

Lighting & Sound INTERNATIONAL

September 2000

The Entertainment Technology Monthly

www.plasa.org/news



Don Giovanni

- Graham Vick's Festival Season at Glyndebourne

Piano Man

- Elton John at Raby Castle

Middle Management

- Loudspeaker Management Systems

Challenges

- What does the future hold for the Industry?

Island Opera

- Jersey Opera House Restoration

Reflections of Light

- Illuminating Rome's Bridges

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AND SOUND ASSOCIATION

Creativity and technology.

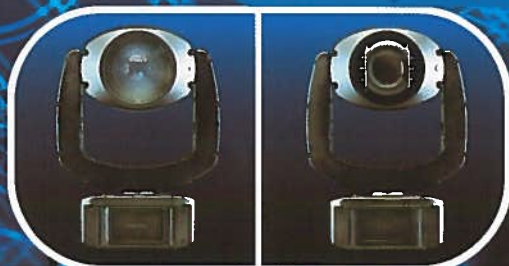
A spectacular combination.

Creative lighting for shows, theatrical productions, television studios and entertainment venues.

Giotto moving head fixtures, with their ground-breaking technical originality, are the result of twenty years' experience: completely designed and tested in the SGM Research & Development Centre with the consultation and collaboration of world-famous show industry professionals and lighting designers.



Giotto Spot 1200



- MSR 1200SA lamp powered by an electronic ballast • 540° Pan (3.8 sec.) • 270° Tilt (2.4sec) • 16-bit control
- Automatic head repositioning • 72 colours • 4 beam angles (9° - 12° - 15° - 18°) • Electronic focus • Iris • 4 rotating
- 4 fixed gobos • 2 rotating prisms • Variable frost.

Cover for using Giotto Wash 1200 and Giotto Spot 1200 outdoors. The dome, in highly heat resistant perfectly transparent polycarbonate, has an ABS body and built-in ventilation system.

Giotto Wash 1200

- MSR 1200 lamp powered by an electronic ballast • CMY colour mixing • 200mm Fresnel lens with zoom facility (18° - 35°) • 540° Pan (3.8 sec.) • 270° Tilt (2.4sec.)
- 16-bit control • Automatic head repositioning • Luminosity of over 30.000 lux at 5m./18° angle.

Giotto Barndoors



Exclusive motorized barndoor system for theatre and television applications. Each of the 4 barndoor leaves has an independent motor and a fifth motor rotates the entire group through $\pm 95^\circ$.

Light Dome

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of the far desert*



*hot passion of
Mediterranean lands*



LEE Filters

*bright gaiety of an
English Summer's day*



The Art of Light



Lighting & Sound INTERNATIONAL

September 2000 Volume 15, Issue 9

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CONTENTS

NEWS

This month's cover shows Don Giovanni at Glyndebourne

PLASA Show & Award Nominees 6-18
 International News Round Up 20-94

REGULARS

No Comment Tony Gottelier 98
 Second Take John Watt 122
 Asleep in the Stalls Ian Herbert 132
 In Profile Louise Stickland talks to Jonathan Park 146

FEATURES

Don Giovanni 101-104
 Louise Stickland packs her picnic for Glyndebourne
 Piano Man 107-109
 Elton John is the original showman - and nothing, not even the British summer, can dampen his spirits. Steve Moles joins him at Raby Castle
 Middle Management 111-116
 L&SI Special Report.
 Challenges 119-121
 Tony Gottelier contemplates what the future holds for the entertainment and leisure industries
 Island Opera 125-126
 Seven years after the Jersey Arts Trust revealed its plan to turn the dilapidated Jersey Opera House into something the island could be proud of, the regenerated venue finally took off its coat in July. L&SI reports
 Reflections of Light 129-130
 Through the years, ACEA (Rome's city electricity and utility service company) has been responsible for lighting some of the Eternal City's most famous monuments. Mike Clark sheds light on their latest project
 PLASA NEWS 96
 TECHNICAL BOOKS 134-137
 DIRECTORY 138-143
 CLASSIFIED including full recruitment section 144-145

Lighting & Sound INTERNATIONAL

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The PLASA Show Cometh . . .

PLASA is upon us and there's only a few days to go before the exhibition opens at Earls Court.

At the Show you'll find the world's leading companies launching their most innovative products, and the latest ground-breaking solutions for the entertainment and leisure industries.

Supported by all the leading international industry associations - ESTA, NSCA, APIAS, VPLT, BEDA & WETF - it's a chance to see over 700 top industry companies and brands, all within the same building.

PLASA is the biggest launch show for its market in the world, providing a first-class forum for in depth advice, a central meeting place for industry colleagues and a chance to sample new ideas from the leading industry specialists. Don't just read about the equipment advancements on the Internet and in the trade press, see them brought to life at PLASA. Plan your visit now.

In a move to broaden the appeal of the show, PLASA has also targeted a number of new sectors in a bid to attract visitors from the amusements and attractions, architectural installation and corporate presentation markets.

Running alongside all four days of the show are conferences and seminars hosted by industry experts. Monday 11 September is the PLASA Show's dedicated audio day, featuring the Audio @ PLASA masterclass, which will give audio professionals the chance to sample the latest technology and examine practical applications. The day's morning and

PLASA

**LIVE AT EARLS COURT
10-13 SEPTEMBER 2000**

www.plasa.org

afternoon sessions will be led by industry speakers from the world of audio and will cover **Sound System Design for Medium-Sized Venues, Audio Distribution Using the Ethernet with CAT 5 Technology and Line Array Principles.**

AV @ PLASA is also a one-day masterclass taking place on Wednesday 13 September, offering AV professionals the opportunity to sample the latest technology and examine practical applications. The day's three major sessions will cover **Applications of Displays and Screens, AV Consultancy, E-control and Technology Convergence and Show Control and Staging.**

In addition, a series of four training seminars will be repeated each day during the Show, with the emphasis on safe practice awareness and business issues. Topics under discussion include **Sole Trader: To be or not to be a company? Safe Rigging Practices, Employment Law for Freelancers, A Duty of Care! Your Rights Explored and A Professional Framework and National Standards for Using Technology and Training in Entertainment and Promotion.**

PLASA has also introduced the New Technology Showcase - a special feature area which will display all of the innovative products entered for PLASA 2000's Product Excellence Awards. The four Awards categories - Lighting, Sound, Audio-Visual and Stage Engineering - will be judged by a panel of industry experts from the relevant sectors, and the Awards will be presented at the Show at 9.30am on Wednesday 13th September (Stage Area, Upper Deck). Although this starts before the official show opening, all visitors will be allowed through to the awards presentation area. A brief run-down of the awards nominees appears on the following pages.

Numbers Change at PLASA Publishing

Our telephone numbers at PLASA Publishing have changed. The old number - 01323 642639 - has now been replaced by a new general number - 01323 418400. Callers to the old number will, for the time being, be redirected to the new one automatically. The PLASA Office number remains 01323 410335, although each member of staff at head office will now also have a direct line. The fax number for the entire office - 01323 646905 - remains unchanged.

Common-Sense

Common-Sense is something that we all need but not all of us possess! The latest product from Artistic Licence provides common sense for all.

There is a well known frustration in the Entertainment Community. You're on site, 90% of the show is working and one solitary piece of equipment refuses to talk to the show control system! Maybe the manual is wrong or that particular feature is vapour-ware! In either case an interface solution is needed.

Common-Sense is the ultimate solution! It provides a protocol interface that supports contact closures, switch matrices, analogue control voltage, real time clock, MIDI, MIDI show control, infrared, RS232, RS485 and of course DMX512.

All of these interfaces are software controlled in a self contained wall mount enclosure. The product is configured by a user friendly graphic software package, Sense-Edit.

PLASA 2000
Booth G24, Sept 10th - 13th

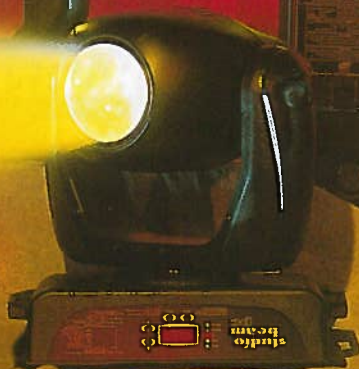


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AWARD NOMINEES

The following 53 products have been nominated for a Product Award

LIGHTING

ARTISTIC LICENCE

Common-Sense

Common-Sense provides a software-controlled protocol interface supporting a wide range of protocols. The product is configured using a user-friendly graphic software package called Sense-Edit.

Low Voltage Dimmer LVD-12

A 48-channel, 24 Volt 12 Amp dimmer offering DMX512 control and stand-alone mode. The LVD is aimed at the architectural market, where low power and low voltage lamps are regularly used. The LVD is also optimised for control of Artistic's LED Digital Lighting Range including Water-Fill, Colour-Pipe and Terra-Fill.



AVOLITES

ART 24 dimming system (pictured)

A ready-to-roll compact dimming system and distro panel, ideal for small tours or locations requiring distributed dimming over a large area. It features a variety of mains input options, including CEE, Camloc or Powerlock with loop outs if required. The

optional integrated hotpatch offers a total of 72 outputs, patched to either Harting or Socapex multi-pin connectors.

CLAY PAKY

Astroscan

Intended as an effects support for moving body and moving mirror projectors in touring, discotheque and TV studio applications, the Astroscan is a marriage between the legendary

Golden Scan and a patented pyramid head with 10 mirror faces. The head can rotate and oscillate at variable speeds and angles, producing an impressive range of lighting effects.

COLOR KINETICS

ColorBlast

Billed as the world's first digital lighting fixture designed to wash interior and exterior walls with rich colours and colour-changing effects. The digital lighting fixture uses Chromacore technology to generate over 16.7 million colours via microprocessor-controlled RGB LEDs.

ColorPlay

A lighting design software package that enables the quick and easy creation of dynamic lighting shows for Color Kinetics' full line of digital colour-changing lights.

iPlayer

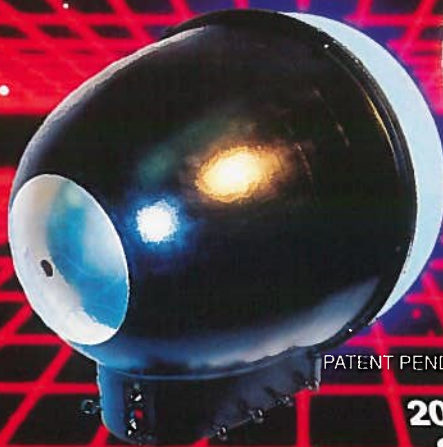
iPlayer is specifically designed to store and play back light shows created for Color Kinetics' Chromacore-powered digital colour-changing

There's Something New on the Horizon...
...and it's Ready for Take Off!

THE RING ROCKET

Most Innovative Effects 2000

- ShotMax continuous confetti launcher
- Little Blizzard SP quietest snow machine
- Hurricane 5000 variable speed fan
- Polar Controller low ground fog machine
- Tee Launcher tee shirt launcher
- The Foam Dome
- Stratosphere hazer
- Universal DMX Relay



PATENT PENDING

SEE OUR PRODUCT
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TMB STAND EP36

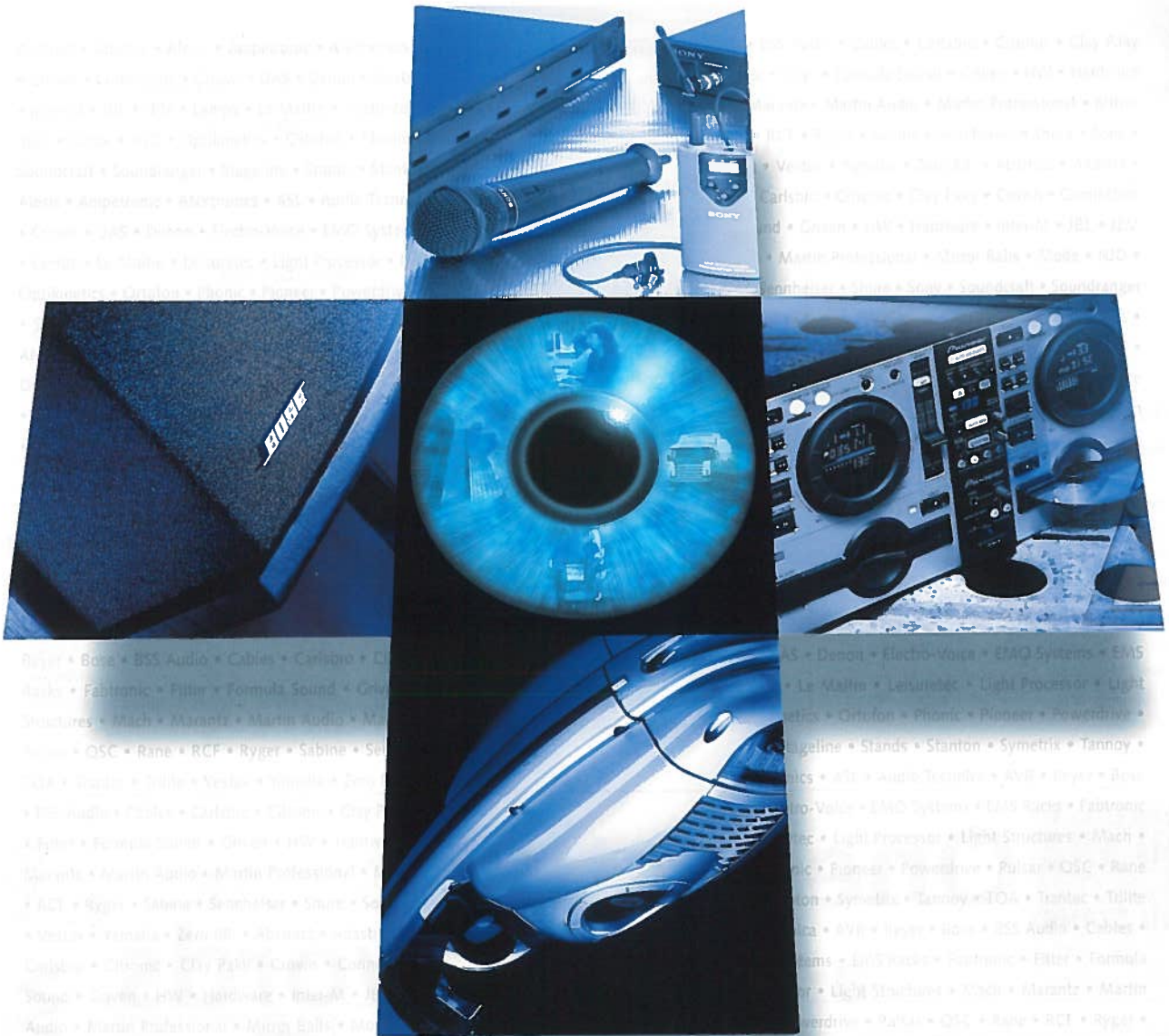
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lights. The hand-held unit features 2MB of rewritable memory that stores a DMX512 stream and runs light shows.

DHA

The Indexer

The first in a range of new digital moving effects from DHA. More than a standard rotator, the indexer has an on-board DMX decoder and a programmable manual controller, effectively combining the functions of the DCON Mk4, the DMX DCON and the standard rotator in one small package. Also available as a Double Indexer.

ETC EUROPE

ETCNet2 DMX Node

Introducing ETCNet2 - the next generation of Ethernet technology. Providing over 32,000 configurable DMX addresses to control any device anywhere in a lighting system, ETCNet2 simplifies installation, improves reliability and reduces costs.

Source Four PARNel

This introduces a new category of luminaire, say ETC. New lenses provide a high-quality beam which can be focused from 25° - 45°, similar to a fresnel or pebble convex luminaire. The PARNel is rated up

to 750W and has the punchy beam of the Source Four PAR, with the added flexibility of the focusing mechanism.

LAGOTRONICS

LagoLED Dot

Durable LED multi-coloured dot 'clusters' suitable for starcloths.

LIGHT PROCESSOR

QCommander 512 (pictured)

An easy-to-use multi-purpose lighting controller capable of controlling up to 32 DMX fixtures. It offers 512 channels of control, with intuitive programming and playback facilities. Its simple operation is based on the original QCommander, it features a high-definition backlit LCD display, with Options selectable from the surrounding 'softkeys'. An unlimited number of intelligent fixture personalities can be stored in the desk, uploaded from a PCMCIA card.



LITE-PUTER

CX-240I 24CH DMX Dimmer Console

Lite-Puter's CX-240I dimmer console is designed to be simple and easy to use, regardless of the operator's experience, as it works entirely in 'one channel to one channel' mode.

MA LIGHTING

grandMA Light console

A compact controller, based on the bigger grandMA, but reduced in terms of hardware design: one touchscreen instead of three, 10

motorised faders instead of 20 and 20 executor buttons instead of 40. The compact size should open up new markets for this system.

MARTIN PROFESSIONAL MAC 2000

A powerful profile spot moving head with intense light output from a 1200W source. Includes a CMY colour-mixing system, motorised zoom and two gobo wheels plus a combined colour/effect wheel and a 10-lens optical system.

COME SEE US AT
PLASA 2000
ON STAND
H32

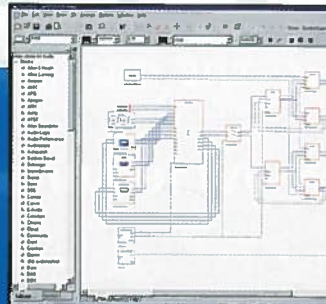
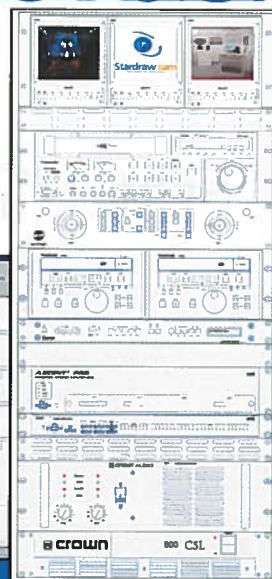
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STAND F24



PLASA SHOW 2000



MiniMAC

A compact automated yoke-mounted luminaire available in two versions: the MiniMAC Profile spot features 12 rich colours and seven rotating and replaceable projection patterns. The MiniMAC Wash is an all-purpose fresnel colour-changer with a bright, but soft, and undefined beam featuring 12 rich colours ideal for atmosphere generation and mood enhancement.

Jem ZR33 smoke machine

Also from Martin, the new ZR33 Hi-Mass from Jem is designed to generate instant atmosphere in large clubs, major stage productions and industrial applications.

NU-LIGHT SYSTEMS

Airoamer

Designed to enhance experiences and affect mood with the use of aromatherapy essences. Can cover up to 1000 cubic meters and features constant or timer operation.



PANI

BP4CT Projector

The latest generation of Pani's 4kW systems. Boasts a 65% increase in light output, and a substantial reduction in UV level which, say Pani, will increase the life of an image slide by up to 72 times.

RAT MUSIC STANDS

DMX cordless lamp

Music stand lamp with radio DMX control provides full illumination for five hours between battery charges. With radio DMX control enabling all lamps in the group to be turned off at the control desk.

ROSCOLAB LTD

I-Cue Intelligent Mirror

The major function of the I-Cue is to re-position the beam of light so a single spotlight in a fixed position can illuminate lots of different locations.

SES FILM & TELEVISION

PowerPro

A modular 400A 3-phase mains distribution unit available with Cam-Lok, PowerLock or BAC inlets.

The PowerPro rack will be available in 3- or 4-module format with a range of plug-in I50A 3-phase modules.

TowerLux

An inflatable high-output light source with a halogen vapour lamp giving a light output of 32,000 lumens at a colour-temperature of 5200K.

SGM ELETTRONICA

Giotto Spot 250

Aimed at TV studios, large shows and theatres, SGM's latest has variable zoom from 9° to 24° and uses a dichroic reflector which allows the heat to be dissipated on the rear of the fixture.

THE FLAME LIGHT COMPANY

Metropolis Flame Light (pictured)

An electrically-generated flame effect, cool to the touch and totally safe. Has won two awards already this year!

UV LIGHTING

UV 250 Floodlight

The first compact, lightweight, high-intensity UV 250W blacklight fixture of its kind to be launched in Europe.

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The AutoYoke[®] is the first affordable solution for converting conventional theatrical lighting fixtures into full featured moving lights. Smooth, accurate, and quiet, the AutoYoke's DMX control allows you to pan and tilt the unit, as well as drive color scrollers. The optional DMX controlled AutoIris and AutoFocus also allow you to manipulate the size and focus of the beam of light. It attaches easily to today's most popular theatrical lighting fixtures.

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- 8 mono Auxes, with Pre/Post fader switching in pairs, and Pre/Post EQ switch
- 8 Group busses
- Left, Centre, Right master mix busses
- Direct Output from each channel with Pre button to allow recording feeds
- Integral meterbridge with LED input and output metering
- Two fully-featured Stereo line inputs as standard
- Four stereo returns with routing, Auxes and 'Tilt' EQ
- 11x2 Matrix as standard
- MIDI mute system: 8 manual mute groups plus 128 MIDI-controllable mute snapshots
- Master section includes SOLO (PFL and SIP), Talkback and 2-track returns
- Separate power supply

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MAC 2000

Profile

Extreme Equation

$$= \sum_{n=10}^{26} 2000(n) (1200 \text{ w} + (\text{easy})^{CTC} + (10 \text{ Colors})^2 \frac{2 \text{ Prism}}{f_{\text{frost}}} + \pi \left(\frac{1 \text{ns}}{2}\right)^2 + 7 \text{ Color/Colors})$$

$$= (2 \times 10^3) \text{ MAC} = \text{MAC 2000}$$

Power

Intense and pure light output is generated from an ultra-efficient optical system and powerful HMI 1200-watt source.

Graphics

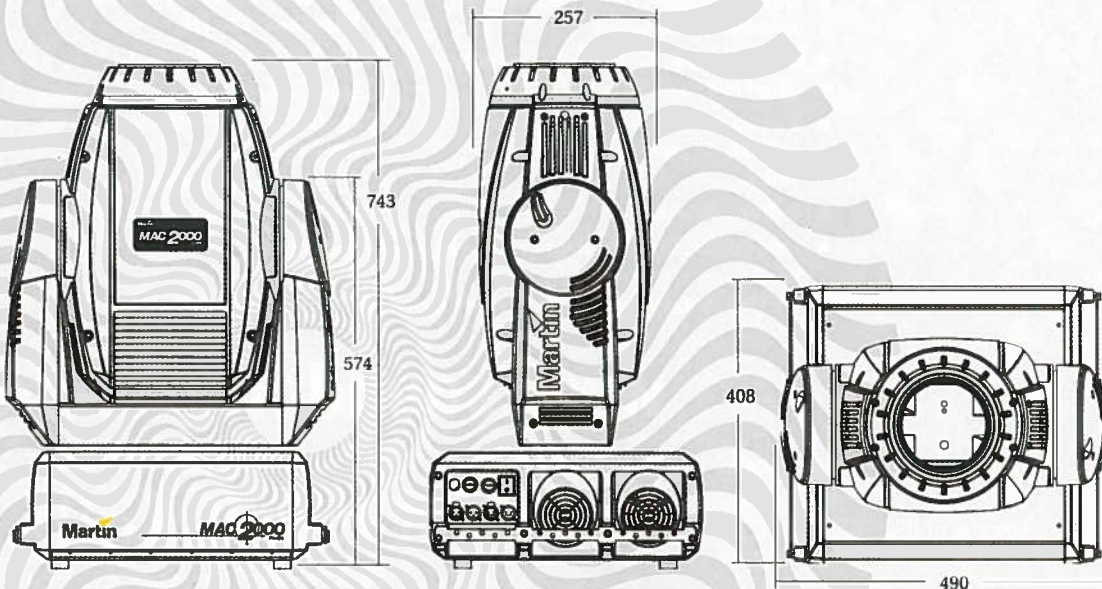
An infinite variety of unique graphic looks are possible from two indexable, dual-rotational pattern wheels (5 replaceable pattern slots each), 3-facet prism, iris, variable frost and additional all-replace-able 7-slot color/effect wheel.

Color

A full spectrum CMY color palette combines with an innovative CTC system for complete color temperature flexibility to yield a nearly unlimited variety of color choices.

Optics

An extraordinary multi-coated 10-lens optical system produces extremely high output and the highest quality projection characteristics available. Easy beam size and beam angle adjustments are possible via a 10 to 26 degree motorized zoom and electronic focus.



MAC 2000
Profile

**Extreme
Light**

Martin
MAC 2000
Series



Martin



PLASA SHOW 2000

SOUND

ACOUSTIC SOLUTIONS

Homemix

A complete entry-level DJ equipment package, offering a high level of functionality.

ALLEN & HEATH

ML5000 Mixing Console (pictured)

A&H's flagship, a FOH/monitor desk designed for live sound engineers in fixed install or touring dual function applications. Standard frames offer up to 48 mono + 4 stereo channels; sidecar expanders may add a additional 48 channels.



FOHNN

SoundSpot Speaker System

A loudspeaker system with special directional sound dispersion (for selective zones) and a specialised system amp/controller and room acoustics controller.

Easyport FP2 Plus

Fohhn is also launching a new, upgraded version of the Easyport.

GENTNER

PSR 1212 digital matrix

Introducing the PSR1212 - a digital matrix mixer/audio processor developed specifically for the pro audio market. Includes 32 user-definable pre-sets.

HAYDEN LABORATORIES

Denon DN 2100-F

Features include Denon's excellent linear shock-proof memory, intuitive operation and instant access to inventory of facilities and effects. Boasts an impressive list of standard features.

Rolec 'Minim' BGM system

An easy-to-use and logical networkable tool for the creation of musical environments, the Minim is only the size of a car stereo, taking full advantage of micro-technology.

Rane MN 84 Network Mic Preamp

Can send 8 and receive 4 channels of high-quality audio over a single, low cost computer

network cable, providing a cost-effective solution for audio routing problems.

KLARK TEKNIK

DN9848 Loudspeaker Processor

A highly-configurable, digital electronic crossover/loudspeaker management system. (See feature beginning on page 111.)

M+D DESIGN

SID - Event System Monitor

Designed to monitor safety-critical public address systems, SID may also be used to monitor live concert audio and report the status of individual amplifiers and speakers.

MACKIE/RCF

Fussion 3000

A high-output, three-way, medium-throw active speaker system, featuring high-precision

transducers and application-specific amplifier technology combined to produce high output with low distortion.

PIONEER

CMX-5000 Pro Twin CD Player

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DJM-600 Pro DJ Mixer

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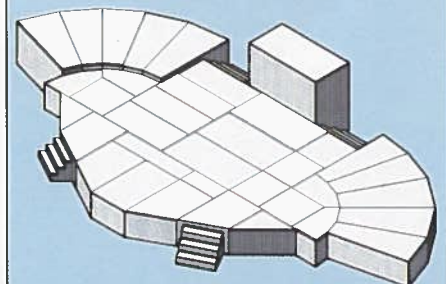
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DCN Concentus

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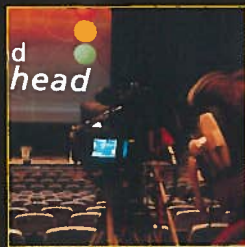
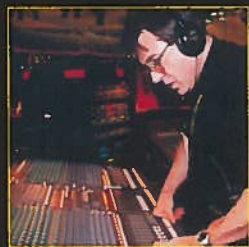
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Simply Matcham!

Gearhouse's Chris Eveleigh, who heads up the new Bournemouth operation

A recent one-day conference celebrated the life and work of theatre architect Frank Matcham and the centenary of his beautifully-restored Gaiety Theatre and Opera House on the Isle of Man.

The conference, held at the Manx Museum in Douglas, focused upon the restoration of the Gaiety Theatre and the wider work of Matcham, who, during his career, designed and rebuilt over 160 theatres in the British Isles - London's Palladium, Coliseum and Victoria Palace theatres, the Theatre Royal, Newcastle and the Olympia Liverpool amongst them. Speakers from the world of theatre history and architectural conservation came together to discuss Matcham's influence, and delegates were treated to a performance of *The Corsican Brothers*, followed by a tour of the Gaiety.

The restoration of the theatre has been overseen by general manager Mervin Stokes, who worked closely with David Wilmore of Theatresearch, sponsors and organisers of this conference.

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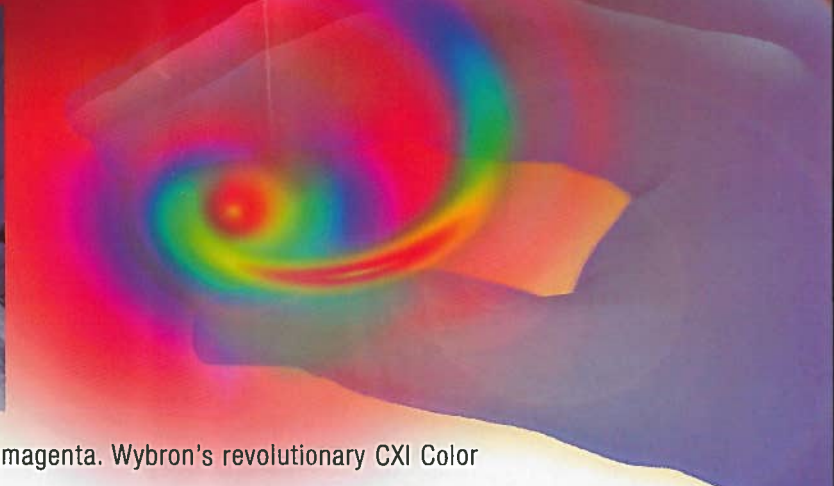
Gearhouse Expands with New Bournemouth Base

Gearhouse has underscored its plans for expansion by setting up a new base in Bournemouth. The move will allow the company to service both the hotel trade in the seaside town, following the contract it signed recently with De Vere Hotels, and also events in mainland Europe.

Heading up the new operation is Chris Eveleigh, whose background includes hotel management, a stint with British Airways and work for the AV and conferencing industries whilst at AVA Europe. Eveleigh is joined in the new venture by experienced Gearhouse project manager Alex Quarterman, who will relocate from the company's Birmingham office. The new operation, based at Bournemouth International Airport, is operational from September 1. The hire fleet will include a full range of state-of-the-art cameras, projection and processing, as well as the more utility OHPs, LCD projectors and flipchart easels. Contracts already in place include a roadshow for Barclays Bank and Barclays Offshore Services, as well as work for insurance and industrial clients, and further events in the Channel Islands and the Isle of Man.

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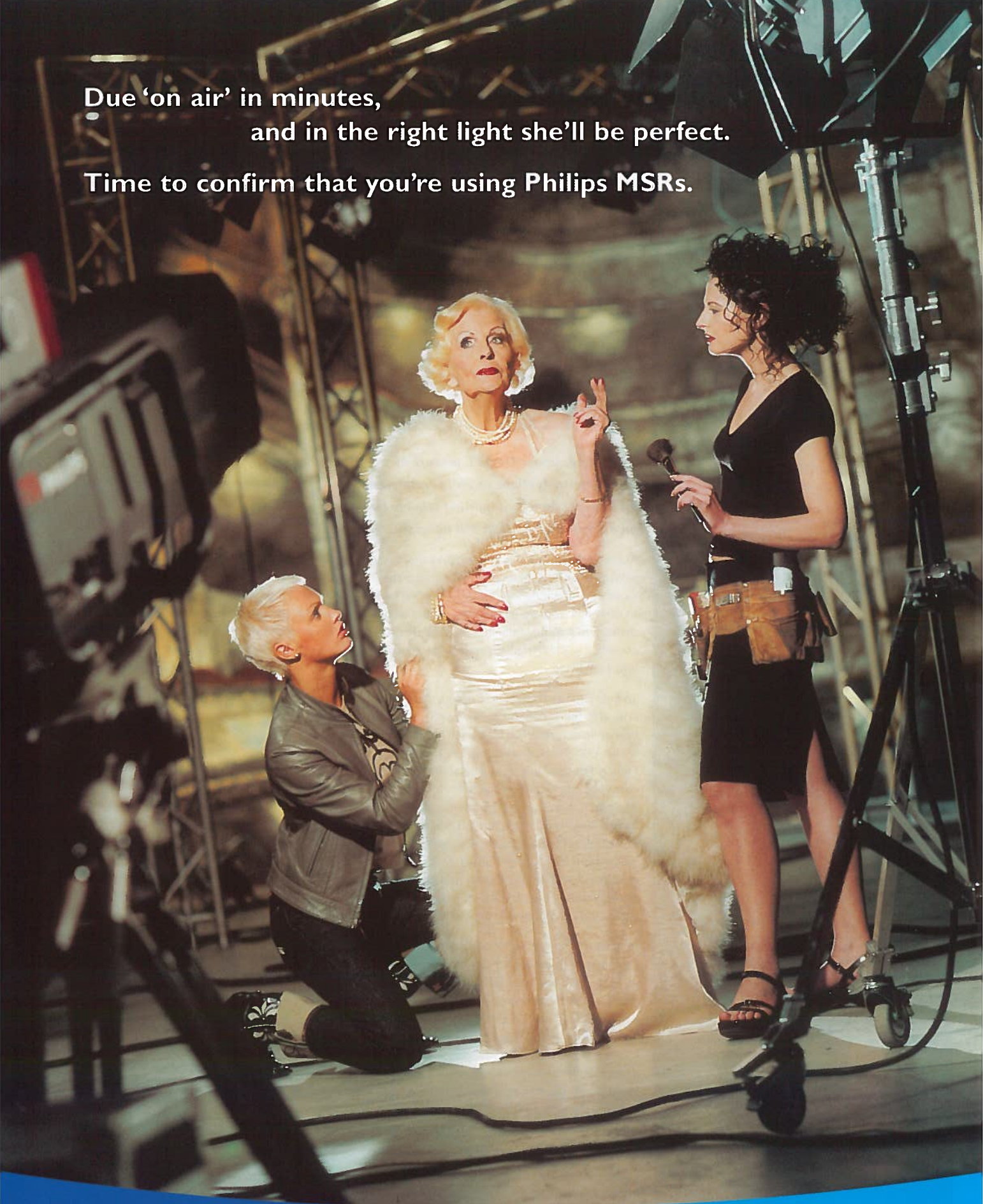
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News Round-Up



Light Aircraft



Lighting designer David Lawrence of Equation Productions recently completed an unusual project: a lighting scheme for an aircraft interior that will never fly.

Airbus Industrie's A3XX plane, scheduled to enter service in 2005, is intended to far outstrip the capacity of Boeing's 747 'Jumbo Jet'. It will be able to carry 555 or more passengers, seated on two decks, and if Airbus Industrie's hopes are proved correct, it will substantially reduce the cost of long-haul flying.

To help capture the advance orders that are critical to the success of such a costly project as a new airliner, Airbus has built a full-sized mock-up of the A3XX fuselage at its base in Toulouse, France. Potential buyers will be able to see concept designs for how the interior might be equipped, as well as getting a sense of the extraordinary size of the aircraft. So far, the front 11 metres of the passenger cabin have been fitted out on both the main and upper decks. The result is far removed from the familiar plastic-filled environment of the typical economy class aircraft cabin, and lighting plays a key part in this.

In the past, the lighting of aircraft interiors has been largely driven by engineering requirements, and the result has been little more than basic illumination. Design company Priestman Goode had previously worked with Equation Productions on the design of the new Upper Class seat for Virgin Atlantic, and asked the company to design a scheme for the Airbus A3XX, calling for a bold 'theatrical' look. An important part of the brief was that the lighting should be able to give a range of looks and crossfade smoothly between them.

Lawrence's design uses dimmable fluorescent fittings to provide general lighting, with the colour temperature matched closely to daylight so that the transition from natural window light to artificial light is as discrete as possible. These fittings are variously concealed in the overhead 'rafts' where the light is reflected from the ceiling or side walls, or set behind translucent diffusers. Low voltage spots are used to give directional beams that cut through the even wash from the fluorescents and highlight features in the furnishings, while the warmer colour temperature

of the tungsten lamps adds colour contrast. Some spots simply light the floor, punctuating the space and adding visual interest as people walk through the beams.

The theatrical feel is created in several ways. Fibre optics are used to uplight the walls of the stairwell in a range of colours, while each stair riser is lit by a row of concealed xenon capsule lamps. Most striking, however, are the cold cathode tubes in deep amber and dark blue that run just out of view along the edge of the ceiling rafts. They wash colour onto the cabin ceiling, and, being dimmable, the tubes offer a range of colour combinations. Cold cathode was chosen because, unlike fluorescent tubes, they could be custom manufactured to follow the curves of the rafts.

Attention to detail is a hallmark of the design. The tungsten spots use lamps with several different beam angles according to their function, while the frontage of the bar and the seats have concealed fluorescent tubes that light the floor under them. This, together with strategically-placed pilot lights in the partitions that separate the seating areas from other parts of the cabin, helps passengers find their way around in the subdued lighting used during the 'sleep' portion of the flight.

Even the experience of the passengers entering the aircraft has been considered, with a darkened tunnel leading up to the entrance door. Known as the 'jetway', it is lit by a small amount of ambient light filtering down through louvres in the ceiling, together with fibre optics mounted in the floor. These guide people as they walk down the jetway, so that the impact of entering the aircraft's dramatic stairwell area is maximised.

Smooth crossfades between lighting states was a key part of the brief. Lawrence specified a Dynalite architectural dimming system to handle the wide range of loads, which include low voltage, non-dimmable, fluorescent and cold cathode. Once programmed from a laptop computer, the various preset lighting states are controlled from a simple push-button panel.

Lawrence's design demonstrates the value that a combined theatrical and architectural approach to lighting can bring to the most unusual project. Unfortunately, the only way to see it at first hand is to offer to buy a fleet of A3XX aircraft.

Nick Hunt



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Vari-Lite Sells Madrid Subsidiary

No sooner do we learn that Vari-Lite International has entered into a letter of intent to sell its operations in Belgium, The Netherlands, France and Sweden to an investment company, than news comes that it has sold its operations in Madrid to an investment group led by Pablo Galindo Aragon and Sonia Martin, the managers of VLPS Madrid.

Terms of the transaction are being kept under wraps, but we understand it includes the sale of Vari-Lite Production Services SL, the company's wholly-owned subsidiary in Madrid, and all the Vari-Lite automated equipment located in Spain and Portugal. Additionally, VLPS Madrid has been appointed a dealer for Vari-Lite International in Spain, Portugal and Northern Africa.

Vari-Lite International chairman Rusty Brutsché commented to L&S: "The sale of our Madrid operations, combined with our pending sale of the remainder of our continental European operations, will allow



Vari-Lite to focus its attention on establishing London as the company's European hub for selling and renting Vari-Lite automated lighting equipment to European dealers and customers." This would seem to put paid to rumours circulating at the beginning of the year which suggested that VLPS London was negotiating a management buy-out.

PCM On a High

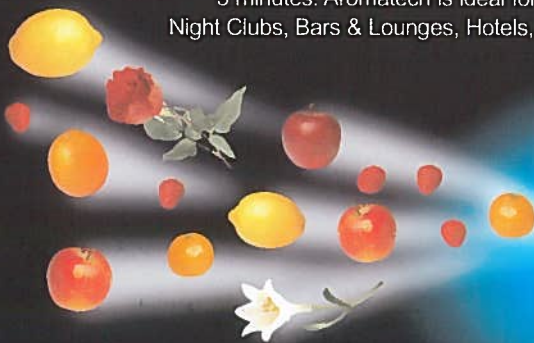
PCM has recently completed the first phase of its new Europe-wide training initiative on Lodestar motors. First stop was Palma in Italy where Tony Dickson and John Jones went to Audio Link to present a one-and-a-half day course.

On their return to the UK, the pair foolishly called in at the Millennium Dome, only to be taken up to its summit by Mylan Lester, the NMEC's assistant head aerial technician and Steve Wood - aerial team leader. As our picture shows,

the two couldn't manage a smile for the camera, but then they were 50 metres up. With them are the two Lodestar 2-tonne hoists which have been installed to fly the 'Centrepiece' (an 11ft long truss which rotates on its own centrepoint) of the Millennium Show. Special chain boxes were fabricated to enable the hoists to accommodate the chain for the long lift.

ENHANCE THE EXPERIENCE!

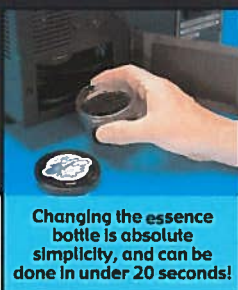
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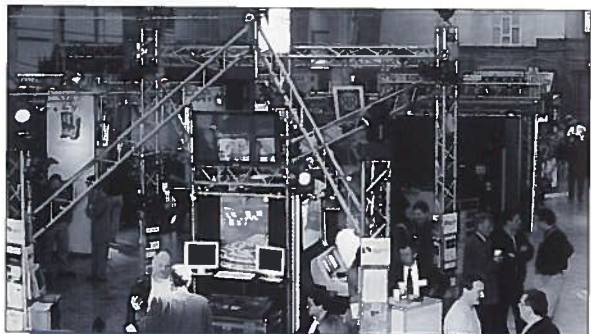
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ABTT Rebrands Show

The Association of British Theatre Technicians (ABTT) has announced major developments to its well-established annual trade show.

With a name change to emphasise its identity, ABTT Theatre Show 2001 is expanding the range of products on show to include front-of-house goods and services including seating, soft furnishings, box office systems, print and publicity, insurance and legal services. The organisers hope that as a result of its expansion, the show, which is to be held on 4 and 5 April 2001 in the Royal Horticultural Halls, Westminster, London SW1, will attract new visitors from theatre and entertainment building management, as well as architects, consultants and specifiers. www.abtt.org.uk

JMC Lighting Forms

Industry stalwart Geoff Jones, of Laser Studio and Illuminatum, has teamed up with Dublin-based Kevin McCarthy of AVL to form JMC Lighting.

The new company will be dedicated to providing an exclusive UK and Irish dealership for the full range of Coef intelligent lighting products. For maximum flexibility, it will operate out of both the UK and Eire.

AVL has already used an assortment of Coef products for a series of high-profile venues in Ireland, including many of Dublin's major recently-opened venues. Jones, one of the more colourful characters in the UK production industry, comments that they see the new venture as "filling a gap in the current UK market - one that demands cost-effective, feature-packed, reliable fixtures. Coef is popular around the world, and liked for its

compact sizing and for being easy kit to programme and maintain."

JMC Lighting will be prominently represented on the Coef stand at PLASA 2000. The company will have its own stand - and official launch - 10 days later at LIW 2000 in September at the NEC.

New Coef products for 2000 include the MP 700 Series of luminaires, available in Spot and Fresnel versions, using a 700W MSR bulb. There is also a range of scanners, each of which come in two versions - as either 'Performance' or 'RC' versions (rotating gobo). For applications requiring very powerful, fast-moving luminaires, Coef offers a 1200 series of scanners. These are also available as fresnel fittings and also as colour-changers.

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Generale's UK Location . . .

Generale Location has augmented its worldwide presence by establishing a London office.



With its head office in Lyon and further offices in Paris, throughout France, Malaysia, Hong Kong, Australia and the Middle East, the company has expanded its impressive product range of temporary structures, exhibition stands, lighting, sound and audio-visual services, with the addition of daylight LED display systems. The company has purchased 72sq.m of Megascreen, engineered and built by Unitek Displays Ltd, which it debuted at the 'Bollywood' Film Awards held recently at the Millennium Dome. GL then flew the system to Singapore for the country's National Day Parade Celebrations. The UK sales manager for the company is Anita Tate (pictured), formerly of Screenco and Unitek. The expansion of Generale Location's network of offices takes place simultaneously with one of the company's biggest contracts to date - its appointment as official supplier of all temporary structures and seating to the Sydney Olympic Games in September.

Q-Max Ends Distributorship of Opal

Sheffield-based Q-Max Professional Audio has decided to discontinue distribution of Opal Audio's range of products.

Opal, the company behind the GAE audio range, was surprised by the move, the company's Steve Smith commenting: "The Q-Max decision has come as a shock, particularly in view of the upcoming PLASA exhibition. We had extremely high expectations for a prosperous show in the wake of recent GAE installation successes including, most famously, Volkswagen's multi-million pound Autostadt project in Wolfsburg, Germany." Glyn Baxter, principal of Q-Max Professional Audio, has assured Opal that the decision was based entirely on personal grounds. As a result, Opal is currently in negotiations to find a new distributor.

Latest News - www.plasa.org/news

PJ Lighting Wins Patent

PJ Lighting has been granted a full patent for its PLASA award-winning Multi Truss Adaptor - the CD146.

The product, which was highly commended at the 1998 PLASA Awards, is a heavy-duty, multi-use truss adaptor for mounting trussing to tripod or trussing stands. The main feature of this product is its unique ability to hold trussing in all of its differing angles - apex up, apex down, ladder truss and box truss.

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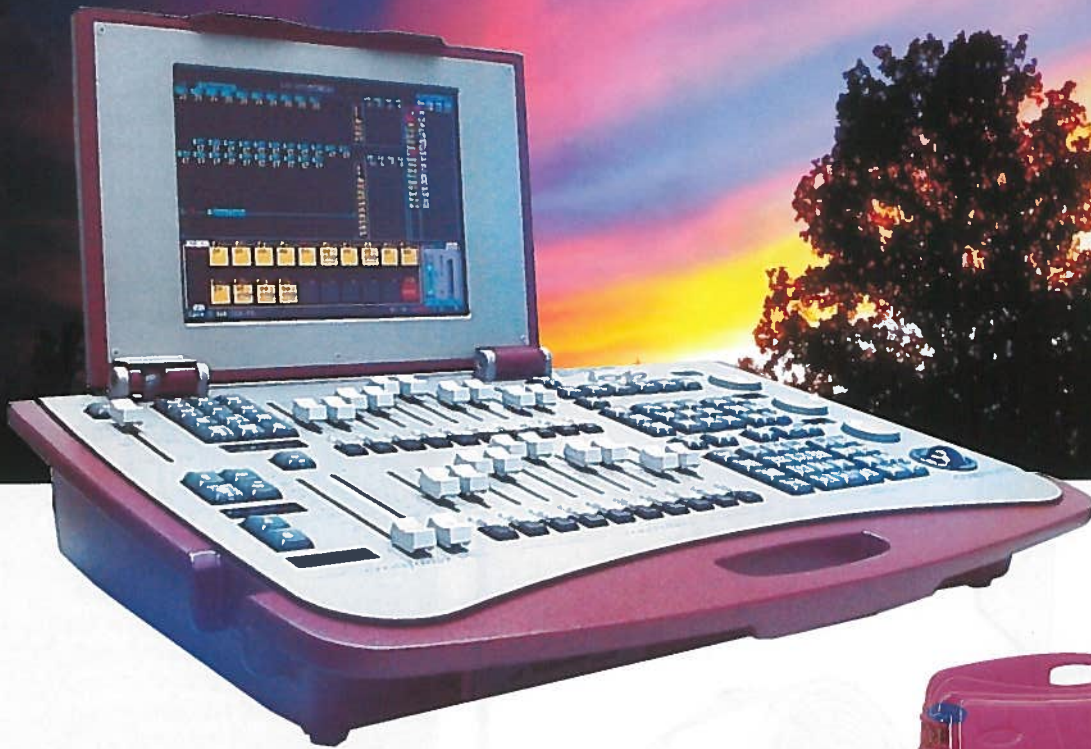
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Sweet Dreems at The Rainforest Café

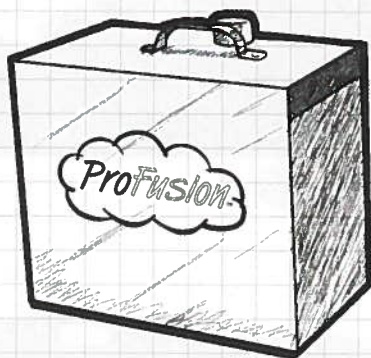
Glendola Leisure, the company behind The Rainforest Café in the heart of London's West End, has recently refurbished the venue in order to maximise its potential by running a series of club nights at the heavily-themed restaurant. The task of effecting the transformation fell to Colin Pattenden and CP Sound.



Radio 1's legendary Droom Team, who are currently hosting the club nights at the Café, wanted a powerful bass system, so CP designed the system around JBL SPI28 S bass bins, each with its own CCI500 bridged four Ohm RSE amplifier with Dod crossovers and graphics. Upstairs (at night branded the 'Bassment') are JBL MS112 tops driven by RSE CC1200s and there are a further two JBL MS112 tops downstairs (aka the 'Sub-Bassment') - driven by RSE PFX 1000CC amps.

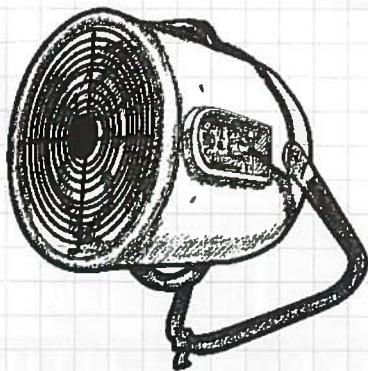
The DJ monitors are also JBL - MS115s - powered by an RSE PFX 400 CC, bridged into eight Ohms, delivering 400W. The two systems are linked via a switch so the Sub-Bassment system can be driven by the Bassment DJ. CP Sound also put in a flexible lighting system, consisting of eight MADScans and four MADStars, controlled by a MAD 1 controller in the DJ mixing areas. The lighting rig is split upstairs and downstairs in a mobile format and, as with the sound, the Bassment rig can be controlled from upstairs if desired. At the designated hour, dining tables are cleared from the floor, and the bass bins are wheeled out on castors, together with a portable DJ box, complete with twin turntables and Formula Sound FSM 400 mixer.

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Curtains for Cybersquatters?

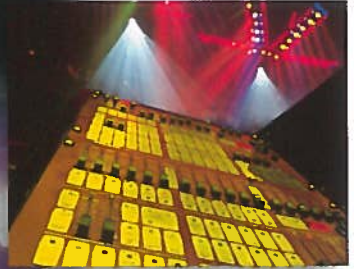
The practice of 'Cybersquatting' - registering worldwide web domain names with the intention of selling them on at extortionate prices, or establishing 'tribute' or misleading websites, is on the increase.

L&SI has recently been made aware of several instances within this industry, where companies have registered the names of competitors and then used these to channel visitors to their own site. However, there is good news for those on the receiving end of this practice, if the recent decision taken by an arbitrator appointed by the World Intellectual Property Organisation (WIPO) Arbitration and Mediation Centre, is anything to go by. The arbitrator ruled that Jordan Grand Prix, the Formula One team, were the rightful owners of the domain-name jordanf1.com and not the domain-owner that offered to sell them the name. This decision may pave the way for brand owners to fight back against Internet piracy and to achieve a fast resolution to commercial disputes.

Do you want total control?

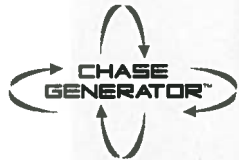
Masterpiece™ 216

The London Hippodrome recently installed a new control system using the latest Masterpiece and Replay Unit technology, capable of providing total control of their vast 2000 channel lighting rig.



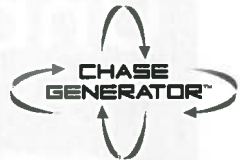
Connectable

Masterpiece is packed with multiple inputs and outputs as standard to enable system integration. Three output formats are provided, these being +10V analogue (36 channels), Pulsar MultipleX (216 channels) and DMX (512 channels). Four control inputs are provided these being Pulsar MultipleX (RS-232), Musical Instrument Digital Interface (MIDI), Analogue +10V and Audio. This array of digital and analogue inputs and outputs makes it possible to connect the Masterpiece to almost whatever you have in mind.



Upgradeable

Masterpiece is driven by powerful software, written in machine code for the ultimate in controller response. Software upgrades are free of charge enabling you to keep your system state-of-the-art at all times. In fact the latest Masterpiece 216 upgrade features an exciting development called "Chase Generator", an extremely quick and powerful way of creating complex chases from just a single Scene! It works by using mathematical functions to automatically calculate channel levels for pre-defined lighting effects.



Expandable

Masterpiece is easily expandable and can be used in a modular way to provide large and complex control system solutions. The use of multiple Masterpieces and Replay Units along with Outstations enables the designer to specify logical integrated control. Use of the remote inputs additionally allows linking to MIDI keyboards and remote devices.

The Hippodrome's Technical Manager Derek Chalmers states: *"The new system allows for fast total control of the lighting rig and rig movements. The flexibility of control allows us to offer an integrated production capability for multi-media shows, presentations and a whole host of other diverse events."*

If you want total control, take a look at the new Masterpiece 216.

Programmable

Masterpiece is great to program and operate, just ask someone who uses one! The fully multi-tasking programming structure makes the creation of complex lighting Environments simplicity itself. 8 Shows each contain 216 Scenes, 54 Chases, 48 Environments and 6 Environment Chases. This structure together with the new Chase Generator provides enough capacity for even the most demanding project.



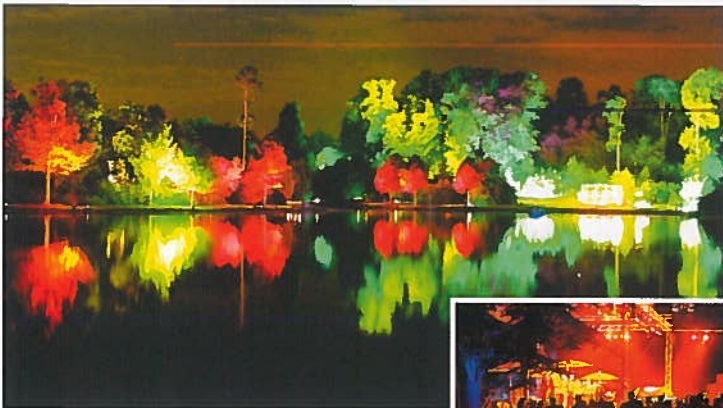
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Claremont Carnivale

For a week each summer, The National Trust-owned Claremont Gardens, near Esher in Surrey, host the Claremont Festival, four days of revelling and entertainment for the 5,000 visitors who attend each night.



The assorted stages, themed areas and walks are spread over the garden area and lake areas, the idea being to create different areas representing different cultures. The event is arranged in a walk-through style and throughout

the evening, dancers, singers, assorted entertainers and artists (which this year included the Victor Hugo Salsa Band) perform in and around the various areas, setting it awash with music, sounds and colour.

For the second year running, production manager David Barrow, from Junction Production Services (based at Cambridge Junction), turned to Pearce Hire to light the event and provide site power and distribution. His timing couldn't have been better for the



Peterborough-based company has just taken delivery of a large range of Coemar, TAS, Studio

Due and Futurelight fixtures from Coe-tech. This consisted of eight Futurelight MH660s and eight Futurelight SC 780s, which have joined Pearce's existing Studio Due City Colors and Mini City fixtures, and Coemar Panoramas - all of which have been purchased in the last 12 months. Pearce Hire lost no time in putting the new fixtures to work.

The main stage lighting featured the eight Futurelight SC780s and eight MH660s, plus 48 Pars, profiles, four-cell Moles, floor cans and a mirror ball. The desk, an Avolites Pearl, was operated by John Huson. The 'Havana Construction' area was lit rough and ready, like a half-finished building site, complete with traffic lights, red bulkhead lights and big old classic sixties square fresnels - which Pearce, had recently liberated from a local school refit!

Behind this stage was a tree-lined embankment which was lit with Coemar Panoramas. Studio Due City Beams were stationed in the trees - used to accentuate and lift these areas and distinguish them from their surroundings. Pearce used 15 Mini Citys around the site, four City Beams and two Panoramas. Other fixtures site-wide included coloured sodiums, halogens, festoon lighting, MBIs, Birdies, smoke machines and others.

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Protec Makes History in the Kingdom of Saudi Arabia

Production Technology LLC (Protec), one of Dubai's leading event production companies, made history in the Kingdom of Saudi Arabia when it launched the recently-completed Faisaliah Tower, the first skyscraper in Riyadh, owned by the King Faisal Foundation (KFF).

The dramatic show that engulfed the 267m tall building was witnessed by 1500 invited VIPs, in addition to an estimated quarter of a million residents who flocked to rooftops and streets to watch what was, undeniably, one of the most ground-breaking events in the history of the country.

The authorities in Riyadh were hard-pressed to control traffic on the King Fahd Highway running parallel to the Tower, which was brought to a complete standstill for over two kilometres whilst motorists stopped to watch the event.



The show began after inaugural speeches by HRH Prince Khaled Al Faisal Al Saud and HRH Prince Bandar bin Saud bin Khaled both of KFF; Lord Norman Foster, the architect who designed the Faisaliah and engineer Bakr Binladen of the Saudi Binladen Group. Speeches were accompanied by giant image projections of the late King Faisal and videos of the history of the King Faisal Foundation, and the building of the Faisaliah complex.

The lighting, pyrotechnical and laser show was kicked off by HRH Prince Sultan bin Abdulaziz when he touched a model of the Tower, in the presence of HRH Prince Salman bin Abdulaziz, governor of Riyadh.

The entire sequence, which was choreographed to a specially-commissioned four-part musical composition culminated in a seven-minute fireworks display that illuminated the skies over Riyadh. →



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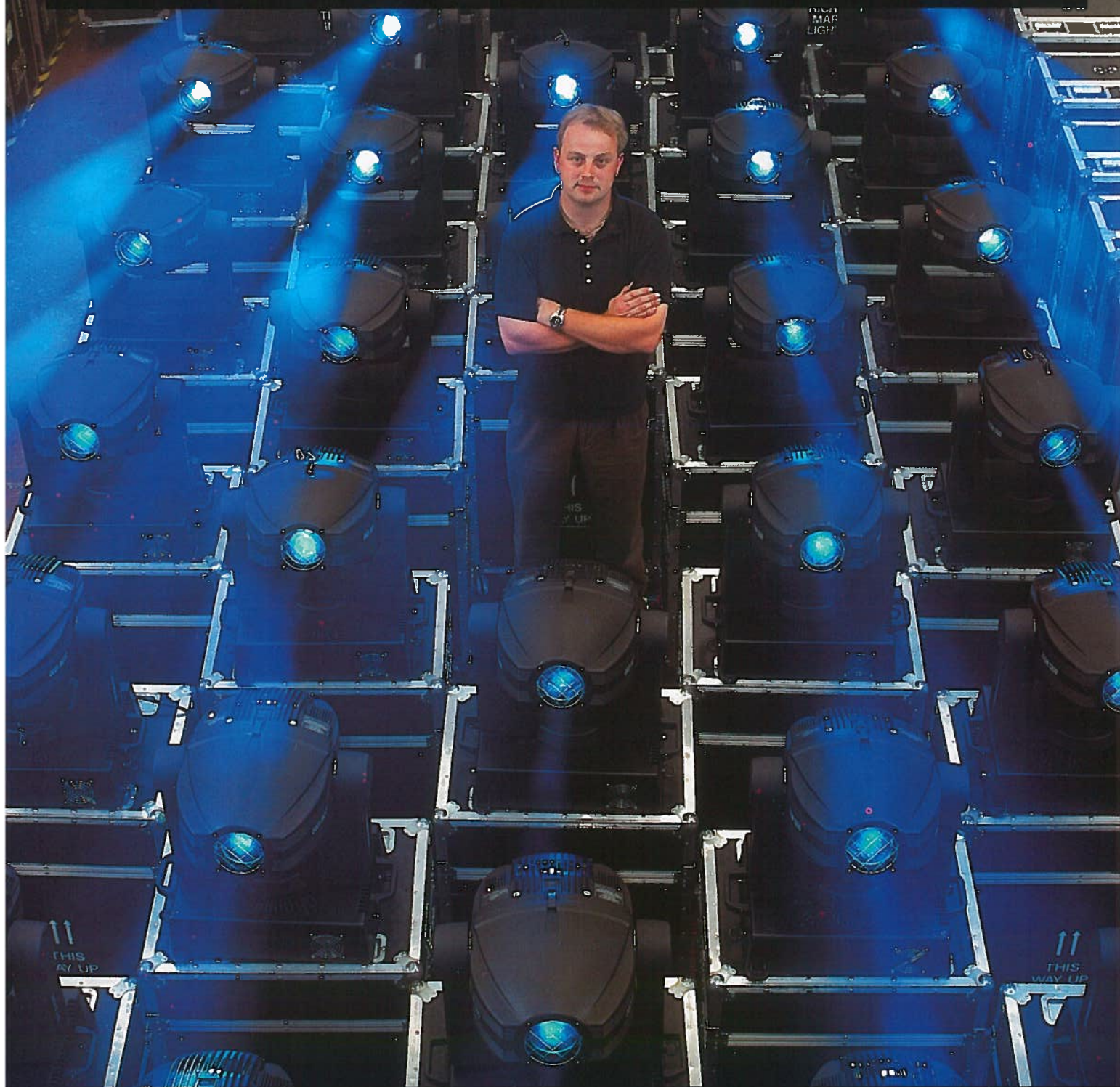
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The spectacular inauguration of the building was followed by the King Faisal International Prize ceremony in the banquet hall of the newly-built complex. The awards honoured this year's winners in the categories of Services to Islam, Islamic Studies, Arabic Literature, Medicine and Sciences.



Protec founder Stephen Lakin commented: "In my 22 years of experience in the industry, the Faisaliah launch has to be the most technically difficult show that I've ever produced, by a long way. The sheer distances of cable run, the complexity of the control systems, and the power required - 4.5 megawatts - made the event extremely complex."

The Protec team, headed by Stephen Lakin and Hares Shehab, which designed and produced the Faisaliah launch, installed and operated the show with the help of 68 expert crew members from the Middle East, Europe, and the USA, alongside a 52

strong local team. The crew flew to the area to begin rigging the building three months prior to the show, using over 400 tons of equipment brought in by road, sea and air.

Added Lakin: "We pulled together some of the world's leading experts, and with an extremely professional crew, created a show that was world class."

Protec's impressive array of lighting equipment, all drawn from its new 50,000sq.ft

headquarters in Dubai included 76 Space Cannon searchlights, two four-head Sky-Trackers, 200 Vari*Lites (VL2Cs, VL6s, VL5s and VL5Arcs), 40 Clay Paky Stage Color 1200s, 98 Coemar Panoramas, 108 Diversitronics 3k strobes, 102

eight-lite Molefays, 800 Par 64s, 1.2km of custom 'Edge-lite' battens, 420 Xenon beacons and three Jem Roadie smoke machines with over 200km of interconnecting, mains and DMX cabling! FOH control utilised a Avolites Diamond 2, a Diamond 3 and a Wholehog 2.

The Audio equipment consisted of a Midas Heritage 3000 console with four XTA D6 Omnidrives, XTA GQ600 graphics, DBX I60 compressors, 12 stacks of Turbosound Floodlight, eight Turbosound Hi Lite 4s, six Turbosound Impact 12Is as crew monitors plus four Turbosound Impact 80s as fill-ins with all amplification provided by MC². The soundtrack for the show was run from two Fostex D160 16-track hard drive machines which supplied all the various lighting, pyro and laser consoles with MIDI and linear time-code to synchronise the entire show.

Scenic projection consisted of two Pani BP12k HMI projectors and four Hardware 7k large format projectors with a controllable dissolve system. Video projection centred around Unitech 40sq.m LED screens with a Snell & Wilcox Magic Dave and a Sony ES3 Edit System and additionally, two Barco 9200 Reality projectors.

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David Taylor is a director of Theatre Projects Consultants, the world's leading theatre designers, and lights shows in the US and Europe. His recent credits as lighting designer include seasons for Theatre Royal, Plymouth and at the Watermill Theatre, Newbury as well as tours with Wayne Sleep, shows for the Gate, Tricycle and Orange Tree Theatres and Susan Bloch Theatre New York, New Jersey and for San Jose Rep.

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Loafing Around

The latest addition to Manchester's rapidly expanding nightlife is arguably the most dynamic and all-encompassing venue to grace the city thus far. Called Loaf and sited within former railway arches in the newly-developed Deansgate Locks area, the bar, restaurant and club operation is the latest brand to be developed by Bass.



Currently a one-off project, the £2million Loaf manages to capture the excitement and character of an independent bar, whilst retaining the efficiency and high standards of operation, typical of one of the country's leading leisure operators. Whilst the bare brick vaulted interior scheme of Loaf, courtesy of Raw Design, provides a beautifully cool atmosphere night or day, it is the

technology used in the venue that really catches the eye. Tony Perkins and the team at Orritt Lighting, Liverpool, handled the installation, specifying an exclusively Martin Professional effects lighting score, that employs Martin's ProScenium multi-media programming software system at the core of the scheme. The ProScenium is based in one of the Loaf offices,

and from there controls all house and effects lighting, as well as the audio system, the output going through a de-multiplexer and onto a BSS Soundweb unit.

The DJ console has a touch monitor from the ProScenium and in conjunction with a Martin Lightjockey PC-based controller operates the dancefloor lighting. The dancefloor area is off the downstairs bar and the very nature of the building meant that ceiling height was at a minimum. But this did not prove a problem for Orritt, the company specifying just 10 MiniMAC moving heads to provide the entire effects lighting performance - the four MiniMAC profiles and six MiniMAC washes providing total saturation of colour and form. Enhancing the MiniMAC lightshow is a IEM Stage Hazer.

The audio rig is a relatively small JBL speaker system of just four flown SB222s rigged above the central dancefloor, six MS28s ranged around its edges for infill and two SB128S providing the bass end of the audio. These are fed through QSC PLX amplifiers with JBL's own MPX1200s driving the bass bins. One of Allen & Heath's Xone:464 mixers, launched at PLASA last year, is running the rig, with a BSS Soundweb providing the system processing throughout the venue.

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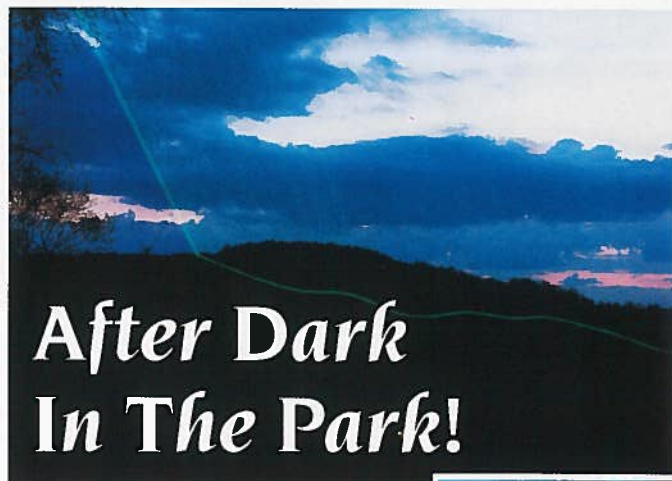
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News Round-Up



After Dark In The Park!

Gallery In The Trees is stage one of a popular public arts project set in the Lickey Hills Country Park, south of Birmingham. The project is part of Birmingham's Forward Festival - an initiative designed to promote 'New Art For a New Century' organised by Birmingham City Council.



LSD, Illuminatum and Gearhouse collaborated on the technical production for the event, which was co-ordinated by LSD's Terry Lee and Illuminatum's Geoff Jones, along with Tim Matthews from Illuminatum, Martin Nicholas from LSD and Ian Hunter from Gearhouse, who ensured that the production technology element of the project went smoothly.

The landscape was transformed into an after-dark museum with the aid of an arsenal of audio-visual equipment, principally three Sanyo projectors which marked the beginning of the walk-through Gallery - 11 29" monitors were suspended from semi-circular trussing and linked to several cameras. Six artists showed work at the event - one of which, Colin Pearce, works regularly with various technologies; his previous works include large-scale projections and video installations. For After Dark, he utilised a laser for his creation 'Watershed'. The laser line was used to delineate the 'watershed' which divides the Midlands' two main drainage systems. This line, present on geologist's maps and sometimes resembling a Morse-code type long-and-short broken line, slices through the Lickey Hills.

Pearce wanted to recreate this typography on the landscape. He devised the piece to illustrate how two water droplets can begin random journeys in opposite directions from the Lickey Hills. By filtering either into the River Rea or the River Arrow, to end up in either the Atlantic Ocean or the North Sea. A 45W YAG laser was located at a high point on one of the five Lickey Hills, beaming across the valley onto another hill 600 metres away, roughly following the line of the watershed. Programmer Tim Matthews used a PFE 2 control system to produce the specific laser animation effects required by the artist and on-site technical support was provided by Gerry Stevens. Pearce's other work was a video installation called 'Scenery'. This CCTV installation featured five cameras - one for each hill - trained on water droplets falling onto rock, and sending their images to 11 monitors positioned in an arc on a jib crane. The work asks the question 'is this art or landscape in the making?' The equipment for 'Scenery' was provided by LSD and Gearhouse.

The visitors entered the 'virtual' gallery through a representation of the museums 'Round Room' created using Aircraft Lights. They then progressed through the park, lit with Coemar Panoramas supplied by LSD, Studio Due Mini City floods and a selection of HQI coloured floodlamps from Illuminatum. The visitors' route was lit by the stunning effect of UV cannons illuminating chalk pathways. All video and projection equipment came from Gearhouse.

Launching a Revolution...

Strand's new **300** series console and SL theatre spotlights



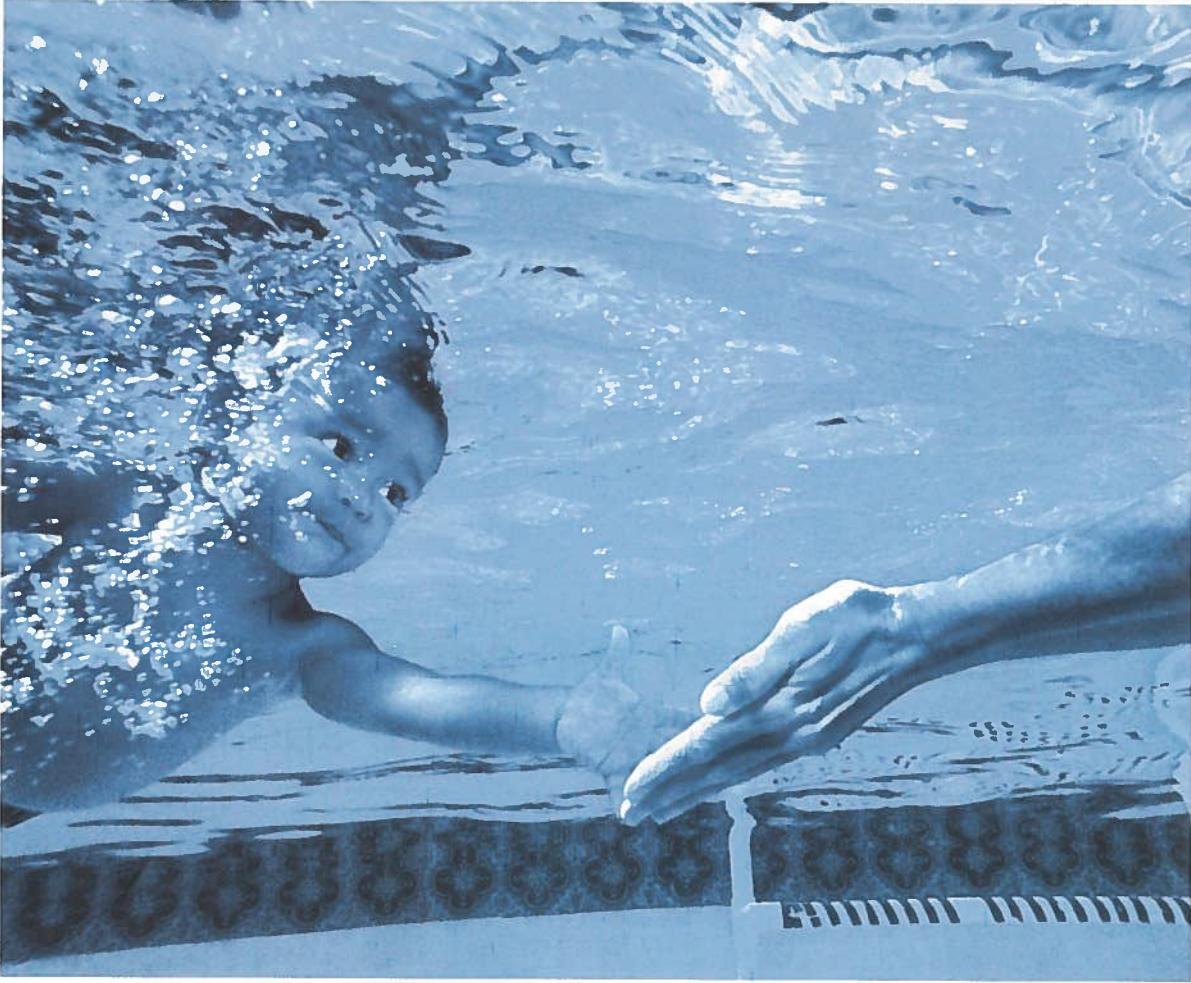
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Seen, But Not Heard



Raymond Gubbay's new production of *Sleeping Beauty* hit the Royal Albert Hall this Summer - and once again ballet critics failed to spot the fact that it was amplified!

"As far as we're concerned, a review that doesn't mention sound is the best kind," commented Phil Wright, front-of-house engineer for Sound By Design, who provided the system and expertise for the 12-night run. Wright, who is no stranger to amplifying classical music (he is also Lesley Garrett's FOH and monitor engineer), maintains that there is a great difference between working in the RAH and the provincial arenas that Gubbay's productions usually visit. "In arenas, the sound that is heard by much of the audience is totally amplified, whereas here we cannot push the level beyond a certain point without it being noticed."

As well as the now customary noise from the largely moving-light rig overhead, Wright also had to contend with a less-than-ideal stage floor. With the seating removed, *Sleeping Beauty* required the raising of the RAH's stalls floor by a metre, which, combined with the large number of dancers on stage during many scenes, produced an unmaskable level of foot noise. "This is really out of my control," explained Wright. "The arena floor acts like a huge drum and, of course, the seating is much closer than in a larger venue."

Mixing from one of the loggia boxes, Wright was using Sound By Design's recently-acquired Midas Heritage 2000 console. This is a 'bob-tail' version of the popular touring console that fitted the limited aperture perfectly. Once again, noise was a concern - this time from the console power supplies. "Luckily, the console is completely happy to sit on the end of long PSU cables," confirmed Wright, who was able to use the RAH's

new cable access to locate the supplies in the sub-arena void. "This is extremely useful - not only does it remove another source of noise and heat, but it reduces the space needed at the mix position as well," concluded Wright.

Having used a loaned XL3 for Gubbay's 1999 tour of *Swan Lake*, Wright was interested to see how its successor measured up. "The Heritage is definitely quieter - I was amazed to find that when we have a really quiet moment with all the channels open, there is no quiescent noise. This is vital for music by composers like Tchaikovsky - this piece has a vast dynamic range." Wright added that the console's wide-range input metering (which has a threshold of -36dB) is useful to detect very quiet sources: "There are plenty of quiet solos in classical music - it's not uncommon to have, for example, an oboe solo that varies over a 36dB range. It's important to be able to see the meter working with the gain set correctly."

The production, billed as 'in-the-round' was actually designed as a long-thrust configuration (in fact, Derek Dean's choreography had been criticised for being too 'end-on'). This meant that sound reinforcement coverage of just over 180° was required, but with projection biased towards the centre of the arc. Sound By Design is a Meyer Sound user, and Wright had specified an unexpectedly small centre cluster for the main system, with just a single row of MSL-2As and a quartet of UPA-1Cs below. The cluster was flown high into the lighting truss, which effectively disguised its presence. Dotted around the stage and providing in-fills on the truss were Meyer MPS-355 cabinets. The system was aligned using the Meyer SIM II measurement system, and timed to a point above the conductor's head. "We would normally delay the system to the conductor's monitors," explained Wright, →

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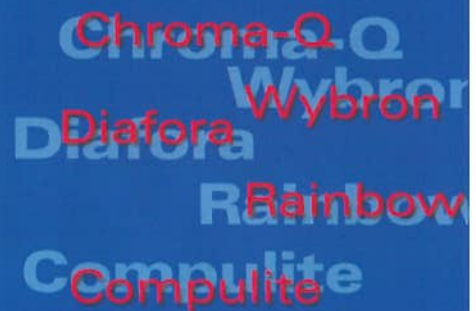
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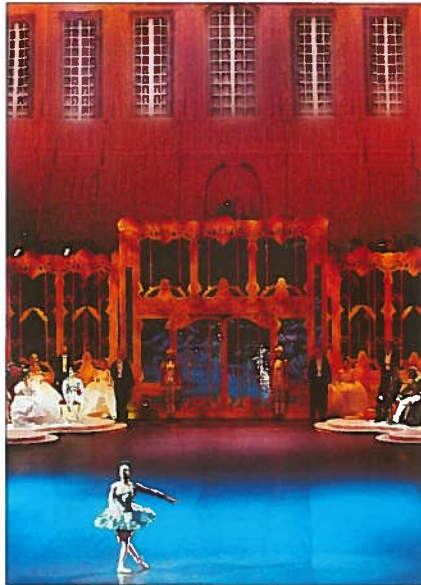
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"but the physical configuration at the RAH makes that impossible. Imaging for audience members sitting close to the orchestra was maintained by local MPS-355 enclosures. The three principal console sends (flown, ground and subs) were routed via a BSS Omnidrive Compact for system management.

Unusually, the house canopies flown above the orchestra had been removed to accommodate the lighting truss - which meant that less orchestral sound than usual was being directed into the auditorium and back towards the orchestra itself. "It's surprising how much brightness you lose because of the lack of canopies," said Wright, although as he pointed out, the flown monitors worked well for the musicians, giving them an amount of (albeit artificial) room information.

During the ballet, Wright was clearly putting the Heritage console through its paces, with periodic flurries of activity on the VCA masters. "Every night, we have deps in who play differently," he pointed out. "And, of course, small variations on stage can make very noticeable differences once they're amplified. The brass section starts off in a controlled way, but by the



time they get to Act III they are so loud that I've reduced their level to almost nothing." Which, as any classical sound engineer will tell you, equates to about 6dB per pint.

Mike Mann

Lumenyte Emerges from Chapter 11

California-based Lumenyte International Corporation, a specialist in the development and manufacture of plastic fibre optic lighting systems, has emerged from Chapter 11 bankruptcy proceedings with the confirmation on 3 August of its 'plan of reorganisation'.

The case was filed after LIC's secured lender, Imperial Bank, declared a default claiming that LIC's tangible net worth did not increase at the rate called for under Imperial's loan documents. Imperial subsequently moved for the appointment of a state court receiver which compelled LIC to institute the bankruptcy proceeding.

The Board of Directors decided on this route to allow the company to restructure its financial affairs. At the bankruptcy petition date, the company had approximately \$1 million of general unsecured debt, but following a financially stable fiscal year, it has managed to repay in full its loan from Imperial.

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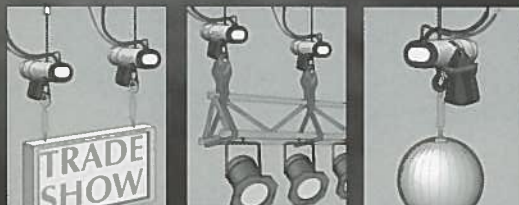
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Brighton

The South of England is an enticing place to be from May to August if you're a lover of live entertainment in its many guises.

Festival



If you appreciate the arts served on the high-brow side accompanied by canapés and champagne, then Glyndebourne Opera House is the place to

hang out for the annual opera festival which takes place throughout the summer: but if you prefer a dose of the avant-garde, peppered with the downright unusual, then the Brighton Festival, which kick-starts the southern summer of culture, offers up a spicy smorgasbord of artforms.

Now in its 34th year, the festival utilises venues as diverse as art galleries, churches, museums and the local Waterstones bookshop, in addition to the several conventional theatres Brighton has on offer, to house the 900 events of the 2000 festival over a three-week period. This year, the festival had the luxury of utilising two restored and refurbished venues; The Corn Exchange and Pavilion Theatre with a third, The Dome, still ensconced in scaffolding and due to make its debut late in 2001.

Philip Morgan is the man responsible for ensuring the technical side of the festival operates slickly and without too many headaches. He's been associated with the festival for 10 years in a freelance capacity and for the last two has been the full-time technical director. This year he had the added responsibility of The Dome construction project on which to keep a watchful eye, as the festival has leased the venue from the local council.

Morgan found this year to be a relatively easy one for technical issues with his main concern being the opening of the Corn Exchange: "As The Corn Exchange is a Grade 1 listed venue, we couldn't attach anything to the walls or ceilings, so we ended up with a 320-seat bleacher system and a fully demountable truss system. We also had no time to become familiar with all the new kit, but it all worked out in the end."

Just three companies were responsible for the supply of the majority of the technical equipment. Stage Electrics came in as main lighting supplier, Richard Nowells handled the audio requirements and local Brighton specialists AVT provided all the AV and video equipment. Unfortunately, space doesn't permit a full and detailed listing of all the kit in use on the festival - suffice to say it was a fair amount! Like all festivals that cater for an eclectic range of tastes, however, it is not the major technical challenges that the crew remember, but the quirky requests that test their talents. One such came from a woman who was desperate to attend a series of classical concerts but due to a back complaint was unable to sit upright: a solution was found in the form of a wooden trestle table which she was happy to lie on in the middle of the auditorium!

Morgan believes this year's festival was a great success and was survived by all involved: no easy feat as anyone who has ever sacrificed their life to a festival will know. Apart from the usual hiccups, which included a choreographer going AWOL and a lighting rig too heavy for a hemp house grid, the show went on and will probably continue to do so for many years to come, given the high profile the arts seem to attract in Brighton and the reputation that the festival has developed on a national scale.

Jacqueline Molloy

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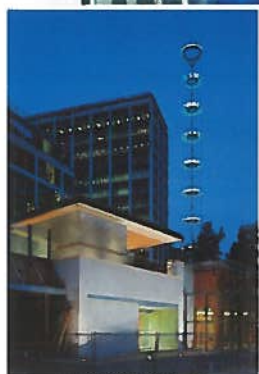
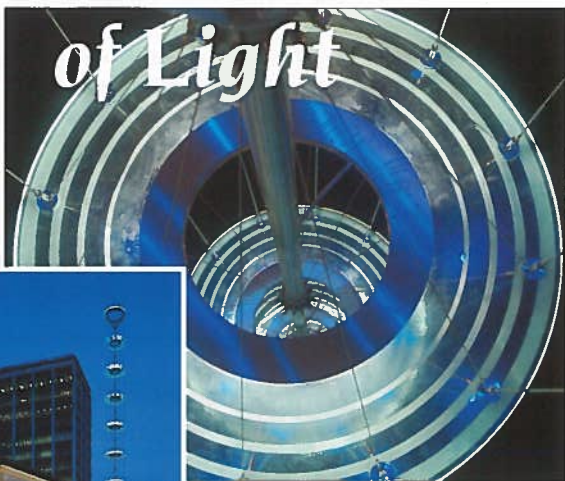
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Beacon

photos: Grant Smith



Plantation Place sits in the heart of the City of London and at its centre is one of the most visually arresting sights in London.

In Fenchurch Street, midway between Rood Lane and Mincing Lane, a six-storey illuminated beacon marks the presence of the Plantation Place Marketing Suite. Architects and engineers Arup Associates were responsible for the beacon, which is designed to change in response to the levels of surrounding light. During the day much of the structure is barely visible and at night it effectively disappears to leave only the impression of eight glowing glass discs hovering in space.

Its structural design, based around pre-stressed three-dimensional vertical trussing cantilevered 27m from its base, is complemented by the lighting scheme, designed by LD David Hymas. Each low-iron glass ring has a mica top surface formed by small clear glass pieces fused into the surface, and the underside sand-blasted with concentric rings. Each ring is lit from its inner edge by a circular luminaire box containing 16 compact 18W fluorescent lamps arranged radially. The light travels through the glass and is partially emitted through the sand-blasted powder surface with the remainder emerging from the edge. The uppermost ring has a smaller inner diameter and is lit by a four-quarter circle cold cathode. The beacon is surrounded by floor-mounted light-emitting diode marker lights which provide a blue wash to the lowest of the glass rings.

The project was recently awarded a special citation in the International Lighting Design Awards.

Avesco and Christie Sign Major Contract

In a major expansion of its global projection rental fleet, the Avesco Group has placed a substantial order with Christie Digital Systems which will further extend Avesco's foothold as a leader in the rental staging marketplace.

In a deal that will be worth more than US \$5 million in total, Avesco will invest in a quantity of Christie Digital's projectors - specifically, the award-winning Roadie X10, Roadster X6 and Roadster X4. With initial delivery of 40 projectors, the new stock will be distributed between Creative Technology's expanding North American interests, while in the UK, holding company Avesco plc will place the equipment with its subsidiaries, including Creative Technology and Media Control Ltd.

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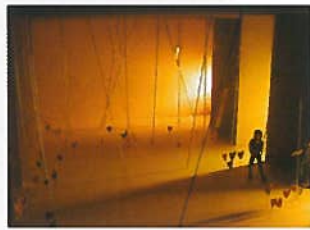
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News Round-Up



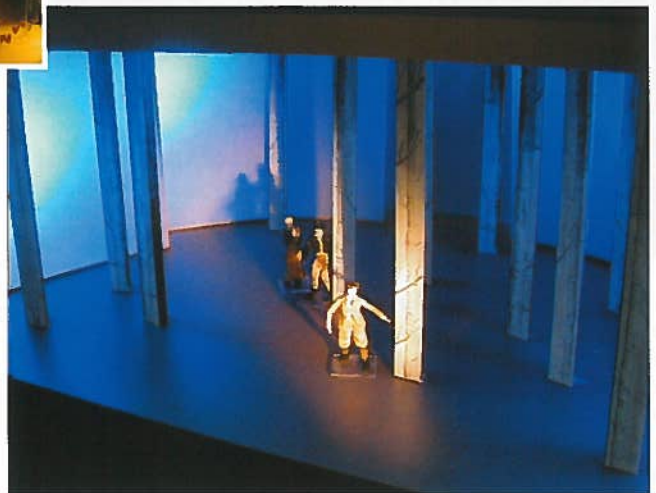
44 shows, 20 hours, 140 birdies and three lighting designers: that was the challenge given to designers Stephen Wentworth, Edward Armitage and Jason Larcombe at White Light when they were asked to light the Motley Theatre Design Course's graduate design presentation.

that "working with modelboxes at such a small scale is very liberating - it makes you think differently. You have to be extremely precise because you have so few sources to make a statement. For the viewer it is about capturing the atmosphere and intent of a particular moment of the particular production, as well as making the set look eye-catching."



Motley Design

The Motley Course, formerly the Sadler's Wells Design Course and The Theatre Design Course of the English National Opera, is synonymous with producing theatre designers with a fantastic degree of skill and design aptitude. Hayden Griffin, Susie Caulcutt and Derek Nicholson were some of the first graduates.



Having survived the untimely death of its founder, the legendary Percy Harris, earlier this year, the course now resides in the truly theatrical surroundings of the old scene dock of the Theatre Royal, Drury Lane, where Cameron Mackintosh's latest musical *The Witches of Eastwick* can be heard thudding through the walls, enjoying its extremely successful opening run.

The Motley ideal of training is practically driven: the students get the opportunity to work on a wide variety of practical and theoretical projects, both in-house and externally. This year's projects include *The Caucasian Chalk Circle* by Sean O'Casey, *Antigone* by Sophocles, *As You Like It* by William Shakespeare, *Don Giovanni* by Mozart and *End Game* by Samuel Beckett, covering a wide range of production styles and genres. The course is taught by practising designers and supported widely by the industry.

White Light has a strong relationship with the course. Motley teaches lighting as an integral part of the design process and, as Jason Larcombe comments, "that's what makes working with their designers so enjoyable: they have a fantastic appreciation of the power of light and how it can make the space they have created come to life." Explaining the collaboration between Motley's designers and White Light's lighting designers, Larcombe adds



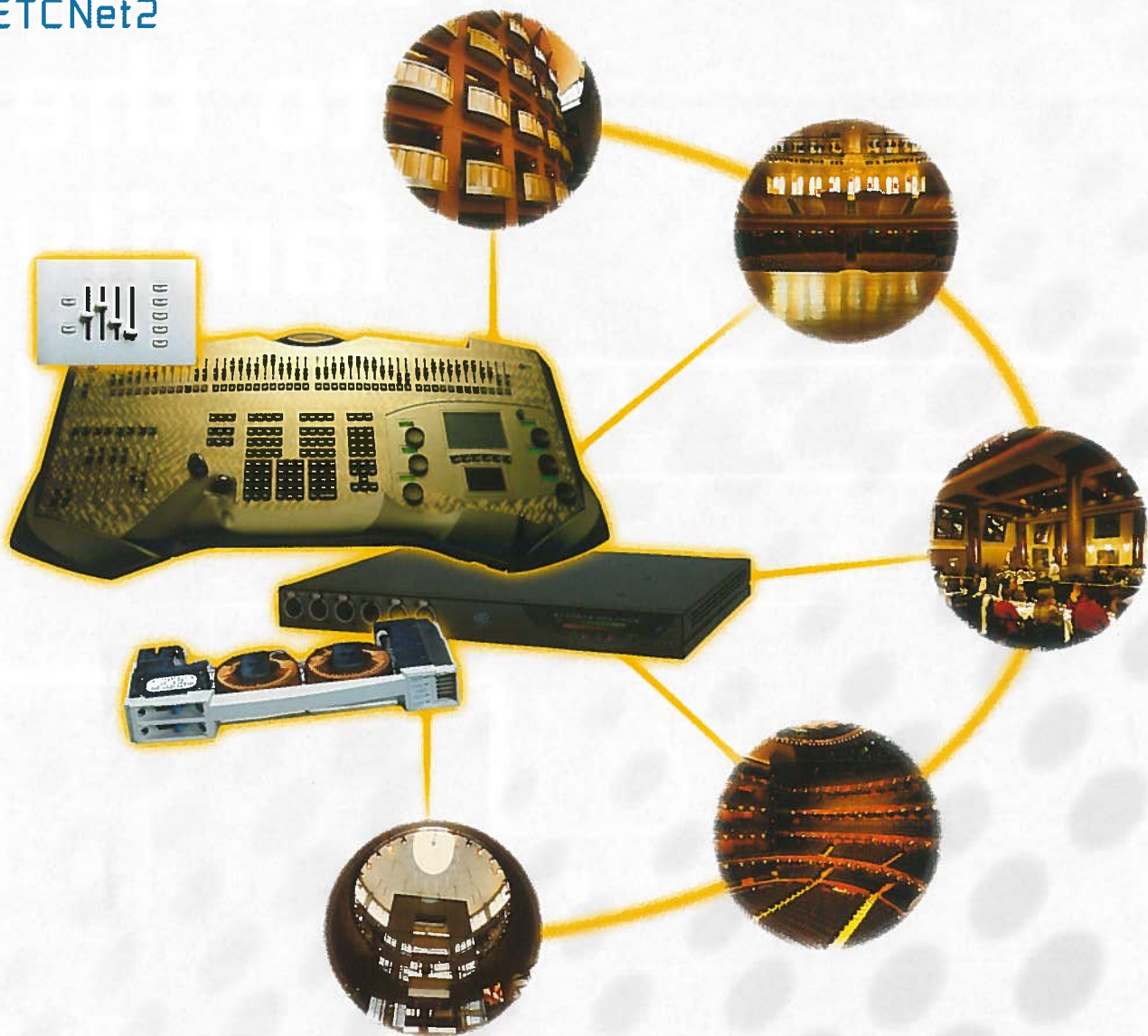
Larcombe also notes the different design process that the modelboxes call for: "the key to lighting the modelboxes is to start with the motivating source, which establishes the style of the lighting, then gradually build up the layers from there. Such limited resources give the lighting a very clean look and feel."

The aim of the exhibition is to market the designers to the industry. The opening reception attracted many leading figures from the industry. "Professionals were extremely complementary about our work," commented one of the designers, "and we have made many extremely valuable contacts."

This year's graduating designers are Zachary Beer, Ali Bell, Stuart Targett, Paul Burgess, Simon Daw, Izumi Matsuo, Delia Peel, Toby Riches, Angela Simpson, Mauro Tinti, Becky Brown - examples of their work are displayed here.

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Pulsar Student LD Competition

For the second year running, Pulsar has put its commitment behind the next generation of professional performance lighting designers by sponsoring a Student Lighting Designer's competition held at Melton Mowbray College, Leicestershire.

The four finalists were all first-year students - Sharon Darby and William Jones from the degree course and Matthew Randle and Glenn Worne from the BTEC. The lights were rigged for the competition on the Thursday and the students came into the theatre on the Friday - this was the first time they had seen the rig or the piece of work they had to light. Prior to this, they had all spent a day at Pulsar's showrooms getting a feel for the equipment they would be using - and its wide creative capabilities.

The piece they had to light was a dance piece performed by locally-based Jig In The Box Theatre Company. Students saw the 10-minute show performed twice on the Friday morning. They then went away to plot their

shows, each student being given their own Masterpiece 216 to programme, working in breakout rooms in the main theatre. Each then downloaded their initial shows onto RAM cards and brought them back to the main theatre to look through in situ.

On the Saturday, Jig In The Box returned to the theatre for more run-throughs, and each student was allotted enough time to look through and tweak their shows in the main space. On the Sunday, the theatre company were in all day, and the competitors were able to spend more time with them working on specific areas of their show. On Monday, after a final technical run and a dress rehearsal in the afternoon, the competition took place in the evening - in front of a packed house.

Unfortunately, by the day of competition, William Jones had to drop out, but the remaining three each operated their light show in turn. They were watched by the panel of high profile judges - Andy Voller, Vari*Lite impresario and chief of Vari*Lite programming and operations at The Millennium Dome in Greenwich, Martin Hawthorne from top rental and installation company Hawthorne Theatrical and Mel Sinnott, the chief LX from Grantham Guildhall. The judges were looking for a design and a show with creative flare, originality and atmosphere. It was a tough decision, the standards were very high and all shows were incredibly tight.

The winner was BTEC student Matt Randle, whose show was a fluid and confident amalgam of colour, texture and imagination. The dance piece built up to a dramatic



Above, the contestants, judges and performers

Inset, Matt Randle receiving the Student Lighting Design Award from Pulsar's Andy Graves



Four finalists were selected from a series of heats involving entrants from across the college's various production technology courses. The college runs both a BA Honours three-year degree course in Performing Arts and a two-year BTEC National Diploma in Technical Theatre. The competition was coordinated for Melton Mowbray College by technical lecturer Paul Duval, working closely with Pulsar's Andy Graves.

Pulsar see the Student Lighting Designer competition as a logical extension to its highly-successful international World Light Jockey contest - aimed specifically at those working in clubs and discos around the globe. The company wanted to encourage young people in other professional lighting genres, and offer them the opportunity to become familiar with the concepts, equations and practical operation of intelligent lighting. Theatre as one of the most creative and innovative areas of design and presentation was an obvious area to develop.

The competition took place at the Melton Mowbray Theatre on the college campus, a 340-seat space with full flying facilities and a house sound and conventional lighting system. The proviso was that only intelligent lights and a Pulsar Masterpiece 216 were used to light a piece of theatre. Each student had at their disposal six Clay Paky Stage Zoom 1200s, 12 Stage Color 300s, two Stage Light 300s and the desk - all provided by Pulsar for the occasion.

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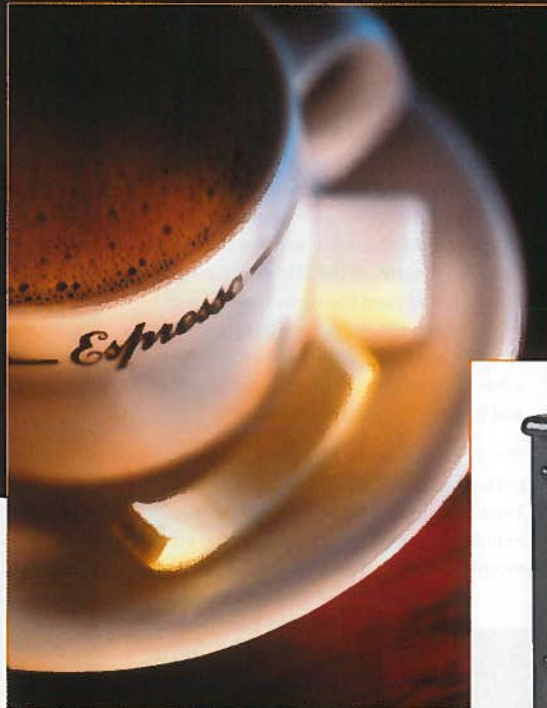
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crescendo with a tribal-style ritual sequence - for which Matt produced fire and flame effects with various gobos, movement and colour. It then dropped away to chilled-out blues and wound down smoothly for the end.

Matt was delighted at winning the competition. He received a cheque for £2,000 which he can use to purchase any Pulsar equipment. This will be particularly useful as he already has his own small lighting rig and company based in Melton Mowbray, with which he lights discos and live bands. He intends to purchase a Masterpiece 216 with the money.

Matt comments: "Using Pulsar's kit has been a great opportunity. I love the Stage Zooms for their glass gobos, texturing and overlaying of effects facilities." Matt is bolstering his creative talent by also taking the City and Guilds 236 Electrical Engineering qualification as part of his BTEC course - so he can be totally au fait with electrical matters.



on experience with intelligent lighting. I'm looking forward to a long and fruitful relationship."



Above, Martin Hawthorn, Paul Duvall, Matthew Randle, Mel Sinnott, Andy Voller and Andy Graves. Inset, Jig in a Box

Paul Duval sees the learning of intelligent lighting, its potential and techniques, as an essential way forward for his students. While the Melton Mowbray courses do currently concentrate on theatrical performance, they are also investigating other lighting genres. Duval recognises the lighting design trend towards a convergence and cross-fertilisation of ideas from different visual disciplines.

On Pulsar's involvement, support and encouragement, he comments: "Working with Pulsar is fantastic. They are really giving us an invaluable opportunity via access to and hands-

Lighting & Sound International (PLASA) is also keen to promote the competition. Together with Pulsar and Melton Mowbray College, we are currently discussing plans to develop it further and extend entrance to other colleges around the country. We will also look at extending the sponsorship opportunities to include other areas of technical production.

It is intended to launch the expanded Student LD competition at the PLASA Show 2000, with Pulsar still very much involved as the lighting (and founder) sponsor, seeking other interested collaborative parties. For details visit the PLASA/L&SI stand - F1. Alternatively, call Paul Duval on 01664 850850 (ext 126) or Andy Graves at Pulsar on 01223 366798.

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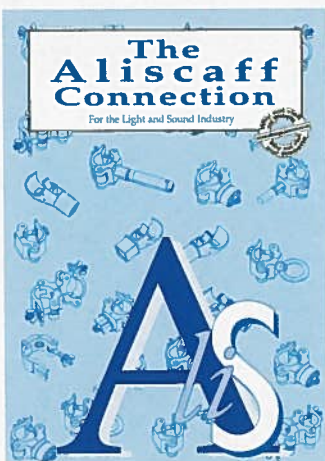
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Oasis Roll With It!



Left: The Nocturne Video team on Oasis. Back row (left to right) Clarke Anderson, Des Fallon, Paul Eggerton, Larn Poland, Richard Turner. Front row, Gavin Thomson, John Clarke, Chris Hilson and Richard Burford.

Inset, Oasis performing at Wembley

One of the biggest Millennial rock and roll happenings in the UK this summer was undoubtedly Oasis' RKID 2000 UK stadium tour, which culminated in July with two shows at Wembley Stadium.

The Wembley shows were watched live by 120,000 fans, as well as being broadcast globally to over 35 million people in 50 countries, via Sky 1.

Lighting designer Mikey Howard's rig was supplied by LSD, the main elements being LSD Icons (130), Vari*Lite VL5 Arcs (92, supplied by VLPS London) and High End's Studio Color 575s (60), controlled from an Icon controller. Other effects used included four of the new Coemar Panorama floods, Lightning Strikes and Death Star strobes, atmospherics from four Cirro Strata Haze Machines and four DF50s.


The sound system came from Brit Row, who supplied a Turbosound Flashlight system with amplification from BSS. Front-of-house engineer Bruce Johnston mixed the show from a Yamaha PM4000, while a Midas Heritage 3000 looked after monitors, under the guidance of monitor engineer Gareth Williams.



The main focal point of the show, however, came from the huge triple array of Screenco's high resolution 15mm LED video screens. These were arranged as two 20.74sq.m side screens and one 55.3sq.m centre screen, which was configured in a convex curved profile. These were used to show a combination of live action and video graphics, directed by Dick Carruthers. Vision mixing for the live screens was in the hands of Chris Hillson, using Nocturne Europe's Digital Production Unit (DPU) and cameras. Nocturne supplied video producers Dreamchaser Productions with nine cameras and a new digital DPU system for the tour, which also formed an integral part of the live broadcast set up for the Wembley shows. In fact, Oasis saw the building of Nocturne's third DPU system in as many months.



Additional camera equipment, as well as outside broadcast (OB) facilities was supplied by Screenco's sister company, Creative Technology, whose newest state-of-the-art digital OB truck was the technical hub of the Saturday night's worldwide broadcast.

Chris Saunders, founder of UK-based live video specialist company Black Pig, provided broadcast liaison for Dreamchaser. The number of video-related specialists almost certainly amounted to a UK music show record, with no less than 136 people on the team.


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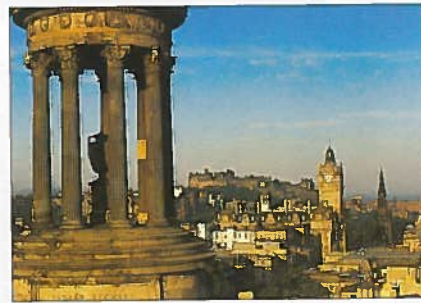
It's Good to Talk

With Showlight 2001 just nine months away, many leading speakers are being lined-up for the event, covering topics from lighting for cruise ships and theme park concepts to military tattoos and theatre lighting.

Visitors to the International Colloquium on Entertainment Lighting will hear papers presented by leaders from the world of lighting design, including Paula J. Dinkel, principal lighting designer with Walt Disney Imagineering. Dinkel,

who has worked on many high-profile Disney projects, will talk about the differences between staging a theme park show and a West End or Broadway show.

Other speakers already confirmed include lighting designer Robert Ornbo, whose presentation 'Tournaments, Tattoos and Tantrums' will focus specifically on his own experience of lighting large military and



Royal shows. He will give examples of some of the problems encountered and illustrate his design approach to unknown situations. He also hopes to educate fellow lighting enthusiasts on how to cope with animals and the military mind! Television LD Bernie Davis will present a paper

entitled 'Orchestral Manoeuvres in the Light' in which he will present the practice and pitfalls of lighting orchestras, sharing his experiences.

The papers programme at Showlight allows lighting designers to share the fruits of their experience with others in the industry, focusing on what is the essence of the event - to encourage attendees to talk, discuss ideas and mix with some of the best-known names in the industry.

You can register your interest in Showlight at the PLASA Show at Earls Court in September by visiting the PLASA Stand (F1) alternatively telephone +44 (0) 1323 418400, or e-mail ruth@plasa.org. You can also visit the Showlight website at www.showlight.org.uk.

Storming!

Storm Lighting has had a very busy first half of the year, having been responsible for the design and supply of equipment to shows all over the world including Japan, Dubai, Brazil, USA, China, Singapore, Hong Kong, Korea, Bahrain and all over Europe with UK and European Tours.

In response to this, the company has relocated to larger premises and been joined by Matthew Harris who, as senior technician, will assist with the growing workload. Storm are now located at Unit 6, Winton Lea Industrial Estate, Monument Way West, Woking, Surrey. Telephone: +44 (0) 1483 75721

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Clarion Retains Cricket Trophy (... by default)

On Wednesday August 2nd, in the idyllic setting of Littlewick Green Cricket Club, Berkshire, Clarion Events (organisers of the PLASA Show) just about managed to retain the Hayden Laboratories Annual Pro Sound and Lighting Cricket Trophy.

This shock result was thanks largely to poor weather and the unbounded generosity of opposition team captains and gentlemen, Simon Curtis (Hayden Laboratories) and Paul DeVille (Lighting Technology), not to mention Clarion's inclusion of some extremely talented individuals who, James Brooks-Ward assured us, do work for Clarion, honestly.

This was the second annual competition for the Hayden Laboratories trophy, and interest in the event had grown significantly since last year, so



that three teams took part this year - Clarion, plus teams representing both Sound and Lighting. Taking the rather damp field were representatives of Hayden Labs, Lighting Technology, Avolites, DHA Lighting, Stage Electrics, Barco, PLASA, L&SI, Le Maitre, LMC Audio and Celestion, with scoring by Mondiale. Next year, the Lighting and Sound teams plan to get even - weather permitting.

Web Five

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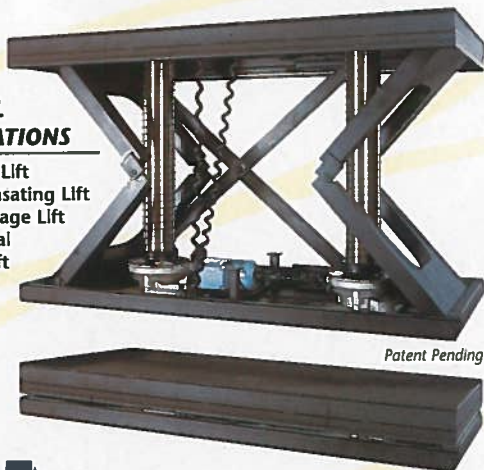
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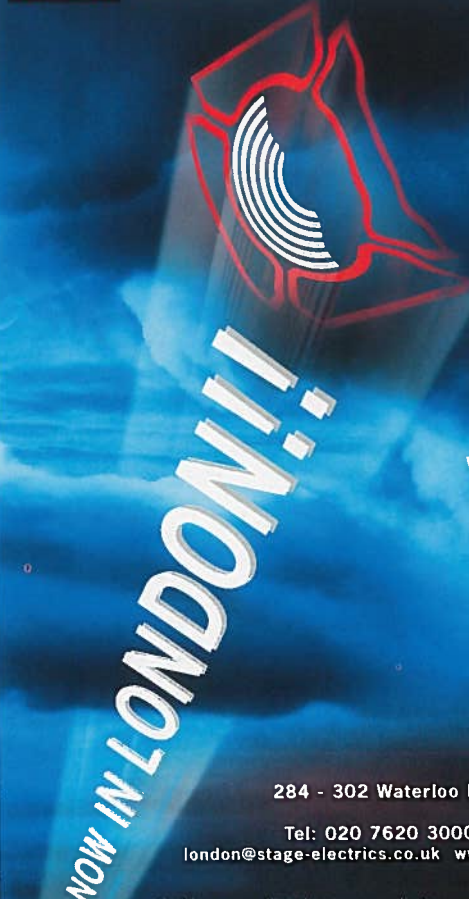


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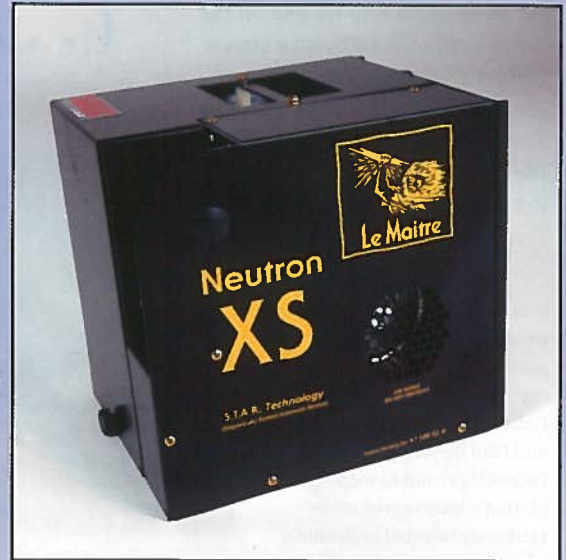
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LIFE Interactive World



LIFE Interactive World is a spectacular new visitor attraction, using the latest advances in entertainment technology to convey the secrets of life.



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Millennium project, the International Centre for Life in Newcastle. It uses hands-on interpretative techniques, state-of-the-art technology and an impressive combination of

AV techniques, together with live interactive characters, to convey the mysteries of life itself. Working with Event Communications, audio-visual technology specialist Electrosonic first became involved in the project in 1998, developing the AV specifications together with the designers, producers and the client. Together they produced a complex and varied sound, lighting and audio-visual system.

The first part of the design work was with two quite unique theatre spaces, developed in conjunction with Media Projects International for the AV production and DHA for the lighting. These were the Secret of Life theatre which explores the mysteries surrounding the building block for all life - DNA - using a mix of visual technology. The Big Brain Theatre, meanwhile, takes visitors inside a huge brain-shaped theatre to examine the workings of a human brain. The Big Brain show is fully automated, and the theatre uses a particularly unique combination of fibre-optic and show lighting to give the impression of being in a working brain. In addition to the two main theatres, there are over 30 computer interactive workstations, and many other exhibits using video and audio replay.

Most of the lighting control is carried out with Celco Fusion dimmers and Alcorn McBride Lightcue DMX playback units, programmed with a Celco Ventura lighting console. A Showscan Simulator theatre utilises a Helvar 12 channel Ambience dimmer rack with Sceneset control. LIFE Interactive World makes highly effective use of AV technology to tell its story, and all the early indications are that the visitors - 50,000 in the first two months - are well satisfied with the experience.

BBC Joint Venture with Granada Television

The BBC is to enter into a joint venture with Granada Television to provide facilities including studio, post-production, graphics and creative services in Manchester.

The launch of the new joint venture company, 3sixtymedia, will combine the production facilities of Granada Television and BBC Manchester and is expected to launch in the Autumn. The formation of 3sixtymedia allows both GTV and the BBC to consolidate production facilities on Granada's site exploiting the investment made there in digital, wide screen technology for all stages of the production process. The intention is that the move will enable Manchester to compete strongly with London facilities businesses and secure creative and technical jobs in the region. Around 340 GTV staff and 85 BBC staff will transfer into the new joint venture, with Mike Taylor taking on the role of managing director.

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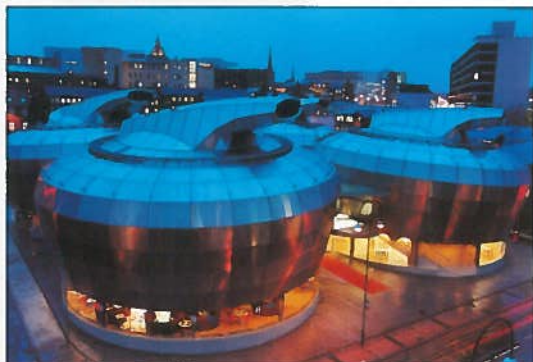
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The National Centre for Popular Music Closes

Just over a year old and Sheffield's National Centre for Popular Music has closed following disappointing visitor figures. When it opened in March last year, it was hailed as the world's first interactive exhibition to celebrate contemporary music and was expected to attract up to 400,000 visitors a year.



Sadly, figures fell way short of this target and despite a rescue attempt by creditors nine months ago, it closed recently with debts in excess of £1 million. Most of the funds for the £15m capital project had come from Arts Council coffers, principally the National Lottery Fund, though there were significant contributions from the European Regional Development Fund, English Partnerships, and a small amount from a number of investing sponsors. Its closure marks the end of a 15-month run of set-backs and

disappointments. Doubts had been aired early on about the suitability of Sheffield as the host city and staff redundancies were followed by the departure of both the chief executive and creative director. When Martin King, fresh from Tussauds, took over at the helm, the Centre was revamped, but this failed to reverse its fortunes, and he too subsequently quit.

The future of the Centre remains on hold for the present though L&S understands that the search has begun for a new backer for the venture.

Yourope Urges Self Regulation

It was against the backdrop of the recent tragedy at the Roskilde Festival in Denmark, that the Board of Yourope (the European Festival Association) held its summer meeting in Milan in late July.

The Association represents some 25 festivals and is currently promoting its 'Event Safety Guide' a publication produced by Keith Ferguson and the Production Services Association on behalf of Yourope. The move is timely: in recent years there have been 63 fatalities reported at festivals in Europe: 53 were killed in Belarussia, one died at a Swedish event and nine lost their lives at Roskilde. Through the promotion of the Event Safety Guide, Yourope hopes to raise awareness amongst festival owners of the need for proper management of health and safety. It also plans to raise standards through the provision of training and qualifications for all involved in event production.

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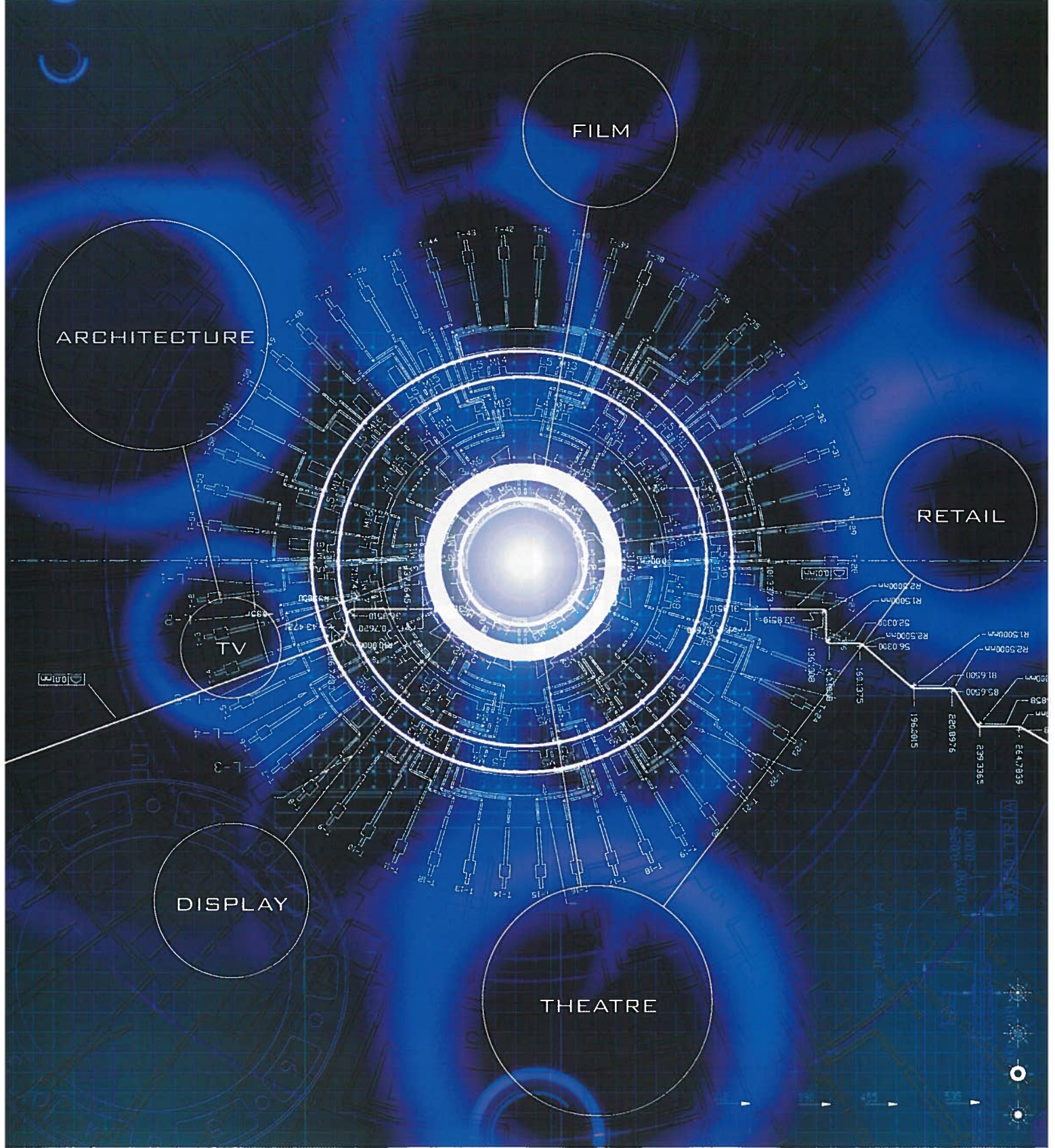
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MTV's Ibiza 2000

MTV Europe staged one of this summer's biggest dance events, Ibiza 2000, held in a disused quarry known locally as Sa Pedrera, just outside of San Antonio.

Directed for a future broadcast and webcast by Hamish Hamilton from TV production company Done and Dusted, Ibiza 2000 followed the success of last year's party, which won MTV the Best Dance Event of 1999 award at the Dancestar Awards. Accordingly, this year's party was extended to run over two days, with a 12-hour rave for 14,000 people featuring top-name DJs on the Friday night and a more sedate and less well-attended pop night on the Saturday.



Check out those legs - Ben Summerhayes, Tim Summerhayes and Ian Dyckhoff all from Fleetwood Mobiles with Hamish Hamilton of Done & Dusted and Bob Lopez, head of sound.

The live sound for the event, which boasted two large stages in addition to a backstage VIP area and a small chill-out zone, was co-ordinated by Bob Lopez, who hired the gear for the two main stages from Madrid-based PA company Fluge. "The biggest problem was the fact that there were two stages running; the sound had to be segregated so it didn't spill over," comments Lopez. "It had to appear as if you were walking out of one room into another."

Lopez circumnavigated this problem by carefully positioning the speakers for each area, and by "sneakily putting one system out of phase with the other." A Turbosound Flashlight system was chosen for the main stage. "It was a godsend to have because it has a very narrow beam and you can control it," explains Lopez. This was complemented by a JBL HLA system. Fluge also provided Turbosound LMS-700s for the main stage, Crest amplifiers for the JBL system, a Midas XL3 and Yamaha PM3000 for the live acts on the main stage and PM4000 and Soundcraft SM16 for stage monitors. Shure radio mics were used extensively across both days.

A crew from Fleetwood Mobiles were in attendance to record a live mix for the TV broadcast, also providing the feeds for the webcast.

Freelance lighting designer for the event was Al Gurdon, whose rig featured 43 LSD Icons with an Icon desk and controller for the main Ibiza stage, and 39 High End Cyberlights and 15 Studio Colors for the Formentera DJ stage. "When working on an event like this, you constantly have to think about how it's going to look on TV," he says. And from the TV monitors in the Fleetwood mobile it looked most impressive, especially during Underworld's set, when Gurdon projected the on-stage gobos onto the audience to create simple blocks of colour in squares and triangles.

Events kicked off early on Friday evening as the UK's DJ Rocca got things underway on the main Ibiza stage, followed by the live line-up of Artful Dodger with Craig David and Robbie Craig, DJ/vocalist Sonique and headliners Underworld. Their appearance segued into sets by DJ supremos Armand Van Helden and David Morales. The smaller Formentera stage hosted DJs including Daniele Davioli, Seb Fontaine, Paul Van Dyk, Claudio Coccoluto and Erick Morillo, the latter of whom was interviewing the stars backstage for MTV's links. The chill-out area, dubbed the Atlantis stage and lit by Gurdon with an array of Pars, hosted DJs of a more mellow nature.

Caroline Moss

Electrosonic Opens Fourth US Office

Electrosonic has opened a new office serving the New York, Philadelphia and Washington areas of the USA. Over the last few years, the company has achieved significant growth in the US audio-visual market, and the new office provides engineering design and support services to its corporate, design and consultant customers.

Although the unit is self-sufficient, it is able to draw on the resources of Electrosonic's existing USA offices (Minneapolis MN, Burbank CA, and Orlando, FL). Conveniently located near Princeton, NJ, the office is managed by Andrew Kidd. Apart from a two-year sabbatical, during which he acquired an MBA degree, Kidd has worked for Electrosonic for 22 years in engineering and project management positions around the world. The team at the New York Area office includes expert staff recruited locally, and experienced Electrosonic hands re-located from other Electrosonic offices.

The new Electrosonic office is located at: 11H Princess Road, Lawrenceville, New Jersey 08648, USA.
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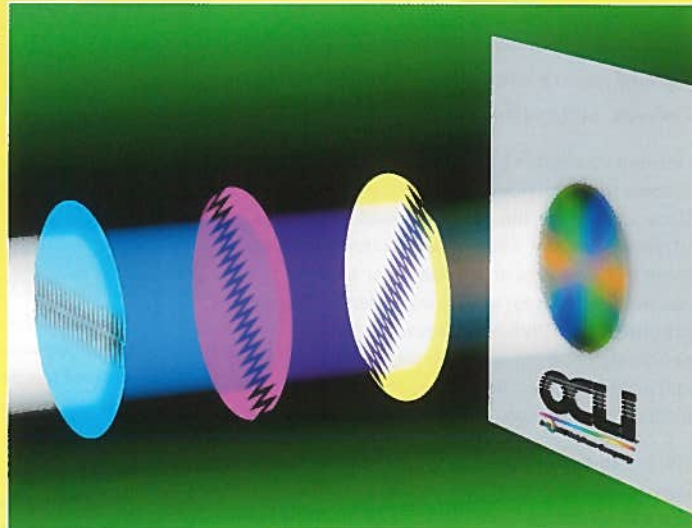
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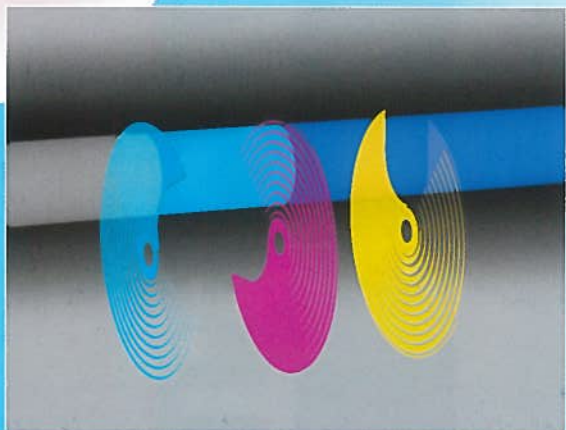
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Radisson Edwardian Rocks with Rolec

Hayden Laboratories has supplied sound and architectural lighting specialists The Sound Workshop with several Rolec Hard Disc background music systems for their on-going installation projects with high-profile hotel group Radisson Edwardian.

The next Radisson project was to design sound and lighting schemes and systems for Cleo's Bar at the Vanderbilt Hotel. This project was so successful that it was extended into the main foyer, bar and restaurant areas in a project lasting six months, with the hotel remaining open throughout.



The Sound Workshop started work on its first Radisson Edwardian hotel in January 1999. The initial project was the Apex Restaurant on the ground floor of the up-market Hampshire Hotel in Leicester Square.

Before its makeover, the restaurant had a period feel - chunky drapes, dark wood panelling and thick shadowy carpets. The refit transformed it with blonde wood floors, neutrally-painted walls and an up-beat modern tempo, complete with an upgraded background music system consisting of a two-zone Rolec Hard Disc that works alongside a Bose Business Music System.



From there, a systematic work-through of all the hotels in the group commenced. Each of the 10 Edwardian hotels in central London has its own ambience and individual feel, ranging from the period elegance of the Savoy Court to the chic, jazzy modernism of the Marlborough on Bloomsbury Street. They all needed a bespoke, hands-free music system that was reliable and totally flexible. It also had to be easy to operate by people with no specific technical skills.

This is all easily achievable via Rolec's versatile music profiling facility, which enables music to be specifically designed for the tastes and demands of an individual hotel and its clientele. New tracks are distributed monthly to the venues in CD format so special promotions or occasions and seasonal events can be highlighted. The music system can also be remotely maintained via a modem link. The Sound Workshop has now installed nine two-zone Rolec Hard Disc systems in eight of the 10 luxury Edwardian Hotels.



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Penton Expansion

Penton UK, manufacturer of loudspeakers for the voice alarm, public address and background music markets, has moved.

On August 18th, the company relocated to a newly refurbished building in East Worthing. Situated on the Dominion Way Industrial Estate, just five minutes from the A27, Penton is now better placed to service its growing customer base. With 4,600sq.m of warehousing, Penton has substantially increased its stockholding, enabling it to greatly improve its ex-stock delivery capability. Extended office space has also meant that the company can update its whole operation, as well as increase its workforce. Buster Rowland has now joined the company as customer services manager and will liaise closely with clients. Penton will be exhibiting at PLASA 2000 on stand K2.

Contact David Mitchell on
01422 345021
or enquiries@thesoundworkshop.co.uk

EXTRA SENSORY PERFECTION



People

Following a period of rapid expansion, the changes at board and senior management level at Lighting Technology Group, announced in January, have been followed by a further stage of restructuring.

Business development director **Paul de Ville** (above) is to leave the company. De Ville, who has been with Lighting Technology for over 15 years and has made a valuable contribution to its progress, is off to explore new challenges. In the meantime, several new members have been appointed to the sales and administration teams. **Jonathan Price**, who has a wealth of technical experience in the theatre, conference and exhibition industries, joined the company in April to cover entertainment field sales in the South East. Joining the sales team at Park Royal is **Anil Talwar**, who moves in from ETC Europe, bringing with him excellent knowledge of the ETC product range. **Sarah Davis**, late of Stageteq, has been employed to handle image projection products for the retail sector and **Clive Tallent** joins via Light Projects to promote the Group's interior architectural lighting products. **Eva Rodriguez**, who is fluent in Spanish, and **Emma Cepek**, formally of Stage Electrics, will add their skills to the work of Lighting Technology's export department. Joining the company's Manchester sales team is **Brian Simmonds**, who moves from the Playlight Group where he has been sales manager for the past six years.

Martin Professional is expanding its touring and theatre division with the appointment of **Mark Ravenhill** as stage lighting manager. Ravenhill, who previously worked with Martin at the company's Danish HQ, joins them from AC



Lighting where he was marketing manager. He will be closely involved with the launch of the new MAC2000 at the forthcoming PLASA Show.

DHA has restructured its sales division to incorporate four international regional sales managers. Three of the regional sales managers have been appointed from within the company: **Louise Robson-Tester** will be responsible for stockists and dealers in the UK and Eire, while **Nigel Sadler** assumes control of Benelux and Scandinavian countries. **Julie Harper**, previously head of DHA's marketing, will now concentrate on the development of sales in Asia, India, Africa and the Middle East. The appointment of the fourth RSM, who will cover middle Europe and Eastern Bloc countries, will be announced later in the year.

Martin Professional is continuing with the expansion of its sales department with the appointment of **Graham Barron** as corporate sales co-ordinator. He brings with him 26 years' experience, most recently running outdoor lighting specialists Lumenation for Coe-Tech.



BSS Audio has carried out a major restructure of its sales department, promoting **Rik Kirby** (left, seated) to the position of sales manager and

Dave Smalley (left) to the role of systems group manager. Kirby has been with BSS Audio for three years; his responsibility has now widened to include UK and international sales. Smalley will head up the new Systems Group, which will enable distributors, consultants and contractors to draw on BSS's project expertise.

John Hornby Skewes has appointed **Anthony Gunter** as area sales manager for South West

England and Wales. Gunter joins the company from M Hohner Ltd, where he has been area sales manager for the past two years.



Philips CSI has appointed **Kevin Diss** as general manager to head up its rapidly-growing UK operation at its Sunbury HQ. The move comes at a time of expansion for Philips and follows the recent appointments of **Alfred Van Wyk** (left) as area sales manager for professional PA, and

Andrew Davidson as area sales manager for communications products. Diss was previously sales and marketing director for Philips Projects in Cambridge.

Phil Ward has announced his resignation as editor of Pro Sound News. Ward, who has been editing the Miller Freeman title since 1994 and who plans to leave on October 20, will continue to work in the audio industry as a freelance writer.



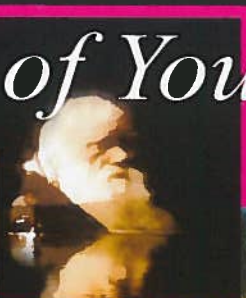
As part of its ongoing expansion programme, Northern Light has announced that **Colin Cuthbert** (left) is to join the company as regional sales manager. Previously with Strand, Cuthbert's experience will make a significant difference to Northern Light - Strand's largest distributor. Based in London, he

will be responsible for development of Northern Light's business in London and South of England.

Laser Grafix has welcomed **Paul Sadler** back to the fold. Sadler first began working for them in 1988, progressing to hire manager before leaving to join Stagestruck as project manager. He returns to the company as technical sales executive.

Orbital Sound has appointed **Drew Mollison** to its team of theatre sound specialists. Mollison will work alongside Orbital's **Tim Sherratt** in technical support, as well as expanding the capacity of the production engineering department, headed by **Andy Robinson**.

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Martin



Orbital's Fringe

London-based Orbital Sound has supplied a myriad of individual sound systems for the fourth year running to both The Pleasance and The Gilded Balloon - Edinburgh's two largest venues.

Orbital's Sebastian Frost has designed the sound for The Pleasance for the past six years and for the last two has worked with Tom Lishman, who provides on-site technical support and co-ordination.

The Edinburgh Festival Fringe remains one of the world's only platforms for free artistic expression. This year, 600 companies presented over 17,000 performances in a variety of venues. The Pleasance is the largest, comprising 12 small venues which are "reclaimed" from Edinburgh University each year. For the Festival, many of its rooms are transformed into intimate auditoriums.

It takes over two weeks of intensive preparation to fully transform part of the University Campus into a 'multiplex' of theatres. Frost and Lishman work closely with The Pleasance's young production team to create this unique theatre environment.



Above, the Pleasance courtyard and inset, Orbital's Sebastian Frost and Tom Lishman.



Frost says: "Keeping the sound configuration simple is the key to success; it allows for sound operators, production engineers and designers to work with a common system that is as foolproof as possible."

The Festival is a challenging ground for the technical teams. To pack in all the shows, each venue is used by a number of companies each day, with often only 20-minute turnarounds between shows. Tom Lishman explained: "The atmosphere is unlike any other conventional theatre environment. It's completely frenetic with so many

shows happening simultaneously. As the only experienced sound engineer present, my role is as much one of 'teacher' as it is technical support. The crew are all incredibly enthusiastic, but lack the experience of real performance. There is nothing like the hands-on experience offered by Edinburgh to educate and make them aware of real situations."

Although most systems are basic, ever more technology is being employed, with radio microphones often used even in the smaller venues seating 60 people. This is due, in part, to the increasing accessibility of advanced technology, and to the theatre companies themselves who can use sound as a simple, effective, creative tool.

Lishman and Frost have also worked closely with BBC Radio 4's Paul Wones to ensure that over 24 programmes are successfully produced for broadcast. Apart from mixing the BBC shows for the live audience, Lishman and Orbital ensured the smooth channelling of the sound from the venue into the BBC OB truck, located in The Pleasance courtyard.

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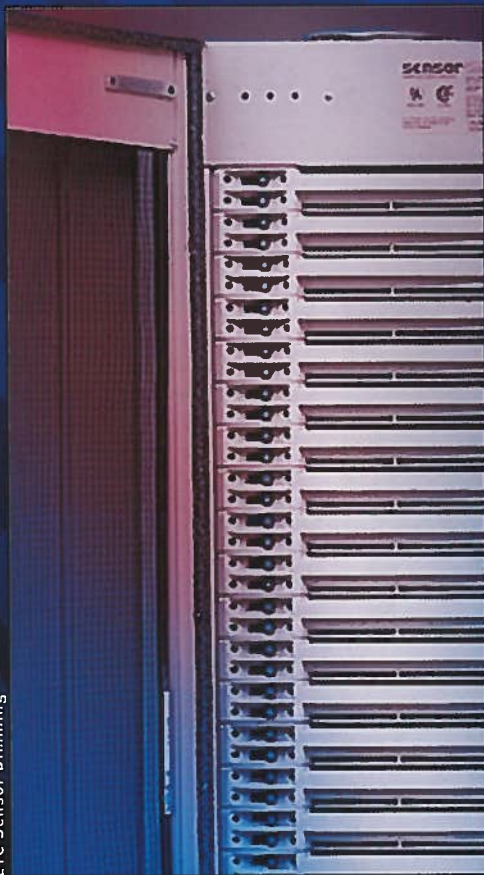
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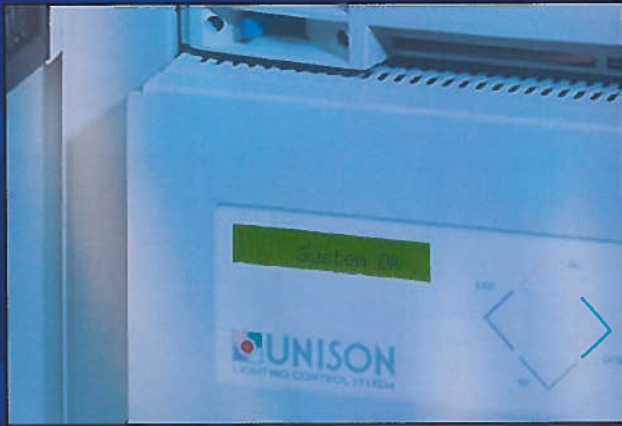
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The Other Place . . .

The RSC's smallest theatre - The Other Place (TOP) in Stratford-upon-Avon - is an intimate, 113-capacity studio theatre, well-known for its track record with experimental productions. In fact, within the RSC itself, TOP is known as 'the R&D Department'.

For the current season's three productions - Shakespeare's *Richard II*, Giovanni Verga's *La Lupa* and George Bernard Shaw's *Back to Methuselah* - artistic director Steven Pimlott has really taken this reputation to heart, choosing to re-design the space to offer something truly unique. The result, designed by fellow RSC director David Fielding (directing *Back to Methuselah*), is a very clinical white box - an interesting variation on the traditional studio theatre and a genuinely unique and flexible space for actors and designers alike to ply their trade.

When it came to putting three very different productions into this stark, experimental environment, Pimlott particularly wanted to use the same lighting and sound designers for all three pieces - both to minimise changeover times and to provide a level of continuity across each production. So it is that lighting designer Simon Kemp and sound designer Andrea J Cox, both of whom have long associations with the RSC and TOP in particular, have applied their talents to all of the current season's productions.

"The Other Place has been here for about 10 years and it used to be a more traditional studio space - like the Donmar," says Simon Kemp. "The seating was always flexible - usually it was on three sides - sometimes it was traverse. The change came when Steven [Pimlott] decided to really experiment - to do without all the scenery, all these trees and armour and other stuff that they have in the main house!" says Kemp, referring to the Royal Shakespeare Theatre just along the road.

The RSC's Blessed Plot



It was Fielding who came up with the white box - the idea being that this would be a totally neutral space for all to use. Kemp continues: "I think the idea - which definitely works for *Richard*, and will absolutely work for *Methuselah* - is that the white box is kind of like a clinical laboratory, and you just bring into it what you need."

And what is needed for the Pimlott-directed *Richard II*, the production that I saw, is next to nothing: the main prop elements are a heap of earth (a grave, a flowerbed, 'England') and a wooden box (a dais, a coffin, a prison, a mirror). Other than this there are a

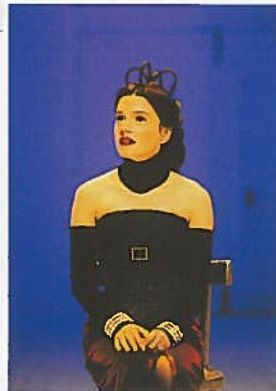
dozen or so white chairs around the periphery and the obligatory weaponry (a wonderful mix of axes, knives and automatic firearms). Adding to the intensity of the space, Kemp's lighting states vary between different 'whites' (the stark, cold fluorescent-bathed; open Par white; Strand Cantatas with Lee 202 gel) and the murkier colour washes for the more 'subconscious' scenes, with regular purple accents reflecting the central costume colour theme.

Part of Pimlott's wish, says Kemp, was to suggest a state of what he termed "existential angst" - and you can see what he means, even if you don't exactly understand it. As Kemp says, it's an environment that very successfully concentrates attention on the actors and the action, making for some very intense, powerful theatre. Kemp variously employs fluorescents (basic office-or-

garden metal ceiling boxes with diffuser covers, spaced at intervals overhead), sodium lamps and 5k fresnels with Rainbow colour-scrollers (16 colours) to create the subtly-varying atmospheres. Control is from the theatre's Strand 510 desk.

For sound designer Andrea J Cox, an interesting advantage for the season is that the three plays were mostly rehearsed in TOP itself (except for *Richard II*, which rehearsed in London), with lighting, sound, costume and props in place. "This allowed

Simon and myself to be involved much earlier on - not just going to a quick meeting and popping in once every two weeks. We're there, two or three times a week at least, all day, trying different things as we go along."



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Cox found that the small sound budget for each of the three plays, when combined, allowed for a particular innovation which aided the development process: "Before, if you wanted sound in the space, you'd need an operator, because all the gear's up in the control room, and they would have to trigger it and I'd have to tell them what to do," she explains.

What was needed was a way of making that gear accessible from the auditorium - without physically lugging it around. Cox continues: "We're using an Akai 6000 sampler, and a PC running G-type sequencer

software to trigger it. It's a full-size PC, so we don't want to be moving it every time; the same with the sampler, as we're using 12 outputs and we don't want to be pulling the multicore out every time.

So I set myself up with a PC laptop which is etherneted to the PC in the control room using PC Anywhere software." In addition, the front-panel of the Akai 6000 is removable, and operable up to 14m from the unit. At the same time, to create effects, Cox uses a Mac laptop running Vision software, along with a musical keyboard to trigger the MIDI cues. This very portable set-up earned its spurs particularly during rehearsals for *La Lupa*, which required a large amount of atmospheric sound effects.



Other than this, TOP's sound rig is unchanged this season, mostly JBL Control 5s/10s and Tannoy i12s, with Bose 101s for surround sound, with amplification from Crown K1s and mixed from a Soundcraft K3. Cox adds: "The beauty of this space is that you can have speakers in every single corner, high and low, and have sound moving across the space quite effectively. It's much easier to achieve that here than in the main house."



Andrea J Cox and Simon Kemp.
Photo: Gary Vernon

The role of sound in *Richard II* is perhaps less than for the other productions: there is never a need for vocal reinforcement in this space, and in keeping with the intended air of 'existential angst', Cox has kept effects to an effective minimum, making excellent use of live instruments - particularly percussion - to accentuate the more intense moments of action, and to add something of the regal pomp denied by the minimalist set.

The three-hour production of *Richard II*, in which Sam West plays

Richard and David Troughton Bolingbroke, is brilliant, intense and absorbing. The intimacy of the space allows for the audience often to be addressed as members of Richard's court; at one point we are even ordered by a stern Bolingbroke to stand for a prayer. Unfortunately for some, the success of the production has meant that it is sold out until the end of its Stratford run, but catch it if you can at the Gulbenkian in Newcastle in late October and early November.

Lee Baldock

Production photos: Manuel Harlan

Designer's Wish-List:

We asked Simon Kemp and Andrea J Cox: 'If money and time were no object, what would be at the top of your wish list?'

"My wish wouldn't really be for any particular gear - I've done some of my best work with just some Par cans or some 23s or whatever. If you know what you're doing, and you can cut it, then that speaks volumes, doesn't it? VLs are ace, and if someone said 'here's 20 - go for it', then of course I'd say thanks, that's lovely - I'm really pleased that you gave them to me! But when you go into work, the thing that makes all the difference is the people you're working with. I'd always wish for a good team of people before anything else."

Simon Kemp, lighting designer

"I've been with the RSC for 13 years, starting as an operator. In those days we were using five reel-to-reel tape decks. Now, things have moved on so that it is more the responsibility of the designer to do the programming, but to have a decent operator is still absolutely crucial. We always used to say in sound that you're only as good as your operator... But if I had to go with equipment, my dream would be a full-facility dubbing suite, in this building: if I had to go for just one piece of equipment, I'd like an Eventide Harmoniser."

Andrea J Cox, sound designer

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Stretching Belief

The last Wednesday and Thursday of July saw one of the most bizarre occurrences of the year: two barges, held against the prevailing tide by a tug, floated opposite the Houses of Parliament, and began to perform a dance, whilst Dame Judy Dench narrated.

Underwritten by the Royal Opera House Education Department, this was what children of the sixties used to call 'a happening'. The concept was essentially simple, but extremely challenging: from on-board the two craft a complex experimental exercise in varying musical time signatures was to be performed by three singers (tenor, baritone and soprano) against live instruments and a DAT tape recording. Simultaneously, the two barges would be juxtaposed by a team of hefty men who would haul the vessels into a variety of conflicting positions via ropes and pulleys. Seventy metres from the shore, the timing of the score, coupled with the different spatial effects of the barges' movement (each had a d&b PA system on board to carry the performance to the crowds opposite) made for a tantalising exhibition. Every national broadsheet, the BBC TV Nine o'clock News and a local Independent TV crew were there; this was either a bad news day, or something really good.

The concept came from Max Couper, tug boat captain and creative muse, and the score was specially written by Trevor Wishart who also



FOH engineer Ian Bond and sound designer Ian Grove

half a metre of the Midas following it overboard." The barges, it should be pointed out, weighed in at just over 60 tonnes each, the multicore, now a little longer than it was,

continued to perform faultlessly for the rest of the show - now there's endorsement for you.

Ian Bond mixed the show, working from a windowless cabin created beneath the performance platform on barge 1. Using a pair of d&b Max cabinets to monitor his mix, Bond relied upon signals from Wishart who conducted, via Grove who shouted instructions down through a hole in the deck, to give him the necessary information for all the mutes/un-mutes he needed to do. "This was a loud show," informed Grove, "well into rock and roll levels, mainly in the mid nineties dBA area. The system sounded great - nice clear peaks for the sopranos, fantastic bass. Part of Wishart's recording was like modern dance music full of strange sounds, weird voices, watery noises and explosions. There was some awesome sub-bass in there, right down around 40Hz, the whole barge vibrated." Grove placed one of his crew on shore to monitor the received sound and relay messages back if needed; none was.

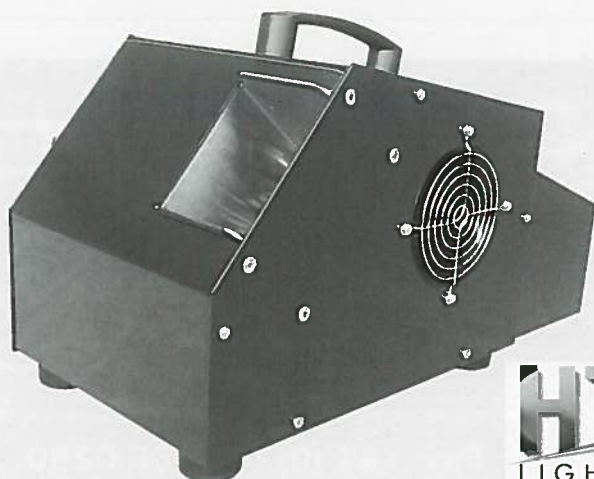
If the BBC news report is anything to go by, several thousand attended the show and applause was rapturous. Grove was astonished to see the assembled mass stand up as one at the end and deliver a lengthy standing ovation. Fantastic stuff, and not a spin doctor in sight - nice to know we can do it.

Steve Moles

recorded the DAT, while Adrian Bristow attempted the impossible - to bring a semblance of order to the production. Lighting, supplied by White Light, was minimal, the performance being early enough in the evening not to need performance lighting, just a bunch of halogen floods. The sound system, supplied by RPA from Southampton, was altogether more complex - 12 stacks of 12 stacks of d&b audiotechnik C4s, four d&b B2 subs, Shure Beta 87s for vocals, AKG 414 for instruments, a Midas XL200, RPA's own bi-amp (Crest) wedges, AMS reverb and Eventide H3000. Despite a relatively modest system, the get-out took 10 hours, four people working non-stop; the 'in' even longer.

The high point of the show came when one of the rope haulers overdid his part, the rope snapped, and the two vessels began to drift apart. "The only thing that ran between them was our multicore," said Grove, "a Kelsey Super JTC 8 pair. It pulled taut and began to stretch, and we came within

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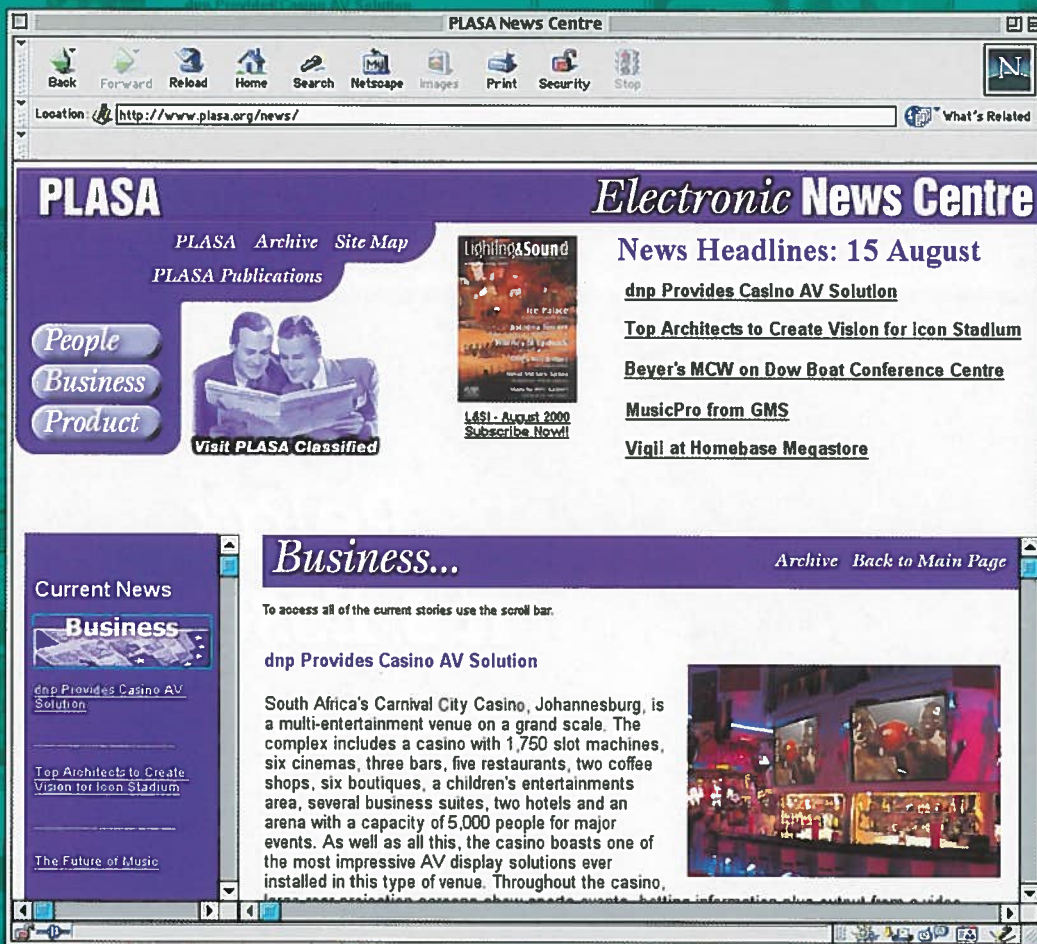


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Salisbury Cathedral has recently been the subject of a major audio upgrade.

Sound designer John Del'Nero was approached by the Cathedral five years ago and drew up a specification which was put out to tender, and won by Wigwam Acoustics Ltd, who replaced the old 100V line column system. The majority of a substantial six-figure budget, was contributed by the Friends of Salisbury Cathedral.



panel will present itself. Compact, highly-distributed Eurotech loudspeakers and specially-sprayed Ohm enclosures have been designed into a multi-zone system, receiving their feeds from four-channel amplifiers.

The columns of the nave provide the principal loudspeaker positions,

inputs. Rather than using the technique of mixing mic signals together and delaying each speaker send, Del'Nero's design uses five discrete time delays for each cabinet, utilised dependent on where the signal originates.

The conventional approach would be to hit a MIDI programme recall and change all the delay times - but this would only allow for one of the mic positions to be delayed correctly at any one time. The Soundweb system provides five times the number of delays, allowing multiple sources to be accurately localised simultaneously. For the non-skilled operators, control has been simplified into a combination of LEDs and switches.

These controls are also available on the 'Jellyfish', situated in the choir stalls, and in addition the Remote provides preset recall functions. BSS also use a Fujitsu Stylistic PC touch-screen working on a radio-wave LAN, which can be operated from any part of the Cathedral.

The main page on the screen has a plan of the cathedral, and superimposed onto it are little LEDs to show the status of each microphone - using a similar graphical representation of the loudspeaker zones.

Salisbury Cathedral's Digital Highway

The brief handed out by Del'Nero to BSS Audio for the routing of sound around Salisbury Cathedral's digital highway aimed to make the system conform to the traditional style of presentation, in an operator-friendly fashion. This was achieved using nine BSS Soundweb 9088s, a 9000 hub and a 9010 'Jellyfish' remote. In conjunction with BSS, Del'Nero evolved a network whereby the vergers could select the type of service required, whereupon the system will reconfigure and the desired touch-screen control

while auxiliary speakers on the outer sides of the nave are pressed into service when the cathedral is full, with a separate EQ setting.

The greatest challenge for BSS was in setting the correct delays. Traditionally, if a speech was being delivered from the east end of the cathedral, the simple option would be to delay from east to west - and vice versa. But the problem comes when people start speaking in the middle of the nave. The company solved this by putting delays on the



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Laser Grafix

When I was first invited to meet with Mark Brown and the Laser Grafix team at their premises in Royston, little did I realise that over the following months their name would repeatedly land on my desk as one of the key contractors in a particular project we were covering. It felt like I was just discovering Laser Grafix for the first time and yet, of course, I'd been aware of the company for years.

In a way those various projects - the launch of Tate Modern, the Royal Military Tattoo 2000 - were a far better means by which to measure the calibre of the company than a visit to their offices (no disrespect to the premises at Royston). When your contact book has the likes of Caribiner, Imagination, Park Avenue Productions and HP:ICM in it, and they regularly return to you for your expertise, then you ain't doing too badly in the scheme of things.

But the trip to Royston was a good opportunity to catch up with Mark Brown and to learn the full history of Laser Grafix. The company was founded 15 years ago by John Campbell, Jerry Leach and Dave Matthews. At the time, Mark Brown was just leaving Laser Creations and had started Tangerine Productions, working with clients such as Allied Breweries and Marlboro. Thus he was able to diversify into the laser and video business and soon formed Laser Video.

Seeking new challenges, he then formed a partnership with Andy Holmes to create Laserpoint London. He subsequently left to work as an agent for Geoff Jones at Laser Systems, before rejoining Chris Matthews at Laser Creations where he stayed for two years. Brown had decided to leave the laser business when he got a call from John Campbell at Laser Grafix - within a short time he was the majority



Left, part of the Laser Grafix team with Mark Brown (back right). Below, the company's products in action

shareholder in the business. The company was reasonably successful, until it ran aground on a management fall-out and the receivers were the next people through the doors. Following a lengthy court case, Brown was eventually able to buy the company back, and set about rebuilding the business.

No easy task, but Brown did it, to the point where three years ago, he was able to complete the first stage of a planned expansion programme, with investment in Hardware Xenon projection equipment. This was followed by further substantial investment in World War II searchlights, 30m x 60m water screens, rainbars and the world's largest inflatable screens. More recently, the company has added 35sq.m LED screens from Gearhouse to its inventory, the first one of which went straight to Star City in Birmingham.

As with any company, what drives things forward is its people and Brown has a strong team around him. Paul Green, formerly hire co-ordinator, has now moved into the area of technical sales.



Sharing that role are Richard Hawkins, Jenny Watkiss and Paul Sadler, who has recently returned to the company after a six year absence. Overall Group sales manager is Richard Wright, the newest addition to the Laser Grafix team. The technical team, handling computerised, digital and software development, is headed by Ronnie Barker and supported by Duncan Taylor, whilst Vivienne Foster, a long-time associate of Mark's, works alongside financial controller Steve Hammond on business administration. Roadcrew include Arran Hopkins and Toby Macknight. In addition, Andy Holmes of Laserpoint has recently formed a new business venture with Mark Brown, Wonderwall Superscreens.


Whilst lasers remain the core business, the company's diversification into screen and projection technology, has created a stronger platform from which to sell themselves to the industry. Currently, the company have a project list as long as your arm, not to mention a tender list to match, notable for the large number of projects currently being pitched for in the Middle East - an area where they have often handled major contracts. This has been bolstered by the establishment of a permanent storage facility in Dubai.

At home, they continue to be involved in an eclectic range of events - the launch of the Millennium Wheel, the recent opening of Tate Modern, the premiere of Perfect Storm, and the Royal Military Tattoo 2000 in Horseguards Parade (some of these covered in L&SI). The company even supplied lasers to help architect Sir Norman Foster trace the design for his Millennium Bridge. The wobble, thankfully, is not of their doing. The team are currently working on what is being billed as 'the largest laser display in the world' - part of Blackpool's annual run of Illuminations. You can read more about this and Star City in October.

Ruth Rossington

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T2 - Total Safety



Members of the TFL team
who worked on the new T2 system

Like a certain grey and yellow vacuum cleaner, Total Fabrications' T2 is at once familiar, yet different. This is a system that addresses head-on, the very real and serious needs of personnel safety, when servicing or operating at height.

"The issue is about providing a secure, properly designed and integrated system that actually works," said Total Fabrications founder, Chris Cronin. "Recent discussion within the pages of ESTA's in-house magazine, *Protocol*, has revealed serious flaws in the current practice of providing personnel safety for those operating on trusses - namely, using catenary wires strung between truss ends as an attachment point. Should someone fall when attached to this type of system, they're still liable to injury and possible impact with the ground. There is also strong scientific evidence to suggest that the action of a sudden fall will bring the truss from which they fell, down upon them."

In simple terms, the action of a sudden load at any point - a 70kg person falling while attached to a truss catenary - will add two to three tonnes of compression to the chord load. On a fully-laden truss, that's almost double load. Furthermore, if the truss doesn't fail, the rapid deceleration of the mass attached to the catenary, the body, is liable to cause damage to internal organs and skeletal fractures. It is generally accepted that a period of six to 15 minutes in which to rescue an unconscious person from such a position is the maximum permissible before the tendency to asphyxiation makes the accident fatal. How you would achieve that when they are dangling in mid-air, somewhere between trim height and stage, is another matter all together.

Having decided to confront the problem, "we see this very much as the responsibility of manufacturers to come up with a viable solution for users," Cronin assembled a design team from within TFL. Leading from the front, he declared his intention: "Throw away the rule book and start from a blank sheet." Aided by engineers Peter Hind and Neil Darracott, and with substantial

contribution from TFL's rigging and training manager Chris Higgs, Cronin and his team have picked up the gauntlet and produced something totally new. In so doing, they have re-addressed the whole issue of suspending people, lights, audio and video equipment in mid-air.

The most obvious new feature is that the truss is constructed from specially-designed extrusion, not round-tube. The square profile has incidental benefits - it is more comfortable to walk along, and its ribbed surface makes the user more foot-sure, especially in wet outdoor conditions. A "T" channel is integrated into the extrusion on all four cords, the dedicated personnel safety attachment fixes directly to this channel, allowing the user unfettered security as they traverse a span. This channel also provides for all attachment needs, not just personnel security, thus lighting, video, etc all attach to the channel, dispensing with the need for hook clamps - one of the biggest known sources of truss damage.

The engineering department of Cardiff University were brought in to carry out physical and theoretical testing of this design and TFL reviewed all the technical data to ensure that it conforms to EU regulations.

The trussing web - diagonal bracing - is also quite different from anything we've seen before. The design team determined that the safest way to traverse truss was along the side, with the feet on the lower chord, the harness and user's hands all using the top chord. By passing the web in 3D, through the centre of the truss, rather than along the sides as is done traditionally, there is far less structural clutter for the user to catch their feet on. This 3D web has spin-off benefits; there is no longer a top or bottom to the truss, making assembly simpler, and the web greatly increases lateral strength, making the trauma of sudden load in unpredictable directions (a fall) less stressful on the truss.

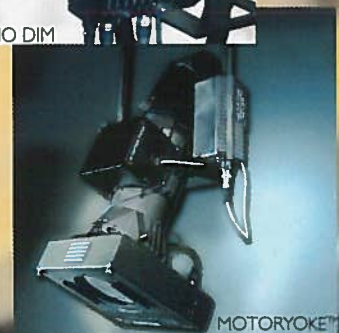
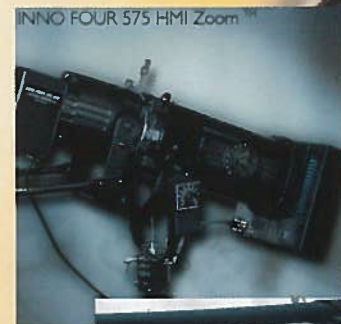
Much thought has gone into this system: not only do all the various attachment fittings conform to CE regulations, they are also carefully engineered to ensure ease of use whilst maintaining a foolproof form of security. Not surprisingly, it has been nominated for a Product Excellence Award at PLASA 2000. "What we wanted was a system where control is maintained by the manufacturing entity," explained Cronin. "We've reduced the opportunity for incorrect practises, there's simply no excuse for not being attached at all times."

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Chicken Stock

The Oscar-winning team of British animator Nick Park and production company Aardman Animations, famous for their hugely-successful Wallace & Gromit characters, now have yet another success under their belts with Chicken Run, a Great Escape-style animated feature film with a fowl slant.

Chicken Run is the first feature-length production from the company. Co-directed by Nick Park and Peter Lord, the film features the voices of Mel Gibson and Miranda Richardson among others. Aardman's senior director of photography, Dave Alex Riddett, supervised the lighting and oversaw two directors of photography, Tristan Oliver and Frank Passingham, with John Bradley as head gaffer.

It's nearly three years since Strand Lighting won the £350,000 contract to supply lighting and dimming systems for the film's production, secured through Strand distributor, Stage Electrics of Bristol. Strand were asked to design a system that would enable the picture to be shot one frame at a time, while ensuring that Bradley could maintain consistent levels of lighting.

Based on Strand Lighting's willingness to adapt its EC90 dimmer technology, enabling it to stabilise voltage fluctuations and identify and alert the cameraman to any lamp faults within the lighting rig through their Reporting software, the system was commissioned by Aardman's John Bradley at the end of March 1998.

The system incorporated a camera interface which was designed by Aardman, and a lighting interface, produced by Stage Electrics. Strand was then able to customise the EC90 software to accommodate these extra failsafe facilities. By the end of filming, Bradley was of the opinion that the EC90 dimmers and the alert system had saved



Pictured at Strand Lighting's Kirkcaldy factory on the signing of the contract are John Bradley and Ivan Myles of Strand

thousands of pounds by limiting the number of shots lost due to technical faults.

Spearheaded by 24 EC90sv (Supervisor) dimmer racks, each loaded with 18 2.5kW dimmers and three 5kW dimmers, the order also included Strand control equipment in the shape of a GSX console with 25 channels of Genius operating software, and Communiq application software to provide connectivity to external interfaces via MIDI, RS232, DMX In - or remote analogue inputs to trigger macros.

Strand luminaires used in the production included multiples of Quartet F 650W fresnels, Cantata F 1.2kW fresnels, Alto F Mk2 2.5kW fresnels, 2.5kW Castor F, 5kW Pollux F and 10kW Vega F studio fresnels, Prelude 16°/30° and 28°/40° 650W, Cantata 18°/32° and 26°/44° 1.2kW and Alto 14°/32° and 20°/38° 2.5kW profile spots, Iris and Orion 1.25kW cyc lights and Arturo 1.25-2.5kW and 2.5kW-5kW studio softlights.

Grip equipment, filters and other consumables to the value of £100,000 were supplied by Lighting Technology of London.

Audio Upgrade for Earls Court

As part of ongoing reinvestment into its facilities, Earls Court has awarded M+D Design of Worcester the contract to improve the existing audio system to ensure that it meets current regulations for life safety systems.

The project, under the guidance of Earls Court's acoustic consultants Symonds, is to be implemented in stages up until the end of the year. It will see all amplification distributed around the building in remote racks linked via a fibre optic network. Audio processing will be via a distributed Peavey CobraNET system linked to two independent Mediamatrix processors whilst control over the system will be retained on the existing M+D touch screens which will be enhanced to incorporate increased zones in both EC1 and EC2. This application of CobraNET will be the second largest in the UK, second only to the refurbishment at Wembley Stadium late last year, also by M+D Design.

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L&S Eye

"The Fridge Festival."

Oops - Breakfast programme GMTV's attempt to persuade kitchen appliances to visit the Edinburgh Fringe... clearly too early in the morning for the caption generator.

"I always think that the main house is all about pictures - the big sets and the soldiers and the armour... when you come here, it's about words."

Lighting designer Simon Kemp explains the different approaches of the Stratford's Royal Shakespeare Theatre and the RSC's experimental studio theatre, The Other Place.

"At least three feet."

The directive delivered by magistrates to man of hair Peter Stringfellow regarding the minimum distance table dancers at his clubs must be from the customers.

"Does it really matter? I merely ask."

The second of only two messages posted on the BBC Entertainment website's Message Board topic 'Do Oasis Need Noel?' Posted by an unimpressed web surfer called Mike Robinson.

Dhow Boat Whopper



As one of the more bizarre applications for a conference system, it could be argued that the Kuwait SAS hotel has got to feature centre stage!

The SAS hotel wanted to provide conference facilities with a difference and decided that a traditional Dhow boat would both be in keeping with the Kuwait shoreline and the sailing traditions of the local Marafie family to whom the boat is dedicated. It is the largest Dhow boat that has ever

been built and has been entered into the Guinness book of records to mark the achievement. The Al Hashemi II, will remain in dry-dock just outside the main SAS five-star hotel.

Conceived as a multi-function space as well as for the lucrative conference business, all of the AV and conference facilities had to be quickly demountable so that the massive room could be reconfigured for general purpose functions, being able to hold over 1,000 people for all types of reception and entertainment functions the Al Hashemi II is already in great demand.

Distributor AVC won the competitive tender which was valued in excess of £100,000 to supply the AV and conference facilities with the major part of the contract being the new MCW Wireless Conference System from beyerdynamic. "The system now has 100 MCW stations which will shortly be expanded to 250," stated Karsten Grunnet, AVC's sales manager. Launched at the beginning of this year, the beyerdynamic MCW system has already sold in excess of 1,000 channels worldwide.

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The Future of Music

The New Technology Group of the Music Industry Forum has released a new report (backed by the Department for Culture, Media and Sport), which examines the impact of new technologies on the music industry.

Entitled 'Consumers Call the Tune', the report (which is backed by the Department for Culture, Media and Sport) looks at the way in which new technologies are having a profound effect on the

music industry, and in particular, developments on-line.

What the report makes patently clear is that consumers will drive the e-revolution in music. The explosion of MP3 files on the internet has been consumer driven - and the scale of demand has surprised everyone. The battle on-line now is for the eyes and the ears of the consumer.



Having examined the UK market position, the new technologies in play and the value of music and copyright, the report makes a number of key recommendations, particularly that the Government creates an open competitive environment for on-line delivery by creating a common regulatory framework as well as a secure legislative framework for trading copyright on-line in the UK, Europe and beyond. It also highlights the need for ongoing research into consumer behaviour on-line and market statistics about e-commerce.

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PALA Philippines

Whichever way you look at it, it was a bold move on the part of organisers IIR to transfer their annual Pro Audio & Light Asia (PALA) from Singapore to the Philippines.

They did pay the price slightly in a reduced visitor attendance from the previous year (just under 5,000 visitors from 24 countries) but that may have had something to do with the tornado that stirred the country up just prior to the show's opening. But there was nothing wrong with the reasoning behind taking PALA to the Philippines. The country's economy is stable and its entertainment scene is one of the most colourful and fastest-growing in Asia. Homegrown music, television, radio and theatre productions have always maintained a large local following and the rapid growth of the broadcast industry (137 television stations, 450 cable stations and 539 radio stations) has had a knock-on effect on the production and post industries. Touring and theatre markets are growing, as is the demand, from a young population, for clubs, bars and karaoke venues.

So it goes without saying that there is huge potential here for those who earn their living from the lighting, sound and AV industries and as expected plenty were there to find out for themselves what Manila had to offer. A wide cross-section of companies exhibited, showcasing the latest innovations and technologies. As ever, there was lots of new product to be seen and since much of this will be on show again at PLASA we'll save our technical appraisals until then.

On the whole, exhibitors came away positive about the potential for medium and long-term business in the region. Many came away with more names added to their contact books, having gleaned useful information about future projects coming on-line, and, in some cases, signed major orders on the show floor. The consensus seems to be that those companies who stay active in the region will reap the benefits.

However, it may take a while for these to filter through the system since the event returns to Singapore next year (July 12-14).



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Le Mark Tie Up with GAM

Le Mark Group of St Ives, Cambridgeshire, has announced a closer business association with GAM Products Inc of Hollywood, California.



GAM has been Le Mark's exclusive West Coast Dealer for StudioTak studio and stage flooring, and has now, in turn, appointed Le Mark as its lead distributor within the UK, tasked to re-introduce selected items from GAM's lighting and effects range. Jeremy Bramley will head up the GAM distribution in the UK. Le Mark will introduce the products at the PLASA Show in September, and a free seminar will be held on Sunday 10 September in the Kensington Room above the Earls Court showfloor.

Bramley is pictured centre with Bonita Lessmann and Joe Tawil outside GAM's Hollywood home.

Mackie Buys Digital Systems Specialist

Mackie Designs Inc has completed the purchase of Canadian company Acuma Labs Ltd - a developer of real-time embedded systems for professional audio applications.

Acuma specialises in digital signal processors, microprocessors, digital audio effects, analogue and digital software, real-time operating systems, interfaces, and hardware design. According to Peter Watts, Mackie's executive vice-president of engineering, the acquisition will provide a boost to Mackie's development of increasingly-sophisticated professional audio products. Jamie Engen, Mackie's COO, added: "While not material from a financial standpoint, Acuma's world-class digital software and hardware engineering team does materially strengthen our engineering group."

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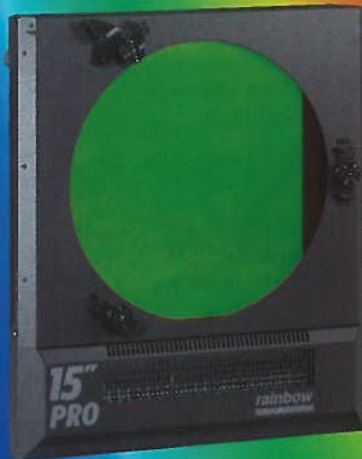
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Help Us Map the Future of our Industry

As you will have read in the last issue of *Lighting & Sound International*, PLASA is about to set in motion one of the most significant projects it has ever undertaken.

We are fortunate enough to be part of an industry that is growing and which looks set to continue to do so over the coming years, but there is no doubt that the way we do business in the future and where we do it, will fundamentally change.

For us to understand where the future will take us, we need to start by finding out more about the industry as it exists today. We have therefore commissioned Business Diagnostics, an independent research agency, to conduct this research on our behalf,

As part of their brief they will collate relevant statistics about the size of the entertainment technology market, the size of each market sector and its potential for future growth.

We hope that the Research will highlight future trends within different areas of the market and provide valuable information on those emerging sectors, which will generate new business for our industry. Aside from this, the Research will also look at those people at the



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LAUNCHPAD FOR INDUSTRY RESEARCH

end of the chain - the clients - with a view to creating a useful profile of these companies. We will know more

about their turnover, number of employees and, most critically, spending power. Information will also be compiled on the training and employment opportunities within the industry.

We hope that these findings will enable PLASA members to plan the future of their businesses more effectively and will also allow the Association to present convincing arguments about the strength and importance of the industry to other organisations, but in particular government-led or related bodies.

During and after the PLASA Show, Business Diagnostics will be asking exhibitors and visitors for their views on the Entertainment Technology market. Researchers will be based at the main PLASA stand (F1), and will be keen to get your views. I would be very grateful if you could spare a few minutes to talk to them.

Matthew Griffiths - Managing Director

Code of Ethics

In tandem with PLASA's commitment to conduct Industry Research, the Association is also promoting a new Code of Ethics, which for the first time, outlines standards of conduct in business for PLASA members.

This key document has been drawn up to address the complaint that PLASA was previously unable to demand high standards of practice from its members, or to take action where evidence of bad business practice arose.

The Code defines the standards of business practice to which all PLASA members are expected to adhere, and also details the procedures to be followed where a customer or another member makes a complaint about a PLASA member. Also detailed is the procedure for Appeal by a member, to be followed if necessary. In cases where the Association finds that the provisions of the Code, or of the PLASA Constitution, have been breached, the Association can take action against the member, which could include the suspension or termination of its membership.

PLASA Chairman Mick Hannaford said: "This is a very important step for PLASA, which demonstrates that we are committed to making 'PLASA' a quality marque. Everyone in the industry should be able to expect that, by dealing with a member of PLASA, they are guaranteed an honest, quality service. By introducing this Code, PLASA is working towards the education and betterment of the industry."

PLASA

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At PLASA this year, you will be able to find out more about the work of the Association and the benefits of membership. Visitors to our stand can see four short presentations on Membership Services, the PLASA website, *Lighting&Sound International* and PLASA's New Initiatives for 2000. We are also using the show to launch our new Associate Membership category, introduced to allow individuals, colleges, charities and other related organisations to join PLASA. Visit Stand F1

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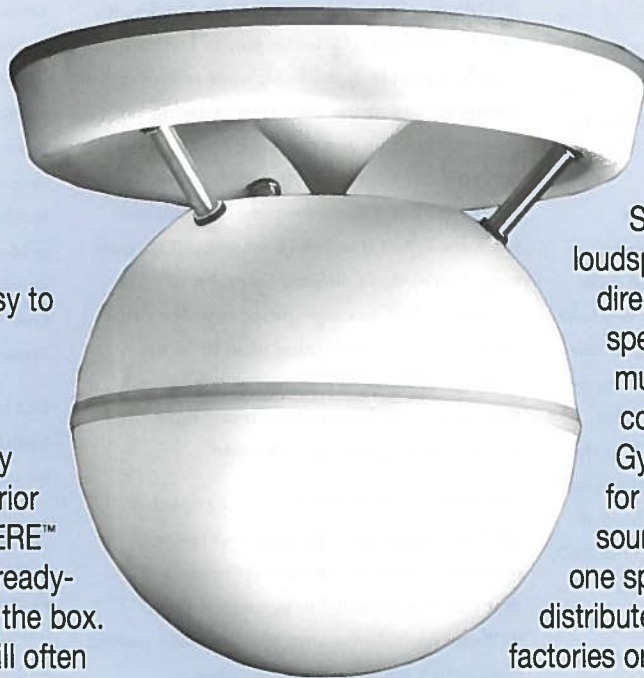
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Well, the bandwagon has certainly started rolling for the new fledgling support fund intended to help lighting designers who find themselves in personal difficulties. In the month since L&SI last appeared, the fund

has got itself an appropriate and resonant name, Light Relief, and the PLASA Executive Committee has agreed to support the cause by designating the fund as a recipient of one of the the PLASA Show's annual Product Awards Charity donations.

LIGHT RELIEF will be formally launched over dinner at the PLASA New Century Party that will take place at the Natural History Museum on the evening of Sunday September 10th (tickets £85 + VAT). In the meantime, it was also agreed that PLASA would lend all practical support to the ALD

in setting up the fund and any appropriate facilities. PLASA will also use its powerful communication skills to promote the cause.

THE IDEA FOR THE FUND originated in this column as the result of the position in which lighting designer, Tom Donnellan, found himself when his wife was diagnosed with CJD. Elena, subsequently, died last month.

I AM DELIGHTED to report that Vari-Lite Inc seem to have found a winning formula at last to dig themselves out of their recent stock market misery and, hopefully, to get the corporation back on a solid foundation. The trick is to sell off the non-US subsidiaries, mostly acquired since going public via the Nasdaq, to venture capital backed MBOs, and at the same time reappoint them as distributors of Vari-Lite products, which was what they were before V-L took them over in the first place. (See news stories in August and September L&SI).

IF THIS ALL SOUNDS TONGUE IN CHEEK, it's not. I can't think of a better way to maintain your best people in the field, while reducing your downside, and at the same time restoring shareholder value and confidence. The mistake was probably in going on the buying spree in the first place, but if Rusty Brutsché can turn the clock back, and thus return some stability to his operation in these difficult times, I would be among the first to congratulate him. The other positive aspect is that there seem to be no shortage of financial investors willing to back these ventures, despite these trying times. And that has to be good news all round.

I NOTICED ON READING one of the other illustrious magazines that serve our industry recently - purely in the interests of research - that UZ's favourite lighting designer, Willie Williams, has taken against the GrandMA control console in a big way. This is all rather embarrassing when the product was much lauded last year and even picked up a couple of awards. People were even talking about it in the same breath as Wholehog, though in some quarters that would be considered high treason in itself.

MOST DESIGNERS have a favourite board, with which they are familiar, but of course Willie is far too accomplished to run his own board, but he clearly felt that this particular desk, running Beta software at the time, was getting in the way of completing an important project on schedule. His exasperation is evident when he finally reports, with apparent glee, that the deity intervened and a piece of errant architecture fell directly onto GrandMA console, retiring granny permanently from the scene.

I HOPE that we are not going to be subjected to similar strictures over the use of smoke machines in places of public entertainment as has applied in the USA, following the unfortunate and well-publicised death of a club-going asthma sufferer during August. In the following, understandably emotionally-charged TV interviews, the girl's mother rounded on special effect smoke as the probable cause of her young daughter's untimely demise, in her grief totally ignoring the fact that clubs and pubs are full of cigarette smoke too. I know which I would rather be subjected to.

DO NIGHTCLUBS REALLY NEED to carry a health warning to caution people that they may be subjected to unhealthy inhalations within?

'WILL THE LAST ONE OUT, turn out the lights' came to mind following a chat with Patrick Woodroffe earlier this month. During an entirely unrelated conversation he revealed, with some despair, that as part of a cost-cutting exercise at The Dome, for which Patrick was the lead lighting designer, all the exterior special effect lights on the tensile roof of the structure have been turned off. "Nobody bothered to tell me," Woodroffe said huffily.

I DON'T BLAME HIM FOR BEING UPSET. Not only was it a big, bold and supposedly permanent statement, but a huge amount of work went into making the Coemar CF 1200s weatherproof for the purpose, and in overcoming all sorts of other obstacles in order to get them hung on the structure, despite severe weight limitations.

PERHAPS THE NEW OWNERS will have the foresight to turn them back on again next year.

Light Relief: If you would like to make a donation to the fund, please call Lighting&Sound International on telephone +44 1323 418400. Details are also available on the PLASA website at www.plasa.org

"I hope that we are not going to be subjected to similar strictures over the use of smoke machines as has applied in the USA, following the well-publicised death of a club-going asthma sufferer during August."

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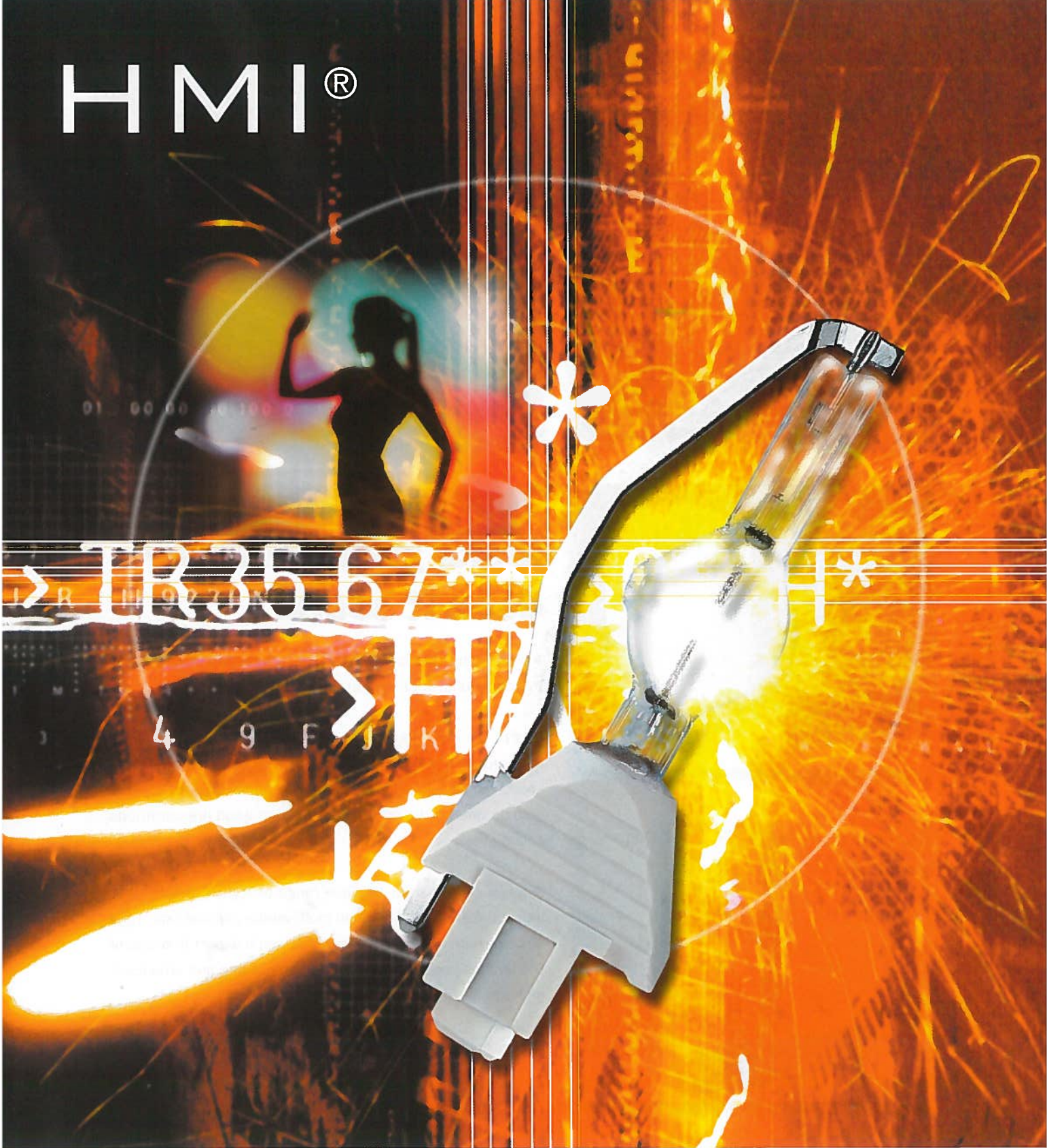
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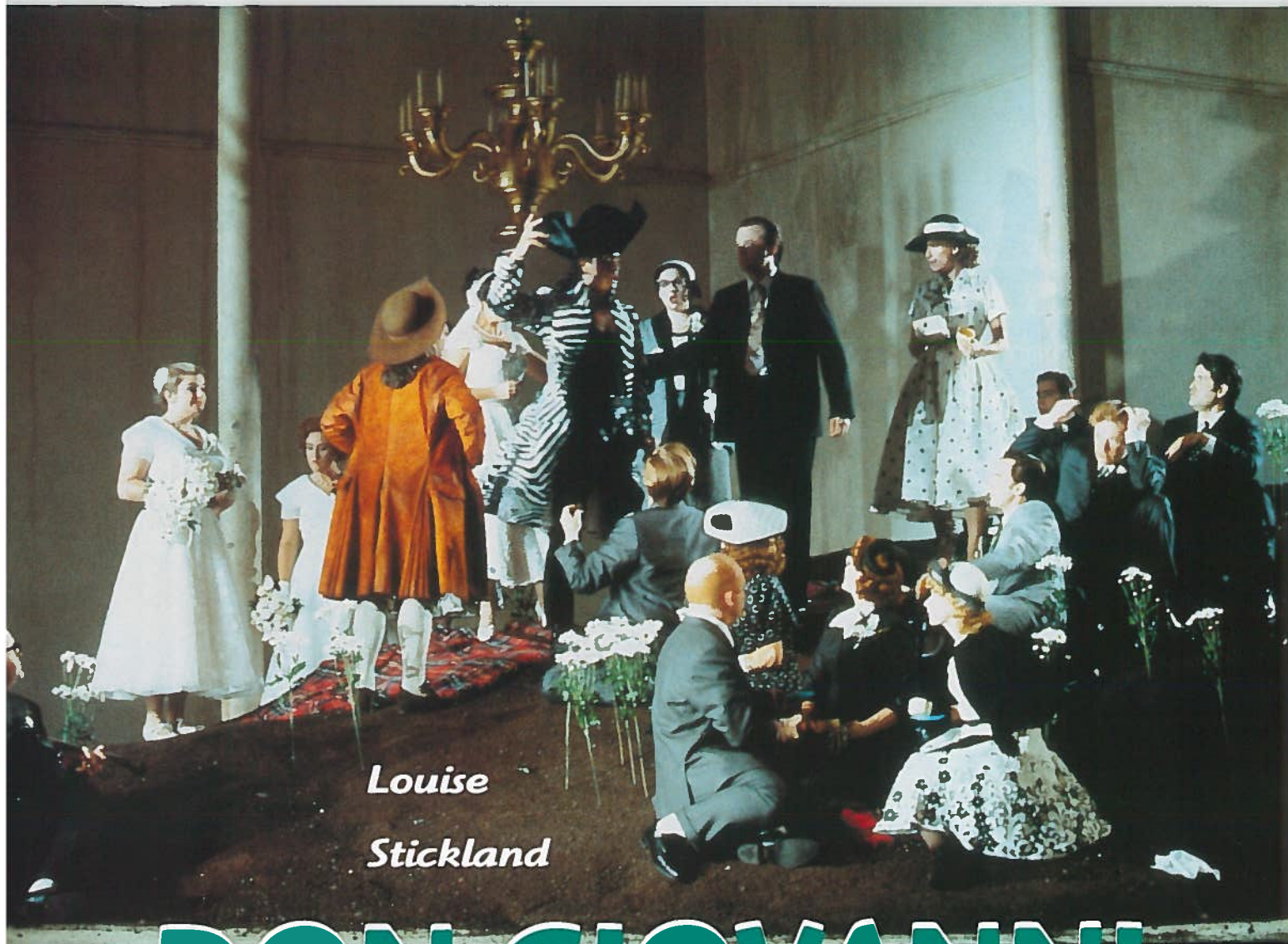
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DON GIOVANNI

Glyndebourne's reputation for producing innovative, unconventional and provocative international opera excels itself again with Graham Vick's 2000 Festival Season production of *Don Giovanni*.



OPERA

packs her picnic for Glyndebourne

Glyndebourne is always a special experience, with its idyllic lakeside setting, folding into the beguiling Sussex countryside and the daring architectural juxtaposition of the elegant neo Elizabethan mansion with the stunning curvature of the modern opera house designed by Michael Hopkins & Partners and opened in 1994.

Dedication to the highest production values are always a priority on the Glyndebourne agenda. With six productions per festival, a full touring season in the autumn and numerous other educational and outreach projects all running, Glyndebourne schedules are always frenetic.

This 2000 season features two new productions and four revivals. Outgoing director of productions Graham Vick had always planned to produce Mozart's *da Ponte* trilogy as part of his creative finale. *Così fan tutte* was first produced in the 1998 festival season, revived for 2000 and joined by both *Le Nozze de Figaro* and *Don Giovanni*, brought on stream in 2000.

Vick compiled a dynamic creative team consisting of himself as director, Richard Hudson as set and costume designer, Jennifer Tipton as lighting

designer and Ron Howell as movement director, to work on all three pieces. Although not produced in the order in which they were written, they are all set in the same room, which provides a locative through-line.

The room starts off as a pristine open space, a rehearsal room in which the young lovers cavort freely in *Così fan tutte*. For *Figaro*, it becomes richer and less clearly-defined, with the introduction of screens and more subtle and diffuse lighting as the complications of life begin to set in, marriages and relationships teeter and an undercurrent of subterfuge begins to germinate.

By the time we reach *Don Giovanni*, the room is completely trashed! The environment mirrors the ignominious decline of the Don, gratuitously throttled by his own ego and malevolent spirit. A massive mudslide has invaded the room, the huge doors hang precariously on their few remaining hinges, water stains permeate the walls and the whole atmosphere shifts to one of degeneration, evil and debauchery of the worst type.

Eighty per cent of the Don G action takes place on the mudslide, which also provides several stage entrances from its depths, negotiated by the cast on their hands and knees! Being a hybrid - part set, part prop - the mudslide was one of the most challenging elements for production manager Dave Locker.



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This and the dead horse were made by Simon Kenny at Souvenir in Bermondsey, South London. The rest of the set was constructed by Cardiff Theatrical Services, a regular Glyndebourne set contractor.

The mudslide has a metal framework covered in sealed polystyrene, in turn covered in felt. This is topped by a textured brown rubber surface, which has a realistic soft glisteny feel and appearance.

At the end of the first act, part of the ceiling caves in, sending a hinged area of the set roof - which traverses the whole stage width - crashing down to stage right. In the second act, this forms a stairway and entrance/exit point. The trussing structure is attached to a large winch in the grid, installed by Unusual Rigging. The variable speed winch is tightly controlled. Unusual fixed an additional powered roller into the winch so it keeps the wire under tension. It can run instantly, mimicking a free-falling object (run at 3.5 metres per second in this show) and then be brought to rest just inches from the floor.

It was a huge advantage for all to have Richard Hudson's meticulous and well-documented designs submitted in advance - in late summer 1999. Hudson admits that being organised is essential to his imaginative modus operandi. It also makes life infinitely easier for other departments.

Hudson has designed several Glyndebourne shows in both old and new houses, but this is his first *Don Giovanni*. Where possible, he likes to take on dual design of both set and costumes, retaining full control and perspective of the look. He enjoys both of these different but symbiotic disciplines - and explains that the set always comes first.

For *Don Giovanni*, Hudson's mission to produce an ambience of decline and disintegration is very effective. The mud slurry symbolically represents the invasion of the formally-elegant space by something particularly pervasive and unpleasant.

The costumes are a post-modern mix of 18th century and 1950s - all onstage concurrently. The only half-decent character - Masetto - sports a fifties suit and his partner Zerlina is garbed: "A bit like Debbie Reynolds," according to Hudson, in a fluffy three-quarter-length white lace wedding dress. These two represent the ordinary and the earthy in a world of debauched social 'superiors' - although Zerlina is naïve and rather vacuous! The chorus of wedding guests are all in black and white fifties gear.

Hudson has exaggerated and greatly vulgarised the period costumes "a sort of 18th century Versace," he claims impishly. With great caged skirts and coats, difficult to walk in and ungainly to look at, Hudson again seeks to accentuate the brash and unsympathetic tone of the characters. It actually gives them enormous presence and a sense of comic theatricality.

Many of the costumes are monochrome, which greatly accentuates the flashes of red (specifically Donna Elvira) and other colours as they blend and contrast with the set. Don G himself gets to wear some groovy stuff - a flourishing tiger skin coat here and a high camp flowery number in rich red there - with matching socks! While researching, Hudson drew on Mexican 18th century costumes - they tended to be that much more outlandish than European. He also drew inspiration from contemporary Japanese experimentalist designers like Yohji Yamamoto, Issey Mayake and Rei



Kawakubo. Like Hudson's, their work has a strong flavour of independence and sexiness.

With six productions running throughout the 13-week festival and simultaneously pre-planning for the touring season, Dave Locker and his technical team are used to tight and frenetic production schedules. Upcoming shows are rehearsed in the morning and then struck at lunchtime to make way for the set of that evening's show - and the fact that three productions were staged in the same set didn't aid the season's logistics.

Unlike many opera productions, rehearsals at Glyndebourne are lit - basically to snatch as much valuable time as possible for the lighting department. Productions starting up later in the season are always more squeezed for technical time than those at the beginning, so *Don Giovanni*, as a new production in the number five slot, was under pressure from the start.

Lighting designer Jennifer Tipton's beautiful, subtle lighting in *Così fan tutte* went almost unnoticed in the reviews, as did the restrained chic of the set. Whether through a surfeit of pre-show time at the bar or the inability to relate to anything less than sensory overload is a mystery. However, there was no chance of that in *Don Giovanni*. "It's grunge," says Tipton uncompromisingly when describing the lighting.

The set - with its three walls and a ceiling - has very much informed the lighting for all three pieces. The overriding parameter has been the severe limitation of over-stage and side-stage lighting positions. With just two slots overhead for *Don Giovanni*, they also lost the downstage one of these, usurped by the trussing beam that crashes in when the ceiling collapses. This further increased the challenge of getting light where it was needed onstage!

Two large, frosted Perspex windows on stage right, however, do provide a useful source of ambient light onstage. They each have six 5k fresnels and two Par 64s (fitted with CP95 lamps) behind them, coloured in 201 and 202. The large door on stage left has also allowed them to squeeze in a lighting boom which yields two 5K fresnels, a 2.5k HMI fresnel and a Cantata 18/32 shooting onto stage.

Another HMI is rigged in the fly gallery, pointing downwards, filtering light in through the gap after the ceiling collapse - this space had previously been a lighting position in the other two productions. Some 2k profiles are also used to pick people out as they walk up and down the beam after the ceiling has collapsed.

Left, set designer Richard Hudson. His designs for *Don Giovanni* (above and title page) have captured perfectly the Opera's sense of decline and disintegration

Don Giovanni production photos: Mike Hoban

"Productions starting up later in the season are always more squeezed for technical time than those at the beginning, so *Don Giovanni*, as a new production in the number five slot, was under pressure from the start."

Right, the lighting team of Clare O'Donoghue, Keith Benson and LD Jennifer Tipton

Inset, production manager Dave Locker

Front-of-house lighting is a basic ADB Cadenza wash in 201 or 202 and some side lighting from the perches in the same colours - with barely 20 lanterns used front-of-house, 'minimal' is the order of the day. They are also using an assortment of other front-of-house lanterns - mainly Strand Cantatas and Altos and ETC Source Fours from the circle sides, fronts and some low pros' positions.

Lighting tones are largely variations on white, again emphasising a monochrome - almost filmic - texturing. Tungsten largely rules, with the HMLs the only lightsource to change colour, adding the occasional hint of blue and daylight. The only non-white hue is some Rosco 388 green, which flows in from the side-positioned 5ks during the party scene in act two - when the action starts to get thoroughly out of hand!

Much use is made of footlights. These are dimmable fluorescents in open white and Lee 117, which produce a sinister uplit glow to the flesh. More fluorescents are utilised as downstage side fillers either side of the pros', and two upstage pillars also have fluorescents rigged to them, coaxing some light into this quite inaccessible area. The fluorescents are all warm white 5ft dimmable tubes, made and supplied by Howard Eaton Lighting Ltd, based nearby in Cooksbridge. They interface with all standard dimmers.

HELL also supplied Viva Flam mechanised moving candle tips from Girard Sudron in Paris for two splendid gold chandeliers. These produce a very realistic effect via the bulbs themselves moving, rocking on small glass wires, and different from conventional flame effects which are produced by chasing LEDs. Although the Viva Flams look excellent, they are not built for the physical rigours of rep!

Glyndebourne's lighting department is headed by Keith Benson, assisted by Claire O'Donoghue who also operates the desk and has worked as Tipton's assistant for the trilogy of shows. The house lighting board is a Strand Nova and although *Don Giovanni* is straightforward in terms of running, it does contain a substantial amount of cues.

Tipton explains that she really sought to create two worlds for *Don Giovanni* - a beautiful, refined exterior world contrasted with the dark, debased world of the mudslide and *Don Giovanni* which exists within the



once beautiful room. She wanted to achieve this impression in both theatrical and illusory contexts.

Don Giovanni has been a complex production for the costumes and prop departments, with a large number of people onstage. In addition to the principals and chorus, several musicians come on in two scenes, and there are also stage crew who move props and scenery during the show. All have to be costumed.

Glyndebourne's props department is run by Viggie Harding. *Don Giovanni* is exciting, challenging and at times "a complete nightmare" from her perspective, featuring a large miscellany of props. These include swordsticks, guns, brides bouquets, entrails, hearts, chairs, giant chandeliers, a coffin, complete with effigy and moving head, a dead pheasant, a half-man half-skeleton, horse entrails of course, and many more.

Props is often an overlooked production department, yet its creations have to satisfy a myriad of requirements and pass the most exacting scrutinies. The Glyndebourne prop rooms are a chaotic and magical environment, stacked high with every imaginable bit of 'stuff' - machines, paint pots, rubber mouldings, models, materials, limbs, plastics, books, photos - you name it, it'll be in there somewhere, and if it's not, they'll fabricate it!

I examined some perfectly-modelled wax pheasant's eggs, impressed at the minute attention to detail. Is such detail really vital? "Absolutely," stated Harding affirmatively, explaining that while they receive many compliments, there is always someone with a pair of opera glasses who'll notice if a newspaper is in the wrong language! She also pays tribute to Richard Hudson's well-drawn and fully-detailed design and costume plans, received well in advance.

Props took on several extra hands to deal with the volume of gilding needed for *Don Giovanni* - 28 gilded chairs are upholstered in a sumptuous UV blue velvet and the chandeliers are also gilded. At this stage the on-site props team swelled to 10.

One of the most demanding props for *Don Giovanni* is a beautiful swan ice sculpture that they were trying to get vacuum moulded at short notice, and another was one of the smallest - a flick-knife. Recreating the mechanism for this was a long job, and props are under the same time/quality pressures as all other departments. The effigy's head - required to jerk up and then fall back down slowly - also proved galvanising!

Don Giovanni is a totally acoustic production, but the amazing acoustics of Glyndebourne Opera House are worth a mention in their own right. The acoustic design was by Arup Acoustics, who sought to achieve the rich and renowned acoustics of Bayreuth Opera House, Germany, or Teatro Colon in Buenos Aires. The reverb of the room is 1.4 seconds - which effectively determined the huge volume of the auditorium that allows 6.5 cubic metres of air for each of the 1200 seats. This was initially a plucky design decision, but one that has thoroughly paid off. The acoustics are equally as good wherever you sit in the classy, modern horseshoe-shaped auditorium and especially good in the cheap seats and standing at the top!

Anyone wanting to catch this stunning and different *Don Giovanni* can do so this autumn as part of the Glyndebourne Touring Opera's season. The touring production will be scaled down to fit into the huge variety of venues, but all the essence, spirit and effect will remain.

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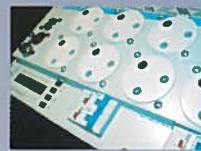
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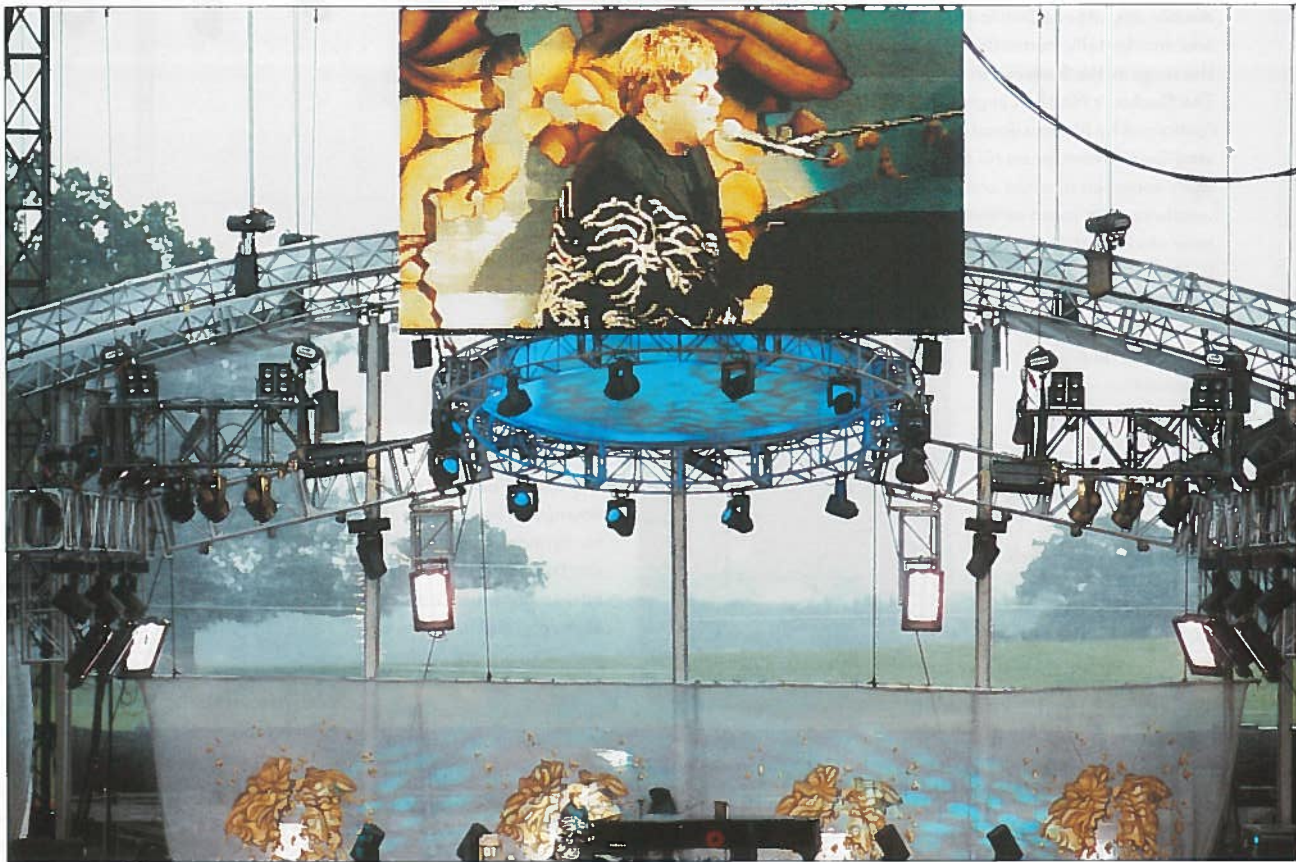


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Piano Man



CONCERT
TOURING

Elton John is the original showman - and nothing, not even the British summer, can dampen his spirits. Steve Moles joins him at Raby Castle

The thirteenth century walls of Raby Castle were once home to the Earl of Westmorland, Ralph Neville. A man of mixed loyalties, having been made an Earl by Richard II, he then sided with the Lancastrians and put his brother-in-law on the throne, Henry IV. With such duplicity, it's no wonder the family eventually fell into decline at the end of the fourteenth century, the lands and estates forfeit to the Crown. The present incumbents, the Vanes, took over in 1626 and have remained ever since. Neither family ever achieved renown for their musicianly inclinations, both dynasties gaining greater fame for their soldierly abilities.

Which is as good a reason for staging an Elton John concert here, as it is for putting one on in a basketball hall. Indeed, throughout the three months Elton has been touring his one-man show, Britain's greatest contemporary piano man has been visiting many such baronial halls (all, no doubt, with similar tales to tell) and in spite of a positively monsoonal summer (there have only been four shows when it hasn't rained) he has persisted in performing a three-hour set each night.

Alone, accompanied by nothing more than his piano and four wedge monitors, three hours is a long time to sustain the attention of an (admittedly adoring) audience, and he has never once lost his

equanimity. Speak to anyone on the production crew and you learn that the man has got wet for his art on many occasions, the opening concert at Woburn Abbey being a classic downpour disaster. Consider this for a nightmare scenario: new lighting design, limited programming time thanks to the curfew imposed by the Duke of Bedford (a lighting curfew? why?) and the little programming achieved lost when the desk received an impromptu bath the night before the show. Andy Franks, Elton's sound-man of 27 years, likewise spent most of concert day with a hair-dryer re-coiffuring the rumpled tresses of his beloved Yamaha PM4000.

But what a happy bunch they all were when L&SI visited. Tinged with end-of-tour light-headedness (a five-week break now looms), there is little doubt that these men were all lifted along by the spirit of their star performer. Even Jenny Marshall, of promoter Marshall Arts, was content: "The tour has gone very well," she said which is promoter-speak for 'problem free'.

LIGHTING, VIDEO AND SET

With such a singular presentation, this was never going to be an easy show to light. Add in the eternal sunset twilight of a European Summer and you're doubly challenged. However, the first hurdle, just managing an artist who spends all but a few fleeting minutes of the night sat firmly at his piano stool, was largely overcome on the US leg of the tour where the show played indoor arenas.

Steve Cohen, who designed the show, was thus able to focus his powers in this one area - how to entertain the eye and provide the necessary lift to what is still essentially a rock performance. Kevin Bye, his designated operator for the tour, was thus presented with the second major challenge, of re-designing (with Cohen's approval) for a smaller, outdoor Euro' tour. Bye is a taciturn man, not given to overstatement; he looks for all the world like the actor

Steve Cohen's set design - scaled down for the European leg of the tour

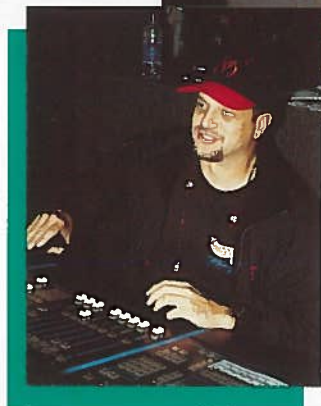
Inset, lighting operator Kevin Bye

Gary Sinise (best known for his role as the double-amputee Lt Dan in *Forest Gump* and, incidentally, currently to be found on the stage at the Barbican in *One Flew Over The Cuckoo's Nest*) an impression reinforced by his occasional lapses into semi-lunatic reveries on his trade. However, Bye's approach is robust enough to have weathered the storm of Woburn, and his crew obviously love him, a view reflected by Bye (sorry): "They have just done a fantastic job," he enthused, and not a hint of the mutual appreciation society powder anywhere in sight. The crew comprised David Favorita from Vari-Lite in the US, and crew boss Andy Brown, assisted by Matt Flood, both of LSD (the tour contractors) in the UK.

Cohen's design for the US centred around a large 'chandelier' centre stage (courtesy of the omni-present Mark Fisher) - a prop that not only provided the superstructure he needed for a flamboyant lighting rig, but also diminished the impact of a heavy grid over the solitary artist. "That was just not going to be possible for Europe," explained Bye. "The shows were nearly all outdoors, the roof would be too low to take the chandelier, and the production dictated a scaling down."

The roof, it should be mentioned, is similar, but not the same as that seen last year at the smattering of gigs Elton performed early in the summer. Transparent, curved, and lightweight, last year's model didn't fill the brief for a number of reasons, so tour manager Keith Bradley called upon Edwin Shirley Staging to take over this role from the previous supplier and come up with something more suitable. "Basically, this is a bespoke design," said Jeff Burke from ESS. "The brief was for it to be as light and open as possible. Based on our Lite Tower system we've used the minimum amount of equipment to achieve that goal."

Even so, things didn't start well. By design, the back of stage was to be open, and the wings unclad - the intention being that the stage should appear as discrete as humanly possible, that being the whole rationale for the transparent cover. What they aimed for was an invisible stage. Woburn highlighted the flaws in that concept on day one, and by the second show ESS had, in short order, added a transparent back wall and full weather-proof enclosures for dimmer and monitor world each side of stage. To be honest, the four-wide, eight-high stacks of Clair Brothers Audio (CBA) S4s make a nonsense of the invisible stage concept anyway, but see below for more on that.



The impact of the Woburn downpour was more profound for lighting. Thereafter the roof was trimmed lower to give Elton more protection from the elements, and his piano was moved to a more upstage position for the same reason. Luckily, Bye's re-working of Cohen's design was able to

accommodate this. "The hardest thing to deal with is the height of the audience relative to the stage. In arenas, most of the crowd look down on the stage, so you can cover that surface with light in different ways and provide a lot of interest and animation. To replace the chandelier we put in a circular screen. Sure, it's been done before, but it does give a centrepiece, and an alternative surface for those gobo patterns that would have been on the stage."

Bye is also able to put gobos on the back wall as the evening darkens, and ironically the rain has proved a help: "When it's heavy enough it enables me to put gobos up onto the underside of the roof with real effect."

The circular screen is inevitably ringed by moving lights - VL5 Arcs without the liquid lens, and the rest of the grid (all silver trusses tucked as neatly into the contours of the roof as possible) is filled by nothing more than VL2Cs, eight-lights with colour-changers, a Lycian Stark Light, and four Source Four silhouettes. "We had mainly VL6s and VL7s in the US," continued Bye, "but I wanted a little more punch for Europe, and the colours the 2C gives are great."

Bye's approach is lots of open white and pastels for the early numbers, progressing to more saturates as the evening draws in. "It's simple," he admitted. "I make sure he stands out, I put as much light on him as possible." Which is OK apart from the on-stage Lycian, trimmed so low it inevitably points directly into Elton's eyes at a shallow angle so it has to be heavily dowsed to make it bearable. Luckily, Bye had always had the four Source Four sils to keep a constant pool

of white on the man, a factor that makes video director Bob Hartnett's work on the Screenco LED screen all the easier.

None of this is rocket science; the choice of colour palette is obvious, as Bye himself admits, and pointing VL2Cs out into the audience when it's still daylight is an obvious twinkle. But it does require application. Any board operator worth his salt would do well to remember that sustaining your own interest and excitement in the show is tantamount to ensuring your audience will. Three hours is a long time in anyone's book, and an average four shows a week for three months makes it even longer. Bye's enthusiasm was visibly undiminished.

SOUND

Now you'd think this would be the easiest gig in the world for the audio department: on stage and in the house there's only a voice and a piano to deal with... but think again. Curved roof trimmed low over the artists' head; ageing performer with desensitised hearing; what have you got? Parabolic reflections of high-intensity monitor sound focused directly onto your performer.

Alan Richardson is at the monitor board and a Yamaha PM4000M bears the brunt of the problems. It's a testament to his ability that he's been in the job for four years now: "One of the best monitor men I've worked with," said Franks, and he's seen monitor men come and go with some regularity over the span of Elton's career.

The stage system is simple: a pair of CBA 12AMs in stereo for vocals, and a pair of CBA's newer 2 x 12" wedges for the piano. The 12AM is a well-known and well-used wedge - it says something about how hard Richardson is having to drive the vocals that he had blown six 12" speakers by the time the tour got to Raby, and another one blew that very evening. "I'm driving them with Crest 1004 and the lows are in clip most of the time." Regular users of the 1004s will know all about that. "This should be simple, but it's not; Elton wants it as loud as it is when he plays in front of his band. He wants the sound good and punchy, then they go and put him in the middle of a

plastic box." But it's not so much the reflection that causes the problem, as the loss of directivity. "It's about artist security. Elton's used to hearing that high level direct from the wedges. Because the roof is relatively low there's almost no delay to the reflected sound, and it's almost as intense. Sound is all around, not just from the wedges at his feet."

Things are somewhat simplified for the piano sound. Although the Yamaha Grand is mic'd up with EV 408s, there's also a Gil Bronson MIDI system in there to trigger a rack-full of electronics providing strings, horn sounds and electric piano. "Without the MIDI I'd be dead," said Richardson. "It's all electronic on stage," and to qualify that he explains: "If I hit a high C at his keyboard and my head jerks forward I know it's right."

Being right is not just a question of level, but of careful aiming: "Putting the 12AM in the right place is critical. Normally I'd put the horn right on him, but because of the reflection I have to push it back a hair, just to let the low-end stuff, 40-800Hz, punch through."

Interestingly, and at the prompting of Franks, Elton also receives all the FOH effects through his wedges: "Clive does pitch changes, repeats, and delays. It helps keep Elton interested, he plays against what Clive is doing." Sadly, Richardson reported that all the national newspaper reviewers had mis-interpreted the effects (harmoniser on Elton's voice for example) plus MIDI-triggered strings etc, as Elton playing to pre-recorded material, "when, in fact, absolutely everything is live." That might be a subtle distinction to them, both being essentially electronic, but a meaningful one - the point being that the audience is not fobbed off with the sort of contrived performance boy/girl bands present.

As for the PA: "I did originally want Clair's new I4 (CBA's line array system - see *Sting*, *L&SI* January 2000) for Europe," said Franks. "I did have them in the States and I thought I'd miss them, the low-end is just so much tighter." A view that reflects the long-held opinion of the S4's low-end



Andy Franks, Elton's long-serving sound-man

Interestingly, Elton has only the one string sample, and it's not the best, "so I re-EQ it for different songs. Like 'Rocket Man', for example, where I try to make them sound more like a Farfisa Organ. Elton wants strings with everything, Alan gives him that on the stage, but often I don't take it out front."

The way Franks creates his piano sound is equally enigmatic: "There's the Yamaha sample which has a nice mid-range sound; the RD1000 which is nice for low-end, though I do have to filter it a bit; but both are a bit lacking at the top, which is where the mics come in. The 408s have a nice smooth sound. I high-pass them at 400Hz, and knock 4-5dB out at 1 and 3kHz. I use all three signals to build the piano sound - each on their own is terrible."

Though the rain relented for this show, it was still a damp muggy evening, and quite misty later on. None of these meteorological effects, however, diminished the crowd's enthusiasm or diluted their spirits. Above all else, it was a happy experience. Between the look of the stage, the smallish video screen, and the fact that Marshall Arts didn't try to cram 40,000 punters in, the event retained enough intimacy to make it a special occasion for all.

L&SI would like to extend special thanks to Keith Bradley and his team for making us so welcome, and at such short notice.

flaccidity - loved by some, loathed by others. "And I do have to suck the life out of the low-end on the graphics for the S4s," but he does find some benefit with the older system. "The I4 is not quite so fat-sounding having less harmonics. I love the S4, I never thought I'd want to change, but having done so many shows in the US with the I4s, coming here and using the S4s again was a shock." The line array would have certainly been more fitting against the minimalist stage and roof.

The advent of the I4 on an Elton tour is another reason why Franks sends the effects back to stage. "When we got the system in the US, Elton heard it straight away. He has the loudest monitors on the planet and yet after the first show he said he loved the new PA and that it really helped him to be able to hear what I was doing."

Franks doesn't go mad with the effects, but he does use them as a tool to vary the performance dynamics. Having mixed three of Elton's studio albums (and incidentally, played bass on one) he's well-qualified to make more than scripted changes. "The effects are few. I have a Yamaha PM4000 for control, TC2290 graphics (the automated system) and just two harmonisers, an Eventide H3000 and an H3500: one I use for harmonies, the other for a bit of vocal thickening. The Lexicon 480 is my favourite. I've tried all the other reverbs, but this just sounds warmer. I use six versions of Large Room, each tailored to his voice for different songs, and a couple of 'Small Rooms' for the piano."

"Richardson reported that all the national newspaper reviewers had mis-interpreted the effects (harmoniser on Elton's voice for example) plus MIDI-triggered strings etc, as Elton playing to pre-recorded material."

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Middle Management

As an example of the advances being made in this area, we can take a look at a fairly conventional theatre sound reinforcement system. Adding the likely left, centre, right, sub-bass and delay feeds, and taking into account that some of these will be two- or even three-way loudspeakers, we would be lucky to get away with fewer than eight separate outputs.

A traditional system would then require something like eight graphic or parametric equalisers, four two-channel limiters, a couple of crossover units (configured to suit the speakers being used) and at least three or four channels of delay. Total rack space; around 16U. Total cost (including a fair amount of inter-unit cabling) several thousand pounds. Then, if a visiting user decides that the system needs to be reconfigured to accommodate a production, this is a time-consuming and expensive task. Settings are all manual and need checking and adjusting after every visiting engineer has had his or her way with the system.

By contrast, a pair of reasonably well-equipped digital system controllers would offer a far greater number of equalisers, compressors, limiters, delays and other functions in a couple of rack units - along with the benefits of memorised settings, instant re-configuration and expandability.

Unsurprisingly, the pioneers in the digital controller field are those same UK companies who gave us analogue crossovers, equalisers and dynamics processors a quarter of a century ago. BSS, Klark Teknik and XTA are all now into their second or third generation of digital processing, while a number of other names, including the likes of Sony and several loudspeaker manufacturers, are starting to appear on the market.

We have taken a look at a sample of each of the three main contenders' ranges - each with its own unique points and differing levels of facilities. The common ground shared by them all is that they perform the basic functions of a complete management system - equalisation, frequency

division, limiting and level control. Beyond this, it is the fine details which will interest the user, so we have endeavoured to highlight some of the more unusual features of each unit, rather than concentrating on the basics.

BSS FDS-366

The FDS-366 Omnidrive Compact Plus from BSS is a 3-in/6-out processor that uses 96kHz/24-bit sampling to gain an improvement in performance over that of earlier digital systems. The configuration makes the FDS-366 a sensible choice for two or three-way stereo systems, although since the inputs can be distributed or mixed to the outputs, the controller



can be incorporated into a system that uses different types of speaker. More importantly, the EQ filters incorporated in the DSP can be freely assigned to either ins or outs, allowing designers to perform a huge amount of correction on individual bandpass-limited feeds. For maximum compatibility with digital consoles, the FDS-366 has a stereo AES/EBU input that accepts sample rates from 44.1kHz to 96kHz - though the unit does not offer any digital outputs.

Dynamics and Measurement

The most obvious difference between the FDS-366 and its competitors is the inclusion of dynamic equalisation - used to great effect in the analogue DPR-901 and available on inputs and outputs of the Omnidrive Compact Plus. In a general sense, the system is used to control key areas of the frequency spectrum without squashing an entire mix, though its application in loudspeaker management is relevant in reducing unwanted energy peaks when drivers are operating at high levels. In addition, the unit incorporates an Alignment Assistant - a loudspeaker measurement function that can be used to time-align drivers within a cabinet, or arrays of enclosures in large systems. Though purists



PRODUCT SURVEY

The advent of DSP has led to a proliferation of devices designed to simplify the job of the system designer, while improving the accuracy and flexibility of large-scale loudspeaker systems. Of course, there are many ways of processing the output of a mixer or control system so that it suits an individual loudspeaker system, but in general, the digital loudspeaker processor is rapidly replacing the traditional 'drive rack' full of analogue limiters, crossovers and digital delays.

L&SI Special Report

may frown on the use of an in-built system as being less than totally comprehensive, it affords the time-conscious engineer a rapid way of sorting out system anomalies without a flightcase full of test gear.

Front-panel controls are comprehensive enough to allow an engineer to set or reset parameters without a PC, with dedicated level trim control for each output. This is a non-automated function, and offers +/-6dB adjustment over any output's preset level. Incidentally, the FDS-366 offers away of storing the front-panel level settings - an option in Utilities adds the front-panel gain to the internally-set level, so that if the user sets the manual controls to zero before recalling a memory, gain levels will be reinstated.

Mix Bus

Inputs do not have dedicated controls, but are accessed by a trio of buttons adjacent to the display. As well as the external inputs and outputs, the FDS-366 allows the user to create an internal sum of two or three of the sources. This is suited to the generation of mono mixes for outlying zones or subwoofers where a separate mixer would normally have been required.

The FDS-366 display is the most comprehensive of the units in this round-up; rather than using the more common two-line LCD device, BSS has produced a graphical display that gives pictorial representations of functions such as EQ, delay and filter frequencies.

One limitation of the front panel controls is that there is no way to set EQs to flat - this must be done by hand. While this offers a degree of security against accidental operation, users should remember to save a preset with flat or default EQ settings if this is likely to be a requirement. As soon as an EQ filter is set to 0dB, the relevant section of DSP becomes free for another input or output. EQ sections can be flattened quickly with the Soundbench remote control software.

Soft - and Firmware

Soundbench, the software that is used to control and set up the FDS-366, was developed for the Varicurve family - indeed, the package is well set up to handle multiple Varicurves and Omnidrives, as a complex audio network. The software uses a big-screen version of the front-panel display, with the simplified architecture that the larger format allows. As with the other packages, FDS-366 units can be pre-programmed offline - indeed, thanks to the use of flash-ROM, the unit's own internal firmware may be upgraded from a PC.

Family Tree

The predecessor of the FDS-366 is the Omnidrive Compact, which has three inputs and five outputs, with a similar set of features but minus the 96kHz converters and RS-485 connectivity. The original FDS-388 Omnidrive, a 2U high 2-in/8-out device, is a frequent sight in drive racks of touring and theatre shows - there is even a control-free installation version for those times when locking users out doesn't seem enough!

Analogue Alternative

Of course, BSS are still happy to offer more traditional products, in the form of the FDS-360 (2:2 or 1:4 way crossover/limiter), the FDS-310 2-way stereo or three-way mono sweepable crossover, and the FDS-318 stereo 3/4-way multimode unit.

XTA DP-224

The XTA DP-224 is probably less well known than its bigger stablemate, the DP-226 - a 2-in/6-out management system whose long user list includes the Rolling Stones and any number of West End musicals. However, as XTA director Andrew Grayland is keen to point out, there are advantages in using the company's more modestly-priced device. While almost every other component in a large audio system has

some form of back-up, explains Grayland, the crossover, which is crucial to the entire reinforcement system, is often the only link in the chain without any fall-back. The use of two smaller units rather than a single larger one means that, in the worst case, a system can be re-patched and run in mono. So, while the four-output DP-224 may look like the baby of our group, there is a logical argument for the apparent disparity.

Gaining Space

Rather than cramping the front panel with individual gain pots for each input and output, XTA uses a button and a single central gain rotary control. Though the thought of not having a dedicated rotary control for each output may put off traditionalists, the DP-224's assignable gain control is devoted to this one function. Touching the relevant input or output button and turning the control is all the user has to do - and helpfully, double-clicking an input or output's button brings up the last adjusted parameter, which is handy for modifying the same process across every signal.



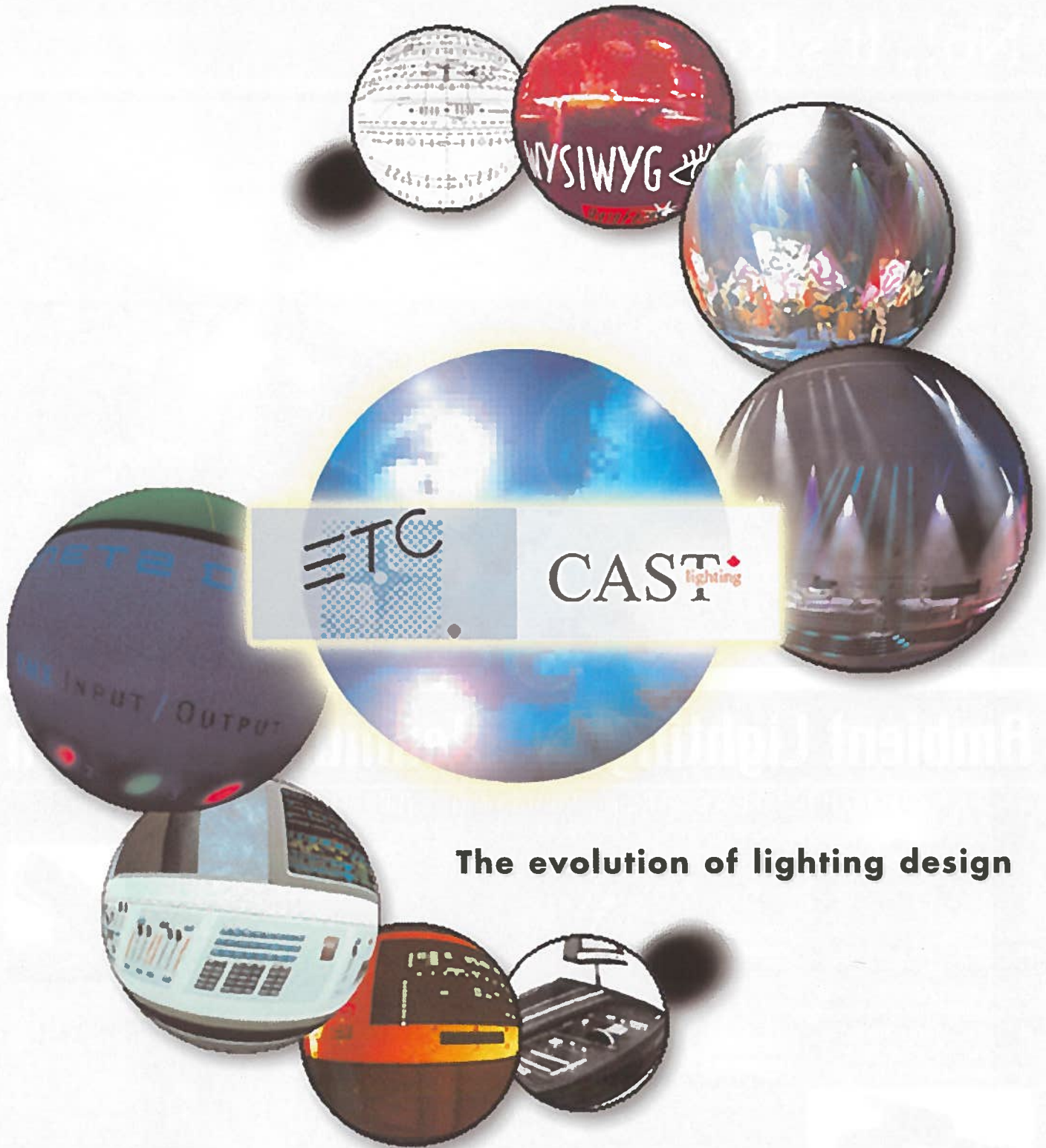
Like the BSS Omnidrive Compact Plus, the DP-224's output meters do not show absolute levels; instead, they take their reference from the limiter threshold. Meters read up to the limiter threshold (which is highlighted in yellow) and then give a 'limiter +4' indication - useful to show that heavy limiting is occurring. Input meters are set to 'over-read' by 3dB - an interesting concept designed more for system protection than calibration.

At The Limit

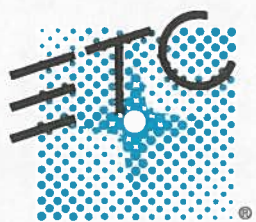
An interesting feature is the automatic assignment of attack times for the band limiters

Survey of Middle Management . . . (part one)

UNIT/SPEC	INPUT PROCESSING							
	Analogue in/out	Digital in/out	Size	Price	EQ Filters	EQ Resolution	Compressor/limiter	Max Delay
BSS FDS-366	3 in/6 out	1 x AES/EBU in	19" x 1U x 292mm	FDS-366 £1900	Up to 60 (shared with outputs) plus Dynamic EQ	1/20 octave	-	2.6s in 11µs steps (total input-output)
XTA DP-224	2 in/4 out	AES/EBU in/out optional	19" x 1U x 300mm	DP-224 £1495 (DP-226 £2100)	8 bands per input	1/36 octave	-	650ms In 1mS steps (total input-output)
KT DN9848	4 in/8 out	Under development	19" x 1U x 287mm	DN9848 £2995 (DN9824 £1495)	8 bands per input	1/21 octave	4 parameter	1.0s in 21µs steps



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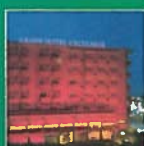
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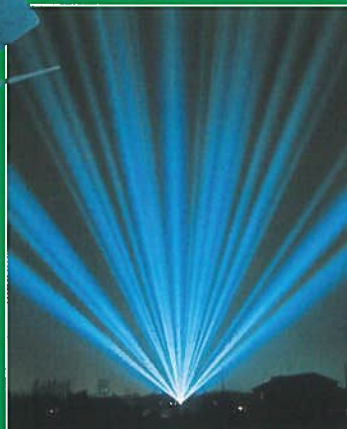


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incorporated in each output. Though the user is allowed to set limiter parameters manually, XTA points out that this can result in excessive distortion or an early death for loudspeaker components! In Auto mode, the DP-224 sets the attack time according to the high-pass frequency setting on the output, from 45ms (up to 31Hz) to 0.3ms (at 2kHz and above). The limiter release time can be set to 4, 8, 16 or 32 times the attack time.

The DP-224 is well provided for in terms of external control interfaces - as well as MIDI and RS-232, the unit is equipped with RS-485 XLR connectors. It is heartening to see a professional, balanced control system being used, especially bearing in mind that RS-232 (so beloved of computer manufacturers) is usually limited to a few metres' distance and typically employs less-than-sturdy connector types.

Soft Core

The XTA AudioCore software package benefits from having been developed over a lengthy period of time - its intuitive graphical interface is readily comprehensible, while addressing and communicating with remote units are simple operations. The unit is displayed as a simple block diagram, which is altered depending on the configuration of the device. Each block section (EQ, delay or limiter, for example) is used as a button to open the relevant window - although every other parameter is also accessible from this second layer by using the tabs on the detail window. Live changes to all settings are allowed, offering an interesting and often dramatic link between parametric EQ settings and the overall display. Storage of settings is straightforward, and the DP-224 gives the engineer or sound designer the option to back-up memories on a PCMCIA card, rather than relying on the remote PC or a MIDI dump. For the technically-challenged user, a GPI interface card allows up to 32 memories to be recalled remotely at the touch of a button.

Hip, Hip, Array!

An extremely thoughtful inclusion in the AudioCore software is the Array control utility. This effectively provides grouped control over multiple outputs in a complex system. This finds favour with theatre sound designers who can use its VCA-like qualities for adjusting zones within a distributed system whilst maintaining the balance of individual outputs. Rock and roll users can use the zoning facility to control the coverage pattern of a large array, or to balance delay and fill systems for different venues and crowd sizes. In a sophisticated set-up, an overview of the entire system can be displayed with metering, mute and temperature indications. Of course, double-clicking on any icon brings up that device's details in full.

Big Brother - Little Sister

XTA's flagship loudspeaker management product, the DP-226, offers identical facilities to those of the DP-224, but with an extra two outputs - making it suitable for stereo three-way operation or more complex systems. The DP-200 is an installation-friendly multi-purpose unit, which can be configured as a 2-in/4-out crossover or a powerful EQ/limiter combination, while the DP-202 is a 2-output version of the 200.

KT DN9848

The Klark Teknik DN9848 has the highest input/output count of the trio, which is reflected

in its pricing. Unlike the other two main contenders in this round-up, the DN9848 is designed primarily to operate very much as a self-contained piece of hardware - which is what touring PA customers are more familiar with. The 4-in, 8-out format means that the DN9848 is perfectly suited to driving bi-amped monitor systems; amplifiers have now shrunk to a point

where even a very modest sized rack can contain all the processing and power required to drive a quartet of wedges. The DN9824 is a half-pint version of the 9848, with a slightly modified feature-set. The fact that the remote software (running as a module inside the Stardraw CAD/control program) was released after the product has an advantage - KT's designers worked on the premise that every parameter had to be simple to access from the front panel, while keeping the interface as comprehensive as possible. This is no mean feat when the 1U case limits the display to two lines of 24 characters.

Flexible Friend

The DN9848 is hugely configurable - rather than taking the approach of mimicking a series of conventional analogue crossovers, the KT unit allows the user to set up each output as an independent feed. Outputs may take their signal from any of the four inputs, a mix of input pairs, or even a combination of all four. This matrix approach helps when designing zoned or distributed systems where several of the feeds are required to be full-band, while others must be two or three-way frequency splits.

Meter Reading

Metering, as with the other units, is relative to the limiter threshold - providing that the



dynamics section is active. The meter reads normally up to the point where limiting starts to happen, whereupon the LED ladders become inverted, showing instead the degree of gain reduction being applied. The meter threshold is a useful -40dB, and with nine segments on inputs and 11 for its outputs, the DN9848 has the highest resolution metering of the three.

Survey of Middle Management . . . (part two)

OUTPUT PROCESSING

GENERAL

	EQ Filters	Crossover Types	Crossover Slopes	Comp/Limiter	Max Delay	Metering	Memories	Other Features	Interfaces
BSS FDS-366	Up to 60 (shared with inputs) plus Dynamic	Lw-R, Be, Bu	6, 12, 18, 24, 48dB/oct (filter type dependent)	2-stage Thresh/Att/Rel	2.6s in 11µs steps (total input-output)	7 segment	60 plus PC Card	Alignment Assistant	RS485, RS232, MIDI IN/OUT
XTA DP-224	5 bands per output	Lw-R, Be, Bu	12, 18, 24dB/oct (filter type dependent)	Thresh/Att/Rel	650ms in 2.6µs steps (total input-output)	6 segment	40 plus 9 crossovers, PC card	Array Control software	RS485, RS232, MIDI IN
KT DN9848	6 bands per output	Lw-R, Be, Bu	6, 12, 18, 24, 36, 48dB/oct (filter type dependent)	Thresh/Rel (auto attack)	300ms in 5µs steps	9/11 segment	6 User, 32 System, 99 factory presets	Flexible in/out routing	RS485, RS232

Each output is provided with its own gain control; these are 'real' potentiometers rather than encoders. This, however, gives the DN9848 something of a problem, because when a preset is recalled, the output level may not match the control setting. The neat solution arrived at by the KT engineers is to disable the rotary control until the user moves it through the 0dB point, at which point it starts to affect the output level.

Parametric EQ is split in a fixed format - eight ways for each input and six for the outputs. It is worth noting that the disadvantage of having fixed filters does mean that they are always available - the user does not suddenly find that he or she has run out of DSP power. While notch filtering is allowed on incoming feeds, the user is only offered +/-12dB of EQ on the outputs. Compressors are provided across the inputs while 'look-ahead' limiters protect amplifiers and drivers.

MIDI-less

The DN9848 may be remotely controlled by RS-485 (XLRs on the rear panel) or RS-232 (an eight-pin mini-DIN on the front) but not MIDI - although a MIDI connection would perhaps be of questionable value as these units are not often required to perform changes live. Incidentally, the DN9848 includes an RS-232 to 485 convertor, which aids the construction of large-scale control networks.

Power-up options are an interesting feature of the DN-9848, and point towards the 'fit-and-

forget' installation market. As well as switching on with all outputs muted, the DN9848 can be set to ramp up its output levels over a period of up to 30 seconds - very handy in a non-technical environment. Finally, in typical Klark Teknik style, the DN9848 allows the user to personalise the display on power-up by adding an animated logo to the boot sequence. Given the limited possibilities afforded by audio equipment for making a visual statement, this minor feature is sure to make a major impact!

Entering the Race



While the three main manufacturers listed above continue to dominate the market, several other suppliers are challenging their positions. Sony, more noted for its broadcast products, released the SRP-F300 at last year's PLASA show. The unit, aimed at the installation market, is based on the popular 2-in, 6-out configuration and operates at 96kHz/24-bit. It is PC-controlled, with only level/mute indication and preset selection switches on the front panel. A screen-based 31-band graphic EQ (or 11-band parametric with compression) is incorporated into each input, with outs allocated a three-band EQ, as well as the usual dynamics processing. AES/EBU inputs are provided as well as analogue connections, and software is comprehensive.

Loudspeaker manufacturers have traditionally been forced to produce their own analogue crossovers to drive their enclosures - however, the digital loudspeaker management products have given them a way to use someone else's expertise to good effect. At present, the only units in mainstream use are badged (or slightly tweaked) versions of the most popular third-party controllers, but various companies (including Clair Bros in the USA) are working on their own designs. Needless to say, these are unlikely to retain the flexibility and all-purpose nature of the generic systems featured here.

Fit It - Forget It

Loudspeaker management systems have gone a long way towards the 'system in a box' concept - the better-equipped examples have even removed the necessity for external room EQ to a great extent. While the pricing of these diminutive units may at first seem a little high, the analogue equivalent far exceeds the cost of an integrated device. Some users may bemoan the lack of 'real' controls on the new generation of digital products, but in most cases the adjustments involved are concerned with correcting driver and enclosure anomalies rather than on-the-fly creative use. In any case, the user is now provided with a much more accurate way of controlling a system, so that rather than spending endless hours fine-tuning crossovers, he or she can get down to the finer artistic points of creating a good mix. At least, that's the theory . . .

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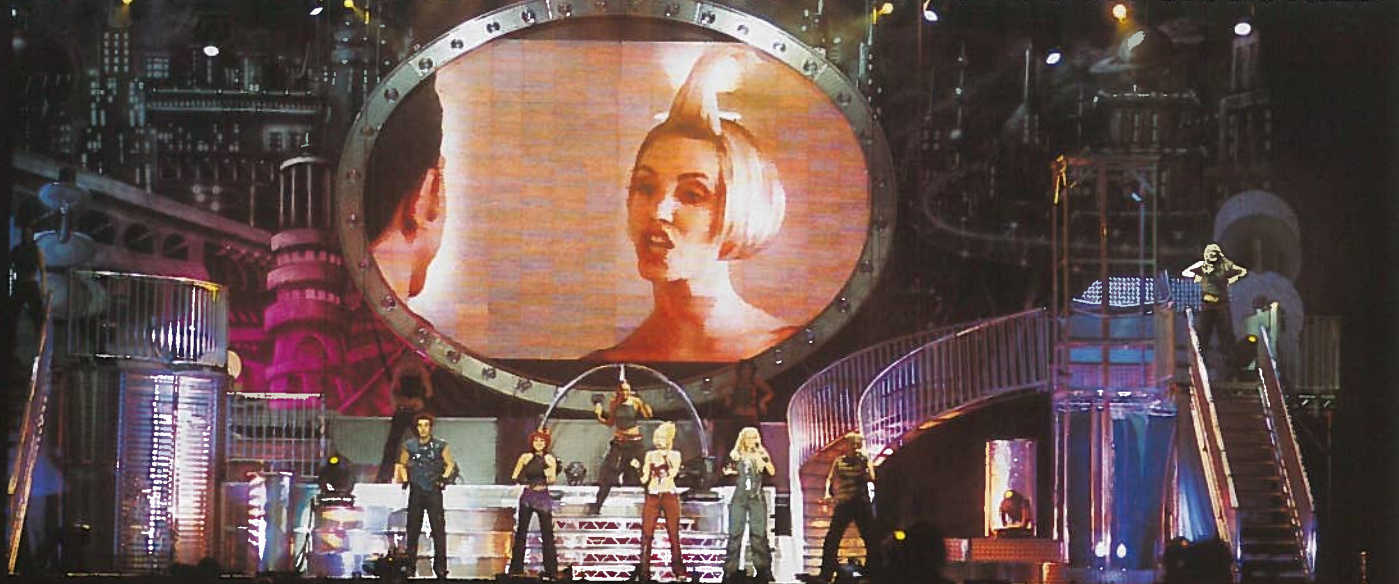
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The Challenges that Lie Ahead

Tony Gottelier contemplates what the future holds for the entertainment and leisure industries

As the year 2000 rumbles on to the true millennium at the year end, or at least to yet another of several dates that have the dubious honour of a claim to that title, and the world has survived, seemingly without a hiccup - what state will the entertainment industries be in, and where are they going?

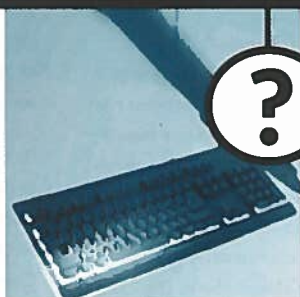
Well, no apocalypse, but certainly a metamorphosis as the manufacturing, supply, service sector adjusts to a new technological world order. Where yesterday the markets for entertainment-related products were clearly defined, today a diaspora of new and different customer segments has emerged, while some of the original ones have declined very rapidly. To be clear, this has nothing to do with geography, and everything to do with the rapidly-changing face of communications and the way that is impacting on how entertainment is delivered now, and how it will be presented in the future.

How that unravels, and how it affects the readers of *L&SI*, may depend entirely on the significance or otherwise of the mass need for collective experiences. If the public thirst for such extravaganzas diminishes in pace with the decline in the number of performers willing to tour, when the same financial rewards can be achieved with less risk by other means, then things will have changed for ever - at least in the live music sector.

While this may not seem likely to many, there could be a danger of saturation in the provision of entertainment with all this additional access, and nobody can really predict with any certainty what the outcome of this bombardment will be. It is incontrovertible that touring has been in steep decline in recent years, and rental rates have taken a dive in parallel. The challenge will be for the production and rental companies that have previously specialised in touring, to find new markets for their products and their considerable skills. Most are already doing so. One door closes and another one opens.

One reaction to all of this has been for companies to group together, especially in the USA, to consolidate and present a tougher face to the market, and only time will tell whether such moves to acquire financial muscle and more substantial critical mass, will work in practice. This is a fickle, fashion-led business and it may be that the myriad small companies on which our industry was founded were more suited to the peaks and troughs of an ever-changing market landscape - more nimble on their feet, in closer touch with their

A bold new future



customers and the changing times. OK, so occasionally one or other might go bust, but the aftermath for its suppliers would be of small consequence in the long term, compared to the massive fallout should

one of the really big groups explode. It's called spreading the risk.

Where audio companies have always been present, lighting manufacturers also are having to tread uncharted routes to new markets that until recently would have eschewed any connection with entertainment: interior and exterior architectural lighting, retail display lighting, promotional lighting, to name but a few. And they are finding rich pickings, but also a different set of rules, often a different distribution chain, zero-tolerance reliability requirements, and often a radical set of control parameters. Hands-on control doesn't work in a shopping environment and architectural lighting panels, not being products of our industry, are generally not DMX-driven. Once again we crossover into a potential minefield of incompatible protocols and just at the time that DMX is about to be rationalised into DMX512/2000 and that ESTA's Control Protocols Working Group are underway with

"Well, no apocalypse, but certainly a metamorphosis as the manufacturing, supply, service sector adjusts to a new technological world order."

"How that unravels, and how it affects the readers of L&SI, may depend entirely on the significance or otherwise of the mass need for collective experiences. If the public thirst for such extravaganzas diminishes in pace with the decline in the number of performers willing to tour, when the same financial rewards can be achieved with less risk by other means, then things will have changed for ever - at least in the live music sector."



Advanced Control Network (ACN) for control via Ethernet. In view of the size of their market, the existing manufacturers of architectural lighting controls are likely to be the dominant parties in this relationship.

The imminent arrival of ACN hasn't stopped several makers producing their own dedicated access protocols in their impatience to deliver Ethernet-based products. This statement should be followed by a collective sigh of 'Oh God, here we go again.'

So then we move on to the thorny issue of intellectual property, the enforcement of which has huge ethical and commercial implications, and is also inextricably tied to the future of the entertainment industry as a whole, because it is the rock on which the entire castle is built: without it - sandcastle! The Internet is at the root of this dilemma, and many of the other issues facing us all right now, but first I want to have a brief discussion about the rights and wrongs of the ownership of intellectual property, and its teeth that are copyright and patent law.

There is a debate raging over the human genome project and whether anyone has the moral right to patent our genes, or indeed any curative process that may result from that knowledge. On the one hand, research would be stifled if the profit incentive were removed, on the other, the consequences can mean deprivation and exclusion from scientific advances in health for those millions who cannot afford the resultant treatments. This has already been the case, with devastating effect, with the AIDS epidemic in Africa.

Most development, and indeed research, is a case of building onto something that someone else has previously discovered - for example, a new material for which a later application is proposed by someone other than the inventor himself. Perhaps there is a case for tightening the definition of what really is an 'inventive step', or perhaps for a two-tier class of patent, one for genuine origination and the other for developments beyond that, with the second class having fewer rights.

There is another aspect of copyright law, as it is used, that does have a major bearing on the livelihoods of everyone employed in the entertainment and support industries, and that is the right to collect royalties from copies or loans that are made of original work, whether or not these are used for commercial gain or otherwise. Now I would be the first one to be pissed off if someone stole an original idea from me, but that doesn't mean that there are not counter-arguments to be made. For example, how outraged would the owners of rental companies be if I were to argue that they should pay a percentage royalty to the manufacturer on every piece of kit that they let out? Yet that is what authors and songwriters demand, and that is what they are entitled to.

Hollywood originally fought the performing artists tooth and nail over these issues, yet now it is the bedrock of the movie makers' very commercial existence. The same concept has been borrowed by the music industry which, if anything, is even more dependent on the system. And thus, by extension, so are we.

Yet all of this is under severe threat from the Internet, coupled with other technical advances such as low-cost recordable media and broadband transmission.

As everyone knows, the ethos of the Internet is that it belongs to its users, and is unencumbered by rules and restrictions, it is anarchic and, for all sorts of well-aided reasons, it is desirable for it to stay that way.

Consequently, it has been possible for individuals and companies to throw down a cyber-gauntlet to the

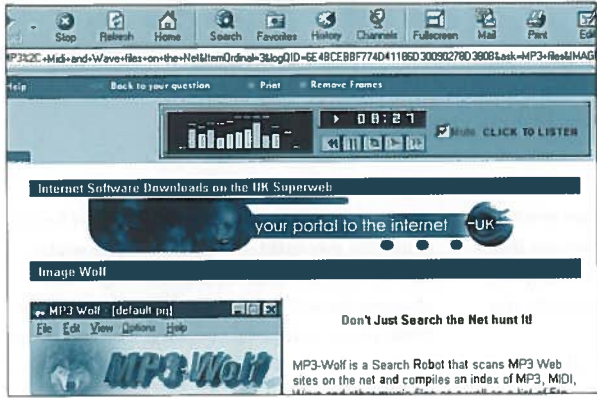
established order and to offer to exchange copyright material on the net without let or hindrance - Napster, Gnutella and Scour.com to name but three practitioners. Napster, a site that enables the free acquisition and downloading of MP3 music files, alone gained 20 million followers in only its first year.

The Hollywood film and music moguls have reached for their six guns, and are aiming their quick-fire lawyers at those behind these sites in a typical 'bury them deep' response. However, they must know that this reaction cannot be sustainable any more than can their kludgy fix to salve the DVD paranoia, can be sustainable in the long run (CSS encryption has already been bypassed by a 16-year-old Norwegian student and the code disseminated across the net). All of this will become easier and easier as computers get more and more

which way protocols



What is the relevance to our industry? This will come into sharper focus further into this polemic, but for the moment let's just ask the question whether the law in a free country should actually allow a patent holder to play Russian roulette with any invention, especially when it comes to an inalienable right to deny others any access whatsoever, or to make totally unreasonable demands for that access in order to keep others out?

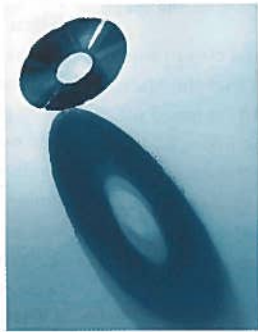


powerful and broadband becomes the standard for high-density data transfer such as video.

Counterfeit music has been with us since long before the net, and the movie industry claims to lose \$4 billion per year to piracy, so there is already a strong imperative to find a better solution. Hitting it with a hammer will not work, nor I believe will protectionism. They call it stealing, but how many members of the public see it that way? How many of us have never used a 'borrowed'

computer programme - so what's the difference? It is my view that, in the end, a compromise will have to be found that makes it all far more accessible, both in terms of cost and facility, and there are signs that this is already happening.

Bertelsmann, EMI, Sony, Universal and Warner all claim to have low-cost Net schemes in the pipeline for selling music downloads. During the week that this article was being penned, the Association of Independent Music, which represents some 400 record labels in Britain, announced a six-month trial designed to solve the problems of charging and monitoring of Net broadcasts that will eventually lead to a licensing process for music available on the



Web. They have to do this, otherwise it will happen via the off-shore pirates anyway. Miramax is also experimenting with distributing a small number of its movies on the Net via a secure site.

Who knows, the widened appeal may generate even more revenue than currently, but if not, what will it mean to the rest of us? And, even if it does, what order of support structure will be needed in the form of entertainment technology? Only time will tell, but that time will be tomorrow, and not a day later.

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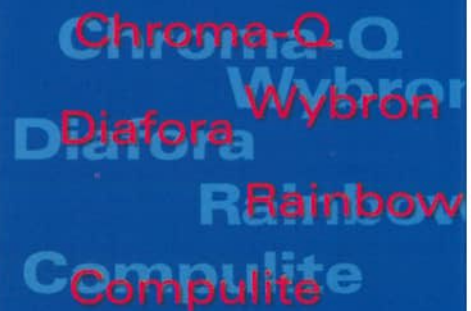
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John Watt

Second Take...

John Watt's view from beside the camera

Some things turn up with satisfying regularity, like spam fritters, the new Beaujolais and the PLASA exhibition every September.

EACH IS ANTICIPATED eagerly for its individual flavour, which is to be savoured for its limited life-span. Sometimes, of course, the anticipation is better than the experience itself, but I doubt that to travel to Earls Court will be better than to arrive. If you are tired of PLASA, then I think you must be tired of life itself.

"Now if the bond was made of bungy cord, you could grab it on its way up again, thus saving a tedious journey down the ladder, not to mention the return journey."

NEXT MONTH I probably won't be able to resist the temptation to frustrate my friends in sales by picking on some insignificant gizmo that has taken my fancy, whilst ignoring their latest multi-million pound brainchild. I wonder if some far-sighted manufacturer has taken up any of my ground-breaking suggestions?

I'M STILL WAITING for a lighting hoist or monopole which tells me what height it's at; then next time when you repeat the rig you don't have to walk the tracks like some latter-day tram driver with a long stick, preferably insulated, to judge heights.

WHAT ABOUT EXTENDING the information available on the lighting control displays to more useful areas. After all, if you've been at it as long as I have, you know you set all the cyc' blue at ten (it's never bright enough) and all the keys at

seven, and they aren't going to change much. What you really want to know is what's on the canteen menu for lunch (there is absolutely no point in showing what's on for dinner as it's the same stuff, only considerably drier).

Manufacturers could highlight national preferences; Strand's display could flash when haggis comes up, ETC's when hamburgers appear and Avolites' when spam fritters are on the menu.

WE ARE STILL WAITING for barrel clamps with a reservoir of Nitromors built in so that the black paint on the barrel is automatically stripped off as you slide the clamp along. As you know, 70 years of development of this fundamental accessory have not borne fruit. It only has to do two things: 1) hold the lamp up 2) slide along the pipe when loosened half a turn - the latter it will not do.

SAFETY BONDS ARE A NECESSARY EVIL, I suppose, but capable of improvement. They come in handy when you want to slide the clamp along and have to dangle the lamp nearby whilst hammering. More usually they come into their own when you loosen the pinch bolt a turn too much (safety pin is missing or it's sprung out on that especially springy wire) and the lamp behaves much as predicted by Isaac Newton (the most famous citizen of Grantham before me). Now if the bond was made of bungy cord, you could grab it on its way up again, thus saving a tedious journey down the ladder, not to mention the return journey.

DEAREST TO MY HEART, perhaps, is that Focal Press should produce a lighting handbook for production managers listing the more common hardware and explaining its uses, i.e. 'Gaffer tape' - always ordered in tens, two for production needs, four for the LD's boat, two to lend to cameras who will bring it back in a minute, and two to drop in the double cladding of the set, which can't be retrieved till the de-rig. '2k' - a basic light, not to be confused with a 3k or 4k which is a production manager's weekly rate. 'Genny' - a device for producing electricity at 10

times the cost of connecting to the local supply. Expect to pay extra for the silent type which is noisier than the local supply. 'Phasing' - the aforementioned Genny will either be single- or three-phase, not to be confused with Jenny the producer who is usually two-phased.

SO I SHALL AWAIT the royalty cheques if any of these ideas have been taken up. Talking of which, I read that 600 TV directors are campaigning to get residuals built in to their contracts. This would result in them receiving extra payments when the shows are repeated or sold on. They claim that they have played a fundamental creative part in the production and should be rewarded in a similar way to actors and writers. Interestingly, they argue that the upfront fees which currently are supposed to allow for repeats, cannot possibly be based on any realistic prediction of the number of lives a programme may have. Having watched productions which I lit 25 years ago still being repeated, I must say to Herbie Wise and Jack Gold that many lighting designers feel much the same. There are too many marble-floored reception areas, company BMWs and Armani suits swanning around which are funded by our creative contributions.

I SUPPOSE in this free enterprise world, we could all try to build a suitable clause into our contract. Some hope! It would certainly seem like Christmas, but I fear there's to be no Santa Claus this year. The choice of production companies and broadcasters, which made the change from salaried employees to a completely freelance system possible, is now in ruins. Not very long ago I had a wide spectrum of companies who could employ me. Now it looks as if we will have ITV Limited (Granada) - a choice of one. Upset Mr Big and you may as well book now for the Job Centre's Christmas party. Well, at least the BBC is still hanging on in there, or is it? A new company (see news this issue) is being created to amalgamate BBC and Granada facilities in Manchester. A bit rich this, given the stick-in-the-mud lighting practices still perpetuated in Quay Street, being forced into an arranged marriage with the eminently flexible team a mile south in Oxford Road. Show them how it should be done Stan.

I'VE JUST RETURNED from another newsroom refurbishment. Eureka! All the bits I ordered seemed to fit without the customary necessity for bikes and vans to traverse the country in the wee small hours with things Watty forgot. The fire brigade only turned out once as the new paint burned off the doors (barn, not studio). The presenters said I made them look wonderful and then in the next breath, added "Just like the presenters on [censored]TV," the two news programmes that produce pictures that are particularly 'orrible. Not for the first time the words 'money' and 'run' come to mind.

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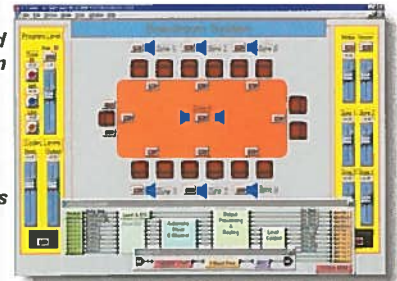
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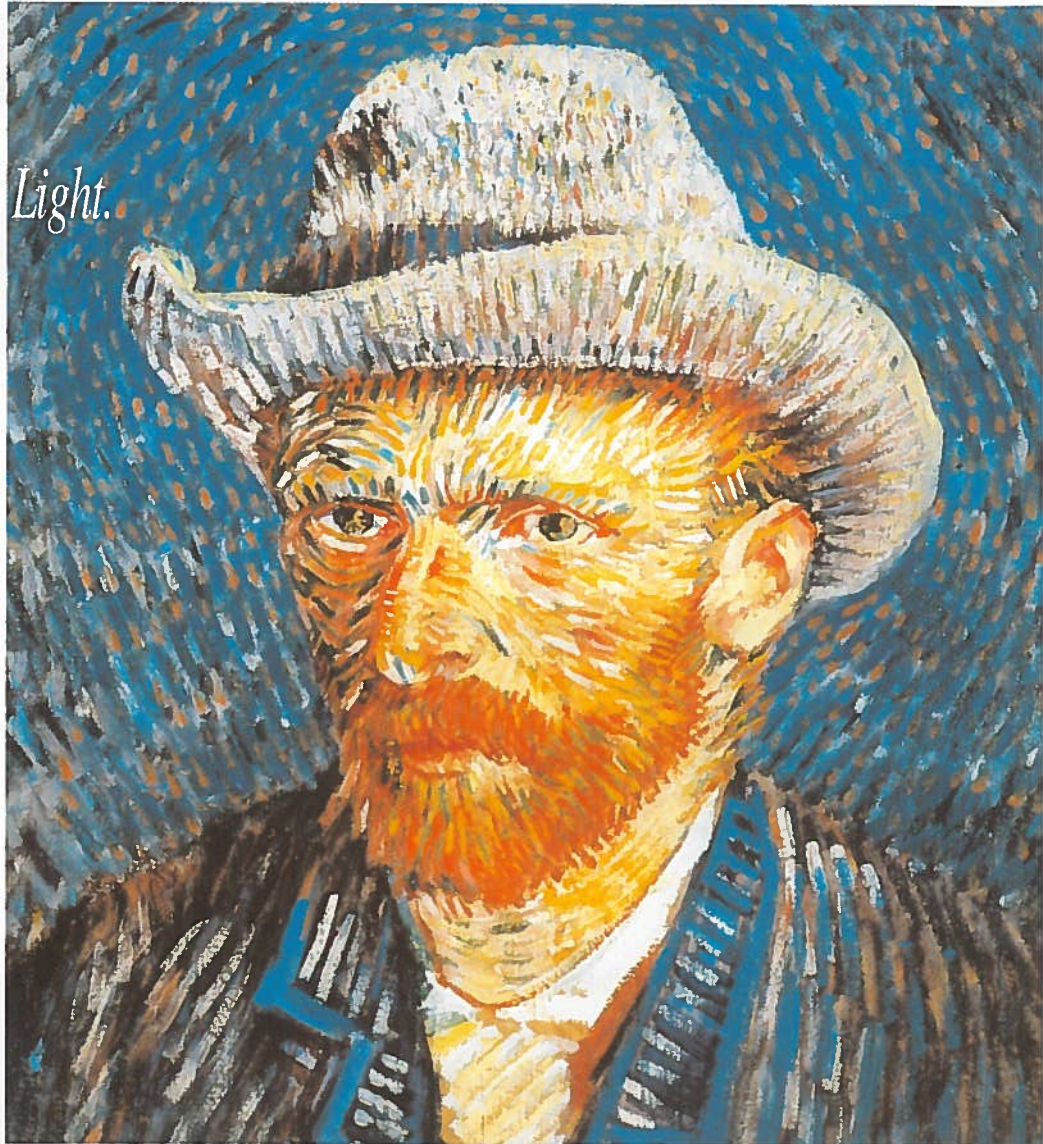
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Island

*Seven years after the Jersey Arts Trust revealed its plan to turn the dilapidated Jersey Opera House into something the Island could be proud of, the regenerated venue finally took off its coat in July - exactly 100 years to the day after its inaugural performance, when Lillie Langtry starred in *The Degenerates*. L&S reports*

Following a fire that had destroyed its predecessor, The Theatre Royal, local architect Adolphus Curry was commissioned to design The Opera House. The resultant 700-seat theatre was to become a much-loved, much-visited venue for the population of the island. The building survived a further fire in 1921 - and some unsympathetic alterations, many carried out during its conversion to cinema use in the 1930s (when it also had its upper circle curve flattened into a straight balcony).

During the last half of the century, two entrepreneurs - firstly Tommy Swanson and later Dick Ray - both owned, and, in their own way, attempted to restore the theatre to its former grace. The task was ultimately beyond them and it is now in the safe hands of the States of Jersey, who in addition to providing a home for the Island's amateur dramatic groups, have created a production infrastructure that is already attracting tours such as *42nd Street* and *An Inspector Calls*.

So much for the history. The latest major conversion has been due to the £7.2m allocated since Dick Ray sold (and then temporarily leased back) the venue to the States in 1995. But since 1997 it had been closed, and slowly eroding. Faced with various options, The States decided to preserve the edifice, hoping to buy some adjacent buildings in order to create additional set-building, storage, rehearsal and production space. A public appeal raised £1.6 million and the Opera House received a grant from the Jersey Arts Trust, sponsored by the States of Jersey, who then underwrote a loan for the balance.

Following the various structural survey and planning approval procedures, work began during 1998 and the nominated contractors came together on site with a single aim: to save the now derelict building from extinction. In the event, they managed to bring this magnificent old lady home - on time, and within budget.

Jersey-based Commercial Electronics made a successful bid to supply and fit the production lighting, sound and flying systems in a contract worth in excess of £400,000 - meeting the tight technical tender document prepared by consultants Theatre Futures. The company has a long association with the Opera House and was involved in the initial feasibility studies back in 1994. Although Dick Ray (who, coincidentally, owned Commercial Electronics before David Wilson and his co-director Cristin Bouchet bought him out 11 years ago) had pumped some money into the venue, the fly lines, general electrics and antiquated sound system - let alone the building itself - were clearly beyond redemption when he eventually threw in the towel.



The task facing the venue designer, Theatre Futures' Christopher Richardson, was to reconstruct an interior to the Edwardian aesthetic, while making it practical to run concealed tie-lines, plug-in points, delay points etc. This he did by restoring the upper balcony's seductive curve (the underneath of which contains a meshed grille housing speaker delay points, and the main FOH lighting positions etc), and creating fibre-glass boxes (which are also detachable, and provide additional lighting positions). The internally wired bars and trunking sections were supplied by Andolite.



The three-stage orchestra pit is another triumph. This can be used conventionally for musicians, brought up to the level of the audience to provide additional seating, or raised to stage level to increase the playing area. A major achievement for Richardson - and theatre technical consultant Alan Cohen - has been to synchronise house light and chandelier operation. With a lighting position at the rear, when the house lights dim down, the chandelier rises into the dome. Additionally, the advance lighting bar and masking - on motorised winches - are able to be set so they are above the sightline, and then fly in during the houselight blackout. When the house lights dim up, everything swings into reverse mode.

Theatre Futures' Dan Watkins (who has since set up his own theatre consultancy/project management company, VGroup Creative Management), prepared the lighting document, although in certain instances Commercial Electronics suggested alterations to the spec for equipment it felt was better suited to the theatre.

The lighting requirement was to be fulfilled primarily around Strand dimming and board control, networking and luminaires (the house lighting and the magnificent chandelier are also run from Strand Outlook architectural control stations, via LD90 dimming racks). Seven LD90 dimmer racks, containing 152 10A channels, four 25A channels and eight contactors (for use as non-dims), provide dimmer control. Due to space restrictions, shoe-horning the seven 24-way LD90 racks into the designated room provided its own challenge to Commercial Electronics - but it was one they were equal to.



Above, a spectacular balcony shot of the Opera House auditorium and chandelier. Right, Strand Lighting's Ivan Myles with consultants Dan Watkins and Seb Frost and David Wilson of Commercial Electronics
Opera House photos: Stuart Macalister Photography

The company then turned their attentions to the control element. "Dan liked the idea of the main console having a back-up," explained Wilson. The dimmers are controlled via a Strand 520i 250-channel console, with GeniusPro operating software and Tracker, Networker and Communiqué Pro software. There is also a Strand 510i providing full tracking back-up and additional software has been made available to enable the theatre to run a laptop as another console.

The back-up system works because both the 520i and 510i are networked. The network has been constructed around Strand's ShowNet running on Cat 5 cable into the SN102 node, and then outputting DMX signals to the dimmers and to two of XTBA's DMX splitters, which take it around the building (to nine DMX outputs).

"The Network itself is small, with only three positions, but there is plenty of room for expansion," says David. There are plug-in points in the lighting control room in the Dress Circle, the audio control room in the Stalls, and a Stalls Rehearsal position.

High on the list of preferred lanterns was Strand's new SL spot range. Apart from the SLs, the rig also features a number of other Strand fixtures, among them Quartets, Cantatas, Altos, Coda floods and Iris cys. In addition, there are 20 ETC Source Four Pars, and Selecon Performer followspots.

Meanwhile, Seb Frost (who wrote the original sound spec three-and-a-half years ago, and had subsequently gone on to join Orbital) nominated d&b loudspeakers and amplifiers. The original 902/602 combination made way for eight of d&b's subsequently-introduced full-range C690s and a pair of E18s for the main PA, with four E3s for the stage fills and foldback. The subs are floor-mounted and recessed at dress circle level, and the full-range boxes are also stepped up through the auditorium. The amplifiers are all d&b E-PAC modules.

There is a lot of flexibility within the audio system, via a big patchbay in the control room. In fact, to provide any number of patch-in points, 10km of cable have been fed through the intestines of this edifice. Seb Frost commented: "I concentrated on building an infrastructure for the future. I put tie-lines for TV and audio all over the place - there are more than 100 audio tie-lines and 70 loudspeaker tie-lines as well as AV tie-lines, and on each level delay points and surround loudspeaker points. No-one has to run any additional cabling. If it's a single-man operation, both desks can come down to the stalls, and for a bigger show the lighting desk goes into the top control room."

The d&b system has been cleverly concealed behind grilles. "When we knew that d&b kit had been specified our eyes lit up," say Commercial Electronics. "The product sells itself. When we fired it up it actually managed to stop the building site." Aside from the transparent sound, these compact enclosures provided a fully-integrated package, fitting the remit to retain the grandeur of the interior, with no need for clustering.

The main FOH mixing desk is a 24-channel Soundcraft K2, which can be easily lifted and moved from its control room position. "We pushed for the K2 within the budget as being a board that most of the sound engineers would be familiar with," explained David Wilson. The system is physically set up with delay times (there are numerous delay points) and EQ settings locked out on the XTA DP224



processing. There has been no compromise, according to Seb Frost: "The new balconies are particularly steep, and it was especially important for me to get a high degree of directive control from the PA to make sure I got full frequency cover in underneath them."

Aside from the d&b's, other products changed from the original tender document include the minidisc players (now a pair of the new Sony 1U MDS-E-11s) and Commercial Electronics also provided the SM desk which incorporates a full comms system, cue lights, backstage and FOH paging bar bells and CCTV monitor.

At front-of-house, it supplied the rise and fall operation of the chandelier, as well as two motorised hoists - one for the advanced lighting bar and one for the masking panel. The company is also responsible for the 2.5-tonne safety curtain (and operating system) and a full counterweight flying system.

While Commercial Electronics administered on-site training to technical manager Graeme Humphries, the lighting operator, Niamh Hayward, attended the Strand Training Academy. The technical team is completed by resident sound man/flyman, Matt Journeaux.

Despite their inability ultimately to purchase the adjacent buildings, the Jersey Opera House has managed to create a decent rehearsal space, as well as an audio description room for the partially-sighted - and a magnificent under-stage area. The final word should rest with Christopher Richardson, as he lovingly surveyed the building he had done so much to restore. "I first came over to look at the old place seven years ago and fell in love with it immediately, although it was clearly not very safe. Now I'm delighted with the standard of renovation - it's very exciting for the Island."

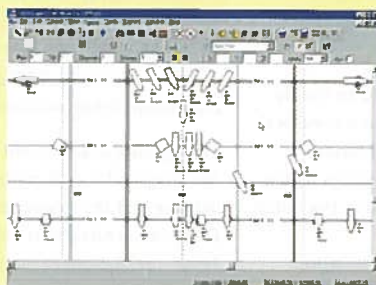


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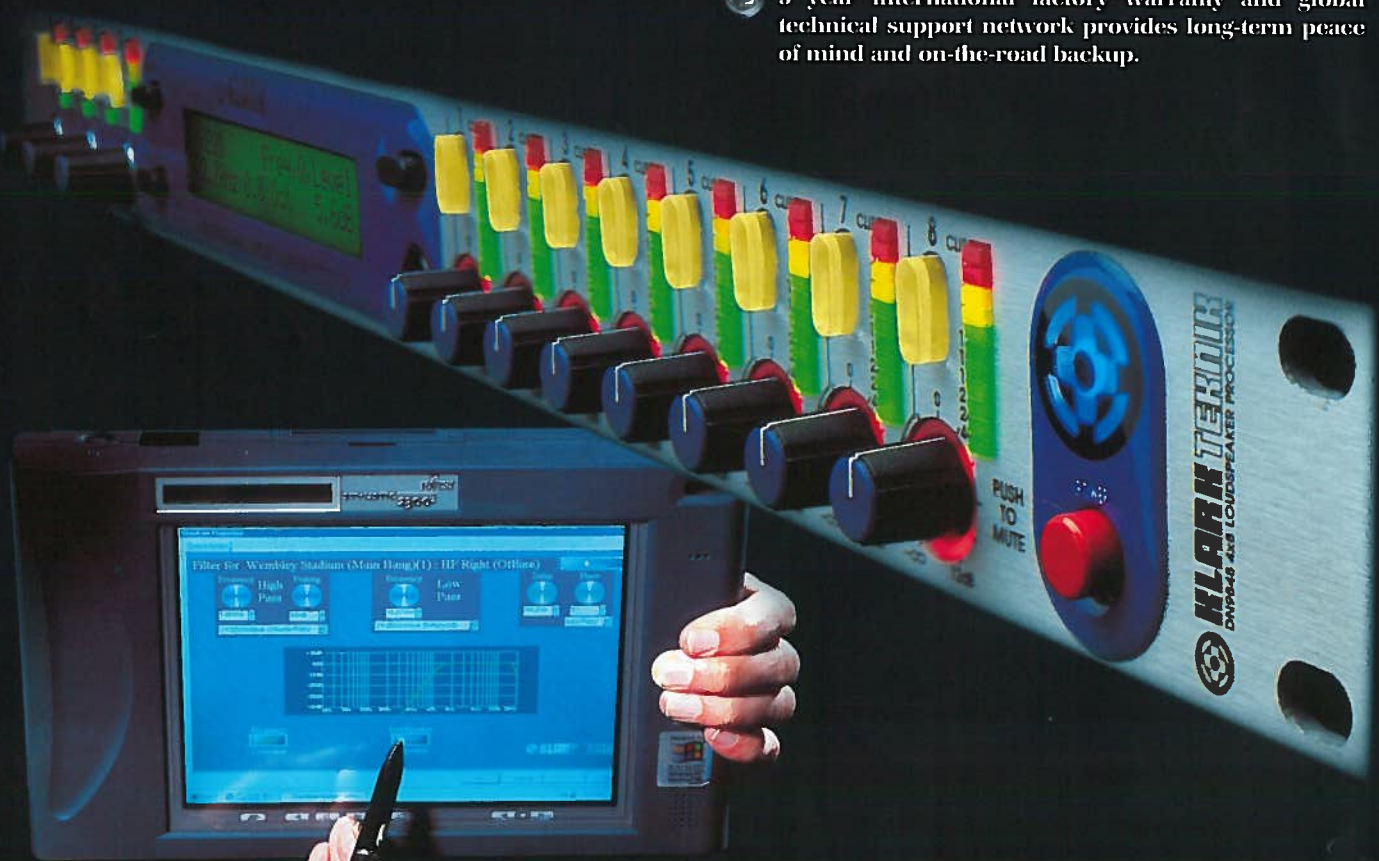
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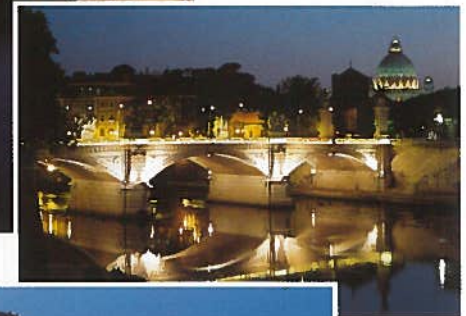


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Reflections of Light

Through the years, ACEA (Rome's city electricity and utility service company) has been responsible for lighting some of the Eternal City's most famous monuments, including the Imperial Forum, Villa Adriana, the cupola and facade of St. Peter's and the Domus Aurea. Mike Clark sheds light on their latest project

With an inauguration ceremony including maxi projections along the Tiber's embankment walls, pyros and shows by songstress Ami Stewart and Roman pop star Alex Britti, the company's latest ambitious project, called 'Riflessi di Luce' (Reflections of Light) is a new permanent illumination system for no less than 17 bridges across the stretch of the Tiber running through the city centre.

ACEA's Remo Guerrini explains: "This project, in fact, enabled us to finally carry out the PGIA [General Environmental Lighting Plan] we originally drew up in 1976 to reconnect the area of the city within the old walls with the Trastevere part," i.e. the part on the opposite

side of the river. Since the majority of the 17 bridges illuminated are open to busy vehicular traffic, the new lighting system had to give priority to ensuring adequate levels of functional illumination. Although the Mannesmann lamp-posts were replaced with C40-type posts on bridges built between the end of the nineteenth and the early twentieth century, bridges lit with artistic balustrade candelabra retained them, as they're considered historicised at this point.

Almost all the instruments were fitted with metal halide lamps with a colour temperature of 3000-4000°K to favour the perception of the numerous important architectural components and details, and form an ideal link with the river banks with their light.

As well as functional lighting, the architectural illumination was studied in-depth, with the aim of producing a design ensuring the accentuation of each bridge's particular features, wherever possible avoiding long-throw projected light in favour of more precise illumination closer to the structures. To emphasise the arches, fixtures are located under the intrados to obtain a cross-wash of the masonry and accentuate its sweep.

Obviously, to ensure that the installation was as non-invasive as possible, compact instruments were chosen, but parapets, sculpture and decorative elements are accented using a system already installed in Piazza del Campidoglio and at the Montemartini Art Centre: 40mm diameter Waldman tubular fixtures, three to six feet long and fitted with 36W fluorescent lamps; in this case mounted up against the stringcourses on strips of travertine glued to the bridges with silicone to avoid the risk of infiltration if holes were drilled. The marble sculptures on several bridges are lit by fixtures recessed in the pavement below.

The sides of the bridges are lit with compact instruments installed on the stringcourse and the pilasters with a colour finish matching that of the material used to build the bridges. The construction materials were also borne in mind

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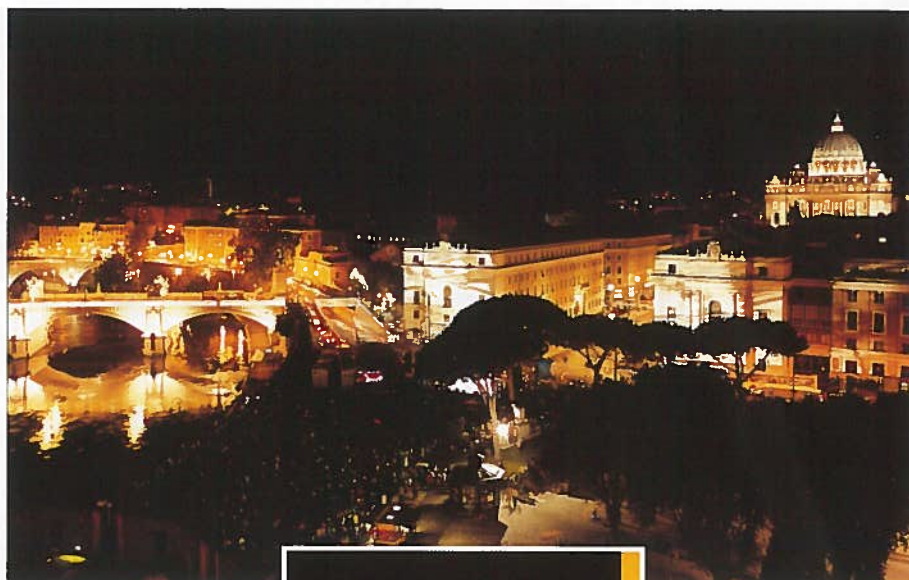
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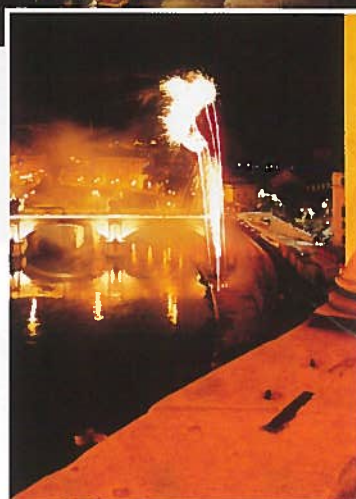
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when choosing lamps, opting for white light and high colour rendering.

The Cestio and Fabricio bridges are on the Isola Tiberina, an island in the centre of the river, as are the ruins of the Ponte Rotto: the island also hosts a hospital which is still in use, a church and ruins from various periods, which were also illuminated as part of the project (89 fixtures were used for the island alone).

Particular attention was taken with Sant'Angelo Bridge, the site of the inauguration ceremony and claimed by many to be Rome's most beautiful bridge. The statues of the angels are lit by instruments fitted on the existing posts and the illumination angle gives a particularly suggestive view of the bridge from the banks. Following directives issued by Rome Town Council's Cultural Property Department, the oldest of the bridges (Milvio, Fabricio, Cestio and Sisto - built in



The impressive opening ceremony which ran a series of projections along the Tiber's embankment

109, 62 and 46 BC and 1473 AD respectively) were illuminated with projected light from fixtures installed on

the embankments and fitted with barndoors to avoid troublesome light spill. The 1,227 fixtures installed on this project were a combination of Waldman RL128/408, Schreder (Terra and RD3 250 and 400), Bega 8611/R, Philips Deco (606N 150, MVF 617 250 and 616W 150), Thorn Contrast (150 and 400), Ruud (directional flood 35 and 70, MPR 515, MAC 415, 16CF 440 and 16AC 525), iGuzzini Platea (70 and 150), Reggiani (Metamorphosis 100 and 150, Scoop AS 150 and 400) and Platek 8010144 WF (150 and 250) instruments, at a cost of 1,352 million liras (over £420,000 pounds).

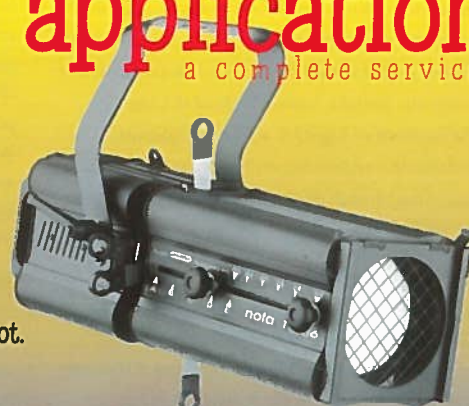
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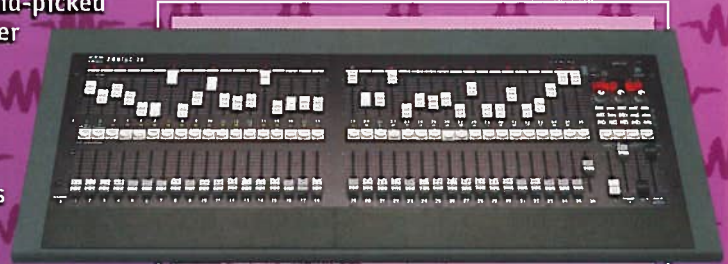


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Ian Herbert, Asleep in the Stalls...

So the *Witches of Eastwick* have flown in. They got a better reception from the critics than most of this season's new musicals, though many of the comments were still pretty grudging. What nearly everyone was able to agree upon, at least, was the show's technical excellence. I saw it a few nights into the run, and it really did work well.

"Never mind. *Witches* is, as I say, a technically splendid show, one which restores the good name of musical comedy and lets technology become the production's servant, not its master."

BOB CROWLEY'S no stranger to musicals - he did the magnificent NT Carousel in 1992 - and his sets here are another high point. They start modestly enough, with a big open stage that allows the dancers full freedom, and some charming architectural cut-outs that hint at the *Wizard of Oz* meets Norman Rockwell style of the show. Crowley keeps his powder dry for the big set-pieces to come, achieving the effect by the contrast with the simplicity of the basic setting.

INTENTIONALLY OR NOT, they have an

element of homage to other designers in them: the satanic Darren van Horne's pad is a scarlet version (staircase and all) of Gloria Swanson's house in *Sunset Boulevard*; the downtown diner which transforms splendidly into a Wurlitzer has echoes of *Grease*; and the collapsing church, which catches fire spectacularly at the show's climax, is a close relative of Ian McNeil's house for *An Inspector Calls*. The total effect, however, is solidly Crowley's - and very nice too. Of course the biggest set-piece of all is not by Crowley but by Foy: when the three ladies of Eastwick leave

their sofa and rise into the air above the stage, you can still say 'Oh well'. It's when they launch out across the stalls that mouths open wide.

THAT EPISODE doesn't fox LD Howard Harrison, as the flying figures are tracked by Wybron's Autopilot followspotting system. The witches' aerial journey is always highlighted, while gobos rake the walls and balconies. Harrison is in superb form: big washes for the intense, witchy moments, bright, sharp coverage of the toytown village of Eastwick, and sweet moments like the pop-up footlights that accompany a frontcloth dance number, complete with foil-strip curtain, straight out of *Cabaret*.

THE SOUND, by Andrew Bruce, however, is just that teeny bit bumpy. It's not that the cover isn't there: the voices are respected throughout, not too overdone and always in proportion to the band. My quarrel is with the authenticity, or rather the consistency of the sound: there's a fine pit band playing some splendidly traditional arrangements by the ever-reliable William Brohn, but there are some times when the band and soloists are so well transmitted that you'd swear they're unamplified, other times when the tiniest touch of tin on top of the reverberation tells you that they are certainly getting Mr Bruce's help. Wouldn't it have been possible to leave the band, at least, to their own sonic devices?

NEVER MIND. *Witches* is, as I say, a technically splendid show, one which restores the good name of musical comedy and lets technology become the production's servant, not its master. There's more good service being done in Regent's Park at the moment, too, where Ian Talbot's happy staging of the Joe Papp *Pirates of Penzance* gives the new sound and lighting installations a thorough work-out. Jason Taylor and Simon Whitehorn must be very satisfied with their balances: a surprisingly classy cast of singer-actors are well looked after, and Steven Edis's arrangements bring out the best in Catherine Jeyes' brass-heavy band. There's some delightful

interplay between musicians and cast and the whole evening marks, I'd suggest, the coming-of-age of the Park musicals. Up to now, you had to indulge them a little, as end-of-term romps in which the Shakespearians (and a few friends) let their hair down. Now, they have a show which would be just as acceptable on any stage indoors.

UP IN YORK there's more good work being done by Nigel Hook, who celebrates his release from having to build £5 sets for the Kings Head with a splendidly ornate row of houses for the Theatre Royal's summer offering, *A Funny Thing . . .* A lot of budget has gone into this very slick show, with LD Richard G Jones allowed plenty of lanterns and sound man Matt Savage giving every cast member a mic of their own.

NO BALANCE PROBLEMS in the Theatre Royal's auditorium, either, with a toga-clad band more than holding their own. Patrick Gwynne's 1967 extension to the Theatre Royal, which gives it two large airy foyers and a tantalising glimpse, through its glass walls, of the Minster behind, has had a fresh lick of paint and the whole theatre looks like the beneficiary of a recent lottery grant. It's wonderful to come across a regional theatre in such good nick - and in such fine fettle, too.

THE NICK AT THE JERSEY OPERA HOUSE is pretty good, also, but that really is a millennium project. You can read about the fine refurbishment carried out under Chris Richardson's Theatre Futures and the MEB Partnership on pages 125-126. I just want to emphasise here what a beautiful theatre has been restored to Jersey, on time and within budget, for a mere £7.5m - about what Keswick paid for another Theatre Futures/MEB job last year. The cost per seat (650 of them) is extraordinarily reasonable, and Jersey's seats are both elegant and comfortable. You might question the random colour-changer which enlivens the theatre's façade at night, but I guess we're talking about seaside entertainment: the title 'Opera House' is an honorary one.

ALL THE SAME, inside the cool blue auditorium, complete with a fine chandelier that flies out, with the top of the pros arch, at the dimming of the house lights, you could easily imagine a classy performing area for *Phantom*. What Chris Richardson has achieved is a house where you should be able to rig almost any show's lighting without those horrible temporary scaffold-bars that crop up everywhere - though a really obstinate LD will doubtless find some excuse for them. The speaker clusters, too, are neatly hidden behind the proscenium, another piece of tidiness to be commended. Can't wait for the *Witches of Eastwick* to tour there, although the ladies might have a spot of bother getting round the chandelier.

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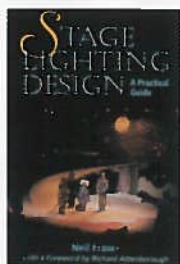
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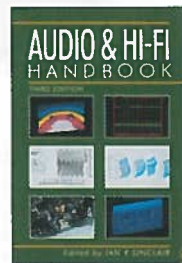
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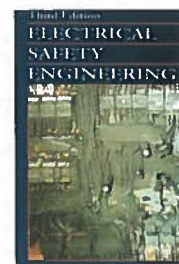
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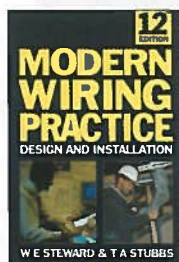
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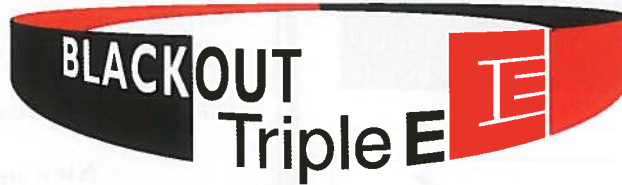
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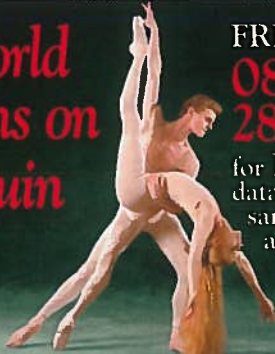


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You should have a first degree in an appropriate subject area, with preferably a postgraduate qualification. Requirements for formal qualification may be relaxed in the case of applicants with outstanding practical experience.

Informal enquiries to Tim Wilmshurst, Head of Division of Electronic Systems on (01332) 591350.

Closing date: 22 September 2000

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In Profile...

L&SI Talks to the Industry Trend-setters

For a man who has been at the forefront of innovative show design and creative direction for 25 years, Jonathan Park is very much alive with new ideas and keen to forge into uncharted territories with his art.

He is well known for his inspirational and creative collaborations with Mark Fisher: these began in 1977 when they met at the Architectural Institute in London, where Park was lecturing. Their elaborate set designs and show direction established bands such as Pink Floyd at the forefront of the stadium rock spectacular. Fisher Park designs always had a sense of depth and a surreal sense of humour. As well as

Jonathan Park is the creative mind behind so many seminal events. Louise Stickland talks to him about his career...

Floyd at their most potent, Fisher Park went on to work with a series of other clients with the vision, budget and determination to broaden the viewing horizons of their audiences. Seminal creations from the duo include Jean Michel Jarre's Concerts in China and tours for the Rolling Stones, U2, George Michael, Tina Turner, Bryan Adams, Simply Red and many more.

After 17 fruitful years, the partnership split in 1994. The writing was on the wall for the stadium rock bands and Park looked to explore new directions. His first big shows under the Studio Park banner came in 1995, when he designed the national VE- and VJ-Day celebrations in London's Hyde Park and Horseguard's Parade, working alongside creative director Major Michael Parker. Park's emotive visuals for the event included show-stopping projections - measuring 150m wide and 15m high - onto the side of the Horseguard's building, using E/T/C Audiovisual projectors. His involvement in the realm of theatre and dance has included designs for *Lord of the Dance* and

the Hyde Park spectacular, *Feet of Flames*, for Michael Flatley.

Trained in mechanical sciences and engineering at Cambridge, Park has always had a natural awareness of form and space.

Architecture - and the lighting thereof - was a natural progression. One of Park's most ambitious architectural projects is the nightly illumination of the massive disused Meiderich steelworks at Duisburg, in mid-Germany's heavily industrialised Ruhrgebiet.

The three-year lighting project was part of a public regeneration programme that has transformed the steelworks into a public park, complete with theatre and entertainment areas. Park loved the "fantastic accreted industrial architecture" of the place, which included giant blast-furnaces, chimneys, turbines, gasholders and hundreds of kilometres of pipework.

Another long-term architectural project has been the creation of Ferropolis, the 'City of Steel' and concert auditorium, constructed from giant excavators in an abandoned open-cast mine near Leipzig. This is currently a much-visited satellite project of the Hannover Expo 2000.

Describing himself as a 'light' as opposed to 'lighting' designer in this context, Park has a penchant for projects with strong intellectual threads and a firm commitment to the local community. He finds this development of a 'cultural infrastructure' stimulating as well as satisfying to his committed socialist politics. He is also a man who likes to live by his own ideals! Not having encountered similar public projects here so far, Studio Park hopes that these European-style schemes will soon find a place in the UK.

For similar reasons, he's shied away from the brasher end of the corporate market. However, as a genre of show presentation, he feels it has great potential for his more challenging ideas to



flourish! Park's recent corporate clients include the giant German publishing house Bertelsmann, Daimler-Chrysler (Mercedes) and Sapphire (SAP): he has also produced a multi-media show for the opening of SAP's Y2K congress in Berlin.

Neither has Park let his rock and roll slip. As creative designer for the sold-out Roger Waters *In The Flesh* US tour, he produced the show's visual underpinnings - giant scenic and illustrative projections. He also pulled a leaf

from rock's visual history books, resurrecting the arcane - and as yet unsurpassed - practice of large-scale liquid projection. He even managed to coax Peter Wynne Willson (see July issue), the greatest practitioner of the art, into setting up the system in production rehearsals, and training the tour technician and operator.

Looking to the future, Studio Park now has Mark 'Max' Maxwell - a designer, painter and video artist in his own right - onboard to help direct the company into the 21st century. Initially working with artist and producer Brian Eno, Maxwell has also art directed many film, television and theatre productions and enjoyed a dynamic working relationship with Jonathan Park for several years.

Park's commitment to technology has always been ahead of its time. Always a great believer in producing multi-layered environments, he has pioneered the use of both hand-painted and digitally-generated large format stage projections, and is currently experimenting with using digital video in new and exciting contexts.

"The huge diversity of Studio Park projects and experiences over the last six years has set us off on many new creative and artistic directions," he adds. "Moving forward from conventional design and going with the flow of new media is demanding, but infinitely exciting!" ■

Lighting & Sound INTERNATIONAL

Advertisers Index

AC Lighting	47/86/89/102/114/121	Colourhouse	16	Klark Teknik	128	Neutrik	118	Sound Workshop	73
Adam Hall	30	Columbus McKinnon	50	Laser Grafix	74	Northern Light	94	Soundcraft	13
ADB	43	Complite	31	Le Maître	66	Oclic	72	Spirit by Soundcraft	35
Aliscaff	59	CTS	16	Lee Filters	4	Orbital	84	Stage Electrics	65
Alistage	16	DHA Lighting	51/53	Laisuretec	9/IBC	Par Opti	34	Stage Technologies	130
Allen & Heath	85	EAW	49	Light Engineering	110	PCM	34	Star Hire	76
Allman	124	Electronic News	82	Lightfactor	98/104/122/130/132	Peavey	123	Stardraw.com	10
Ambient Lighting	114	Essential Lighting	81	Lighting Innovations	87	Philips	21	Strand Lighting	45
Artistic Licence	6	ETC Europe	55/77/113	Lighting Technology	69/91/99	Procon	OBC	Strong/Xanotech	88
Avolites	42/79	ETNow	90	Lightprocessor	106	Pulsar	33	Synrolite	76
Bandit Lites	46	Effects Co	24	Lite Structures	118	Ra'alloy	109	Tannoy	100
Beyerdynamic/XTA	56	Flame Light	90	Look Vertrieb	80	Rainbow (Lightpower)	95	TMB	32/92
Blitz	19	Flashlight	90	LX Designs	126	RB Lighting	68	TOA	105
BSS Audio	117	Formula Sound	52	MA Lighting	62	RCF	127	Tomcat	22
Chainmaster	29	Fuzion	58	MAD Lighting	60	Rosco	39	Total Fabrication	11
CIE	133	Gala	65	Maltbury	94	Rubber Box	61	Trantec	23
Cirro-Lite	18	GET	71	Martin Audio	70	Scanlite	116	Triflite	68
CITC	8	Harkness	121	Martin Professional	14-15/75	Selacon	63	UVFX	64
City Theatrical	12	Hand Held	109	Mobil-Tech	44	Sennheiser	67/93	Vari-Lite	5/26-27/40-41/
Classified/Recruitment	144-145	High End	3/7/57/59/61	MTFX	59	Set Lighting & Sound	110	White Light	48
Clay Paky	37	Howard Eaton	36	Multiform	131	SGM	IFC	Wilkas	68
		HW International	17/25	Multi-Lite	54	Smoke Factory	38	Wybron	20
		James Thomas Engineering	28	Navigator	78	Sound Partner	97	Zero 88	83

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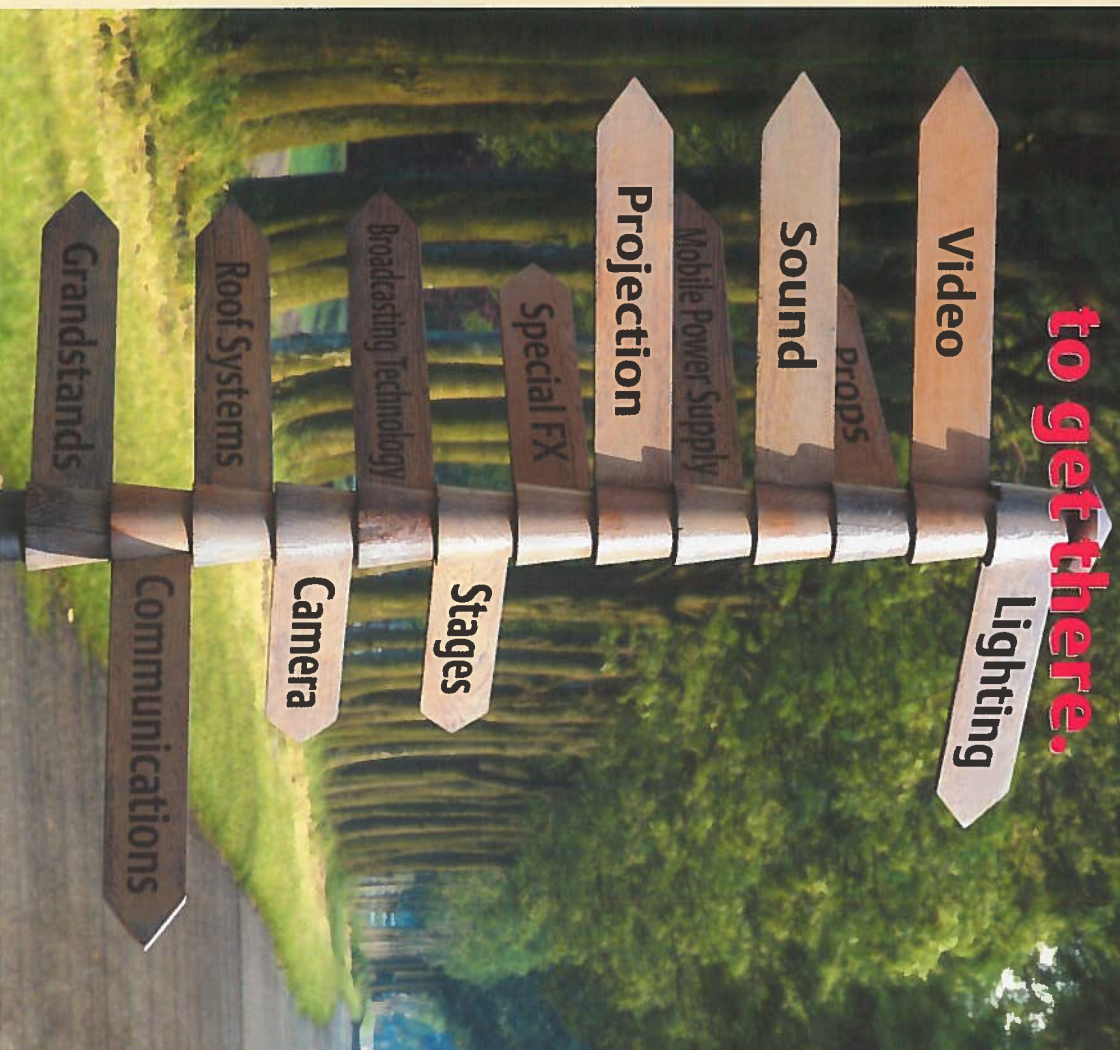
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