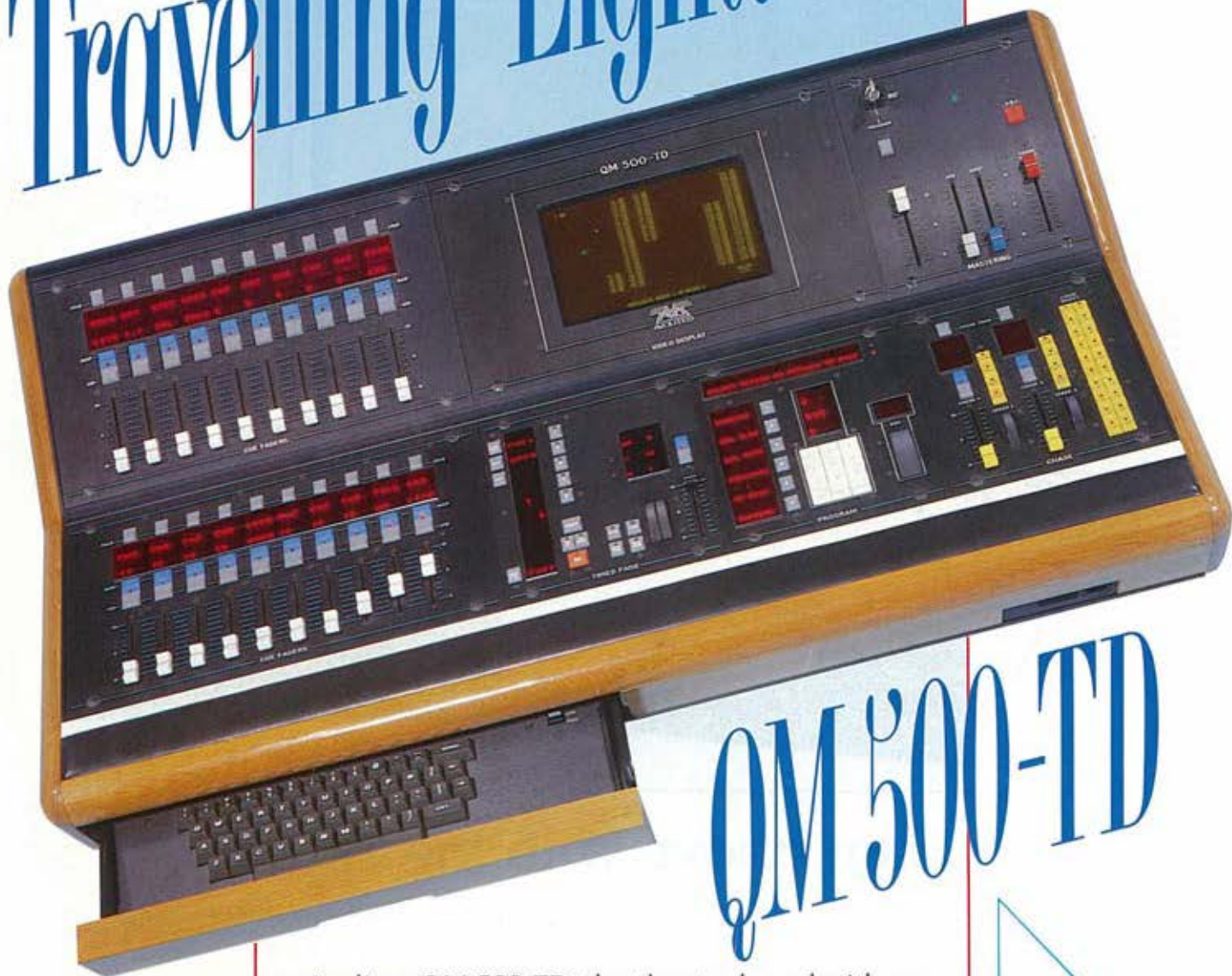
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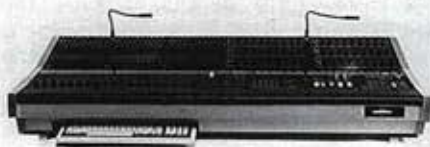
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Panorama at PLASA



In recognition of the Light and Sound Show's growing importance as one of the major exhibitions of lighting and sound equipment, Celco will use this year's show to launch their largest-ever range of new control consoles, dimming systems and associated hardware.

The Panorama Range of control consoles receive their UK debut following their international launch at the Frankfurt Music Fair earlier this year. Developed to offer designers and operators the ability to synchronise and automate the control of light intensity, movement, position and colour these consoles provide a unique approach to lighting design. To demonstrate the many advantages of this system various moving lights and colour changers will be connected to a Panorama 90.

Designers and programmers working within the audio visual field will find Celco's new Digital Real Time application a great boon in programming and synchronising lighting cues to MIDI and SMPTE time codes. The product enables the entire show sequence to be recorded onto the computer's hard disk, or floppy, for subsequent playback. The system is available complete with The Box - its own dedicated rack mount replay interface.

The new Dimmer Systems will be launched at this show; the Compact Range of professional touring racks, represented by the Compact 4824 and Compact 2412, are designed for high density touring applications and feature modular dimmer packs, electronic trimming, magnetic circuit breakers, surface mounted hot patch, digital interface and single plane input/outputs.

The E-System Range will be depicted in 36 channel guise, and the Flexi-Pak is a free standing portable dimmer pack that includes provision for truss mounting.

In addition to these products Celco will introduce the 60 Major Special Edition to their 88 Range. This will be shown alongside their famous Gold console. Now, for the first time, both models feature DMX512 Output in addition to Analogue.

Book Signings

This year's PLASA Show will feature something a little bit different.

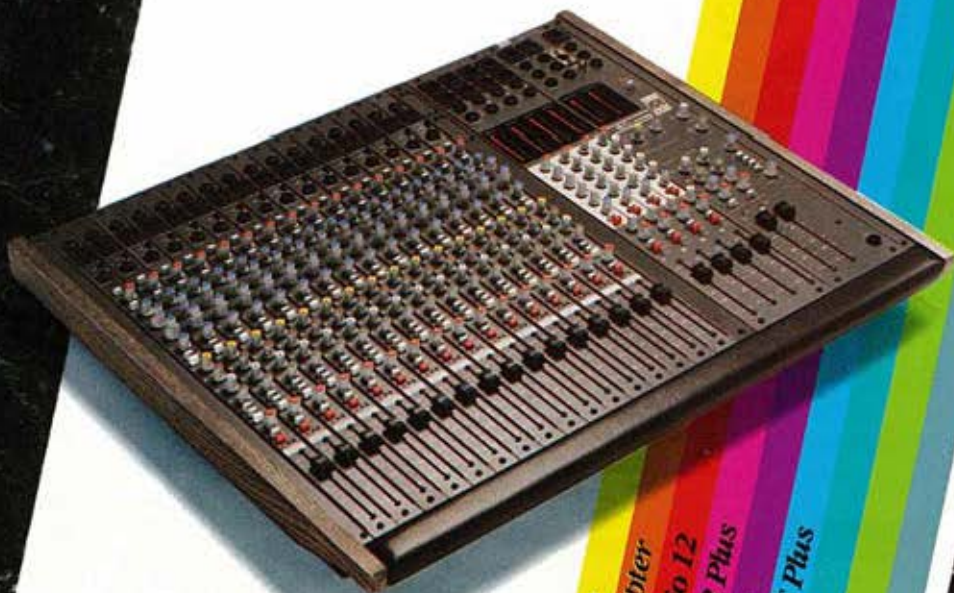
Between the hours of 3 and 4pm on Monday 10th September, on the Book Bazaar stand (S248-250) Graham Walne will be signing Sound for the Theatre, and Francis Reid will be signing the Staging Handbook.

Lite Alternative

Paul Normandale, formerly director and shareholder of Concert Light Systems Ltd and C.L.S. Sales of Bolton, left the company in April to start his own company 'Lite Alternative'.

Lite Alternative Ltd is a lighting company specialising in so called 'Alternative' bands such as the Sugarcubes, Pixies and Cocteau Twins, from design to equipment supply. The company can be contacted on (0706) 627066.

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Scepter

Studio 12

SR Plus

Sigma

SC Plus

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16, 24 and 32 input versions with four subgroups, stereo and mono outputs. The optional Matrix, previously not available in this price range, provides an additional 4 outputs.

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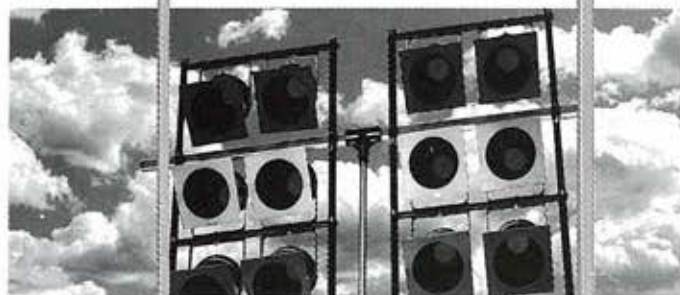
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Samuelson form International Alliance

Samuelson Concert Productions is forming a new international alliance with Vanco Stage Lighting Inc of New York and Florida who will take over the role of the company's present US operation in Dallas. The deal, which was signed in New York on Monday, forms part of a general restructuring of Samuelson's lighting interests which include Vari-Lite Europe Ltd and Theatre Projects Services Ltd.

Vanco, currently one of the largest trade show and theatrical lighting companies in America, is purchasing the entire stock of SCP's Dallas equipment — maintaining stock compatibility with SCP London and becoming its US concert touring arm.

The Lighting and Sound Division of Samuelson Group PLC — Samuelson Concert Productions, Theatre Projects Services and Vari-Lite Europe — is relocating to new premises in Greenford.

The Greenford base will provide extensive new facilities, including showroom and training studio for both staff and customers.

The companies' new address is 20-22 Fairway Drive, Greenford, Middlesex UB6 8PW. Telephone 081-575 0212.

Sound and Vision

Soundivision, a new sound and lighting company venture has been established in North London by David Graham. Soundivision has targeted small and medium sized leisure operators for full design, installation and back-up projects. The company will also have a retail operation and will be able to provide a quick and efficient service supplying a wide range of sound, lighting and pro-audio products to the professional end-user market. The company benefits from its association with E.M.C. Intec Ltd., headed by Alister Hodge, who spent 7 years as a technical director within a well known company in the electronics industry. For further information contact the company on 071-281 8121.

Ole Turbosound

As part of a general audio system upgrade of equipment in the prestigious Grand Ole Opry house, Nashville, the facility has chosen to update its existing cluster of Turbosound enclosures.

The Turbosound installation includes four TSE-215 bass enclosures, seven TSE-211 and 12 mid/high enclosures. The new Turbosound equipment is being used in the daily operation of the venue for all the acts appearing on the Grand Ole Opry stage.

Southend Wonderland

For the first time ever a club one nighter was used to officially launch a brand new speaker system. A massive 'wall of sound' was erected at Southend's Mr B's Nightclub on August 20 for the launch of Wonderland.

Speaker specialists Toa officially unveiled their SR Processor System, a large sum was spent on transforming Mr B's interior into a setting straight from Alice In Wonderland. Playing cards and chess pieces litter the dancefloor, backdrops feature characters like the White Rabbit, Mad Hatter, Doormouse, Mad March Hare and the Queen of Hearts. A laser lit water fountain is a further attraction.

Rocky Horror Engages Autograph

Autograph Sound Recording, the specialist theatre sound company, has recently announced the successful completion of its contract to supply sound design and equipment for the new production of cult classic 'The Rocky Horror Show'. The show opened at the 1300 seat Piccadilly Theatre on July 16th and was last seen in London's West End 17 years ago, when the quality of theatre sound was significantly different from that of today.

Designed by Autograph's Terry Jardine, the sound system for 'Rocky Horror' incorporates 16 radio microphones, both hand-held and lavalier, together with a sophisticated installation involving three separate loudspeaker systems.

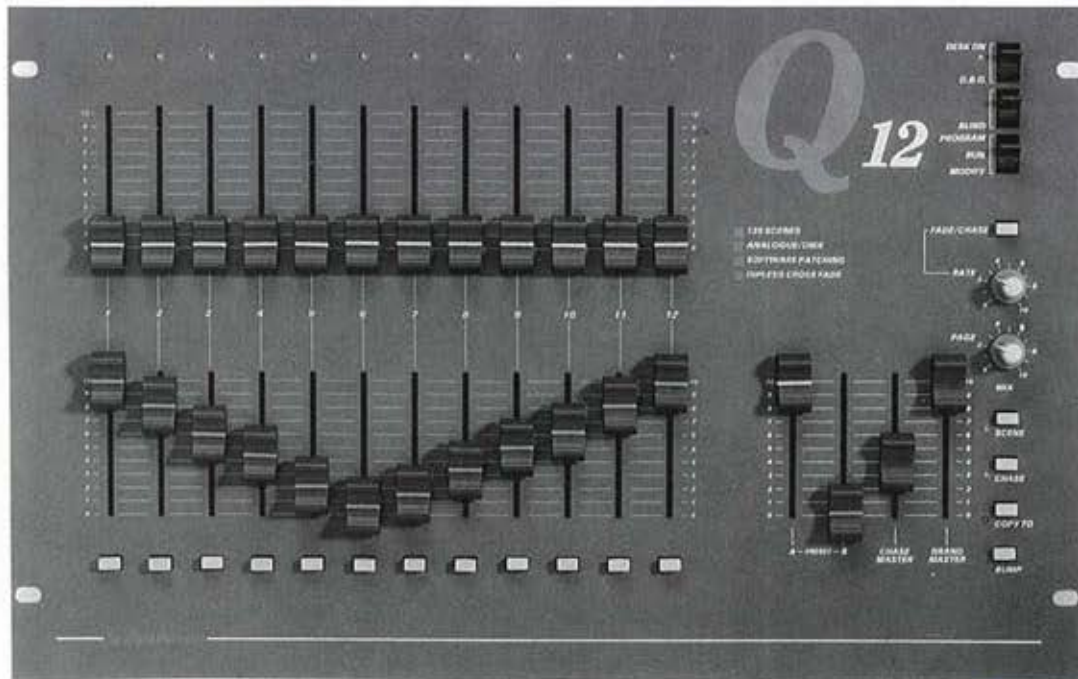
The dialogue sections are reinforced using the lavalier microphones, whilst hand-helds are brought into action for the rock numbers — the balance being arranged so that large jumps in level between speech and music are minimised.

Midland Theatre Services Move

Midland Theatre Services have recently moved into their 7,500 square feet premises at Junction 1 Industrial Estate in Smethwick. The new building enables them to increase their already successful hire business, as well as expanding the sales and installation operations.

New additions to MTS's staff include Mike Jarvis as the new hire manager, with Mike Savage as operations manager.

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Optikinetics Expand

Optikinetics UK, manufacturer of Trilite and special effects lighting, have recently moved their R & D department to a new 2,000 sq ft facility.

The new premises are next to their headquarters in Luton, and the move comes at an opportune moment for David Thomas, Optikinetics senior development engineer. He has just recruited two new development engineers to join the department.

The two new staff members are Martin Hird (23), a graduate of Loughborough University and Mike Bond (25), a graduate of York University.

With the new facility and additional staff members David Thomas predicts an exciting future for the team. Armed with plenty of ideas for the R & D department to work on he sees his major priority as the development of new products for both Optikinetics and Trilite.

New Look for ABTT Show?

It has been announced in a press release that the ABTT Trade Show will relocate in 1991. "We've been looking to move from Riverside for some time," commented organiser Roger Fox, "and its non-availability next year has simply reinforced a decision we were going to take anyway."

Although a new venue has yet to be finalised, the date will revert to March following this year's experiment with June.

Commenting on the absence of certain exhibitors this year, ABTT vice-chairman Bill Graham stated: "We believe some of them were reacting to stories that ABTT and PLASA

were about to merge their shows and that PLASA had made some sort of offer to buy out the ABTT show. Both of these rumours are absolute bunkum. There have been no discussions between ABTT and PLASA on trade shows for some years, no offers have been made and there is no plan to merge.

"The people who heard and reacted to these stories need to think very carefully about the motivation of the people spreading them. We hope they will exhibit next year rather than attending disguised as visitors. Their competitors who stayed with us, like most exhibitors, all reported good business.

"The ABTT is a user-led show covering the broad spectrum of theatre crafts which support the performing arts. PLASA is a manufacturer-led show with a narrower and partly mass-market appeal. Each show has its own market and its own visitor base, although some people will always want to attend both."

The ABTT is also planning a significant marketing drive for 1991 and will be investing for the future, according to the release.

International Lightshow 1991

Lightshow '91 the UK's sole specialist exhibition for sourcing contract and decorative lighting, runs at the national hall, Olympia, London from Sunday 6th January to Thursday 10th January 1991.

The exhibition draws thousands of visitors from sectors as diverse as retail lighting, interior design, architecture, and electrical contracting. For further details, please apply to the Decorative Lighting Association Limited, Bryn, Bishops Castle, Shropshire SY9 5LE. Telephone (05884) 658.

MSL at PLASA

The all-new MSL stand at the coming PLASA Show will feature selected items from the ranges of amongst others, market leaders Citronic, Pulsar, JBL and Optikinetics. Visitors will be able to discuss all aspects of the MSL service, including trade and export sales, professional equipment hire, installation and contract leasing.

UK and overseas guests will be urged to take advantage of introductory packages of all brands handled. Also taking place during the exhibition, prizes will be presented to successful entrants from recent MSL UK promotions.

Finally, MSL have recently initiated a programme to franchise their successful business format, and are inviting applications to all the eight remaining 'open' UK territories. Visitors to the MSL stand will be introduced to existing franchises and can collect detailed information form MSL on stand F140.

Taking the Weight

Tirfor Limited, the UK subsidiary of the International Tractel Group of companies, will be present at this year's Light and Sound Show. Designers and manufacturers of a wide range of lifting, pulling and access equipment, their stand will feature the Tirak Mobile Winch, housed in its own frame and complete with a rope storage reeler.

Also on the stand will be the Minifor portable power hoist, a selection of world famous Tirfor manual lifting and pulling machines, together with a display from the range of Dynafor load indicating devices. Tirfor can be found on Stand S270.

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Graham Walne visits Birmingham's latest Nightclub

Behind the unlikely facade of a Methodist Institute in Digbeth High Street is a £4million venture which promises to be worth watching. Not only does it break many of the accepted rules of nightclub management but it also houses both the first UK permanent installation of Pan Command, and additionally a unique control network.

The Institute is not one nightclub, but two. Each quite different in style and likely to appeal to very different tastes. Downstairs the 'Dance Factory' purposefully echoes the materials of the factory, tough; durable and no frills. This area, which is licensed for 400, has few seats and no luxury. The bar serves only cans, even milk. Upstairs in the 'Forum', licensed for 750, the elegance of the old meeting hall can still be clearly seen, and even the old 40' pipe organ has been preserved at the back of the new extended stage. As a contrast to the Dance Factory, the Forum is designed to appeal to mainstream tastes - 'more top 40', and live bands and Comedy Nights (when the dance floor is covered with tables) can be presented on stage. On these occasions five dressing rooms are provided for artists' accommodation.

There are four catering areas. The Take Five which serves vegetarian food with live 'laid back' jazz (it also bans smoking), a Russian diner adjacent to the Dance Factory, a Rooftop Conservatory-Bistro which looks out over the Birmingham skyline, and finally a Gourmet restaurant which occupies an old balcony in the Forum. Diners can watch the action through vast, thick, windows. There is also the Celebration, a private hotel-style function suite, with its own systems and bar and this can operate totally independently of the main areas, or the action can be projected on video. In fact, high resolution video is piped throughout the venue from remote pan/tilt/zoom cameras so that the events can be seen wherever you happen to be. There is also a 16 channel infra-red security TV system which records the inputs, and security is linked to all staff via a 64-channel bleep system which is in turn linked to the fire-alarm.

One admission price permits the patron entrance to all the areas and there is no dress code. Owner Chris Deith tells me: "There's nothing wrong with ripped jeans, as long as they're worn as a fashion statement and not an apology" - even the staff wear tracksuits. It was equally startling to be told that in many of the catering areas the music level is designed to permit conversation; and for when the evening is over, the local taxi service has provided a reception desk in the foyer itself.

The whole project was completed in just 16 weeks, causing Jasco the effect lighting installer to comment "It was a nightmare but now it really has turned into a dream." Part of the nightmare was probably attributed more to the new control network rather than to the Pan Commands (which were imported directly by Chris Deith himself). In fact, on the day of my visit, recurrent problems with this

meant that I was unable to view the Pan Commands in action.

To learn more I called Pan Command in California and spoke directly to Charlie Maling. "There are 48 ColorFader units in the installation, mounted on par 64's, each unit houses three scrolls in red, blue and yellow but each scroll is perforated (from pin holes up to about 1/8 inch in diameter) so we can

1.5W krypton providing 264 colours - another first) has been given new life by controlling it through a CAD/IBM program which provides a multitude of spatial effects and high quality graphics, all of which can be projected onto a 4 metre screen if required.

So to this unique control system, the centre of which is a MIDI patchbay system designed by Chris West, a MIDI specialist consultant.



The Dance Factory: Aptly named it reflects an industrialised environment.

achieve subtractive mixing. Effectively ColorFader can give an unlimited range and significantly, unlike other scrolling systems, we can fade directly to any colour we want, or we can bump," he told me. The Forum also houses eight Pan Command PC Beams which Maling described as "superior soft-edged wash lights." The PC provides a round beam variable from ACL to wide flood, colour change, 360 degree pan and 245 degree tilt. Pan Command tell me that their units are more cost-effective than other intelligent lights so we look forward to an agency being established here soon - you read it here first folks. (Meanwhile readers who want to learn more about Pan Command should refer to an article about their use in the lighting of the Grammys in L+SI March '89).

Pan Command isn't the whole lighting story however, the Forum also uses 24 Intellabeams and the whole rig is mounted on motorised trusses which are programmed to move as part of the shows and which can come right in to floor level for easier maintenance. The inevitable laser (from I-Laser, an 8W argon/

The patchbay can take MIDI signals from master keyboards on the stage, via an optical link, or from an Apple Macintosh SE30 computer. The MIDI signals are then relayed to the Enigma lighting controller and I-Laser laser controller, to allow literally everything - environmental lighting, Pan Command fittings, Intallabeam fittings, stage lighting, truss motors and laser - to be controlled from two small keyboards. For 'pre-recorded' feature lightshows, the Apple MAC takes control of the Enigma and I-Laser. The MAC is fitted with a 100megabyte hard disc and the 'Studio Designer' sampling hardware/software package. This allows up to ten minutes of stereo music to be recorded onto disc and then edited and remixed digitally until just right for the intended show. The computer also runs the 'Vision' MIDI sequencer software concurrently, and in sync with the sampling software, and it is this that is programmed to operate the lighting. The major advantage of this system over a traditional time-code based set-up is that the lighting cues can be split into different



The Forum — designed to appeal to mainstream tastes. In the foreground can be seen the Enigma and I-Laser controllers.

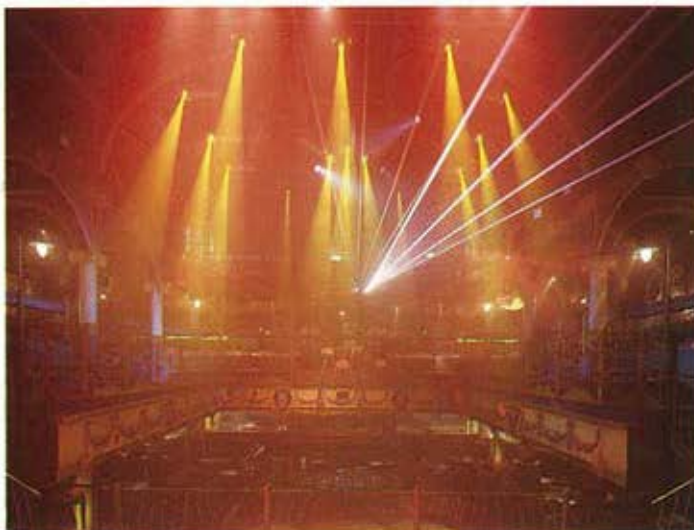
MIDI tracks and edited to millisecond accuracy. For example, a basic stage parcan sequence can be recorded with the music, in real time off a keyboard, and then edited on the computer until beat-perfect. A Pan Command track can then be added, then an Intellabeam track, then a laser track, and so on until a complex synchronised beat-perfect light show has been created. Of course, if the sampled sound track isn't right it can also

be edited at any time. All the information can be archived in digital form to a DAT recorder, building a library of pre-recorded light shows.

Chris Deith says "I wasn't looking for automated control, but a computer control which could respond to the needs of the operator - the lightshow must correspond to the music, and automation can't do this as well as a good operator can." The Institute's operator is Kay Bottomley whose skill has been

supported by her employers sending her on as many courses as they can find (focusing particularly on those covering the Apple Mac and MIDI equipment). Chris Deith seems to think it was money well spent — "Perhaps there are only six like her in the country."

It was only the second open day when I visited and Ms Bottomley was rather occupied with a few teething troubles, and in addition to missing the lightshow, it was diffi-



Seen from the DJ's booth I-Laser Krypton and argon lasers.



The Institute's very own Comedy Club.

cult for a sound demo to be arranged for me. Instead, I relied on Tony Kingsley from Avitec for a description. The Forum system uses four Martin S2 bass cabinets built into the stage front. These were specially chosen to avoid too much resonance in a first floor venue with a large area suspended floor. The mid/hi is provided by four Dynacord CL815 units - one pair dedicated to the dance floor, and one to the balcony, allowing control of sound levels in individual areas. The 815s were chosen for their wide mid coverage of 160 degrees, afforded by the columnar mid array, which allowed coverage and intelligibility under the deep balcony areas, thus negating the need for fill speakers in these areas. The system is active 3-way and is fully limited, with an extra dedicated bass compressor/limiter, giving control over the heavier bass content house style records.

Downstairs in the Dance Factory the Cerwin Vega speakered main system looked potent. Tony Kingsley informed me that the client request here had been for high sound pressure levels; the system had no problem with this, and the hardness of the room environment made the system even louder. I was told that Avitec had reluctantly allowed the system to reach a disturbing 112dBa on the dance floor before limiting; no doubt they will achieve their wish to apply a more sensible limit once the new Noise at Work regulations are enforced. To discourage the DJs from going to this level, a pair of Ramsa 200s are mounted close to the DJ booth as monitors, and apparently achieve an even higher level at the DJs ears! Another pair of the same cabinets is utilised for rear fill



The Take Five Jazz Bar.

behind the mid/high speakers, which are clustered pairs of the Cerwin Vega D32C horn loaded trapezoidal units; mounted under these are JBL 2404 wide dispersion 'baby's bum' tweeters, lifting the top end under the catwalk. The bass end is handled by a point source array of no less than eight Cerwin Vega B119 18" direct radiator cabinets, with four more empty cabinets as requested by the client - making the visual aspect even more impressive. Harrison SP2000 modular mixers were used in both venues, with their multiple zoning facilities being especially useful for linking with the other sound systems. Avitec Beta Seven Series amplifiers were used throughout, with the amplifier racks remotely sited in a distant, but centrally located area.

Elsewhere in the Institute, the systems are based on Ramsa loudspeakers, excepting for Mission units in the Gourmet restaurant, and these provide the right level and coverage without dominating the rooms.

Even excusing the hype of the project it does seem to me that Chris Deith has genuinely tried to widen the age-range of his customers and give them more than just a loud disco, I wish him well. Meanwhile the theatre industry should not turn its nose up at such 'discos'. I was pleasantly surprised at the Institute's professionalism and at its attitude to training its staff and providing them with the very latest (especially in fibre-optic and MIDI technology). We might just learn something from them.



Above the dancefloor of the Forum, Pan Commands and Intellabeams provide the lighting atmospherics, together with an 8W argon laser.



The illustration opposite is taken from part of a CAD analysis of Coventry Cathedral, where Bose have just supplied an entirely new speaker system.

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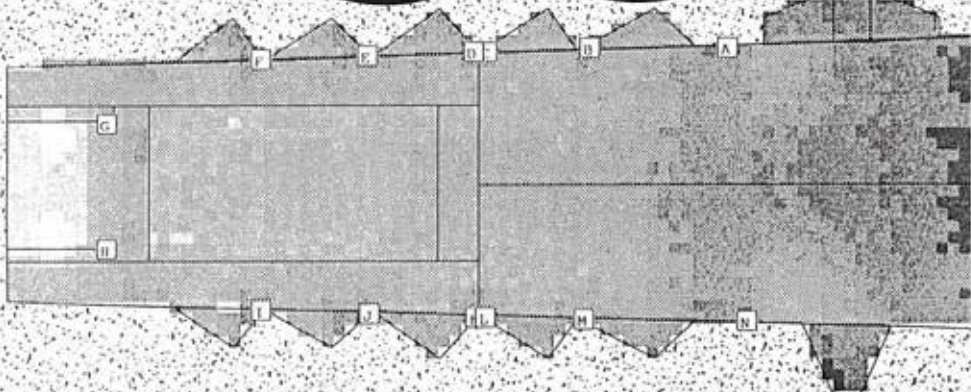
For a start it means that exactly the right speaker for the job can be installed in any given location in the optimum operating position.

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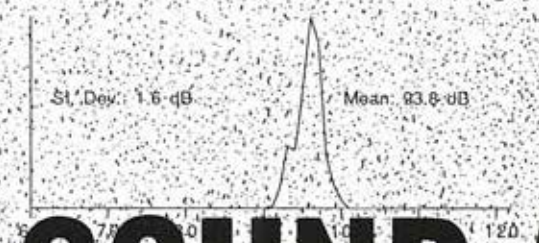
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LE MAITRE ON TOUR

Touring and Fireworks don't mix easily.
David Neale explains how it's done

During the build up to Pink Floyd's 'The Wall' in Berlin, the city which has hardly been off our TV screens since the events of last year has managed to write up yet another first. This time it's the re-writing of Joseph Heller's 'Catch 22'.

Picture the scene. You have one of the largest stages ever crossing the old Berlin Wall (which as we know is no longer there) and our hero has to move pyrotechnics from one side of the stage to the other. Then up pops an East German official. "You can't bring that into East Germany without authorised permission." "OK where do I get that from?"

"You can't," comes back the reply, "they've closed that office since the re-uniting of the City."

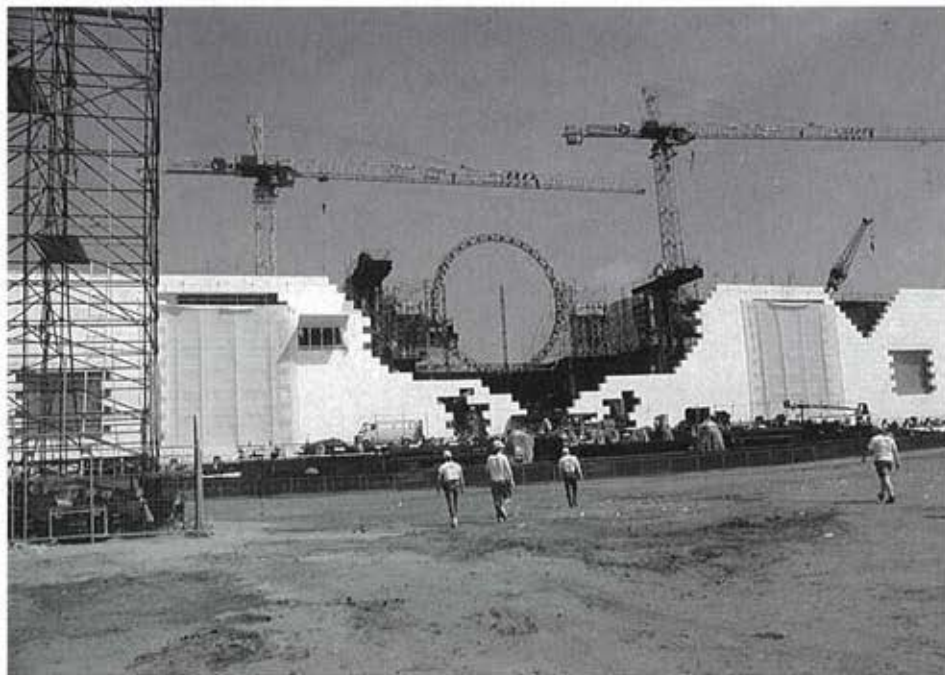
It's all par for the course for Croydon-based Le Maitre Fireworks who this year have undertaken two of Europe's major rock'n'roll tours, The Rolling Stones and Tina Turner, as well as McCartney in Liverpool, Knebworth and, of course, Berlin.

I tracked down Le Maitre Fireworks MD, Wilf Scott, between Berlin and Gothenburg, at his local in Camden, North London. Le Maitre have been involved with both tours since early April when planning first commenced.

Of the two tours Wilf Scott feels that Tina Turner's was the more difficult (60 shows!). "It involved so many different sized venues. One day you'd be working on a big stage with everything laid out, and the next night you'd be at a small venue like Camden Palace — it varies so much you have to create as you go," he explained.

Le Maitre's man on the Tina Turner show was Andy Frame who claims to have had only two days off since the tour started — but that's life on the road!

In planning for the tour the company had to produce a new effect for the show. To do this for the entire tour they needed 1½ tonnes of flame powder. Wilf Scott takes up the story: "We sent a truck to the depot to pick it up and the immediate reaction was to call the factory and ask why these chaps wanted a tonne and a



The Wall goes up.

half when they usually had only six cases."

All the preparatory work for events such as these is carried out at Le Maitre's factory in Peterborough. New effects are created to work alongside their already extensive range. In Tina Turner's case the stage was silver so Le Maitre came up with a matching effect, developed for the song 'Hero'. The result had echoes of the 'Mad Max' film, with a small mushroom cloud producing a smoke effect, a white flame and a crackling noise. Throughout all the shows Le Maitre has worked closely with designers Fisher Park.

With such enormous tours and so many divergent factors to bring together, close co-operation is vital. Wilf Scott again: "Ideally you've got a situation where the LD (in both cases it was Patrick Woodroffe) lays out what he wants prior to discussions with the designers and they tell us what they want to happen. Then you start to put the pyrotechnical effects on stage and you find that the P.A. is exposed, so that has to be covered in polythene. This means you

can't fire where you'd planned because you might get rubbish on the polythene."

As a tour progresses it adapts, but whatever the problems, be it high winds or driving rain a show has to be produced. "One benefit of a long tour is that the crew get to know how you work — ideas can be developed and incorporated into the show.

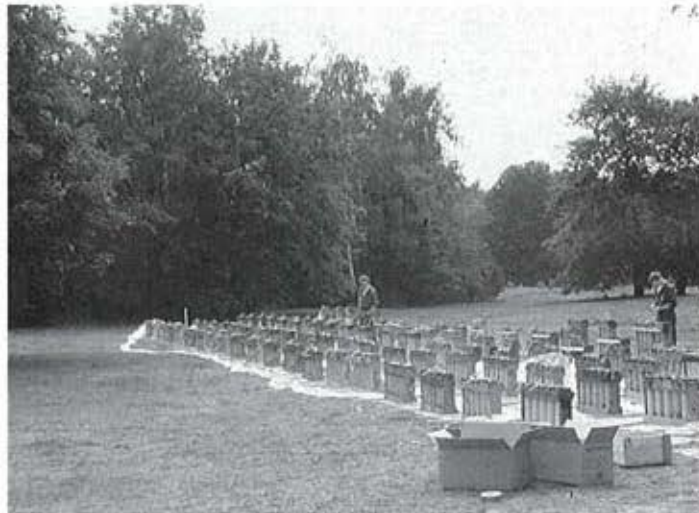
"The management will also have their own ideas of how the stage presentation should be. Tina Turner's manager, Roger Davis, made changes to the original concept — he has very definite ideas on pyrotechnical effects. He likes them loud!

"For Tina Turner the recent tour meant the first experience of working with pyrotechnics so her confidence had to be won over and in special effects you have to be right first time, every time."

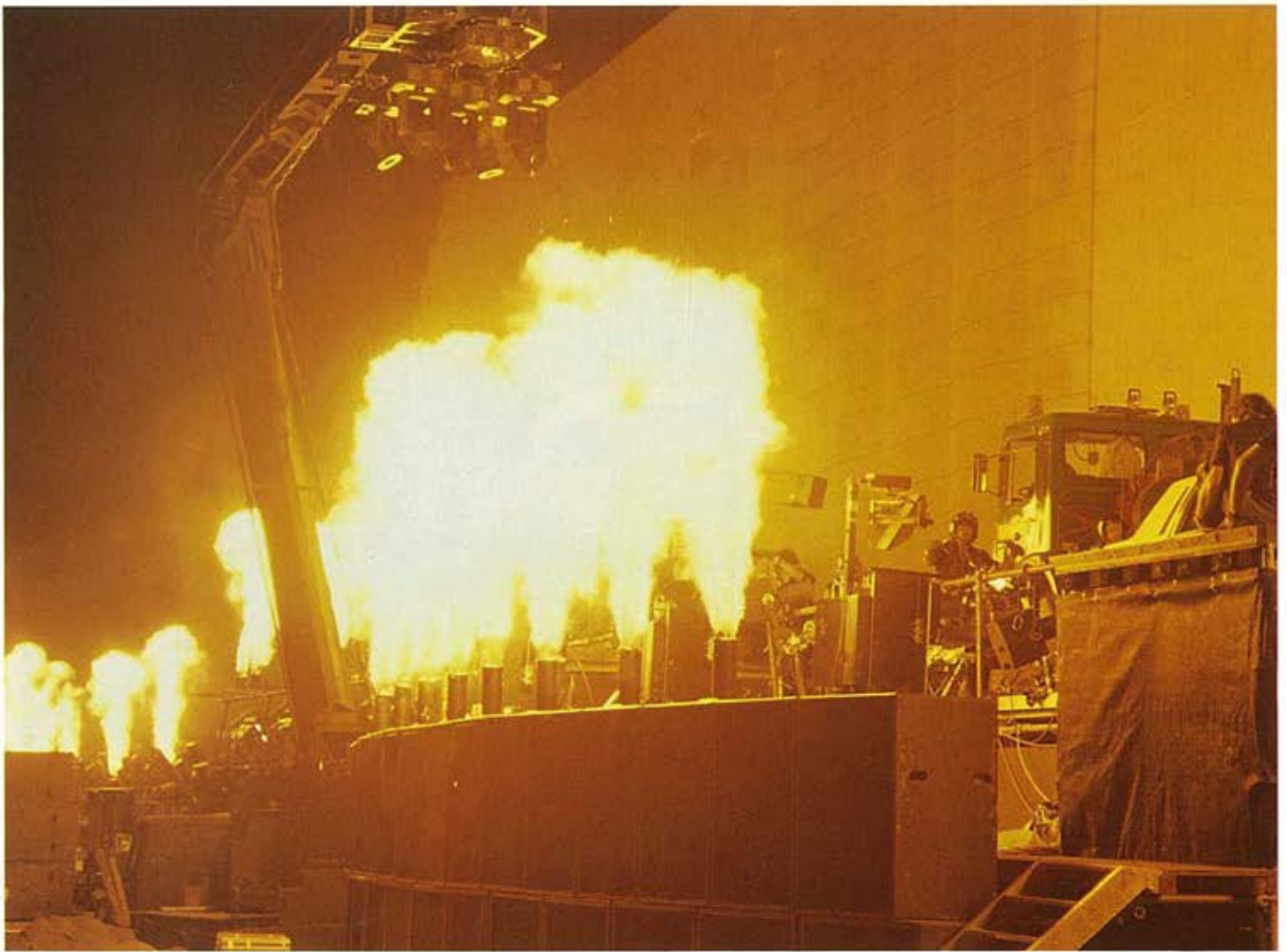
Both tours started on the continent, and once Roger Davis had made the final decision on what he wanted, it left Le Maitre only a short time to organise the pyrotechnical hardware to the various depots around Europe. It's not possible just



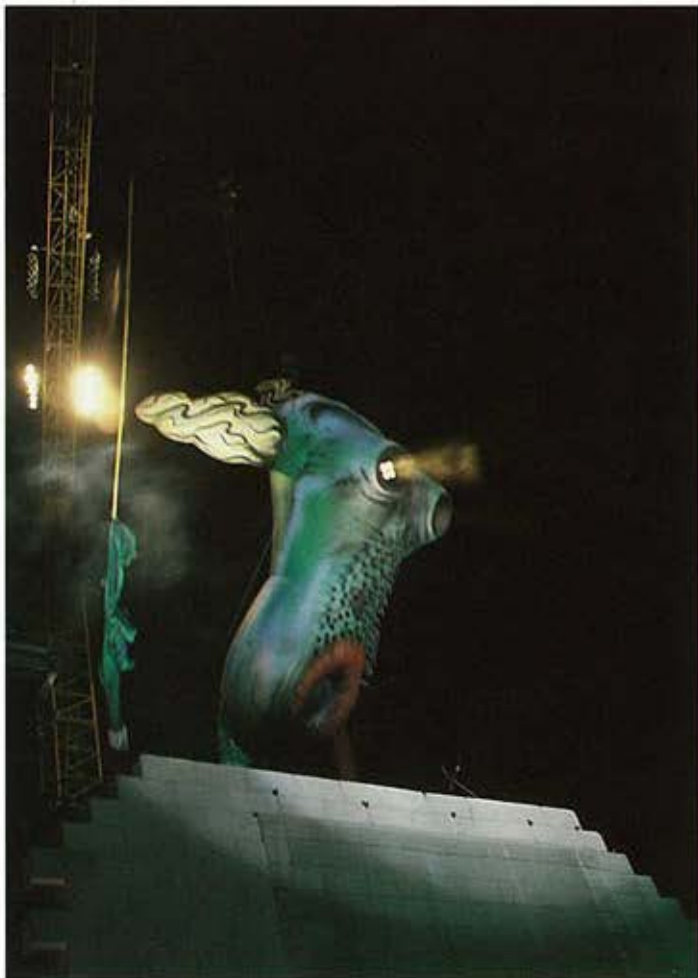
250,000 packed the Potsdamer Platz in Berlin.



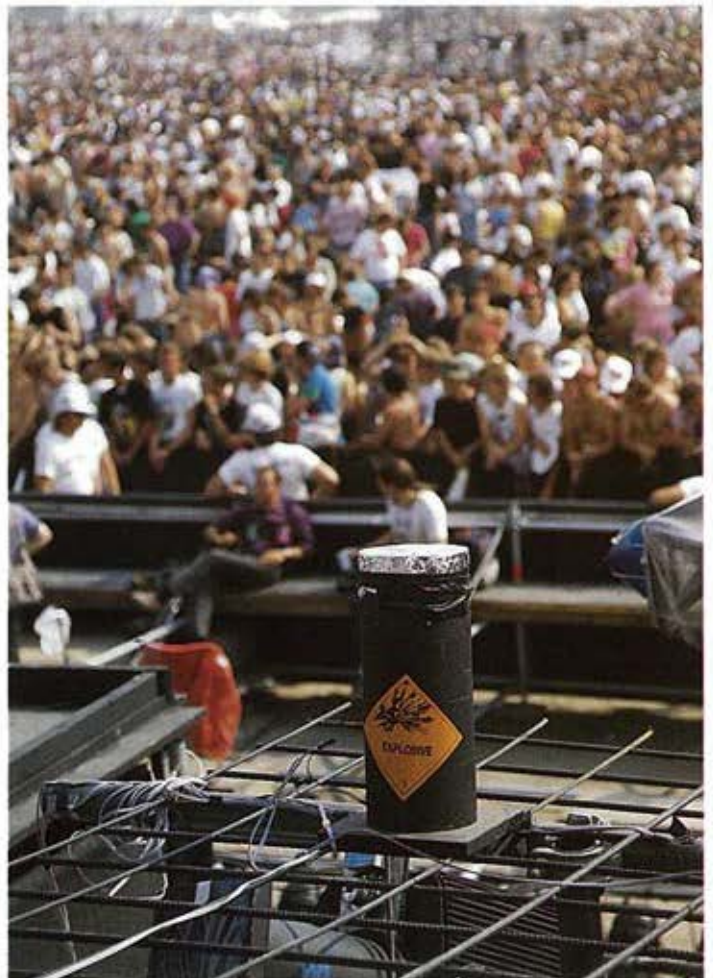
Blinker bombs lined up in five waves for the finale.



Spectacular pyrotechnical effects are the keynote to Le Maitre's success.



Designed by Gerald Scarfe, various inflatables made their appearance.



Close-up on one of the flame projectors.



Pani projectors combined with Fisher Park graphics to create a stunning visual display.



Le Maitre's Mick McManus (left) and Rick Wilson pause for a breather, while the fruits of their labour take centre stage (right).



to drive it to the venue - moving explosives around Europe is a specialised job. The person who co-ordinates this at Le Maitre's end is Rodney Clark.

"Every country has a number of stores which must be licensed. This is where you place all you need for both tours. You then move it to the venue on the day. In the case of East Germany you have to carry it in every day as they won't allow you to store it there," Clark told me.

Transport problems can be a nightmare. On the Stones tour everything was in Antwerp apart from the flame powder, then the fun started. Wilf Scott again: "Because we're working with an updated U.N. explosive book and the port authorities had an old one, the only way we could get the six

boxes of flame powder in was in a 40ft container, and they closed the port for half an hour."

Le Maitre's Alan Grey, one of the country's top pyrotechnicians, co-ordinated the Rolling Stones tour, which was not without its problems. On one occasion the pyrotechnics for the Stones turned up at six pm for that evening's show. The whole lot had been held up by Italian customs, despite all the paperwork being in order. Wilf Scott finds it a state of 'constant brinkmanship'.

Part of his job involves him flying to each country and introducing the management to the aerial technicians Le Maitre have worked with throughout Europe. It's only through this close co-operation that such mind-numbing logistics can be overcome.

I asked Wilf Scott about 'The Wall'. "Berlin was a very extraordinary experience — the biggest stage I've ever seen. The project used 3,000 metres of cable. We got in on the Monday but the East Germans wouldn't let us over the fence (the border). We were involved with the East and West Germans, the police, the fire brigade, and then the allies stepped in. They told us that we couldn't do it because a rule exists, established since the war, that prohibits the shooting of shells higher than 80 metres."

Le Maitre finally got past the East and West Germans, the Green Party (they own the site), the police and the fire department. The latter insisted on a fire engine being present but, not having one to spare, refused to let an East German one in. "Complete insanity" is how Wilf Scott described it.

Sanity in the shape of the head of the bomb squad in Berlin eventually came to the rescue. He had to pass each individual effect and then the same process had to be gone through with someone from the East.

By now the set designers were going ape! Fisher Park had to have some idea of what they could expect in the way of pyrotechnical and aerial displays, and have the option to pull it if they were unhappy with it. They eventually got in on the Thursday with the show taking place on the Saturday.

The final irony of the whole episode was an unfortunate incident during the finale. Lying down in the bowels of the stage awaiting his instructions was Le Maitre's Jim Cairncross. A passing security guard saw his movements and thinking he was a fire(!) blasted the unlucky Cairncross with dry powder extinguisher knocking off his headphones and knocking out the C3D firing

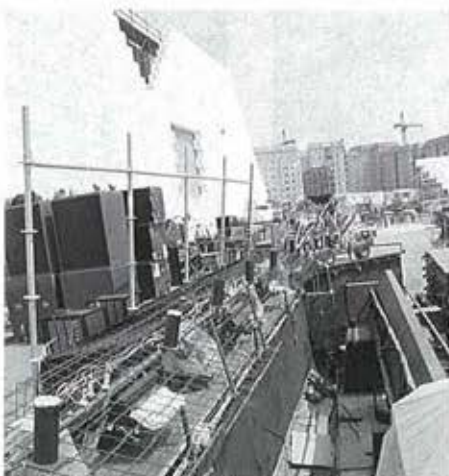


Touring is not for the faint-hearted.

unit. Wilf Scott takes up the story: "I was on the other side of the stage without my cans. The production crew finally got hold of a Swedish technician perched on the top of the P.A who shouts to see whether the effect is ready. The reply comes back 'No!' but to the Swede this sounds like 'Go!'. He phones the German operators working outside, and Bang! the rest is history."

Wilf Scott sums up touring like this: "It's 50% being very good at your job and 50% being able to handle touring. It's a young man's job; by the time you get to 40 you've had it. You have to be able to think fast, be diplomatic, and have the complete trust of the people around you."

Pass me a match, Wilf.



Cylindrical flame projectors line-up.



The scale of the operation was immense.



The lower wall gerbs and wave mines.



Wilf Scott (right) and Jim Cairncross with four hours to showtime.



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RIGHT ON KEW

Ruth Rossington experiences Audio Visual Trickery at Kew Gardens' Thread of Life exhibition

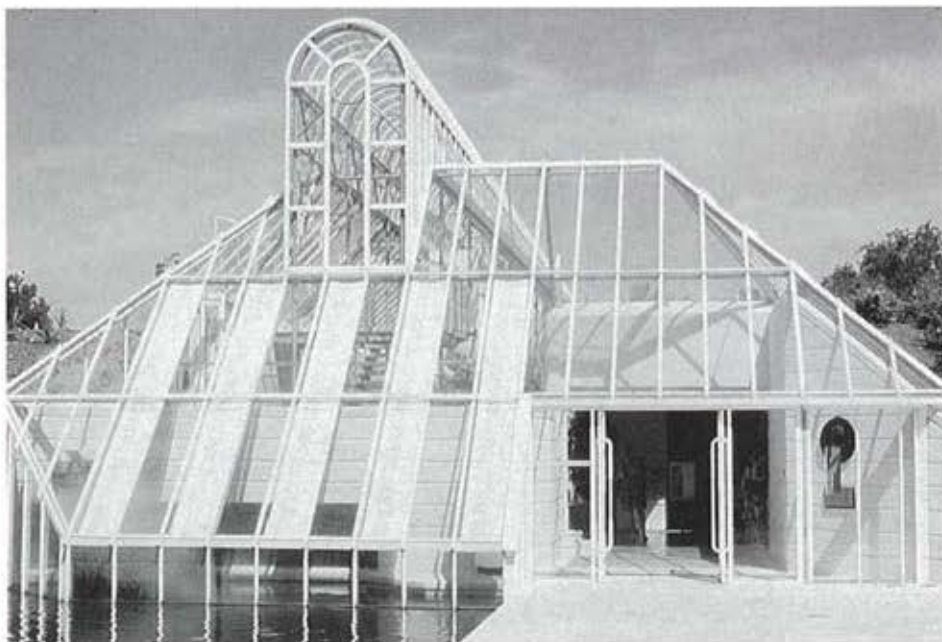
The Thread of Life exhibition housed in the Sir Joseph Banks building at Kew Gardens tells the story of mankind's use of plants over the years until the present day. The exhibition is designed for a group of up to 50 visitors, and the show areas are arranged so as to encourage the visitors to move freely around. The exhibition is something of a radical departure for Kew, well-known for its botanical gardens, and a completely new approach to the use of audio-visual techniques for any similar establishment.

A group of up to 50 visitors are led into the first area, in which there are eight large front-projected screens, 2.9 metres wide, spaced down each side. Music accompanies a slow dissolve of images, until the main show, with a gradual change of scene, is set in motion.

The story is told with the use of 16 Simda 3250 slide projectors — a pair for each screen. To accompany the slides and the large dramatic images, there are 28" Hantarex video monitors mounted above the screens that can pictorially explain the more complex processes of plant evolution with moving footage.

Electrosonic have completed the installation of the multi-media show system. They worked as audio-visual systems consultants to Event Communications who were responsible for the complete project design and implementation. Hi-Profile Concepts were drafted in to work alongside Electrosonic and DHA Lighting for the electrical system's design and installation at the site.

The story unfolds with controlled lighting effects, all designed and supplied by London-



The impressive entrance to the Joseph Banks building.

equalisation, and the sound effects are dynamically mixed with the main sound. The show was programmed, with the position and intensity of the effects under full control, via an Electrosonic modular mixer system. An ElectroVoice 18" sub bass is used in the central display to provide an effective and dramatic bass response, to a sound system that moves the effects around the show to prompt the visitors attention.

The lighting equipment used in the first area is hung and distributed rather like a miniature theatre rig. Remote 12v Birdies, 75W, 12v profiles with gobos, modified Par 36 housings and assorted adjustable low voltage downlighters are used to provide a varied palette, giving a range of colours and textures. This is then augmented with effects which include tiny Xenon strobes, animation discs for some of the profiles, a range of dichroic filters from Bausch & Lomb, and the "odd fibre optic or two," according to DHA's lighting designer Adam Grater.

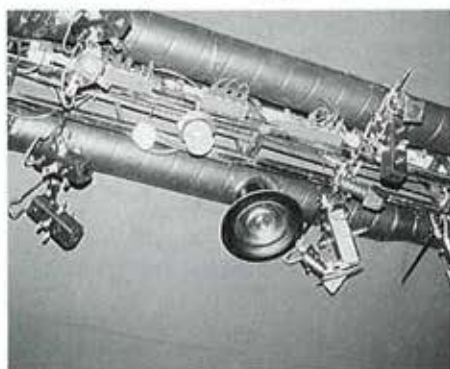
At the close of the first show, pneumatic doors automatically open to the sound of chain saws, and the visitors move into the second show area. The message here is the future of the forest, and large pictures portray the forest, with endless reflections around the walls in an infinity mirror effect.

In the second show area, the story continues with the doors finally closing on the first show, leaving it to automatically reset ready for the next group of visitors. The second story is told by three video monitors mounted off the ceiling, with dramatic lighting effects playing on the audience. At various points in the show, the images change as the three-faceted mechanical panels they are mounted on slowly revolve.

Gobos are again used in exhibition two, with another type of profile spot, to provide the preset image of deforestation that meets the audience as the doors are opened. Adam Grater again: "The Miniatura fitting was a

real find. It's a 12v profile, about the size of a smarty tube, and at 20W it's an extremely efficient luminaire. Experimenting with the artwork, we eventually came up with an effective gobo by lifting imagery from one of the show photographs. Probably the most important factor from our point of view was that the lighting had to follow the story, with all its attendant elements such as the storm sequence and the highlighting of the various mannequins, without it being the dominant feature.

The audio is again replayed from videodisc, with just one player and two audio channels, combining four Tannoy NFM-8 loudspeakers, and a further ElectroVoice sub bass. The Tannoy loudspeakers are angled into the ceiling and, unfortunately, the sound dispersion is not as clear as in the first area where the speakers are placed on the side walls and directed across the room.



Remoted Birdies, Profiles with gobos, and modified Pars provide a varied palette.

based DHA, and controlled through an Electrosonic 7000 series Digirak. Throughout the presentation, the lighting plays on the audience and also highlights four model figures, that rise out of a central structure, during the show; all synchronised to the show content. There are also two lighting reveals behind painted gauzes, near the exit to the first show from which spacemen suspended in space emerge.

The sound for the show is replayed from two Sony videodisc players, with two main audio channels replayed from one player, and two channels of specific effects from the second. Eight Tannoy NFM-8 monitor loudspeakers are placed around the walls, each with a separate line of amplification and



The future of the forest.



Part 1 of the story: A complete mix of audio-visual and still life displays relate the evolution of plants.



Close-up on one of the eight projection screens.

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An Electrosonic BSC multi-media control programme is used to control the two shows with one rack mounting PC for each show as the shows can overlap and run concurrently. The programming, carried out by Keith Spillet, incorporates the requirements of the sound producer, image producer, lighting designer and overall project manager into a complete multi-media experience, run from a single main control element for each show.

At the end of the show, the visitors are led through a static display gallery detailing the various elements of plant development and its role in textiles, to complete their visit to the Thread of Life exhibition.

Equipment List:

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- ES7932 analogue control units
- ES4044/16 auxiliary effects control units
- ES4424 BSC show computers
- ES5003 Videodisc control units
- ES4003 dissolve units
- ES1370 modular mixers
- Sony videodisc players
- Hantarex 28" chassis monitors
- Simda 3250 automatic slide projectors
- Tannoy Monitor loudspeakers
- ElectroVoice sub bass loudspeakers
- Quad 405 power amplifiers
- Altec Lansing 9444A power amplifiers
- Times Square profiles
- Miniatura CS11 profiles
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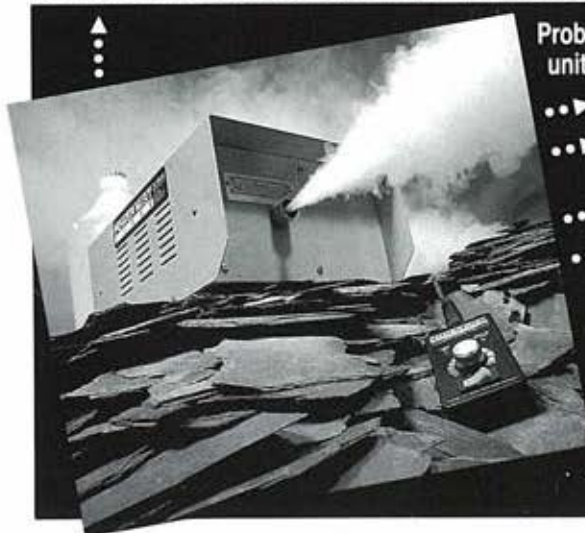
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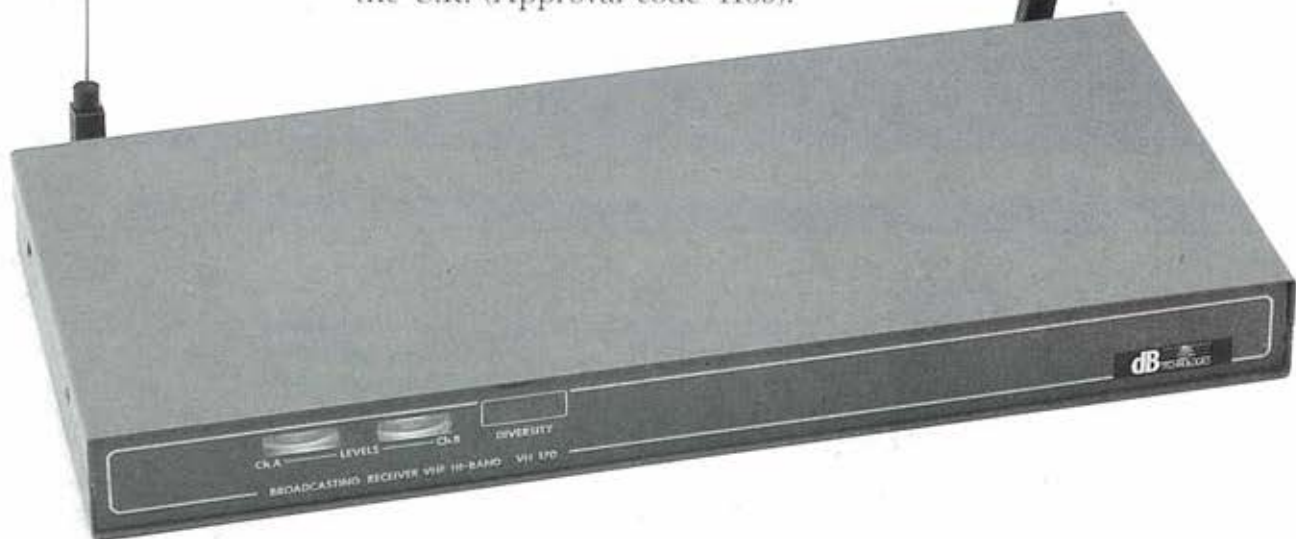
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PROMENADING

Avolites and Meteorlites: Mike Lethby discovers a Technical Duet at the Albert Hall Proms

The annual season of BBC Promenade concerts, The Proms, is an institution that seems as quintessentially and timelessly British as cream teas or cricket.

Staged by equally unwavering tradition, at London's venerable Royal Albert Hall, it runs through the summer with concerts everyday of the week, each broadcast on TV, BBC radio or both. The season ends as usual in September with the ritual Pomp and Circumstance last night in which the audience demonstrates a rather un-British fondness for live classical music by squatting on the floor and roaring and waving along with the orchestra's greatest patriotic hits.

This year's model marked a step away from the BBC's normal pattern of using in-house facilities. Meteorlites of Boreham Wood were contracted to supply and engineer their own truss, lights and desks, and the centrepiece of their system was a brand new digital dimming system from Avolites, the TV 48-25 DMX.

For Meteorlites (whose set-up remains on site throughout the season even when there is no TV production) it was a prestigious contract with all the kudos of a major rock'n'roll client. For Avolites, it was a tailor-made showcase for a system which the company hopes will find enthusiastic buyers in the upper reaches of the commercial lighting hire market.

The Proms, as a season of classical music concerts, involves no sound reinforcement except when, on rare occasions, electronic instruments or electric guitars or basses are employed.

But the lighting, though static, is a deceptively tough assignment. The crew comprised board operator and crew chief, Paul Devine; electricians Pete Delemos and Tony Leighton; technicians and Derek Goddard and Roger Grybowicz — all from Meteorlites.

I spoke to Paul Devine, John Livingstone (the BBC's managing engineer on the project), Meteorlites' Tony Panico, and Derek Halliday of Avolites about how it all came together.

Making it Happen

Paul Devine: "John Livingstone's initial brief was quite basic. He wanted certain lamps in certain areas to get the right key lights and general lighting. So we wrote a proposal covering trussing and how we could get the lights into the positions he wanted. Once we'd agreed on that we checked with the Albert Hall that we could fly that amount from those positions. And after a little red tape, it was 'all systems go!' Basically, all the lighting is designed purely for TV. They are paying the money and they get their pictures. It's too bright and too hot for the audience, but the TV pictures look fantastic! With this weather we've been having, it's started off at 80° inside. Then we put up 400k of lamps, and it bakes them a little — it's been very hot in here. We've got a wind machine set up next to the desks to keep the temperature down a bit."

John Livingstone: "I wouldn't say this show is technically difficult; it's simply good quality

illumination. But the art lies in getting the levels right with a bit of rim light and colour here and there so it doesn't look flat. With the TV cameras' zoom lenses, it can all get visually compressed."

What makes it tricky is the dichotomy between not dazzling the audience and orchestra, yet satisfying the TV producer.

Devine: "There are normally about eight cameras, so the lighting's got to look right from all angles. You need a system like ours to be able to react quickly. A computer 'dial-in' system wouldn't be right."

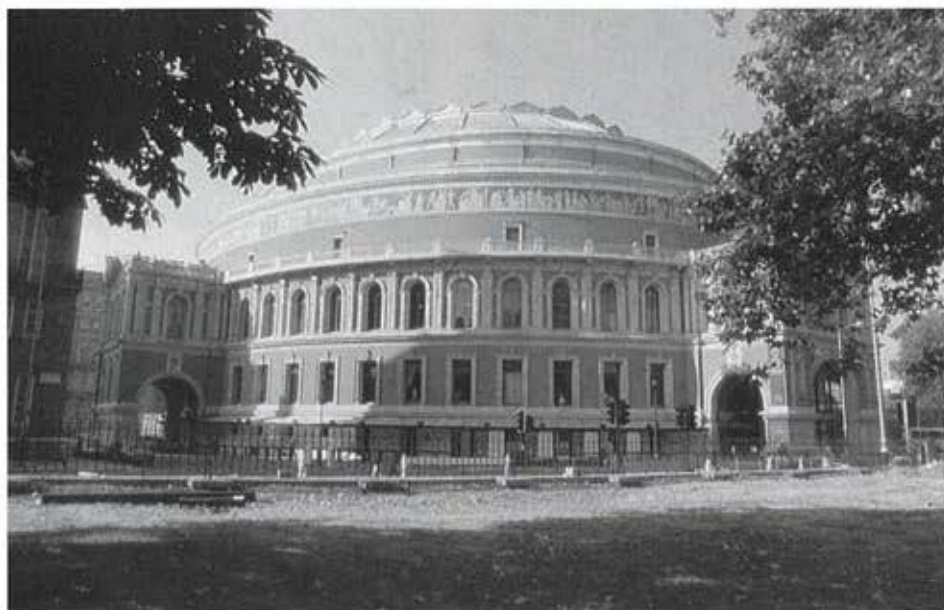
The Albert Hall itself imposes restrictions: "The canopies have to be set at a certain height to get the sound reflections correct for the orchestra, because of the way the orchestra is stacked up the steps at the back it's quite difficult. The lights have to be positioned so they're not shining into the musician's eyes when they're looking at the conductor. And the amount of mics needed to get good sound for the Nicam stereo broadcasts causes problems with key lights

and shadows. We have to move lights around a lot, and there's lots of give and take between us, the TV and radio. But we've got enough up on the truss to cope with it."

John Livingstone, as the BBC's managing engineer, was in charge of the technical production with an emphasis on the lighting side.

Livingstone: "From my point of view, when we first devised the system, it was a question of how we'd mount the lights. Previously, we'd used scaffolding, and moving any lights involved five people on ladders and another five balancing on an A-Frame, building up risers at the back. So to re-set a lamp was a major operation.

"I didn't like that system because the height of the ladder determined the height of the lamp, so the lamps were too low from the orchestra's point of view. I wanted a compromise system which allowed me to put the lights at the height I wanted, and which the orchestra would be comfortable with. By using trussing we gained an extra four feet in



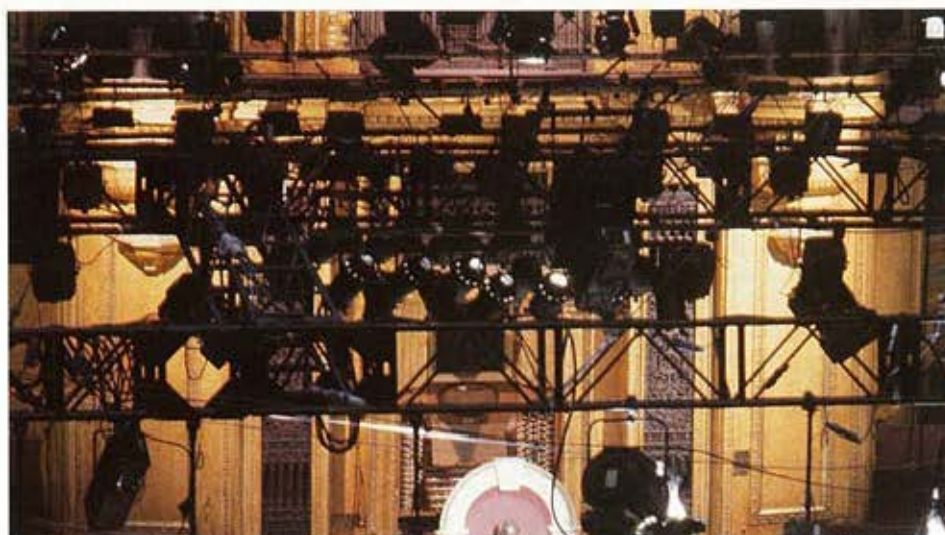
The Royal Albert Hall — home of The Proms.



The Avolites line-up for The Proms.



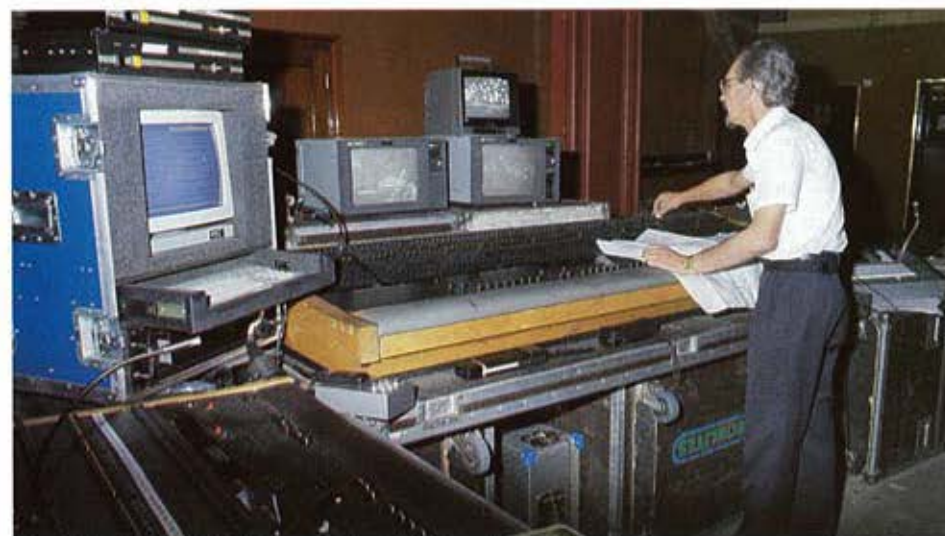
CONCERT, STAGE, T.V. AND INDUSTRIAL LIGHTING



A mixture of standard TV lamps and Strand's Cadenzas and Cantatas comprise the lighting rig.



Rehearsals in progress.



John Livingstone, the BBC's managing engineer, at the main console.

height. It may not seem much, but it's 12% higher which made a significant difference. It also meant that we could reach any light and re-set it in 10 minutes instead of 40 as before. So we can adjust lamps that previously we'd have ignored. The trussing is reliable and it looks better from the audience's point of view. I'm very pleased with it. It's also allowed me to put up more lights, with spare lights that might only be used on alternate concerts."

Devine: "John has changed it from the way it used to be - always pars and no trussing, which meant you always had to use a

tallescope to change anything, which is why we went to truss. I don't think any of the companies the BBC were using at the time dealt in truss."

He explained that the BBC expected a conservative presentation where colour was concerned.

Devine: "There's no colour except on the organ. Under white light it comes up a horrible yellow colour, so we use a 176 Amber which looks really good, a Steel Blue 117 on the pipes to give them a cold metal look, and a few colours around the arches to pick them out. Otherwise, all the lighting is

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Control is courtesy of two Celco's running through the Q-Patch system.

straight white for the TV.

"And nothing changes during the show in case it distracts the orchestra when they should be watching the conductor. You set the scene and watch the monitor — and just tweak things a little if someone's glaring too much if they're starting to sweat. But whatever's done at the desk has to be done very gently because I'd get a lot of complaints if the show was tampered with too much. They don't allow such rock'n'roll things as bumps and fades, and no strobes, or pyros either!

"What we've got is a 70x45 feet box truss with a front truss 12 feet forward of that. There's four 10ks, 16 5ks and 36 2k standard TV lamps. Plus some Rank Strand Cadenzas (on the soloists and the conductor), Cantatas and 5ks and 10ks for the general wash, with pars on the orchestra and some blondes on the organ.

"Audience lighting is shared between 5ks and 2ks on the front truss and some pars around the gallery and the Grand Tier. Again, it's a matter of not putting lights in people's eyes. All in all, the contract was for 434kW and on the last night, it goes up to half a megawatt."

Dimmers: New from Avolites

Avolites' new TV 48-25 DMX digital dimming system was designed specifically for this kind of heavy duty, long run application and as Derek Halliday explained, the requirements of companies such as Meteorlites were uppermost in its creators' minds.

Halliday: "Each rack is a 48-channel, 25A per channel system, so it'll run a true 5k load on every channel. Meteorlites have it set up with a mixture of 5ks and conventional pars, so some racks have what we call a 'hot patch' which allows you to put a number of 1k par lamps onto any given channel and some dedicated 5k circuits. We modified it for Meteorlites to run 10k lamps by pairing channels up. To run all day, and especially in these temperatures, they have built-in thermostatically-controlled variable speed fans."

Both the inputs and the dimmer control circuits which 'fire' the thyristors are totally digital, running on DMX512 digital protocol.

Derek Halliday: "I think it's fair to say that apart from true 5k loads last year, Meteorlites did use other Avolites dimmers to do the same job, but they needed more of them. They also had to fabricate their own ELCB distribution units to protect the system, whereas this has it all built in.

Heavy Duty

Derek Halliday: "Adam Bennette, one of Avolites' design engineers was responsible for

the design. We listened to what users were saying about the existing products, where they were being used, and how we could improve them. He was given that information and came up with the design.

"In terms of its engineering and packaging it's very similar to our other products. It's the electronics that are different — the crucial guts of the dimmer. The engineering that's gone into it is of a very high standard, because it's meant for very high level applications. Therefore, it also costs a lot more money.

"The main reason we designed them was because over the last four or five years, a lot of rental companies like Meteorlites have seen their customer's core businesses moving into TV, product launches and other applications where the demands of the dimmers are very different from the rock'n'roll shows they'd always done previously.

"But rock'n'roll means dynamic shows where the dimmers are on-off very quickly and they're not running for any length of time at a demanding load. For TV, product launches and industrial presentations dimmers run for hours on end, day in, day out.

"The systems Meteorlites used previously — the 72 ways — would do certain parts but they couldn't do all of a show like this. So we designed a dimmer that had three particular criteria. One was duty cycle, which had to be 100% able to run every channel at full power every day. The second was noise suppression; especially important at a show like this with TV and radio microphones everywhere. And thirdly, for safety reasons, built-in earth leakage circuit breakers (ELCBS) so that if any fault arises, anywhere in the lighting rig, the system will shut down."

Asked about other potential applications, Tony Panico of Meteorlites (Avolites' first customer for the new dimmers) hopes for "probably one or two shows a month for the BBC. We want to see them on all our future work for the BBC."

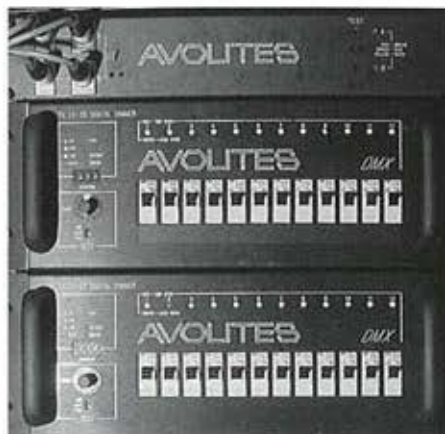
Paul Devine adds: "They rushed them out for us and although we've had a couple of teething problems, there's nothing to cause us any concern for the shows."

Devine says the system, which is pushing through around 600A, is a much more compact solution than last year's technology, and has eliminated former problems of noise breakthrough to everyone's satisfaction.

In Control

Paul Devine's control is a 90-channel Celco linked to a second 60 channel Celco both running through the Q-Patch system.

Devine: "John's in charge. He's the one who says fade that up or fade that down.



Avolites TV 12-25 digital dimmer.

We're using the Q-Patch to access individual channels. When I'm watching the screen and something's too bright, we use the desks and we use the Q-Patch for setting all of a certain bank at exact levels because with the desk faders it's 'is it close enough', whereas once it's set for one we can set all the lamps as a percentage read-out on the Q-Patch.

Devine's credits include lighting the near legendary 1988 Monsters of Rock festival at Donington for Iron Maiden. I asked him how he found the difference in routine from working with rock'n'roll? "It is quite different, but it can be quite interesting too. It depends on the piece. You can have a dynamic piece one night or a fairly boring piece, lighting-wise, the next, where there's virtually nothing for us to do at all."

I asked John Livingstone whether the attention paid to lighting this year's Proms season reflects a wider trend to more complex TV lighting, and how much it is influenced by developments in TV technology itself?

Livingstone: "Modern cameras are becoming more sensitive, so theoretically the lighting levels should be capable of going down. However, they're also using longer lenses which go down to a 55:1 zoom ratio, an angle of half a degree. At those lengths there's a ramping effect which means you lose the cameras sensitivity, because you're going in tighter. And naturally, if you give a producer or director that capability he's going to use it.

"So the lighting on a show like this is more complex simply because the producers are finding more shots and being able to look at each individual in an orchestra — which in turn means every individual has to be filled and backlit. And you can't miss anybody because as you pan along a row it would be very obvious."

The move to a single, outside lighting specialist has a sound economic basis, he added: "It's a great help being able to use a single firm to supply the lighting and the truss, and to service and crew it all. It's a far more efficient system than if I have to co-ordinate scaffolding, lights, dimmers, desks and so on from individual suppliers. This way it's all down to one firm, their crew do everything and that's reflected in the overall price. So from the BBC's angle we get better lighting — it isn't cheap, but it is very cost-effective. I wouldn't change the approach now. It might not automatically always be Meteorlites (although I'm extremely happy with what they've done) but it would certainly be a 'Pop' lighting contractor."

Is that unusual for the BBC considering the Corporation is hardly short of its own lighting facilities? Livingstone: "It's unheard of! I would normally contract each part separately. This way I've passed the whole buck. I gave Tony Panico diagrams of exactly where I wanted the lights, and it's then his problem. He coordinates it all and I get a fixed price for putting it all in, servicing it, and taking it out. Which allows me to concentrate on the lighting rather than on how to get it up."

It seems clear that the new alliance has proved a considerable success for all concerned. Derek Halliday was quietly elated at his products' enthusiastic reception — and Tony Panico, Paul Devine and the Meteorlites team are looking forward to broadening their repertoire of work with 'Auntie' . . . and who knows where that will lead them?

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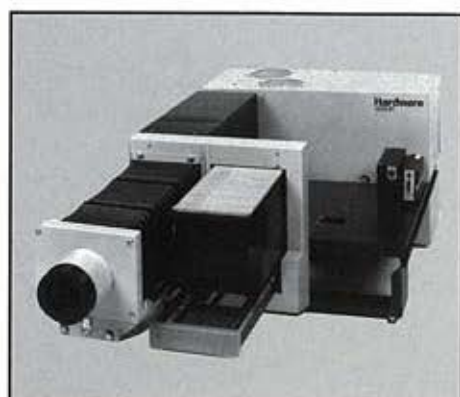
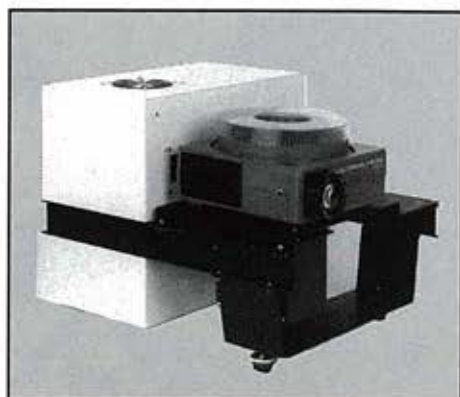
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A compact projector that enables ambient light to be maintained for taking notes in a conference room. Image up to 7 metres wide.

XENON 1 000 W - 8 000 Lumens 24 x 36 mm and 60 x 60 mm slides

The 24 x 36 mm model is often used in multi-vision mode for conferences, sales conventions and stands. Image up to 10 metres wide.

XENON 1 600 W - 14 000 Lumens 24 x 36 mm and 60 x 60 mm slides

Same applications as the 1 000 W projector. The 60 x 60 mm model can be used for theatre backdrops, giant posters, and projecting decors for films and television programmes. Image up to 14 metres wide.

XENON 4 500 W - 70 000 Lumens 180 x 185 mm slides

Designed for giant projection in large auditoriums, on to monuments, châteaux, inflatable structures or any medium created for a specific event. Image up to 40 metres wide. The 4 500 W projector is compatible with standard multi-vision systems. The slide changing is microprocessor controlled with a removable 40 slides tray and a rapid search random access.

XENON 7 000 W - 100 000 Lumens 180 x 185 mm slides

Same applications as the 4 500 W projector. Image up to 50 metres wide.



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XENON 7 000 W - 85 000 Lumens. Use distance : 15 to 300 metres.

Hardware for Xenon offers a "short model" follow spotlight in 1 600 an 2 500 W versions.



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**XENON 2 500 W - XENON 4 500 W
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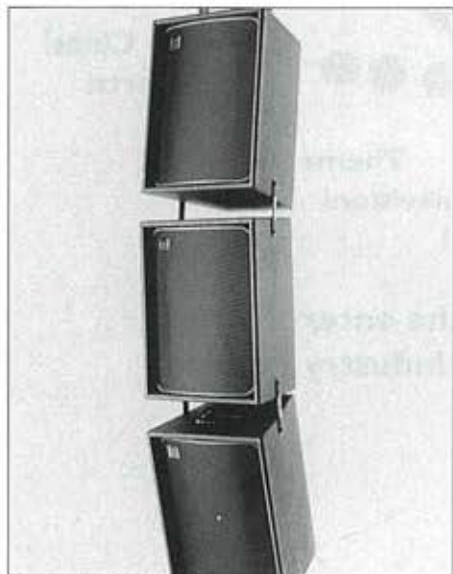
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MARTIN AUDIO CT SERIES

Tim Frost highlights the launch of a new speaker series

Dave Martin, MD and motivating force behind Martin Audio, launched an all-new loudspeaker range at his refurbished factory and offices in High Wycombe. The company recently hit the news by joining forces with the TGI Group of companies, which includes Tannoy and Mordaunt Short.



Martin Audio's CT2.

Martin's new system, the CT Series, effectively replaces the CX Series with a range of even more compact components. The key part of the system is the CT2 full-range unit, which is driven by a new 12" co-ax driver manufactured for the company by ATC.

Like many small full-range speakers being developed now, the CT2 has a trapezoid box to reduce the profile of the speaker when it is mounted on walls or ceilings. The angled walls of the speaker also make it easier to put together a suitably angled cluster of CT2s.

The cabinet has, in total, nine M8 screw mounting bushes and a tripod mounting socket to increase the flying and mounting options. Dave Martin said that these hanging points were very secure and were, "tested to 6 tonnes, at which point the test rig broke."

Martin were also producing a comprehensive range of flying and mounting hardware, so that clients can buy a complete system from the company rather than having to go to third party suppliers of mounting hardware.

The CT2 is designed to operate either as a stand-alone full-range speaker or in conjunction with the new CTX sub-bass cabinet, and the two can be mounted together using a single short connecting pole.

The cabinets match in looks with the F2 system and incorporate substantial internal bracing. Dave Martin commented that this bracing had a direct benefit on performance. "The idea is to make the cabinet as rigid as possible as wall flexing generates losses. By increasing the

bracing and stiffening of the cabinet we have got 2 to 3 dB more bass efficiency out of the CTX over the BX2."

The whole system has been developed to increase the company's impact on the installation, corporate sound reinforcement and broadcast markets, hence the emphasis on small size and high power. A third loudspeaker in the range is a wedge monitor which has been developed for full-range general stage foldback purposes rather than as a heavy duty musician's foldback speaker. With the CTW wedge the company is looking primarily at theatrical and TV users, those looking for inconspicuous, but high power, foldback speakers.

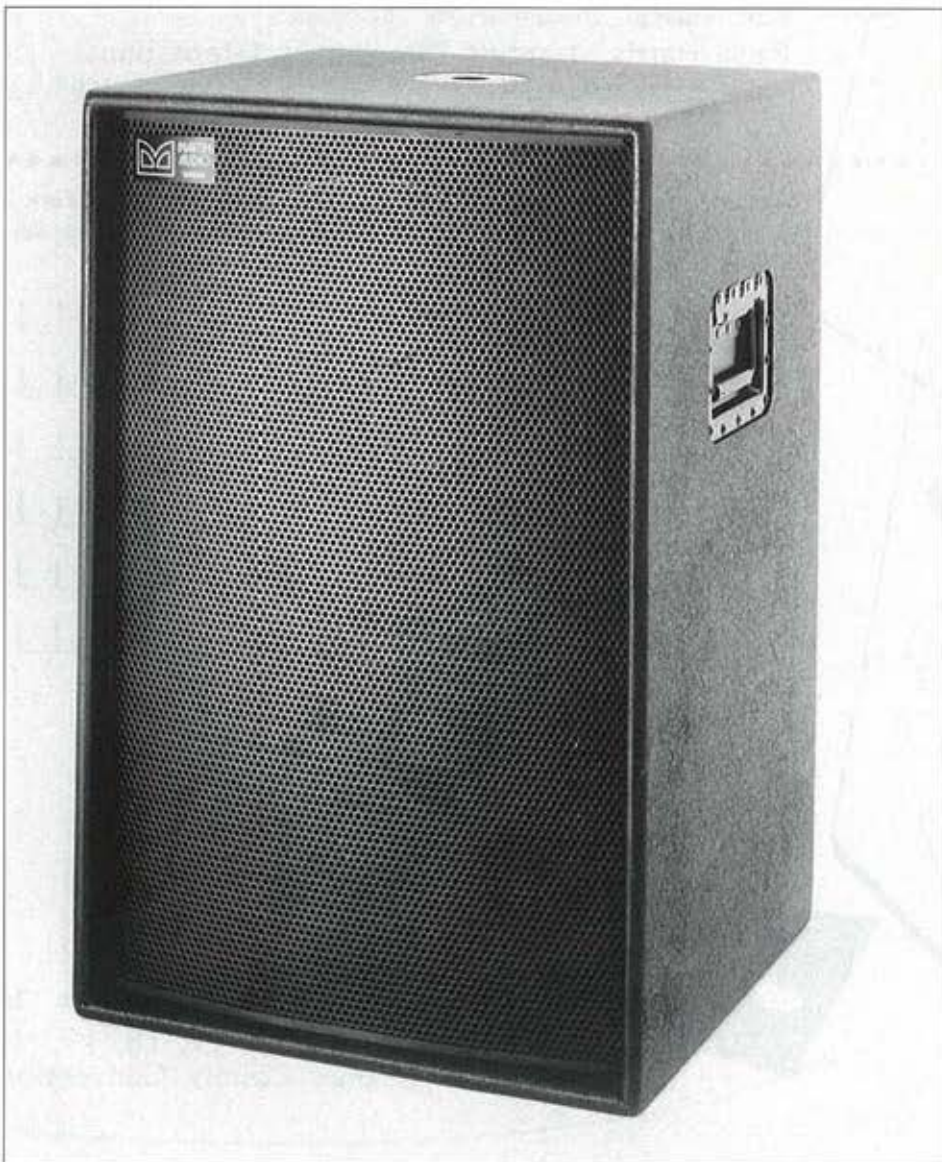
The system can be used with the company's existing MX4 electronic controller, but Martin have released the MX2 controller dedicated to this and 'other future' compact systems.

The MX2 is a two channel electronic crossover with additional EQ and limiting, and has two features new to Martin Audio controllers. The limiting can be operated either by monitoring the line signal or

from additional connections made to the speaker outputs of the amplifiers. In this way, the limiting can now directly monitor and control the amplifier's outputs increasing the protection offered to the speakers and making the system set-up independent of the amplifier sensitivity.

Since the CT Series is targeted at conference and music applications, the controller includes a simple mid frequency contour switch to adapt the response to the different needs of speech and music.

Dave Martin has also just spent a considerable sum on a new 62 sq.m demo room, not just to provide a reasonable listening environment, but also reduce the amount of sound getting out of the factory, especially important when demonstrating an F2 rig at full pelt. In the new room, the CT Series performed well both with and without the addition of the sub bass box. By putting a price of around £2,000 on a complete system, the company has placed its new speaker series into the mainstream of compact systems and conference systems.



The CTX sub-bass cabinet.

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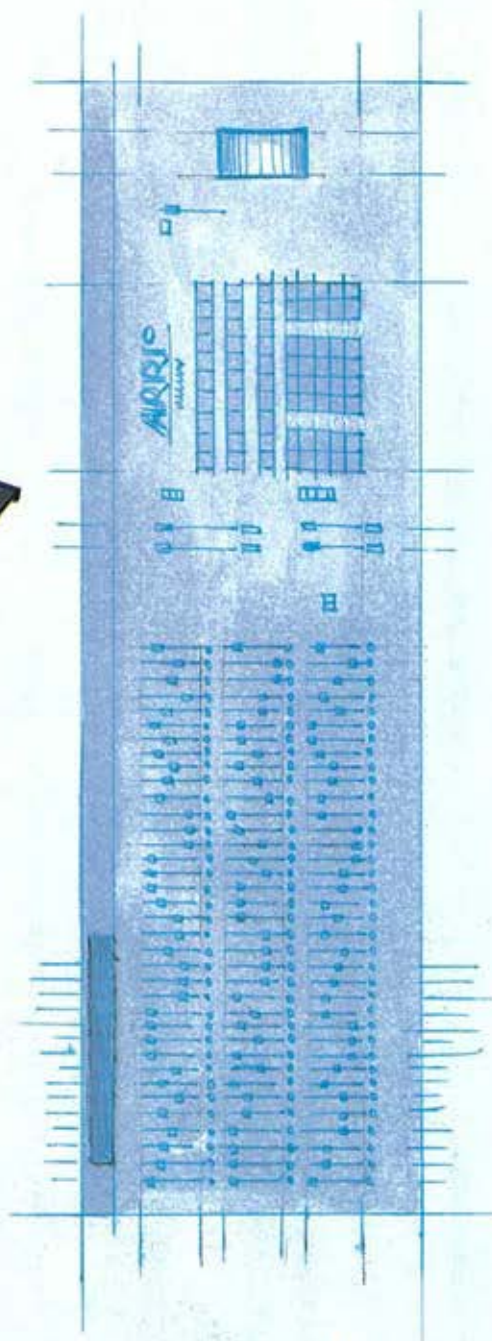
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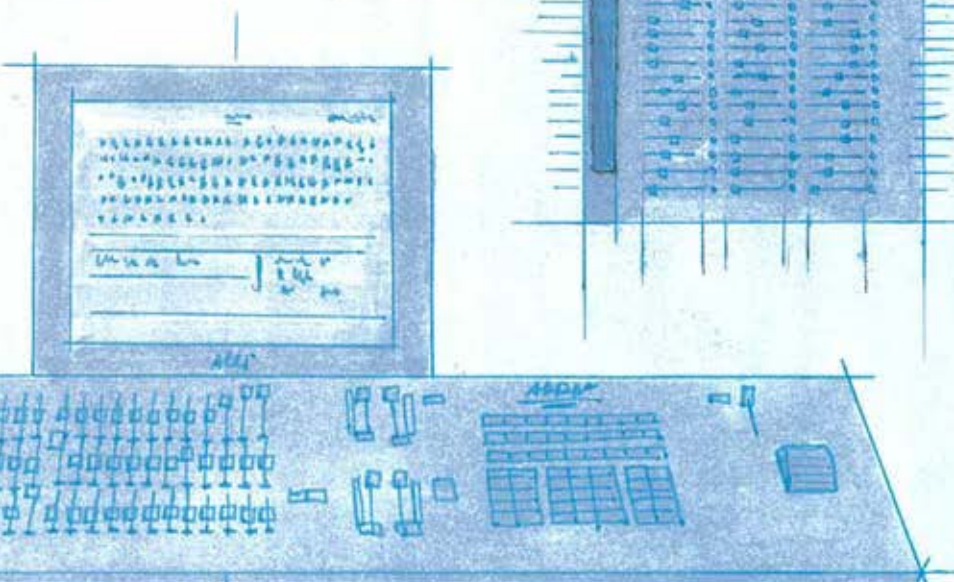


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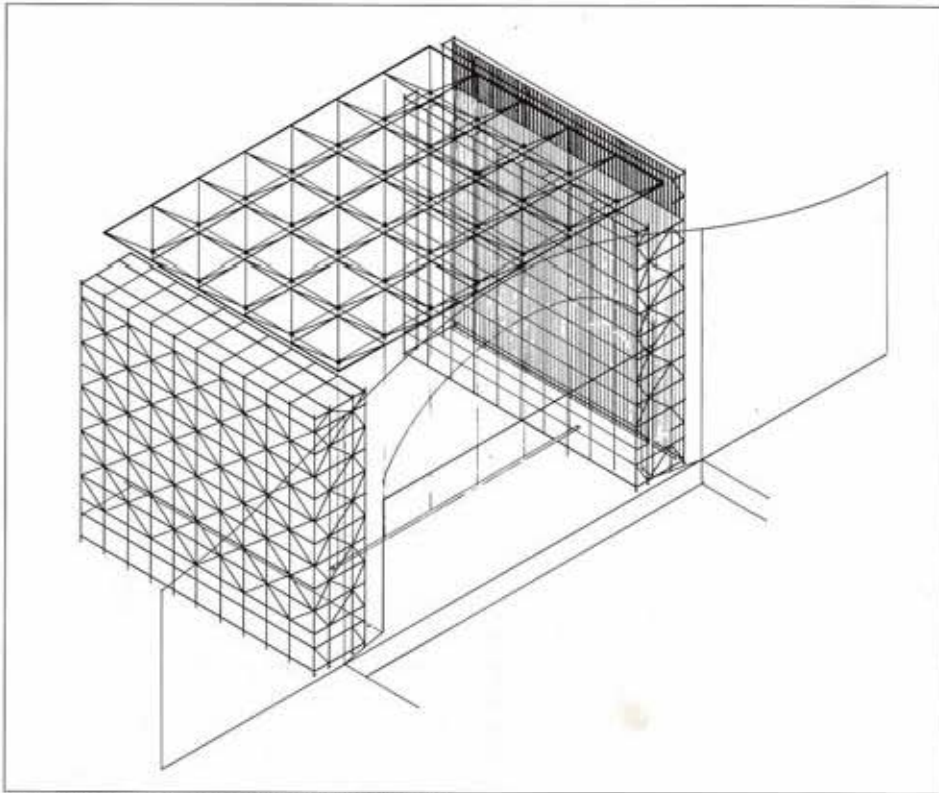
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RIGGING FOR THE BOLSHOI

Unusual Rigging at the Scottish Exhibition Centre



An axonometric view of the complete structure.

This year Glasnost arrived in Stanmore — Unusual Rigging's headquarters. Having already worked with the Kirov in Dublin and on the British Heritage exhibition in Kiev, the invitation from Glasgow to work again with the Russians was well-received. Forming the centrepiece of Glasgow's celebrations as the 1990 Cultural Capital of Europe, the Bolshoi Opera's two chosen productions are lavish in scale and spectacle. *Mlada*, Rimsky-Korsakov's fantastic opera/ballet, and *The Maid of Orleans*, Tchaikovsky's epic tale of Joan of Arc required full stage facilities, using the same scenery, lighting and props as in Moscow.

With no theatre in Glasgow large enough to stage the productions the brief specified the design and installation of the first-ever temporary proscenium theatre complete with fly tower to be erected in the empty shell of the Scottish Exhibition Centre.

Watching *Mlada*, you cannot fail to be impressed by the sheer enormity and complexity of the production. You may not, however, be immediately aware of the transformation that has been undertaken in the Centre itself. It is no less ambitious or complex.

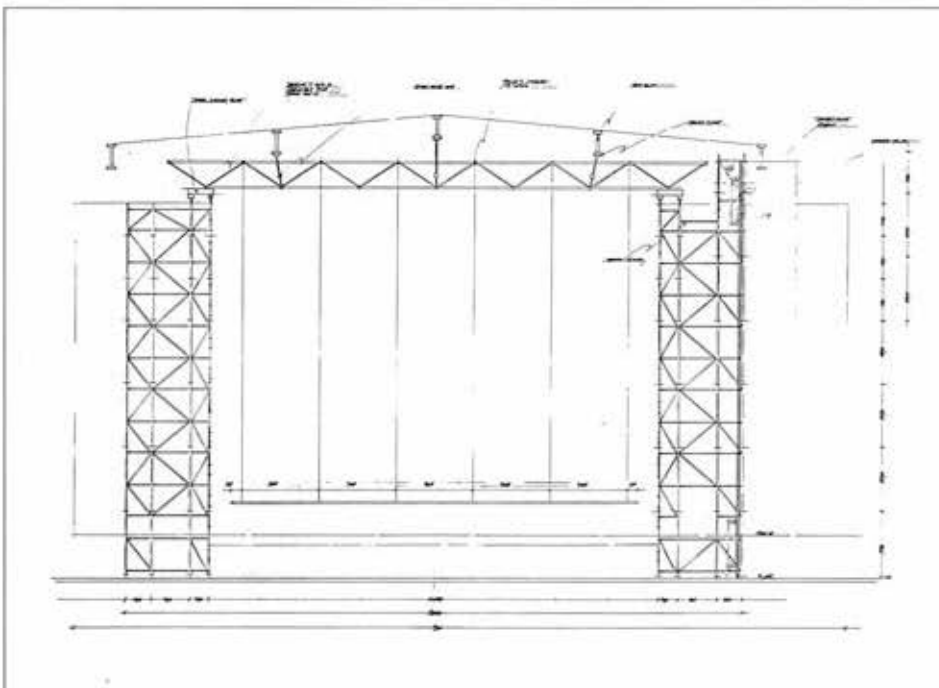
The massive proscenium arch of The Bolshoi theatre - the largest in the world —



View of trompe l'oeuil proscenium.



View from stage left counterweight side with bars being loaded.



Graphic visuals of the front elevation spaceframe and towers.

has been literally replicated within Hall 4, transforming a soulless exhibition space into an opera house. On a stage constructed to the same dimensions as the Bolshoi, and behind a trompe l'oeuil facade of the huge Bolshoi proscenium with its terraces and boxes flanking either side of the stage, two 21 metre high scaffold towers stand 25 metres apart.

The towers support a spaceframe designed specifically for this project measuring 25 metres by 18 with a depth of 1.5 metres. An elaborate and complex array of ropes and pulleys provide a flying system capable of carrying a total of 60 single purchase counterweights. In this particular instance, 42 counterweight sets were used to carry 20 tons of lighting and scenery.

Due to the low load bearing capacity of the SECC roof, the lighting, sound and set required support by the two scaffold towers. It would, however, be possible to suspend the spaceframe from a good supporting roof using only one tower, either stage left or right, for the counterweight system, fly floor and loading gallery.

The main advantage of the system is its flexibility. Changes in dimensions would offer other options. A reduction in stage width to, say, 20 metres would increase the loading capacity to 30 tons and enable a fly floor to be erected on both sides of the stage.

Looking beyond the system itself, the fact that the structure could be erected in a venue of any size means that, given enough dock space backstage or beyond the wings, an entire stage set could be mounted on wagons. Flexibility also applies to the variety of hanging positions for set or equipment where final adjustments can easily be made on site according to the requirements of the designer or director.

In fact, it would be possible to move an entire set up or downstage with ease - the set for the Maid of Orleans would have taken about two hours, a much simpler set far less.

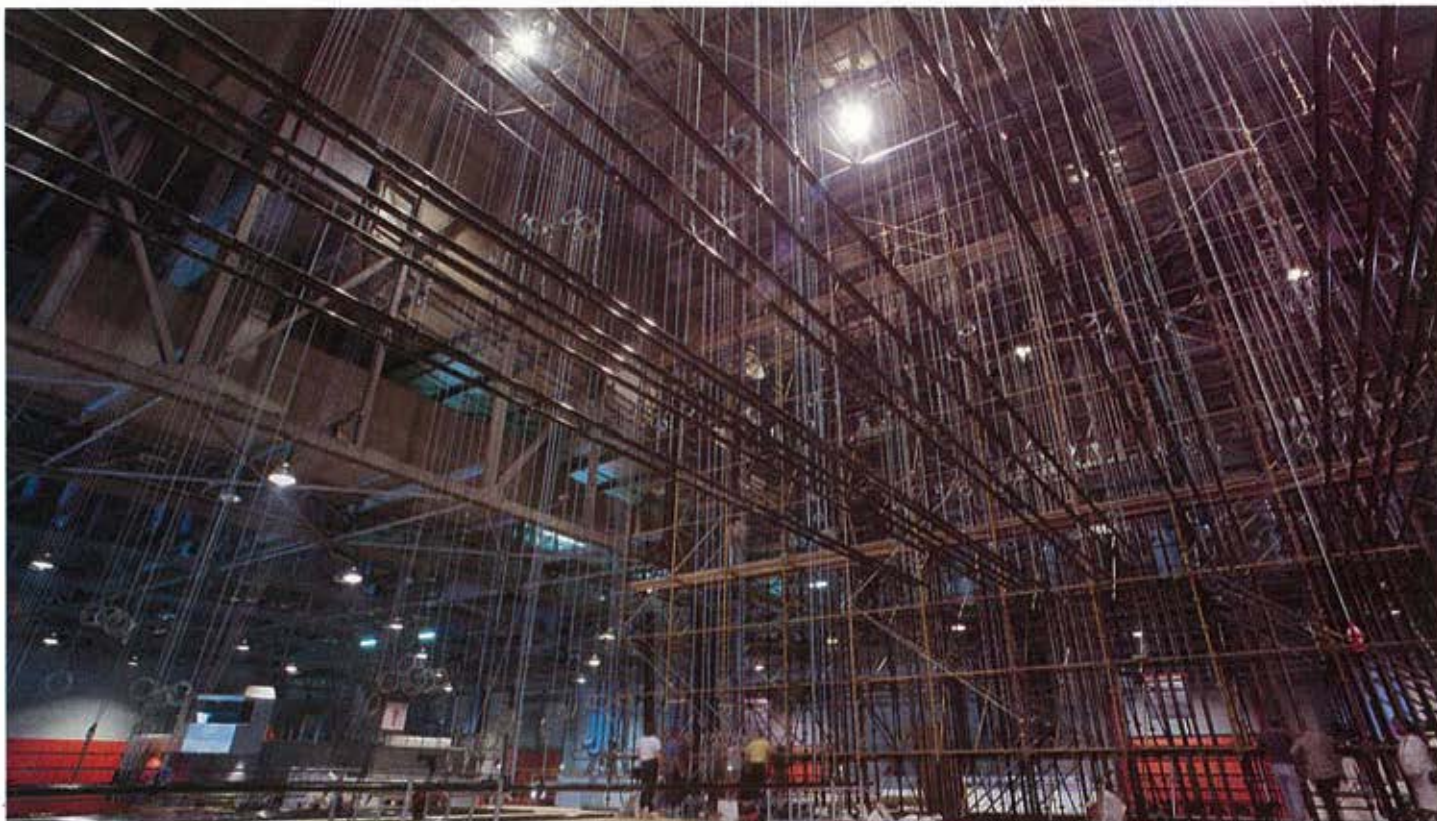
This particular project was handled by Unusual Services, the recently formed offshoot of Unusual Rigging. Headed up by Alan Jacobi but with Chris Organ at the helm, Unusual Services was set up to cope with the increasing demand for a total staging, crewing and technical, and on site management facility for large scale events and spectacles.

With several projects under its belt, including the prestigious staging of Carmen in Sydney and Melbourne earlier this year, Unusual Services leapt at the chance of working with the Bolshoi Opera on their first visit to the West.

"This project was particularly relevant to the aims of Unusual Services," explained Chris Organ. "We offer a full technical design and installation service for any kind of temporary or touring structure - the system we designed for the Bolshoi is the only existing counterweight and grid structure which can be erected almost anywhere in the world, inside a venue or in the open air."

In addition, Unusual Services have two demountable tensile structures for outdoor events and are developing other ideas for touring and temporary venues.

Over the years Unusual Rigging has always welcomed a challenge. Many of the projects undertaken have never been attempted



The towers and grid under construction.

before and from its origins in the traditional theatre and the progress to rigging for industrial theatre and exhibitions, the scale and complexity has expanded to take in every kind of venue imaginable.

As far as most promoters in the West are

concerned, the sheer size, immense scale and high cost of touring The Bolshoi Opera present enormous obstacles. Moving the largest opera company in the world from its comfortable Moscow home to another city, especially if it does not have a gigantic opera

house, has presented its problems in the past.

The sight of some 4,000 entranced members of the audience, on their feet and cheering the roof off the Scottish Exhibition and Conference Centre, must have been a relief to the organisers of this unlikely event.

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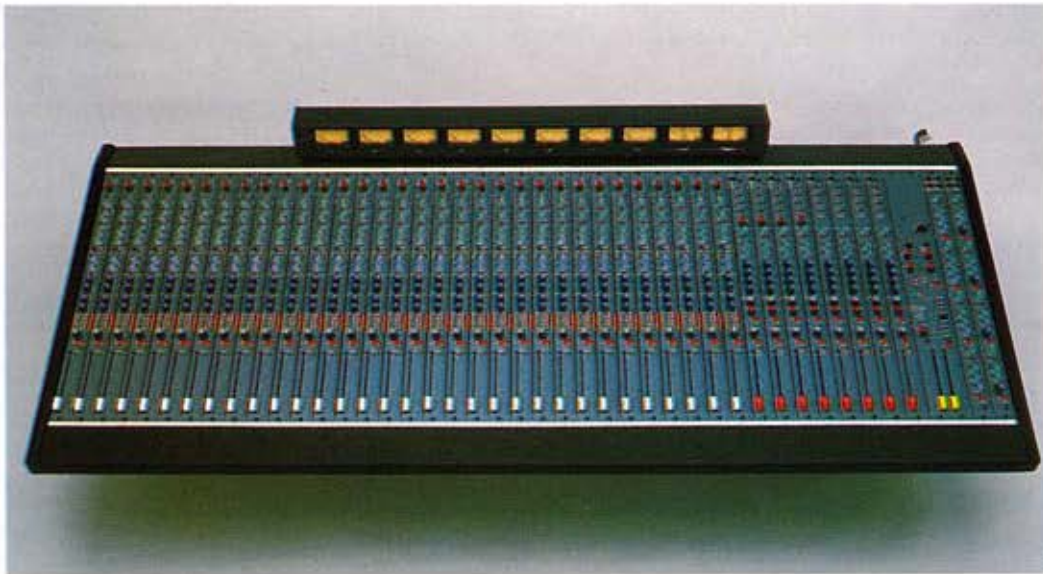
Any console with this much flexibility deserves a closer look

Q

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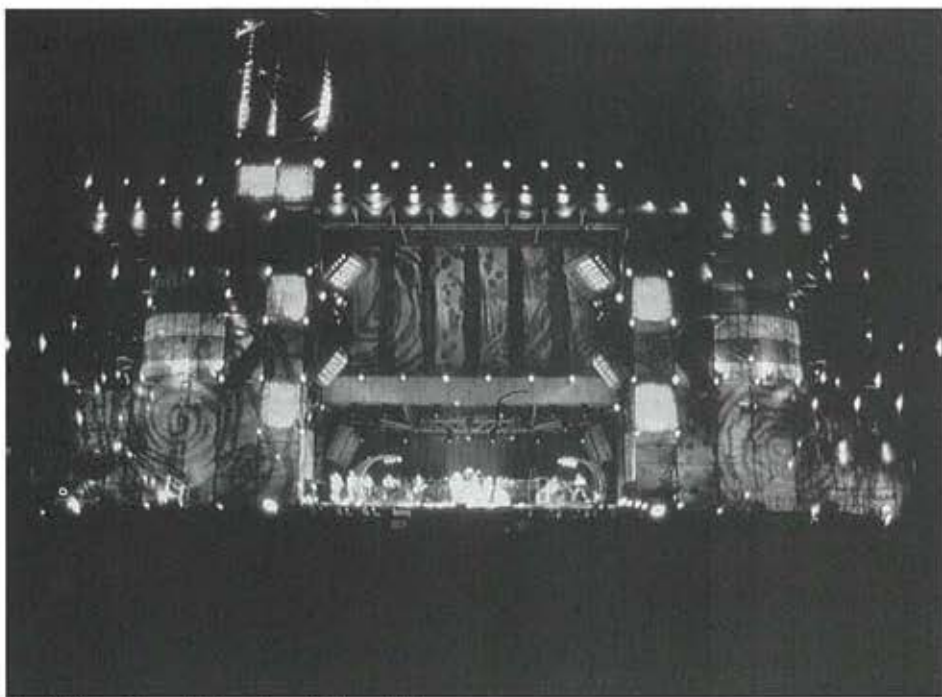
Catriona Forcer

The Rolling Stones have finally arrived in Europe. The massive Steel Wheels Tour seen in the USA has been replaced by a new concept – The Urban Jungle Tour. There are basically two reasons for this radical change of set and lighting, the first being a matter of size. Steel Wheels was the largest-ever touring show involving two whole stage sets and two sets of sound and lighting. It was an enormous undertaking justified in America because of the enormous revenues.

In Europe it was necessary to scale down the operation as everything is more complicated over here ie. border crossings, curfews, varying audience sizes. Another consideration was that Steel Wheels was very much aimed at the American tour and designed to work specifically at night. Part of the concept was that you were to walk in and see this derelict, tired, dead looking structure that, as soon as the house lights went down, came to life as the stage lighting went up. It would be transformed into a very positive and exciting effect. Over half of the European shows were scheduled to start in broad daylight and the Scandinavian shows finished in daylight. It was decided that something more vibrant, alive and exciting was needed during the daytime part of the show, and that is why the Urban Jungle set was created.

"It was interesting from a lighting point of view because we approached the show very differently," explained lighting designer Patrick Woodroffe. "We knew that the first part of the show would be in daylight, therefore we decided to light it with only white light. We made a very conscious decision right from the start of the design process that we would not use colour from the beginning, but allow it to slowly take effect as the night wore on. That point at which colour is introduced is usually at the beginning of a certain section – ideally it would happen at the start of the song '2000 Light Years' which is roughly about two thirds of the way through the show. So you'd have this whole show in white and because the set was so exciting you could easily get away with that. The band have so much energy they are able to perform with white light on an empty stage for well over an hour without losing interest.

"When the moment comes to turn to colour it's terribly exciting. It caused us a couple of problems but also afforded us a couple of opportunities. The problem is that you build a lighting show around maybe half a dozen special effects – a time when it's all white light, a time when everything is simply blue, a time when everything is manic and chase is the key thing. Now if we started the lighting schedule two thirds of the way through we might find we've missed out a number where everything is multi-coloured, for instance. So rather than lose that effect completely we would take all the multi-coloured cues and put them in the third last song, 'Brown Sugar', keeping



The Rolling Stones 'Urban Jungle' tour of Europe.

the timing of the cues the same, but changing the colour. The set would then become multi-coloured rather than orange or whatever we had originally planned. It made it very exciting for Charlie Wilson (board operator) and Dave Hill (Vari*Lites operator) who were constantly thinking on their feet. It made the show different every night."

Rather than fight the daylight Patrick Woodroffe believed it better to go to the other extreme and accept it. This worked because he had a very strong, cohesive stage set designed by Mark Fisher of Fisher Park. "All of Mark's work on this project has been about making strong statements that can convey emotion right to the back of the stadium, rather than be fussy about bits and pieces." Patrick's concept also worked because the band have enormous energy and charisma, and they are able to use the whole stage.

The set is completely different to the design of the Steel Wheels Tour. It has more of a classic structure in that it has a very big stage proscenium and an enormous header, about 30-40ft high, which becomes a light surface. It also has scrims on each side but they are all in 3-dimension and set behind the PA. There is still a lot of the detailing that Steel Wheels had in terms of the custom iron work which has been repainted. Woodroffe believes that the Urban Jungle set actually takes light better than the Steel Wheels set as there are large, flat surfaces to play with in colour.

"We did the Steel Wheels show for the first time in ages at Turin the other day because we were filming. When the show started we were all looking at each other saying how dark it was. We then realised that it wasn't, it's just the way that Steel Wheels is compared to Urban Jungle, which is much more of a bright, brash show. Steel

Wheels is more moody and it has a filmic quality to it. It's interesting that the two shows are so different, although one key element that has transferred through to Urban Jungle is the balustrading that Mark designed."

The Urban Jungle dates scheduled for Wembley Stadium in July were cancelled but people fortunate to hold tickets for re-scheduled dates in August were treated to the full Steel Wheels show as seen in America. This was because of filming commitments – a challenge that Patrick was looking forward to?

"It certainly will be a challenge as we're filming in IMAX which is the big 70mm medium," he told me. "It means that the quality and definition of the image is extraordinary, it's as close to eyesight as you can get. I've seen some of the rushes of test footage shot in Germany and Turin and it's incredible. It does mean that you can't afford to make a mistake, whereas you can get away with certain things on 35mm video. Having said that, it probably is the only medium that allows a large rock'n'roll show to be properly captured on screen.

As the shows get bigger and bigger it is impossible to try and cram them into a TV format. The quality can be quite good, well balanced and well lit, but in terms of scale and spectacle it means nothing at all. The wider you get to try to show the grandeur of it, the smaller everything becomes. The bigger you get to try to show details, the more of the overall picture you lose. It's completely self-defeating. With IMAX you can sit in a cinema and, on the wide shots, you can choose where you want to look. It's exactly the same advantage watching the Steel Wheels or Urban Jungle show live – you have a choice of where you look. That's what makes the show so impressive.

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Rolling Stones: set design by Fisher Park; lighting design by Patrick Woodroffe.

You have a huge 40ft image of Mick Jagger running across the screen, and that's very exciting. So those were all the things we were looking at when we came to re-light the show. Otherwise it's the normal thing one does for television which is to balance the different light sources and to take care that people look good.

"At Wembley Stadium it should be dark and, having sold you on the fact that it was wonderful to do half the show in daylight, it will be a wonderful relief to see all those cues we haven't seen in months!"

One of the key things about this design team is that Mark Fisher is very much involved in the lighting as Patrick Woodroffe

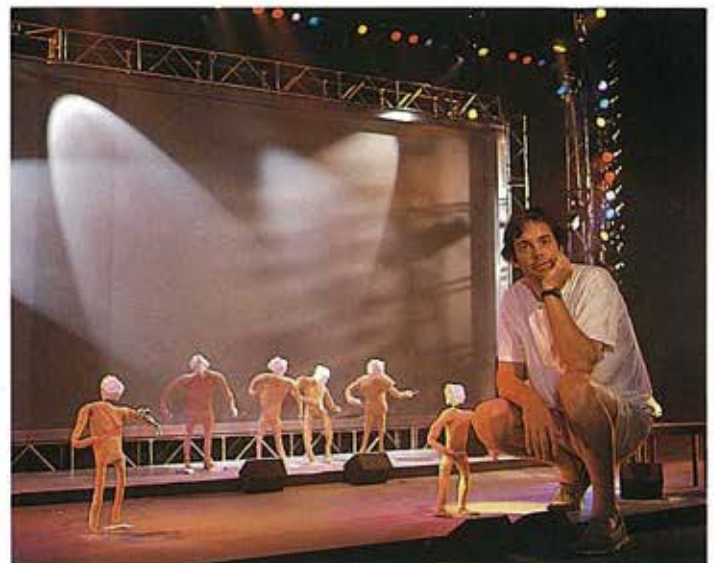
is in the design of the set. He believes that the design for all shows should be quite organic. It should come from the first question one asks oneself — what are we trying to do? "It is important to try and get a good grasp of what it is you are trying to present. If the set designers and band are all in accord with what you are trying to do then you will get a wonderful show. The problems arise when you see any of those different facets in a different light" explained Patrick. In between the Steel Wheels and Urban Jungle tours Patrick designed the current Tina Turner 'Foreign Affair' tour with Shawn Richardson and Dave Hill on Vari*Lites. All three of them worked on the Steel Wheels tour and

Patrick particularly likes working with the same people so that he can confidently hand them a share of the show's responsibility.

"I'm happy doing this type of work and to have people take stuff on board. If you give people their head in those situations invariably you get back a lot of ideas you'd never have thought of yourself. When it came to re-designing the lights for Urban Jungle, I had to re-position 200 bulkhead lights and there were thousands of ways that this could have been done. The easiest solution was to give it to the people who did that for a living. So the crew who had lived with them throughout the Steel Wheels tour in the USA chose where they went."



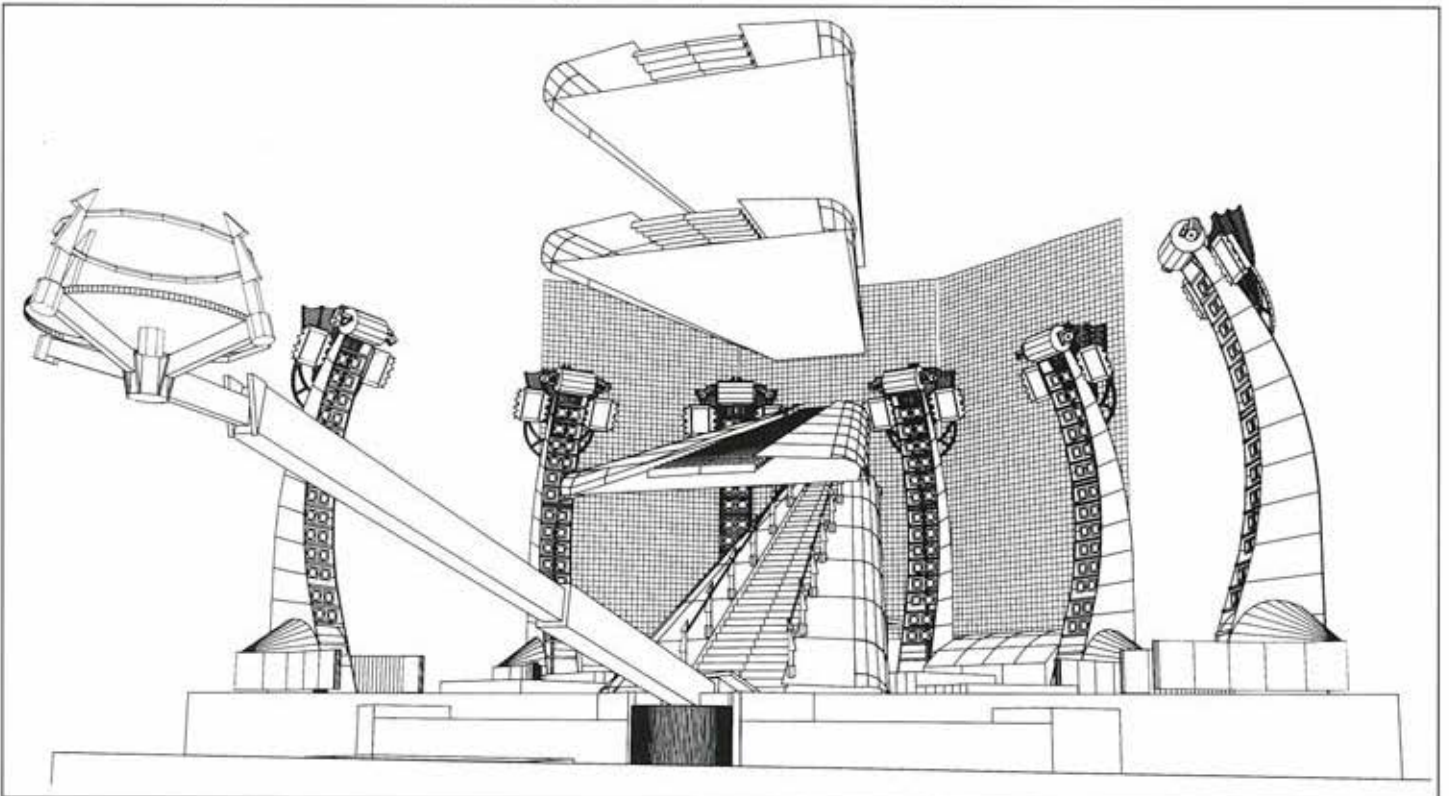
A dynamic backdrop for a dynamic band.



Patrick Woodroffe in his studio with a scaled-down design set.



Above: Tina Turner in performance on her European 'Foreign Affair' tour, with (below) the set design visuals from Fisher Park.



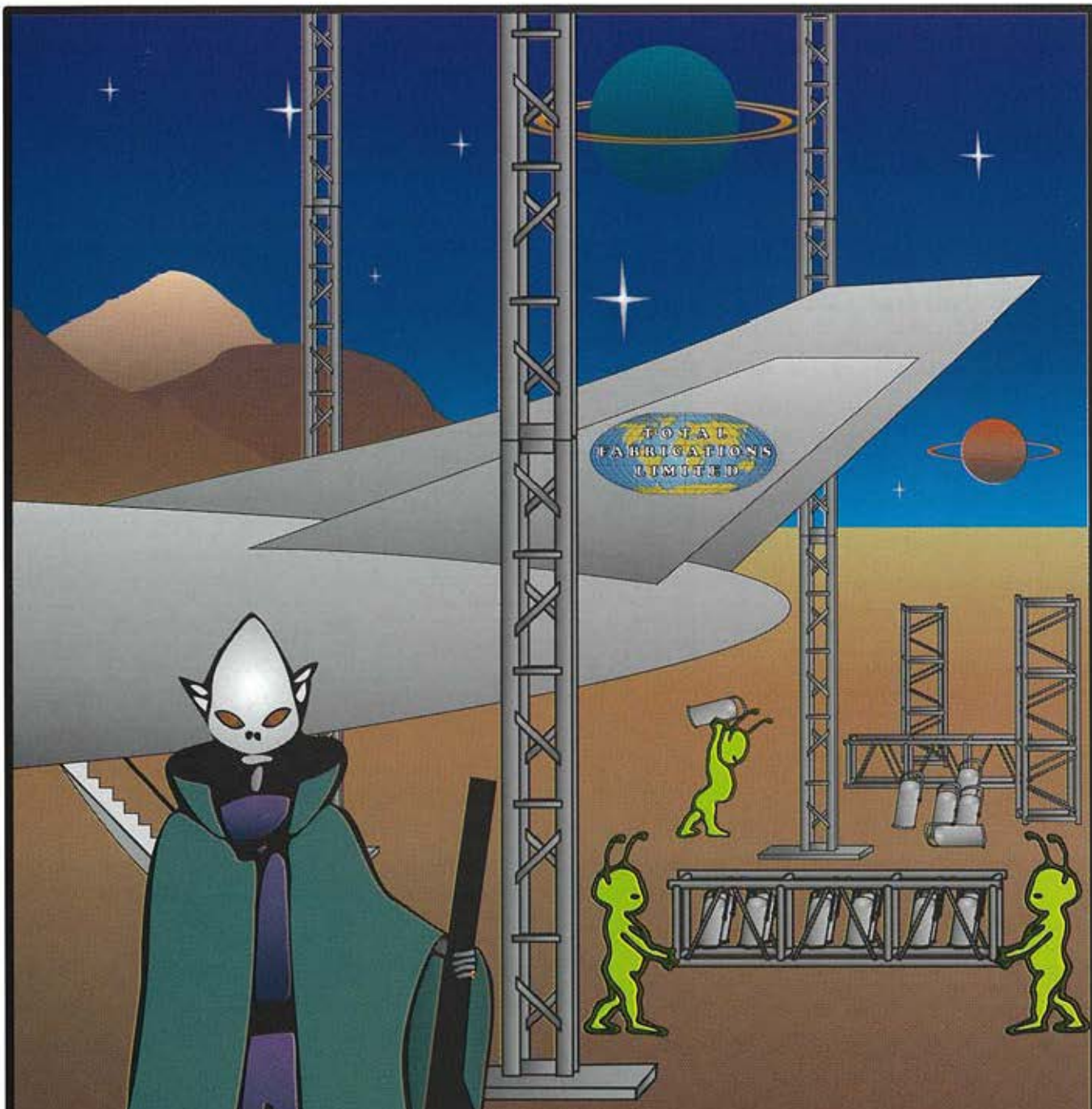
"If you involve people, have them all on your side, and give them the direction that you want to head, then invariably you get a lot of the work done for you, and it gives them more satisfaction."

Tina Turner had very definite ideas on how she wanted to be presented. She wanted a tough show, but not as distressed as the Steel Wheels, and she wanted it to look quite futuristic. Obviously the design team, including Mark Fisher, had been influenced by the Stones and one of the key things that they decided to carry over was the idea of not forcing the attention onto the part of the stage where Tina was. The whole of the stage including the roof and PA was to be seen as one large set. Again,

they were lucky enough to have someone in Tina who was strong enough to carry the whole thing. Patrick Woodroffe feels that it is very important when you are designing to have a good sense of the strength of the performer.

"You wouldn't put Paul Simon in something like that because his charisma as a performer isn't as strong or as dynamic as Tina's. His strength lies in a different area. We were able to do something very big and striking with Tina, but designed in a way that would constantly bring the attention back to her. I had always wanted to do a show with ground supported lighting sources. There's very little overhead lighting because it's not terribly flattering for a start

and you get a lot more for your money on the floor. We came up with these six curved 'claws' which Mark heavily styled in riveted steel to look industrial. They had a pair of par lamps every few feet, 36 pars on each one, and some with colour changers. On the front they had a spotlight chair, with a follow spot and a couple of Vari*Lite's, which tracked up and down the front of the tower. It's a lovely device which was built by Light and Sound Design of Birmingham who did a fantastic job. That was pretty much the lighting, although we had a front truss with some follow spots on it because we wanted a nice steep angle to them, and I also wanted to avoid building great follow spot gantries in the middle of the audience.



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It's quite a unique thing if you look at the show in that you have this very big, strong stage with nothing in the audience.

"Mark and I really pushed for a black background, against Tina's judgement, because we wanted to have these towers floating in space. When we got to Antwerp for the rehearsals we realised that she was right! We ended up putting in a small grey backdrop between the towers that came into effect for a few songs. Part of the original design featured large industrial netting rising at certain times which creates an unusual setting. We ended up with three very different feels — a dark, moody, black background, a grey which you can keep quite light and put projections on, and the netting which was very spacy. We added in some of the LSD Hexapods for a bit more punch at the back.

"Tina wanted an impressive entrance and we thought of lots of things but we came up with a real spoof idea in the end — a giant staircase. It sounds very Hollywoodish but in fact it's one of the most un-Hollywood entrances you'll ever see, simply because of the way Mark designed the stairway. It looks like an epic, monstrous aircraft wing with a fantastic false perspective and wonderful detail. The platform which pushes Tina 40ft over the audience was her idea and it turned out to be a bit of a nightmare. One night it got stuck and she had her shoes off ready to walk back down the arm to the stage! She's an extraordinary person and one of the most professional people to work with. She's very funny and can be infuriating, but is also the sweetest person I've ever worked with.

"When Tina played Woburn Abbey we set up in a very different way. We played in front of the house so Shawn and I, with help from Steve Dawkes of LSD, lit not only the stage and the audience but also Woburn Abbey itself, all the trees surrounding it and the lake. I was in Turin that weekend with the Stones, but by all accounts (and the photographs) it was absolutely spectacular. I think that Shawn was really clever in that he used all that scenic lighting as part of the show."

Recently Patrick Woodroffe has been concentrating on building his '4:1 Studio', a place where he will eventually have a full array of lighting a quarter of its real size on a truss system of corresponding size. There will be miniature Par cans, colour changers, Vari*Lites, Molefays — in fact everything on the market including special effects all controlled as normal from a full size control desk. The advantages to a lighting designer are obvious. Rather than working from drawings, you can hang the lights and look at them. If you decide, for instance, that you want the back truss to be hung lower it only takes a minute to adjust the rig. The whole lighting rig and stage set can be easily constructed and the LD has time to get to know his system.

"I hope that it will give more control over what is really the most difficult and most important part of the creative process," explained Patrick. "Designing the lighting system is one thing and obviously a lot of work goes into that but a great deal of that is very technical. Interpreting the music is a much more intuitive thing and unfortunately it's the part that always gets rushed through, and done under enormous pressure. With this studio that part can be really fun again

and you can take your time and enjoy the process. I really think it's one of the areas that has been skimmed over in the past.

"We have this fantastic technology — wonderful moving lights, colour changers, tracking systems — and we've got amazing control boards, but bringing those two things together is always the thing that gets skimmed over. This, along with the Vari-Lite new blind programming system, is the way of the future."

A more detailed article on Patrick's studio will appear in a later issue of this magazine. Obviously it will be put to good use on his next project which is the forthcoming AC/DC tour. He aims to create a very big, hard and exciting rock'n'roll show, but with a slightly different style to the normal heavy metal show. One not to be missed!

Photo Credits — Rolling Stones: Mark Fisher. Tina Turner: Peter Smith. All photos courtesy of Fisher Park.

TINA TURNER 'FOREIGN AFFAIR' EUROPEAN TOUR 1990 DESIGN NOTES

Tina Turner's 'Foreign Affair' tour is designed to play in both indoor and outdoor venues. The design of the stage set includes the playing area, which can be used on its own in indoor arenas, and the PA wings and roof of the outdoor stages. Tina wanted the stage to reflect the key qualities of her music; a tough yet glamorous design which could handle both the over-the-top moments of raw rock'n'roll and the moody, intimate ballads. The main features of the design are strong, curving forms executed in raw aluminium. The hard polished surface of the metal is broken up by rivets and grilles which add sparkle and texture to the lighting. The forms surround the playing area of the stage and extend outwards to form arcades beneath the PA wings. The show contains a number of mechanical special effects.

At the preset of the outdoor show the grey masses of the PA wings flank the dark cave of the stage. The wings are covered with grey scrims painted in a dazzle camouflage and decorated with aluminium ladders fitted with work-lights. At the base of the wings the ladders form an arcade over the stage runways. The fascia of the roof floats above the cave like a giant spaceship, nacelles on its leading edge concealing the six followspot operators on the front truss. Inside the cave are six curving aluminium columns which reach almost to the roof. The columns are clad in rivetted polished aluminium. The bases of the columns are covered in bright aluminium grille-work which also covers the band risers. Each column contains two rows of Par lamps with colour changers which shine out between rails on the front face. The rails support followspot carriages

which rise up from behind the band during the show.

At the opening of the show the stage goes black and a 9m (30ft) long staircase is flown in from the roof. The staircase is made from polished aluminium, rivetted and styled like an aeroplane wing. The handrails are supported on oversized combat knife blades which punch through the top skin. Tina enters at the top of the stair, 6m (20ft) above the stage, and descends during the first number. The staircase flies out to reveal the band behind.

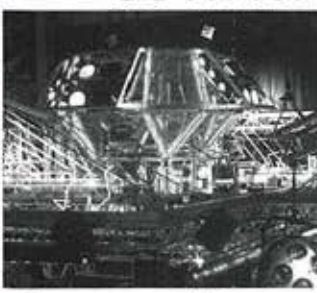
During the show the stage is lit from the curved aluminium columns, from floor lights, and from a front truss containing Vari*Lites and followspots. The spotlight carriages on the columns make a number of moves in the show, ending up 8m (26ft) above the stage. The onstage scenery is lit from floor lights and Vari*Lites built onto perforated metal fans at the top of the columns. Backdrops of cargo netting and a starcloth are hung behind the columns. The cargo netting is lit by cyc lights which throw the columns into silhouette. The scenery over the PA wings is lit by built-in lights and by weather-protected Vari*Lites fitted to the arcades.

The climax of the show is Tina's ride over the audience on the 'famous claw'. Hidden in a small thrust built on to the front of the stage is the passenger platform of the machine. At the beginning of the last number Tina steps onto the platform, which rises up out of the stage and extends 12m (40ft) over the audience. At the end of the last song the 'claw' retracts and the staircase is flown in. Tina leaves the stage as she entered, up the staircase and into blackness.

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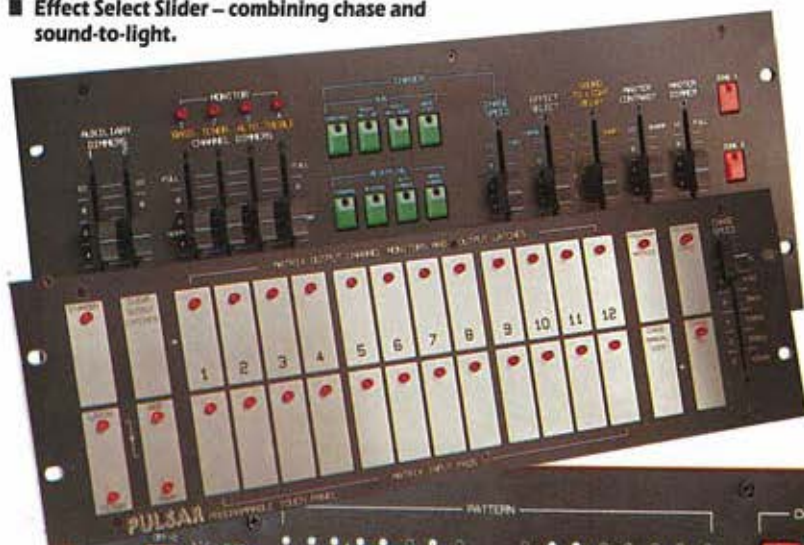
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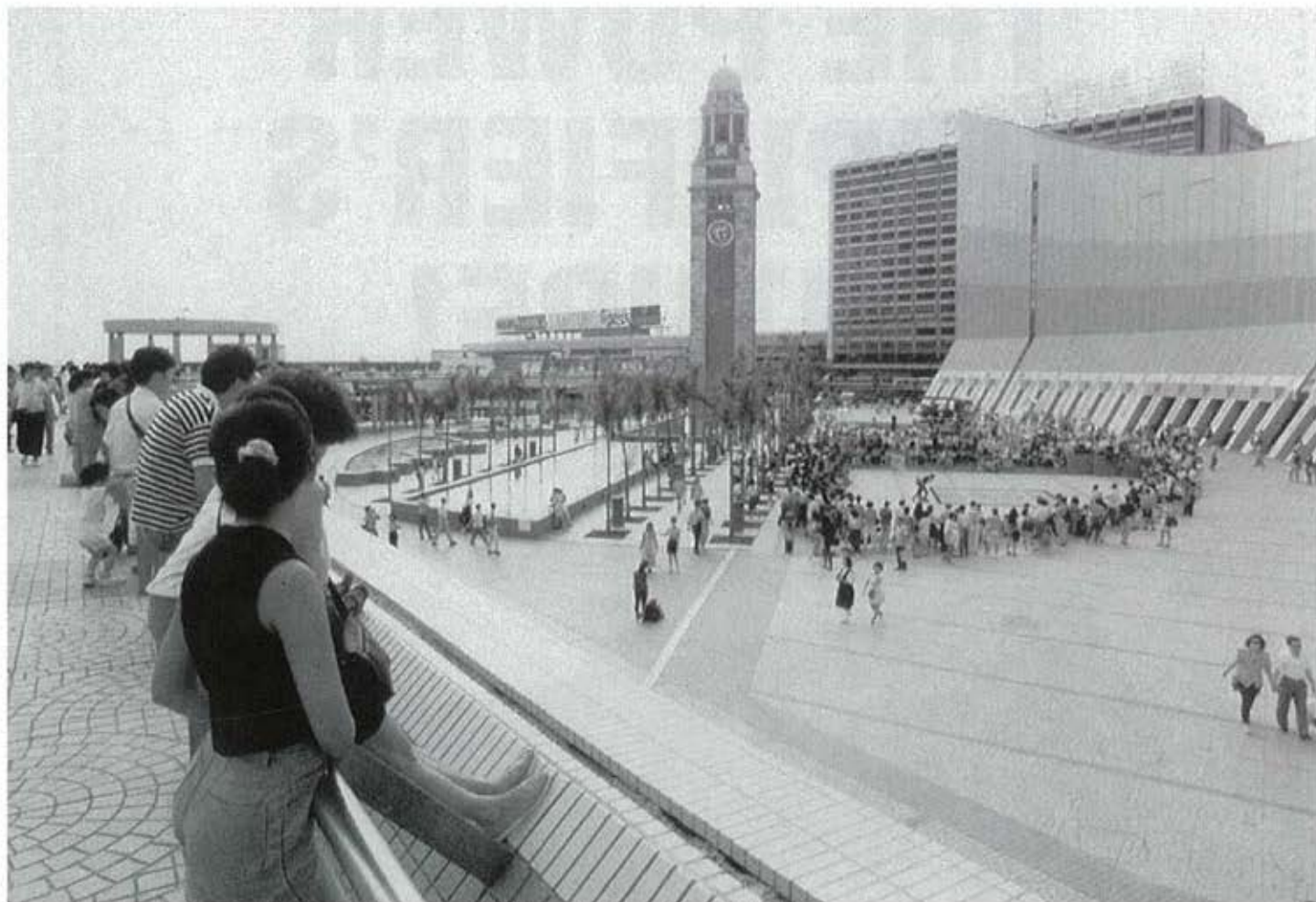
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HONG KONG CULTURE REVISITED

Francis Reid



New sails set on the Kowloon skyline with the recent addition of the Hong Kong Cultural Centre.

Having visited the Hong Kong Cultural Centre in its hard hat phase and lectured in its Studio Theatre towards the end of the commissioning period, I have now had an opportunity to expose my ears to a performance in the Concert Hall. It was a very pleasurable experience. Schubert's Trout Quintet had all the desirable clarity and closeness that is rare in a two thousand seater house.

Everyone who comments on the Cultural Centre notes how the foyers are isolated from the spectacular harbour view by a total lack of windows and, writing in last December's L+SI, I was no exception. But I did wonder if this was a visitor's response and that perhaps the residents would rather be transported away from the familiar sights when they have an evening out. Now that the Centre is fully operational and its harbour frontage completed, I have a growing feeling that the decision to isolate the building's interior from its environment may have been not just a clever move but an inspired one.

I say this following observation of the building in daily action. The foyers may not offer audiences a view of the harbour skyline, but the general public's response to them is every theatre manager's dream. The ground floor has become a natural thoroughfare, an agreeable shortcut from the traffic pollution of urban Kowloon to the waterfront and the Star Ferry. The air-conditioned relief from Hong Kong's

endemic humidity encourages people to stop for a browse and a leaflet pick-up. This is very good for Hong Kong entertainment marketing generally because all venues are linked by Urbtix so that tickets for any performance anywhere can be bought from any box office. Further encouragement to visit and linger comes from all day refreshment opportunities. There is a shop selling books, recordings, and arts-related merchandise plus a series of free exhibitions and entertainments.

Clowns have opened a bridgehead for street theatre in the newly completed Piazza which forms the Centre's interface with the harbour. This features a raised walkway which effectively doubles the frontage for harbour watchers to lean on and provides an elevated viewpoint for observing Piazza life. The site was formerly the railway terminus: in Hong Kong if you need land for theatres and concert halls you just build a new station further up the line. But the Victorian clock tower remains. In this Piazza, Hong Kong has gained a splendid focus for the city centre waterside lung formed by the mile of promenade which now runs from the Cultural Centre to within sight of the Coliseum.

Locally, it does not seem to be very fashionable to admire the Cultural Centre's architecture. But the more I see its curves unfold with the constantly changing viewing angle from the ferry, or contemplate it across the harbour through all lights and

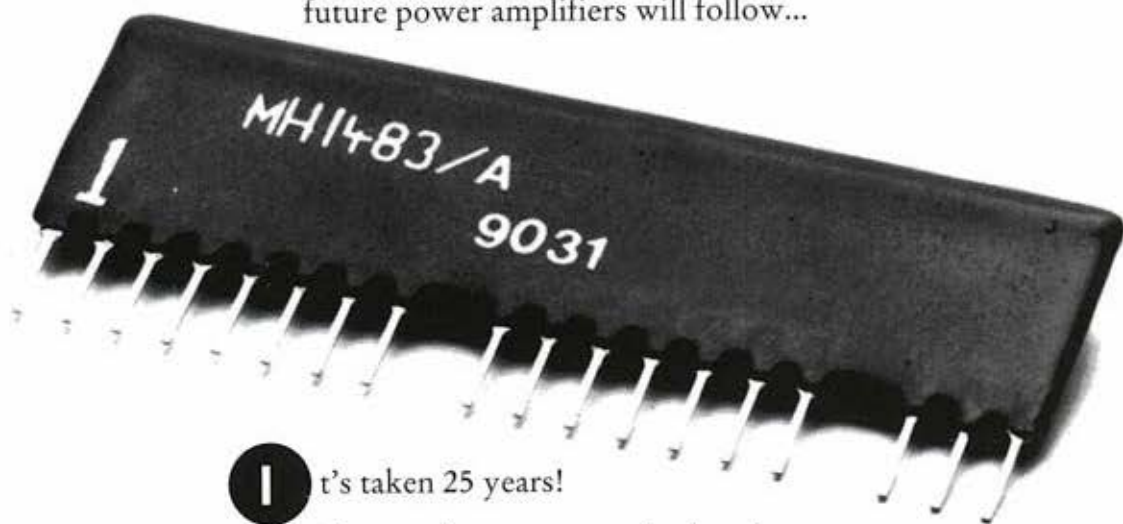
weathers, with a gin and tonic, from my hotel room window, I find it a very appropriate response to the landscape. When I went to the concert, via Ferry and Piazza, I did not feel cheated of a harbour view. As you step inside, there should be a change to inward focus. And there is.

Theatre technology is on vertical growth in Hong Kong. In relation to the specialities of this magazine, John A. Williams and Hugh Chinnick at the Academy for Performing Arts are actually running the lighting design course that most of us are only able to dream about; while Lee Wing-wing is producing high technology sound people with good ears. Training is also a growth area at the Cultural Centre where technical director Mark Taylor has instituted an in-service programme for his staff.

Newly launched is the HKATTS (Hong Kong Association for Theatre Technicians & Scenographers) and plans are afoot for a 1991 Conference next summer. The chairman is Tommy Wong, technical director of City Contemporary Dance Company. Tommy's international travels have given him an opportunity to study many such associations, including ABTT and USITT, at close hand. I have met his formation working group on several occasions and am very impressed with the philosophy and implementation of their plans. HKATTS are at 110 Sha Tin Pass Road, Wong Tai Sin, Kowloon, Hong Kong, and their fax is 852 351 4199.

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CONTROL ONE PLUS

Ben Duncan assesses a refined mini speaker from JBL

In the field of pro loudspeakers, JBL have traditionally majored in the 'heavy engineering' end, producing large cabinets with high power handling, acoustic deadness and physical ruggedness for PA systems and recording and broadcast monitoring. But over the past five years, they've branched out into producing a range of compact 'mini' speakers, all part of their 'Control' series. The range omits JBL's traditional (and hard to recall unless you recite the numbers daily) four figure numbering system. Instead, they're simply and sensibly numbered from 1 upwards, so 1 is the smallest model and 5 the biggest.

The 1 Plus was designed in response to sound engineers who'd used the Control 1 for monitoring mixes and hadn't found its sonic qualities refined enough. They'd also moaned about the tweeters which were in the same place on each cabinet. This is fine for one cabinet in mono, but symmetrical tweeters (so left and right cabs have their tweeter on the right and left respectively) have significant advantages for stereo image quality and for coherent coupling (for two or four cabinets in a mono array). Like the other members of the Control series, the 1 Plus was designed in California, but is assembled in Japan using Japanese-made components, for a high quality-to-price ratio.

Technology & Application

The Control 1 Plus enclosure is about as small as loudspeaker enclosures go, at approximately 6"(w) × 9"(h) × 5½"(d). In common with other mini speakers made in high volumes, it's moulded from rugged plastic. It has a rubbery feel and JBL call it 'structural foam'. The drive units are protected by the usual steel grille, with a hard rubber surround which enables it to clip snugly into place. The fit was quite tight but installers might want to lightly glue the grille into place to lessen the chances of it falling off or being removed by vandals.

Behind the grille are some unusually refined drive units. The 4" (100mm) long-throw bass/mid driver has a proprietary white, hard and shiny cone material. Believed to be coated with 'Aquaplas', its levity and rigidity are obvious to the touch. The outcome should be much reduced cone break-up when driven hard, so retaining clarity and detail at high SPLs. The magnet is oversize, which gives good damping and improves sensitivity (ie dB's per watt), but this comes at the expense of low bass extension. For such a small drive unit, Thiele ('reflex') porting is essential to achieve any audible output below 150Hz. JBL claim significant output down to 60Hz, except when the Control Plus are driven close to their limits, it won't be very audible owing to the poor sensitivity of the human ear to bass frequencies below about 110dB SPL. The vent is single, very deep, and chamfered as it emerges on to the baffle, to minimise acoustic discontinuities which might otherwise create interference patterns — in the hf as well as the bass.

The hf drive unit has a 'hard dome' titanium diaphragm giving a substantially flat



response extending from the 6kHz crossover point up to 18kHz, like JBL's bigger studio monitors. In front of the diaphragm, a plastic bar provides a measure of protection as well as holding an acoustic lens in front of the dome. The purpose of the lens is ostensibly to increase the conical dispersion, but it probably also acts as an acoustic phase corrector.

The terminals on the rear panel are recessed and tightly spring-loaded for bare wires or bootlace ferrules. The adjacent plastic is clearly embossed 'INPUT' along with the polarity, but the power rating and impedance aren't mentioned. Also, in passing, the serial number is printed on a lightweight self-adhesive paper label which will eventually fall off in hot and/or humid conditions. Meanwhile, the terminals are mounted on a removable panel behind which the crossover PCB is fixed, making the latter more accessible than most for inspection or repair.

Following contemporary hi-fi practice, the crossover inductors are air-cored so they won't saturate (and thus distort or 'crack-up' the sound) at high drive levels. In the event of gross overdriving, a series light bulb provides soft limiting protection for the woofer. Overall, the Control 1 Plus's impedance is four ohms, with a nominal power capacity of 160 watts.

In common with the original Control 1, the 1 Plus model has a keyway moulded into its sides, enabling it to snap into a wall mounting bracket with a ball & socket swivel action, called MCT-2. A flush bar on the rear of the cabinet enables a secondary safety chain to be fitted.

Application & Evaluation

Applications include small AV presentations, installation fills (for corridors, bars, lobbies and cloakrooms), delay fills, and as mini mix-monitors for concert and theatre PA.

The Control 1 Plus's were tested in three representative configurations: One enclosure in mono, two coincident enclosures in mono, and two in stereo. In applying the pair in mono, the enclosures were placed together in the same horizontal plane, but angled 30° apart,

touching at the rear. For a stereo pair of cabinets, the tweeters are symmetrically offset. The left and right hand cabinets were transposed so their tweeters were mutually close. As the bass/mid drivers are symmetrically sited in the horizontal plane and already occupy most of the cabinet width, the outcome is an unusually coincident sound source across the audio band. This is a notable benefit of shoe-horning speakers into small cabinets. As a result, the individual drive units should work as one and not 'fight' each other. In stereo, the cabinets were placed 2m/6' apart and the listening distance was close at 1.5m/4' to simulate a pair being placed either side of a mixing console. The sound system was powered by a pair of Otis 'Power Stations', a refined 120w/ch into four ohm miniature 'monoblock' pro-power amp.

In stereo, the sound is bright and detailed. There's a slight prominence around 3kHz, making vocals a bit 'shouty' if the speakers are perfectly on-axis to the stereo 'hotspot'. The stereo image is strong, as expected from such a small pair of sound sources. In mono at moderate SPLs (80dB 'C' weighted average), there's just enough of a hint of low bass with a single speaker to carry realism. Naturally, the deeper bass becomes progressively more audible at higher levels. However, the hf is over bright by contrast and gets a little overbearing above 95dB SPL, although it's never hard or brittle. With two speakers arrayed together in mono, the tonal balance is near perfect at the higher SPLs with a greatly augmented bass response. At 1m distance, a single speaker was limited to around 100dB ('C' weighted average) before the sound quality degraded, while with two cabinets, 106dB was reached, showing perfect summation.

Summing up, JBL have combined the detailed midrange and low distortion that's characteristic of a classic UK designed hi-fi speaker with the finish, quality assurance and pricing of the best Japanese designs, while retaining the slightly forward, larger-than-life tonal qualities that characterise US designed speakers. Thus far, it's the best loudspeaker of this size that I've heard.

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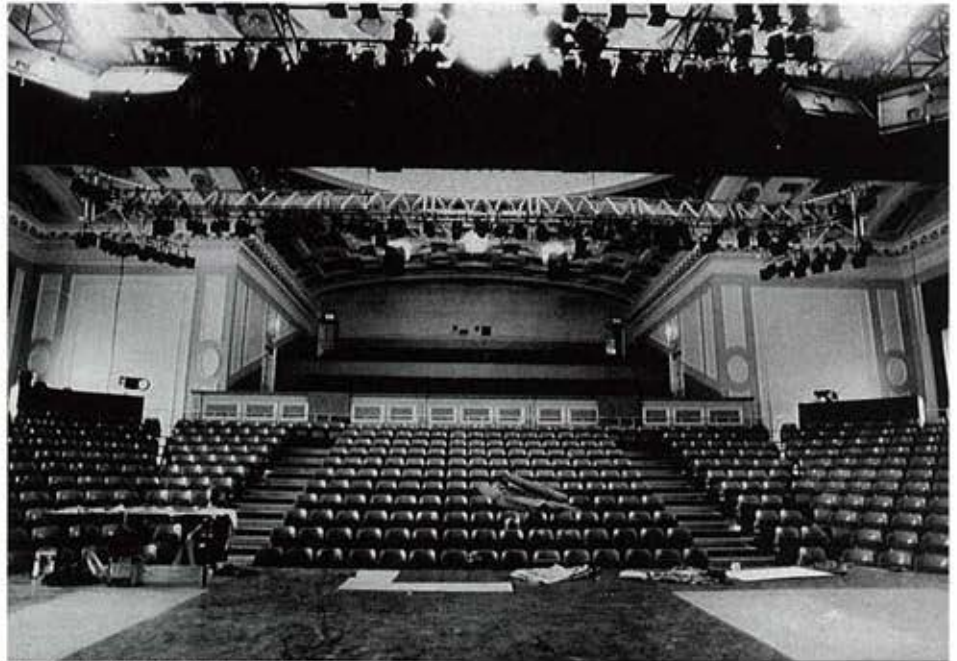
Graham Walne visits the Edinburgh Festival Fringe

"Until they actually see for themselves, people simply can't imagine how big the Edinburgh Fringe really is," stated Christopher Richardson, chief executive of the Pleasance, a complex of four venues, bars and restaurants and just one of the 157 similarly listed complexes on this year's programme delivering a staggering 1000+ events. "It's a massive logistical exercise," he continued, "for example our Box Office computers have to deal with over 650 performances in just 21 days, with each day offering 30-40 different events across the four venues.

Under the weight of so many events it would be impossible to run such a complex smoothly and professionally unless each member of staff developed an awareness of both the needs of the events themselves and also an awareness of how the Pleasance was managing as the throughput of people increased during the day.

The Pleasance seemed to be coping with the influx well, perhaps because Mr Richardson did not run his domain from an office. Instead, he was much in evidence and wherever help was required he demonstrated a willingness to get involved. This versatile and hands-on approach was supported by Glen Massam, who as stage manager for one venue and head of sound for all four was one of the 14 technical staff who frequently helped out front of house. "It's a very good thing," said Glen, "because it gives us a view of the whole operation."

Across town in the Assembly Halls, where chief electrician Ken Coker was responsible for five venues, he echoed the need for versatility from his staff. "It's important that everyone do everyone else's job." I asked Ken about recruiting. "There's seems to be a limit to the number of people we can find locally, but imagine the crew size you need for so many places. We employ 14 people just here for



The Music Hall at the Assembly Rooms.

example. As a result we take people on from anywhere as long as they have the experience." Clearly, at HOD level some experience of the Fringe is vital. Glen Massam who is also the technical manager for the Wakefield Opera House, has been at the Fringe for four years and Ken Coker, usually chief electrician to the Ballet Rambert, for seven years.

With so many different events using the same space, just how does one go about designing a rig. Ken Coker explained: "We send out questionnaires in July and then coordinate the companies' needs. Basically we aim to give them a three colour wash in down, front and backlight! Each company then hires from us the number of specials that they need, and that we can fit on the rig. They all seem to need them in the same place. There is really no time for re-focusing but we might do a colour change. We did look at Scrollers, but they're not cost-effective for us. There is quite a lot of re-patching of course, and here it is vital that everyone takes the time to write things down, and uses the same method too.

Companies are not allowed to bring their own electrical equipment because all that's used in Edinburgh is subject to a stringent test from the local authority who really do meger the installation. "It's boring to keep saying no," says Ken Coker, but we have a 200 year old roof up there and it's as dry as dust." Ken is very happy with the service he's been getting on his hire equipment, "enough to fill a 40' artic", from Stage Electrics, "possibly the furthest away hire company we could have picked, but they're good and they do what we want.

"For example they have put hexagonal nuts on all the lamps because they're easier to lock off, vital when people are climbing around the truss. I'm also delighted with the Thomas multicore hangers (discovered at last year's PLASA show) which I'm using

here for the first time, and with the Celco boards we have. The patching is brilliant and the board is very easy to learn; and don't forget also that these boards are running every day from 10.00am till 2am the next day."

The Fringe is, of course, the major platform for many small companies and artists hoping to be discovered like so many before them. Unfortunately, the needs of a repertoire schedule do not really permit new shows, with extra rehearsal time, to be adequately mounted. Ken Coker agrees. "We open five days after the fit up has started, and that includes our full inspection. We do phase shows of course, opening three on day one, four on day two and so on. Premieres, however, put a lot of additional pressure on all concerned because the timescale really means that we have to get it right the first time. There's no time to experiment, not a discipline many lighting designers are familiar with!"

Glen Massam observed that the companies with the best reputation, like Hull Truck, wisely try out new shows before bringing them to Edinburgh, and so avoid many of the problems. Perhaps some shows shouldn't be on the Fringe at all. Ken Coker remembers one which had 14 staff at the production desk, almost as many people as some venues can house!

Of course mounting the shows is only part of the problem; the rig and staging has to permit easy changeovers, some compressed into only 15 minutes. Glen Massam explains: "The slightest problem can create a domino effect and with so many changeovers in the day, 10 minutes lost can never be regained." Across town at the Bedlam, lighting designer Nigel Morgan (lighting lecturer at the Central School of Speech and Drama) agreed. "One has to accept that on a new show it is impossible

EDINBURGH FESTIVAL
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to get everything 100% right for the first night and this is of course a constraint of the Fringe and not of the show itself. We have eight shows in here and although I hoped it would not be necessary, we have had to do some re-focusing from the previous show. There is no time for problem solving and any late start, perhaps something we inherited from an earlier show, actually reflects on us and immediately alienates our audience. Some venues do need more experienced technical management to maintain quality."

I asked Nigel, who has lit 12 festival shows, what he thought were the expectations of the Fringe in this respect. "I think that the audience is weatherbeaten into accepting a level of presentation a little less than fully professional, but they are paying professional prices of course. I do think that their expectations are higher when they are sitting in a proper venue than in a converted room." Glen Massam offered another insight. "Acts booked into smaller non-standard venues tend to be more prepared to compromise on their needs than those booked into purpose-built spaces - however tight the schedule." Ken Coker also observed that some venues had become very establishment and that genuine Fringe drama is still done in the smaller venues, adding that "the Assembly Rooms are now considered rather bourgeois by some!"

I was interested to learn that few of the events are cued up by a stage manager as one might expect in more establishment drama. Instead Fringe staff take their own cues from their own copy of the script. Nigel Morgan explains: "I haven't come

across a cueing system anywhere I've worked here. I like the operator to take his or her own cues, it gets them more involved and they enjoy getting it right. My design would be more sophisticated elsewhere but I am pleased with what the operator and I have achieved together here. My only regret is that the crew have so little time to relax. I can't really give them anything back.

Sound also has very similar problems to lighting at the Fringe and at the Pleasance this responsibility falls to Glen Massam who explains the approach. "Our systems are based on the most complex act booked into that space because no-one is allowed to bring their own equipment. There isn't the time to test it or change it over. We have provided each space with four mics, two DI boxes and one cassette. Each act then pays for extras which we hire locally from The Warehouse which give us excellent back-up. We also offer 'That' industry standard reel to reel, and I'm constantly saddened by the fact that such a machine is still so noisy. It's a problem in these small spaces. Our largest system for the bands, uses a Meyer rig, Soundcraft 32/8 with another Soundcraft for monitoring."

The system at the Assembly Rooms, seemed to be based on similar principles and Ken Coker commented: "Our rooms are all very lively and we do have problems when bands don't understand why they need to turn their backline down. Billie Leslie, our sound designer, is now on top of the problem. The punters want more all the time of course, especially as their systems at home are getting more sophisticated all the time; but this isn't limited to just the

audience of course. In fact, as technology becomes cheaper and cheaper, everybody wants some!"

Perhaps this desire for more sophistication will cause the Fringe to separate into Fringe and off-Fringe just as in New York there is now Broadway, Off-Broadway and Off-Off-Broadway. Meanwhile it still provides a unique opportunity to experience a range of new writing and performing in a very compact amount of time - I saw 13 shows in three days! Overall, impressions are that some lighting now seems to provide an impression rather than visibility; that sound levels in small venues need to be kept in scale; and that modern actors do not appear to think that projecting and articulating are part of their craft. It should also be recalled that alongside the Fringe is also the International Festival itself; this year with the Bolshoi Opera, the ubiquitous Kenneth Branagh, Archaos, Montserrat Caballe, Rudolf Nureyev, and notably the flying Karazamov Brothers, a brilliant quartet of musical Marx Brothers who juggle with meat cleavers and chickens and talk about jazz. Now that's what I call entertainment!

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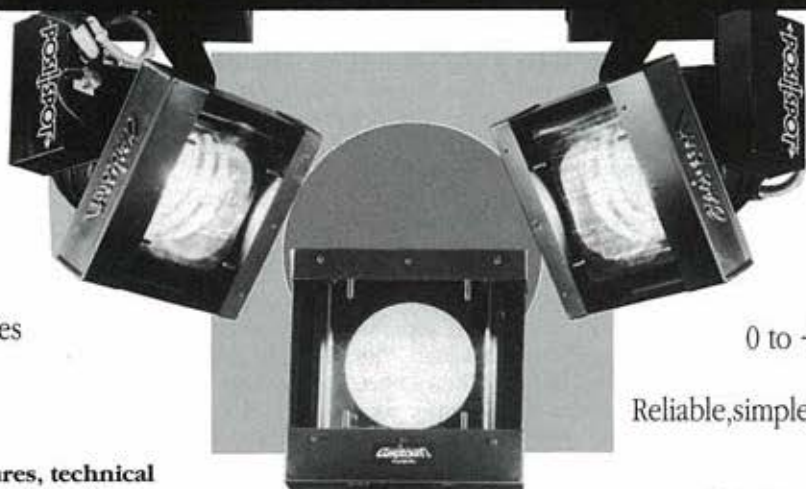
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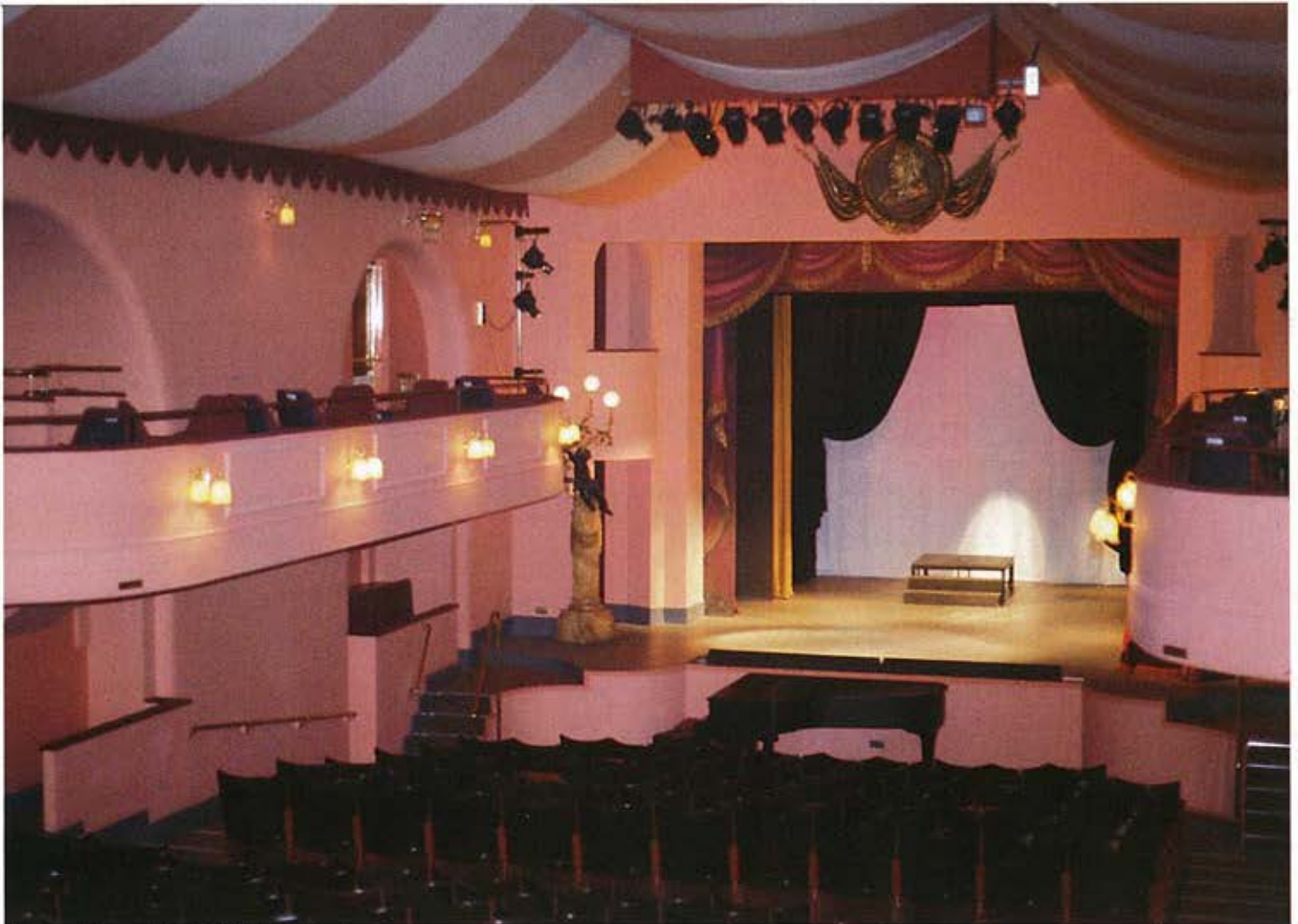
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UNDERNEATH THE ARCHES

John Offord at the new Players Theatre in London



The new Players Theatre in Villiers Street.

I was initiated into the 'Joys' of the Players many years ago and have been a regular (and willing), though not frequent, participator in the Victorian-style ritual that is the background to every evening's entertainment, ever since. At the Leeds City Varieties (the music hall you've seen on television) you dress up to join the party. The Players is different. We have a chairman, of course, but he is there largely

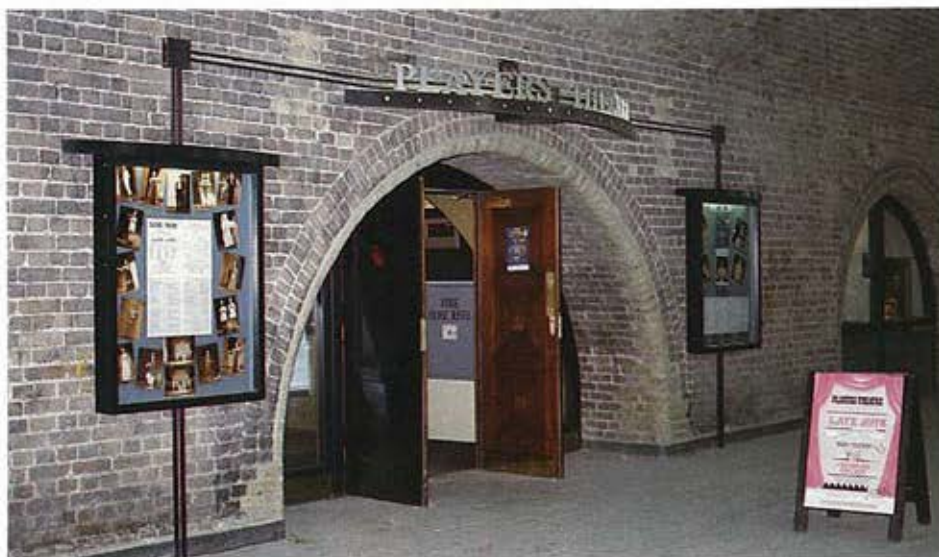
to lead the regular ritualistic repartee with the members that can leave the first time visitor lost for words and doubting the sanity of his host.

'Late Joys', a revival of Victorian Music Hall, began in 1937 at the Players Theatre in King Street, Covent Garden. Successive proprietors included a Mr Joy, and when a Mr Evans (a comedian at Covent Garden Theatre) acquired the lease, it became

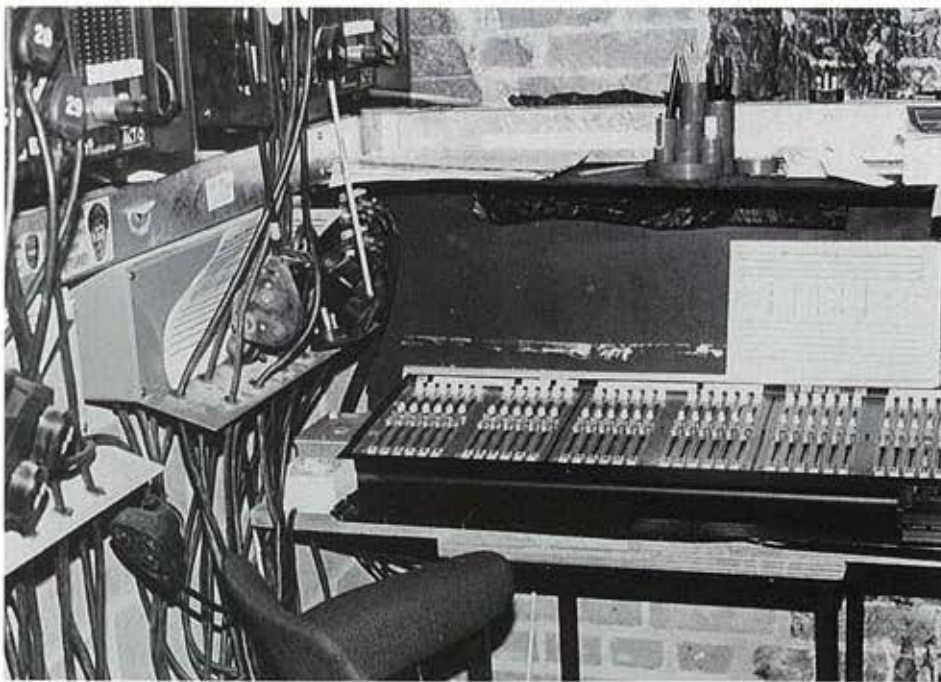
'Evans, Late Joys', the first song and supper room in London. The Players Theatre adopted Late Joys for their present entertainment which has survived for over 50 years. At the outbreak of war the theatre moved to basement premises in Albemarle Street where it became a famous and favourite rendezvous during the Blitz.

At the end of the war it moved to partially bombed premises in Villiers Street, sited in one of the arches under Charing Cross Station, and it remained there for 41 years. During the current redevelopment of the station it was temporarily re-housed at the Duchess Theatre for two years. Now it has returned to much glorified new premises in Villiers Street, just five arches up from its old home, and the tradition of Late Joys, Late Night Cabaret, Late Night Supper Room and Bars continues.

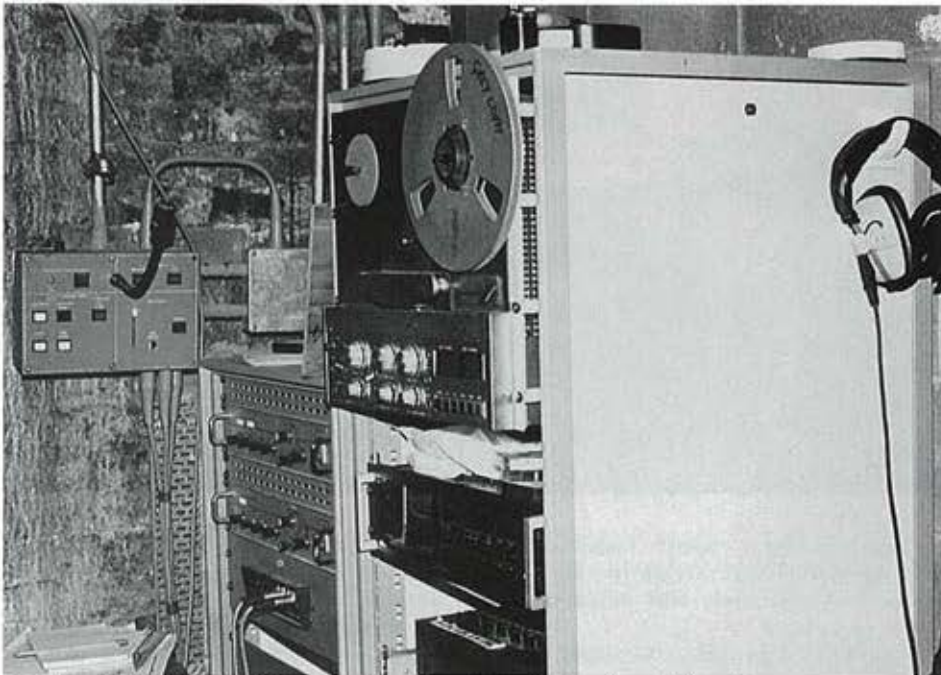
The Players have been very lucky. The developers of the site, having had to move them, gave them back their theatre in the form of a much improved replica. The atmosphere and trimmings have all been carefully retained. In addition, the seating now consists of two rakes, there is greater ceiling height, boxes, and sumptuous comforts in the adjoining facilities. "They did us rather proud," director Reginald Woolley told me. "Greycoat (the



Underneath the Arches: entrance to The Players.



Lighting control position in the stage left gallery.



Sound control equipment is located at stage level beneath the stage right gallery.



Reginald Woolley.



Dominic Le Foe.

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developers) looked after it all. Even the side perches have brass rails!"

Sandy Brown Associates were given the task of maintaining the atmosphere of the old theatre and their Mike Hyland was subsequently joined by Jonathan Allen of Northern Light of Edinburgh. "Simplicity was the keynote, it had to be," Jonathan Allen told me. "The budget was small!"

The lighting control is a Strand Tempus 2G 36 way desk and there are six Act 6 dimmer racks on the stage left gallery with 45 patchable circuits. "The Players Company possessed a number of early Patt 23 and 123 spots, and these were re-used along with some new Prelude profiles and Coda battens," said Jonathan Allen. "Footlights are also included: not the modern T.H. variety, but two re-conditioned lengths of S/63, complete with glass reflectors."

FOH booms, socket boxes and facilities panels are all finished in brass, once again, in keeping with the decor.

The sound installation, used only for effects, also made use of most of the existing kit, including two Yamaha power amps, a Revox B77 tape and Denon cassette deck, mics and two Bose 802 speakers. A new Teac M106 mixer was added and the sound racks are positioned beneath the stage right gallery. "A show relay/paging system has been included for the main dressing rooms, with a calls facility to the main FOH areas," explained



Auditorium from the stage.

Jonathan Allen. "There is an emergency announcements system to all public areas, including the auditorium, which when operated automatically cuts the supply to the main PA, so that there can be no risk of missing an emergency call."

In the stage right corner a wall-mounted SM panel provides control for house lights, a mic for paging backstage, FOH and emergency calls and illuminated pushes for contractor controlled switching for stage and auditorium working and 'Performance Blue' lights. A separate backstage ring intercom facility is also included.

Although there is no flying height, there are 17 three-line hemp sets operated from the stage right fly gallery. And that means the Players stage management can practice the now nearly forgotten art of 'tumbling' cloths. During the design period the consultant engineers decided that the

vaulted structure of the theatre, which supports part of Charing Cross Station, should not be subjected to any additional loads. So, unusually, the grid is supported on four vertical steel members through the stage.

I'm delighted to tell you that the new venue feels just as good, if not better than the old: just as mildly decadent, a trifle more comfortable and, of course, much cleaner. "The dressing rooms are phenomenal," said Reginald Woolley. "I've never seen their like before!" And all through our conversation he referred to a great relationship with David Binns of Sandy Brown Associates, who he had worked closely with over the 18 months of the project's development.

For the regulars at the Players even the sound of the trains above (known to us as the London, Chatham and Dover railway) still provide an accompaniment to every

performance. And, of course, 'Oh, the Fairies!' (the Players' anthem) will continue to be sung . . .

Players Theatre, credits:

David Binns, senior partner in Sandy Brown Associates and partner in charge of the Players Theatre project.

Northern Light of Edinburgh manufactured or supplied and installed production lighting, sound, communications, working light and flying systems and carried out the full electrical contract for all the above facilities.

At the Players, **Reginald Woolley** and **Geoffrey Brawn** are directors and also direct the shows. **Dominic Le Foe** is a director and also a regular chairman at the Players.

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EQUIPMENT *News*

RAMSA Expands Speaker Range



RAMSA will be using the Light and Sound show in September as the launch pad for two new speakers, the WS-A500 and the WS-A550.

The WS-A500 is a new full-range unit based on a horn loaded 44mm compression driver and a single 12 inch bass unit. The drivers are housed in a moulded plastic cabinet which comes complete with flying points on both the top and sides of the enclosure. Although it weighs in at a mere 17Kg and measures just 395 x 557 x 273 mm (w x h x d), the new unit possesses real musical muscle power, claim the company, with its maximum rated power output of 122dB.

The unit will handle up to 200 watts and has

a sensitivity of 99dB for 1 watt at 1 metre. Where more bass is required it can be combined with the new WS-A550 sub-woofer system. The WS-A550 is based around a single 12 inch driver and has a power handling capacity of 400 watts.

The two units are connected together by means of the WS-SP2AE active crossover. For ease of connection, both speakers come fitted with the Neutrick Speakon connections as standard, each cabinet being fitted to enable multi-speaker systems to be connected with minimum fuss. For more details contact RAMSA Panasonic Consumer Electronics UK, in Bracknell. Telephone (0344) 853176.

Monitor One

Danish company Monitor Technology is claiming that its new speakers are almost completely uncoloured, offering the broadcast/recording studio or audiophile a very flat, neutral frequency response.

Monitor One Reference is a two-way, bass-reflex unit with a passive cross-over featuring careful optimisation to enhance the response particularly in the critical 1.7kHz-2.5kHz cross-over region. Although the electronic cross-over frequency is at 2,500Hz, the angling of the front of the speaker cabinet boosts the response of the tweeter at frequencies down to 1,700Hz to give a flatter response in this region. The cabinets have been carefully designed to contribute the minimum of reflections, while ensuring excellent off-axis response. At 30° off-axis horizontally, the response is only 3dB down at 15,000Hz.

An unusual feature is the adjustable tweeter level, which can be set to minimum, medium or maximum depending on whether the speaker is being used for near or mid-field monitoring.

The acoustic centres of the tweeter and woofer have been carefully aligned to improve phase response. This has been achieved through the angling of the front panel, and the introduction of a 16mm ring behind the woofer.

Capable of responding down to 1kHz, the tweeter features a ferrofluid in the magnet gap, to act as a link for stored heat from the voice coil and to help centre the voice coil in the magnet. For further details, please contact Monitor Technology in Odense, telephone 45 66 14 59 58 or UK distributors Raper and Wayman on 081-800 8288.

Dalton Dimmers

Light Technology, the Belgian-based manufacturer of lighting control equipment, has developed a range of completely new dimming technology. The Dalton DP412-HW version with terminal blocks, and the Dalton DP412-SO with 8 output sockets are professional dimmer packs and are designed to be compact and flexible.

The range features 4 x 2500 W continuous load, inductive and resistive; short-circuit and overload protection; standard 1 to 10V input signal into 100K; dimming curve user selectable between linear and square law B; adjustable preheat even for the square law dimming curve; enable and disable input, 0/10V digital; low voltage output, 20V-200mA and 12 V stabilised; and much more, according to the company.

For full specifications and distribution possibilities contact Light Technology (Belgium) on 32 91 856831 or visit stand F95 at the PLASA Show.

AKG Market DBX

Following the acquisition of DBX products late last year, AKG Acoustics have announced that a full range of the renowned signal processors is now available. The DBX range includes compressor/limiters, noise reduction units, gated compressors, de-essers, hiss reducers, graphics and parametric equalizers.

Industry standard items like the 160X compressor/limiter can be found within a range of products in the performer, production and 900 series groups. All items are available for immediate delivery. For further information contact Justin Frost at AKG on (04868) 25702.

Daylight Simulation

Full Spectrum Lighting Ltd has announced two new 'all-angle' task lamp units which provide simulated natural daylight.

Both lamps feature True-Lite full spectrum fluorescent tubes mounted on flexible 105cm arms with swivel necks. True-Lite tubes provide a glare-free white light which closely simulates both the visible and ultra-violet spectrum of natural daylight. The colour temperature of 5500 degrees K is essential for accurate colour matching and, because of its light quality, can also help reduce eye strain and fatigue.

The CM101 Magnifier is fitted with a 5" three-diopter circular magnifying lens to provide high optical resolution over a large field of vision. Its 22W True-Lite 8" diameter circular full spectrum tube provides shadow-free lighting combined with very accurate colour rendition and the 1.75X magnified image significantly reduces eye fatigue, making it ideal for close, accurate work.

The SL218 provides a high level of shadow-free illumination over a large surface area. The slimline fully swivelling hood is fitted with two 18W True-Lite fluorescent tubes.

These two new lamps are supplied with clamp fixing brackets. For further product information contact Full Spectrum Lighting Ltd, High Wycombe, telephone (0494) 448727.

The Pulsar Touch

Touch Panel II is a low voltage, 12 channel controller from Cambridge-based Pulsar. The new touch panel provides low-voltage output signals to control 12 channels of lighting, motors and effects, strobes and other controllers. In addition the remote input allows a 'Master' Touch Panel to control 'Slave' Touch Panels.



The unit is supplied with 12 on/off, latching pads - 1 per output channel. There are 24 programmable touch pads (on 2 keyboards) - each one can control any combination of the 12 output channels. All three keyboards may have flash, latching (toggle), swop, or solo action, swop and solo may work globally across the keyboards.



The chase keyboard now has four programmable chases with a total of 170 chase steps available. The speed ranges from 30 steps per second to one step every 10 minutes making the unit suitable for a number of different uses, varying from the control of strobes at fast speed to the environmental switching of other controllers using the very slow speed possibility. The chase can be manually stepped or synchronised using the remote control step facility which can operate in slave mode accepting inputs from other Touch Panels, or master mode to control other Touch Panels. For further details contact Pulsar in Cambridge on (0223) 66798.

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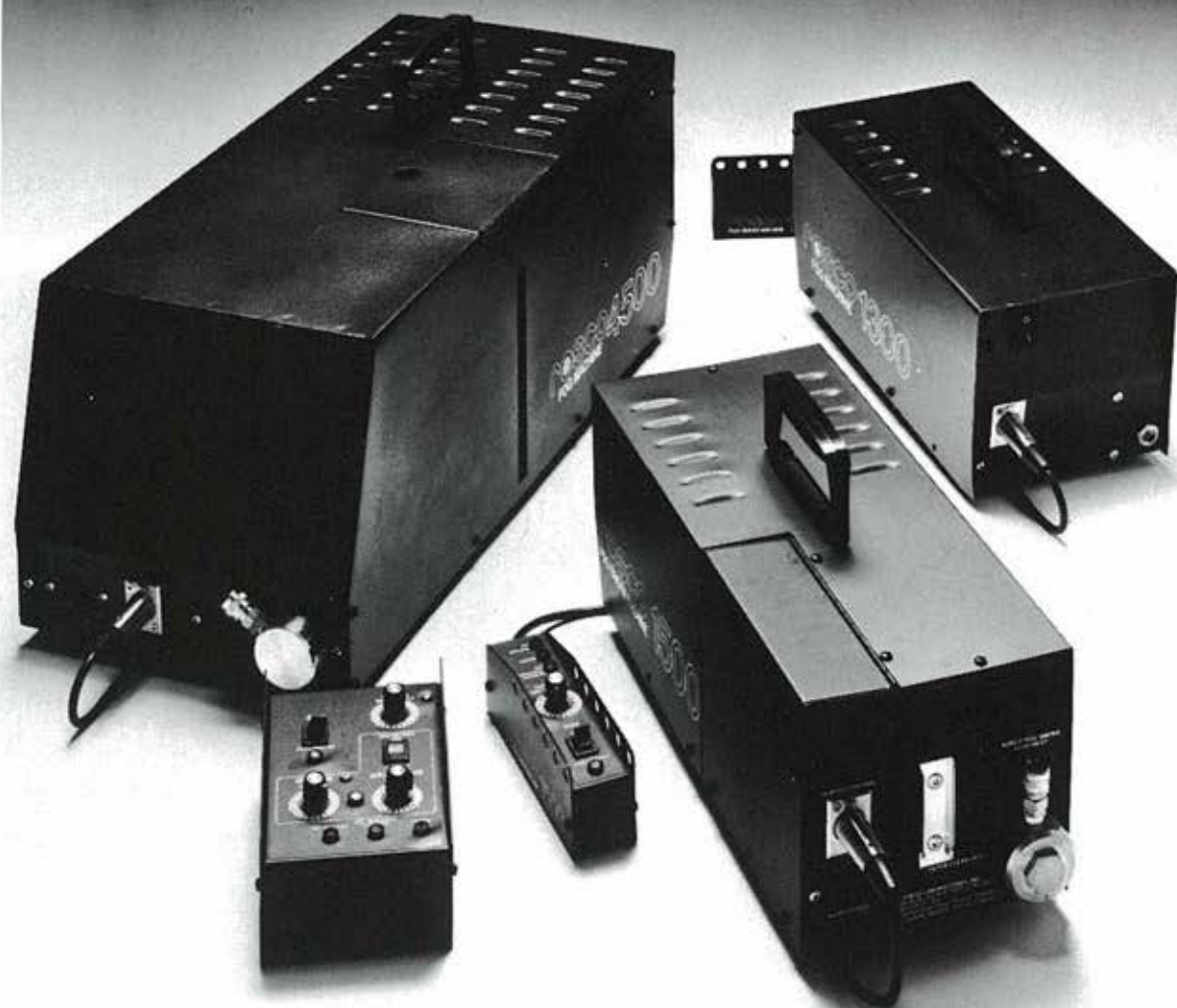
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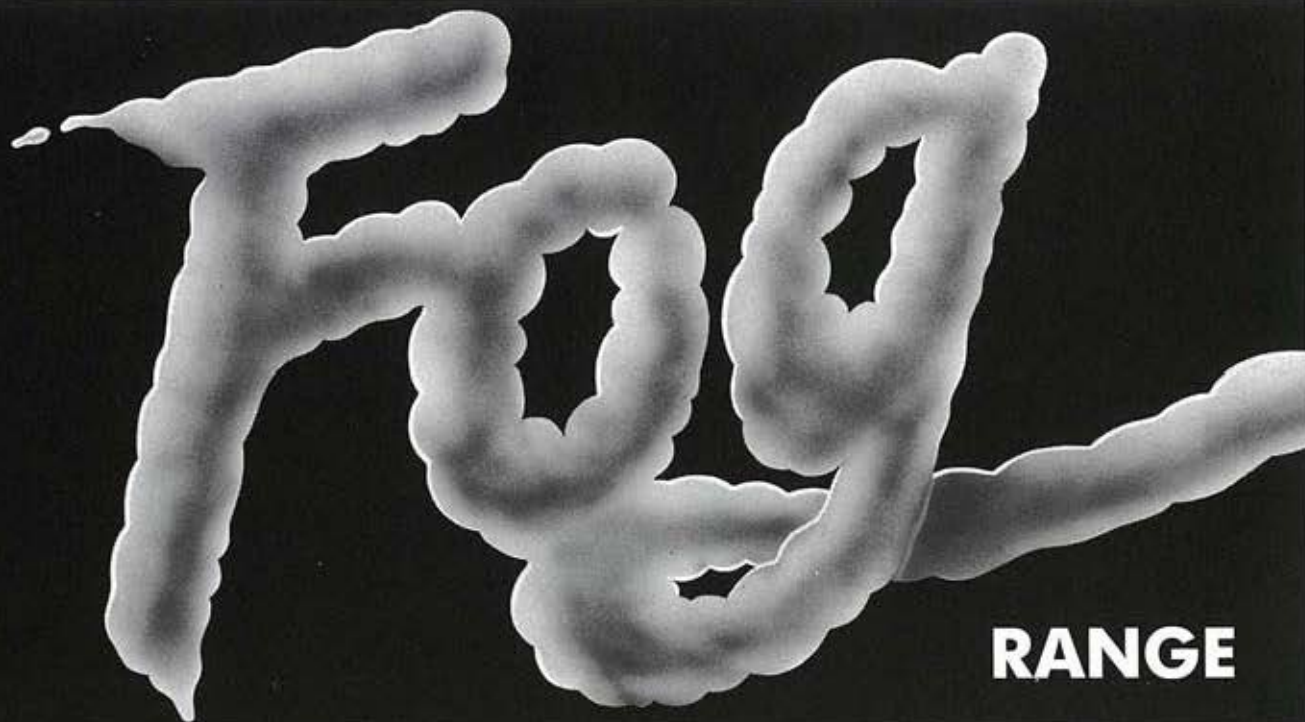
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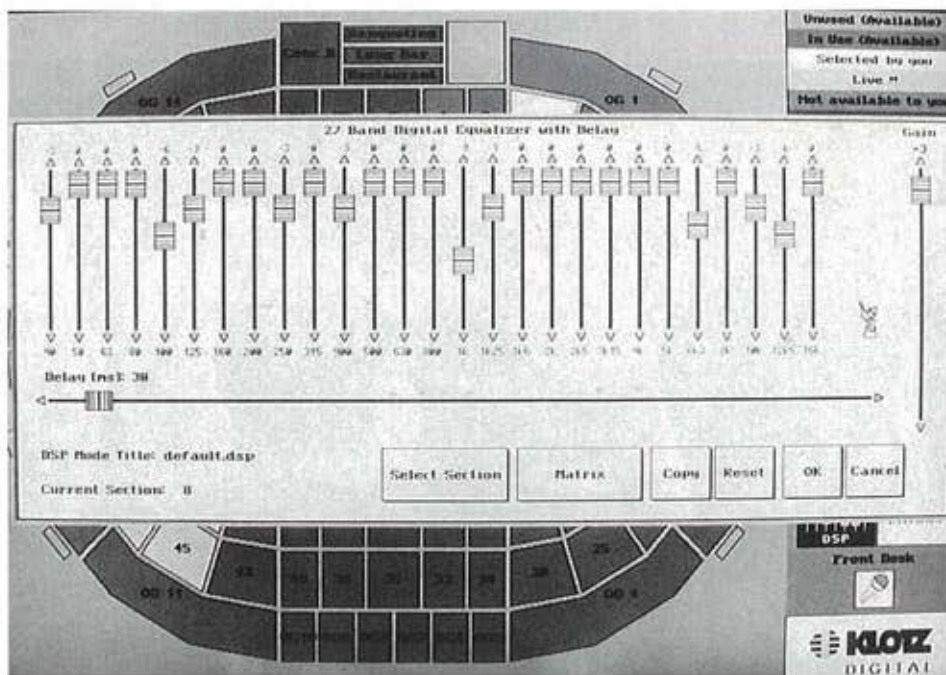
New Sound For Wembley

Wembley Stadium, the UK's largest sporting and concert venue, is controlling its new sound system with fibre-optic technology developed by Klotz Digital. The Oak-Link is now operating on all channels around the stadium, but has been designed to cope with 125 areas once the turnstiles, car parks and other surrounding areas have been brought on-line.

The Oak-Link was chosen to form the central routing matrix because of its ability to switch between different operational modes instantly. It offers CD quality sound, with a dynamic range of 96dB, a signal to noise ratio of 92dB and a sampling rate of 44.1kHz providing a frequency response of 20Hz to 20kHz.

The system handles inputs from eight different sources ranging from security control to the mixer riser. These are processed using limiters and graphic equalisers before entering the A/D converters. Two digital routing switchers then feed signals to 88 digital processors, permitting independent digital control of delay and EQ settings for each acoustic area.

A touch screen interface makes it easier to access all the Oak-Link's facilities. For further details contact Klotz Digital, Gronsdorfer Str. 14, 8013 Haar, West Germany.



Cataloguing The 90s

Midnight Sales Ltd have recently published the second edition of The Catalogue 90/91. The Catalogue is a comprehensive and unique compendium of technical products and equipment for the entertainments industry.

It has been updated to include new products and to cater for the introduction of the company's new computerised stock control system, which allows for easier ordering and more efficient despatch.

Complete with technical information, diagrams, photographs and trade prices, the 130 page catalogue is available free to all bona fide members of the entertainments industry. To obtain a copy, please contact David Rose at Midnight Sales in London on 071-703 0011.

Abstract/LeTech Synchro Scats

Abstract Design to Light of Leicester and Ryger, Electronics of Nottingham will be at the PLASA 90 show on stand 256 this year, to launch the new Abstract/LeTech Synchro Scats and dedicated SS4 controller, a joint venture by Abstract & Ryger and marketed under Abstract/LeTech.

The Synchro Scats are based on the very popular Scatscan 100, and offer a versatile system for venues that require an intelligent lighting system at a reasonable price, say the companies.

The 9" rack mount SS4 controller has five main functions:— manual position/sync/beat/mute, and also incorporates four separate 1kW switching channels for individual lamp control at 8 units max per channel. The manual position will allow positioning of each servo driven mirror head via the four manual override soft-touch buttons and control knob.

All Synchro Scats will take up the same position together and move in synchronisation to the music. A chase system where each mirror head will sweep in turn, and is sound activated by the beat of the music is incorporated, as is the mute which disables the Synchro Scats from the SS4 controller allowing the on-board automatic gain control sound unit to kick in giving perfect sound animation from each mirror head. Sync and beat receive a sound input direct from the sound system via a jack lead into the SS4 controller.

The Synchro Scat can be purchased individually (it replaces the Scatscan 100S sound) and hooked up to the SS4 controller at a later date if required, a total of 32 units can be controlled from the SS4. For further information contact Abstract in Leicester on (0533) 85520.

Two From Yamaha

Yamaha, the originators of the multi effects processor, are now offering a sophisticated multitap digital delay combined with a flexible digital crossover/equaliser. The DDL3 is a 1u 100dB dynamic range answer to many live sound problems.

Available in a 1 in, 3 out configuration, each output has up to 1.3 seconds of delay in 0.02ms increments and this can also be displayed in feet or metres. Four equaliser modes allow independent true 3-band parametric EQ with delay on each tap, a 3-way frequency divider with delay on each tap, a 2-way frequency divider and low pass filter and delay on all outputs or a 2-way frequency divider with band pass and delay on all outputs. Filter slopes of 6, 12, 18 or 24dB/octave are available permitting very sophisticated crossover definition.

15 memory locations can be recalled from the front panel, via MIDI or via contact closure handing hitherto unheard of control to the live sound engineer in a hostile environment, claim the company. All rear connectors are balanced and individual 8-segment LED input meters operate on the input and the three taps. Each of the outputs can be attenuated by up to 50dB and put out of phase if necessary, and the unit can be locked in EQ or crossover mode to avoid speaker damage when flicking between phases.

The stated dynamic range and THD of less than 0.03% are achieved by 18-bit Delta-Sigma conversion at a sampling rate of 50kHz offering superior low level performance over PCM conversion.

Yamaha's new PM1200 four bus console is aimed primarily at live sound applications, although its flexibility and high sonic quality make it equally suitable for recording and broadcast work.

The desk uses the same muting system that is incorporated in the flagship PM3000, offering four separate mute groups for defining snapshots of channel status which can control or be controlled by other PM series desks. Available in 16, 24 or 32 channel versions, each desk comes with two stereo channels which can be added to or replaced with the standard mono channel.

The desk features signal and clip LEDs on each channel and colour-coded channel sections together with four large illuminated multi-purpose VU meters with peak LEDs. EQ is three band on the standard channel with sweepable mid and two band fixed on the stereo, both with 12dB/octave high pass filters at 80Hz. Either channel type offers an insert point, four auxes and access to the four output busses and the main stereo. For further information contact Yamaha-Kemble in Bletchley, telephone (0908) 371771.

Digital Technology

Louisville-based Innovative Electronic Designs, manufacturers of audio electronics, have announced the launch of the world's first digital audio processing system with up to 505 simultaneous signal paths allowing the functions of routing, mixing, signal delay and level control, all in one integrated system with no external interfacing.

The digital technology is now available in the UK through I.E.D.'s newly-appointed exclusive representative The Sound Department Ltd in London. For further details contact Steve Smith, telephone 081-749 2124.

Extended Conduit



Additions to the range of flexible conduit and adaptors have been announced by Bowthorpe Hellermann Distributors.

A comprehensive range of non-metallic flexible conduit systems is already available from the company and this is now supplemented by a full range of pvc sheathed steel flexible conduit and associated adaptors.

Meeting the requirements of BS 731, the conduit — which is available in outside diameters of 16.5mm, 20mm, 25mm and 32mm — is constructed from electro galvanised steel with pvc sheathing profiled to shape on the conduit to avoid restricting the bending radius or the flexibility of the conduit.

Complementing the conduit is a full range of connectors including plain and swivel male connectors with ISO threads. Necessary locknuts can also be supplied as can a connector for plain hole fixing. For further information contact Bowthorpe Hellermann Distributors in the West Midlands on WS9 8SR. Telephone (0922) 58151.



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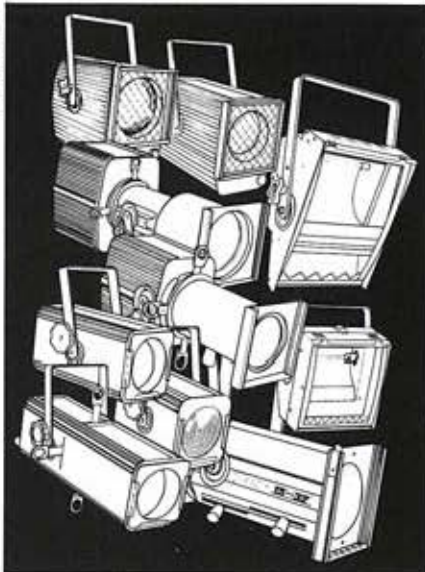
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VIEWPOINT

THE TRIALS AND TRIBULATIONS OF CREWING A TOUR

There is theory that goes: "If you have crap gear and a good crew then you can probably busk it, but if you have great gear and a crap crew then you are in trouble." Of course if you have crap gear and crap crew then you would do well to be trading under someone else's name. However, what this does is highlight the importance of the personnel both to the company and to the client.

It seems to me that this is a point which is overlooked more and more often, especially by the larger companies involved in the lighting hire business. Basically, the crew/roadies/road filth (depending on your point of view) are the acceptable (or not) face of the company they are representing. Therefore, the quality of the idiots the company chooses to employ can be of crucial importance not only on that job but also with regard to possible future work from the same client.

However, it is not so easy to define those qualities. Dress sense is definitely not high on the list of priorities. Neither is sobriety (which I can personally attest to). Technical ability is obviously important, but it is certainly not crucial (as many roadies I know **should** personally attest to). I believe that it can be better described as a mixture of practical common sense heavily laced with a masochistic desire for self-degradation. Here is a delicate balance which in the wrong hands can prove lethal. Even in the right hands (we all know what they are for) it can become unpleasant in the extreme.

The ideal candidate would possess the ability to work and maintain the equipment to a high standard and the type of personality to cope with, and contribute to, life on the road. The lifestyle is certainly not suitable to everyone and there are some still involved actually touring

who have yet to realise that themselves.

The combination of long hours, little sleep, and loud noise is a tactic employed by the SAS to great effect in places like (dare I say it) Northern Ireland. Under these circumstances people can be somewhat strange and just a smidgen irrational. The atmosphere of the tour is dictated by the interaction of the individuals and it can be the case that the whole becomes greater than the separate parts which constitute it (I am sure someone has said that before). Under these circumstances touring can become one of the most pleasurable (and addictive) occupations I have ever known. On the other hand it can become nightmareish if there are personality clashes and the tour is a tough one.

Attitude is the essential determinate. Consequently, 'attitude adjustment' is an important part of touring (you can work that one out for yourselves).

At the end of the day, well actually more importantly at the beginning of the day, the crew is effectively the company's PR and as such has added responsibility to that company. However, on a quid pro quo basis this also means that the company has added responsibilities to their crew. Which rather fortuitously brings me back to my initial point.

There is a popular saying which reads: "If you pay peanuts, then you will get monkeys". This happens to be an idea to which I subscribe. On a more serious note a particularly annoying trend appears to have developed. This involves a company including in its lighting quote provisions for reasonable wages to be paid to competent crew. What then happens is that the company ends up only paying a proportion (read small) of that to the crew.

The result being that they will tend to employ inexperienced or simply bad technicians as a way of clawing back the money for their under-budgeted equipment rental, which in my mind is unfair on the rest of the crew and also unfair on the inexperienced since they have less chance to learn from the experienced.

The manifestation of this can be seen in the many crew changes which appear to be occurring lately. Three, four or even five personnel swaps are not unusual on a big tour. This itself can detract from morale and serves to break up the cohesiveness which is so essential for a successful tour.

Obviously, this is not the only dodgy practice employed in the lighting game. Subjects such as 'back handers' and the tendencies of larger companies to do tours for 'silly money' just to freeze out the smaller competitor are worthy of their own columns.

Unfortunately, I do not think that anything is going to alter these disturbing trends. Particularly, since the industry is becoming more and more concentrated into less and less hands, and as it is being treated increasingly like big business. The idea of clocking-on remains as abhorrent to me as I am sure it does to many still in the business. I am sure that the situation would be much healthier with many small companies rather than a few (very few) giants. However, it might be claimed (rather justifiably) that I have a vested interest in such an outlook. So, having been caught red-handed I'll shut up.

The writer of this month's Viewpoint has asked to remain anonymous. Nevertheless he has submitted a biography under his nom de plume.

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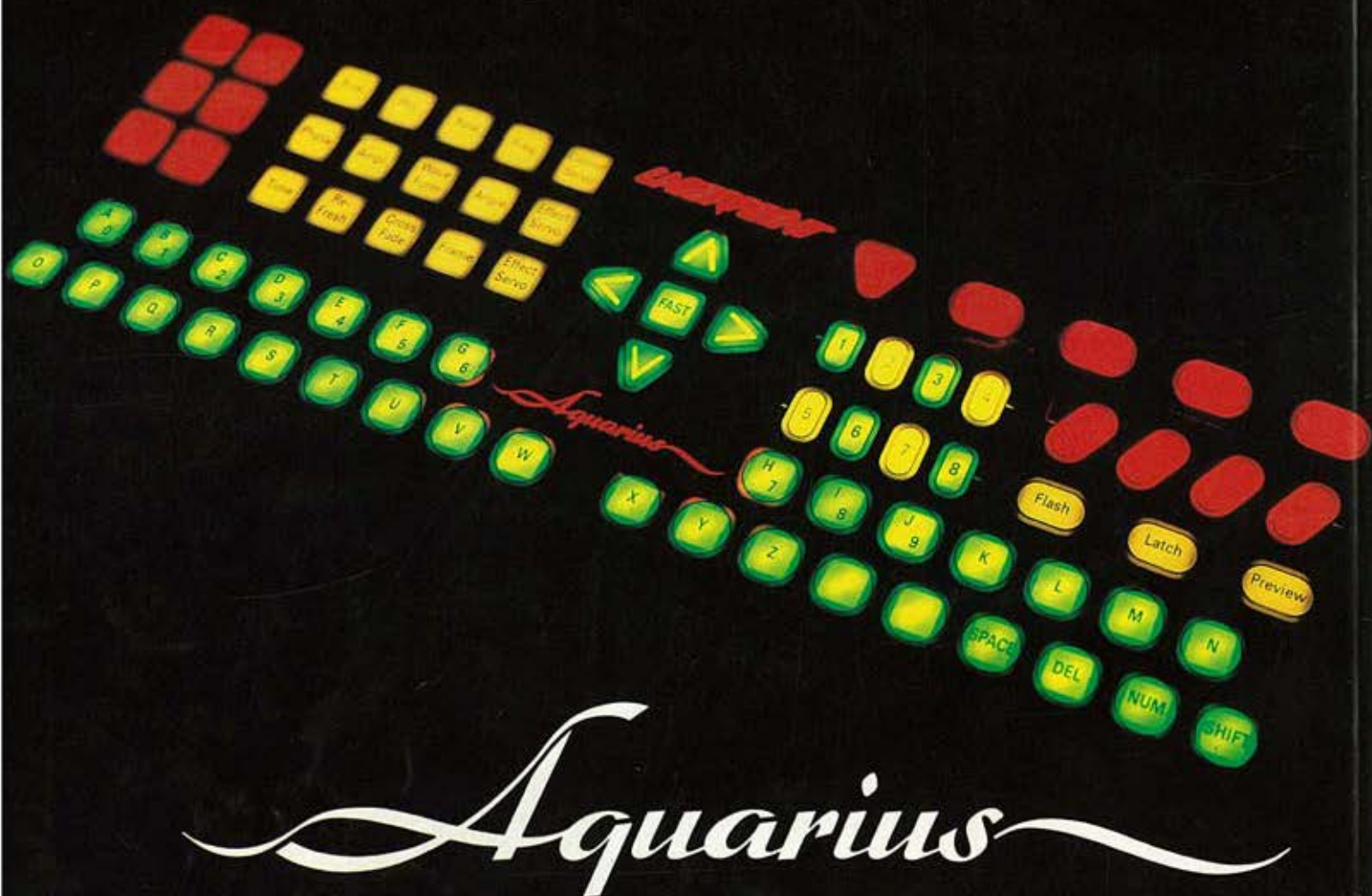
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