

Lighting & Sound INTERNATIONAL

November 2000

The Entertainment Technology Monthly

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Ceremonies

- The Opening and Closing Ceremonies of the Sydney Games

L&SI RoundTable

- The first in a new series of round-table discussions

Aiming High

- Robbie Williams and Sarah Brightman

Rock Culture

- Experience Music Project, Seattle

Rising to the Challenge

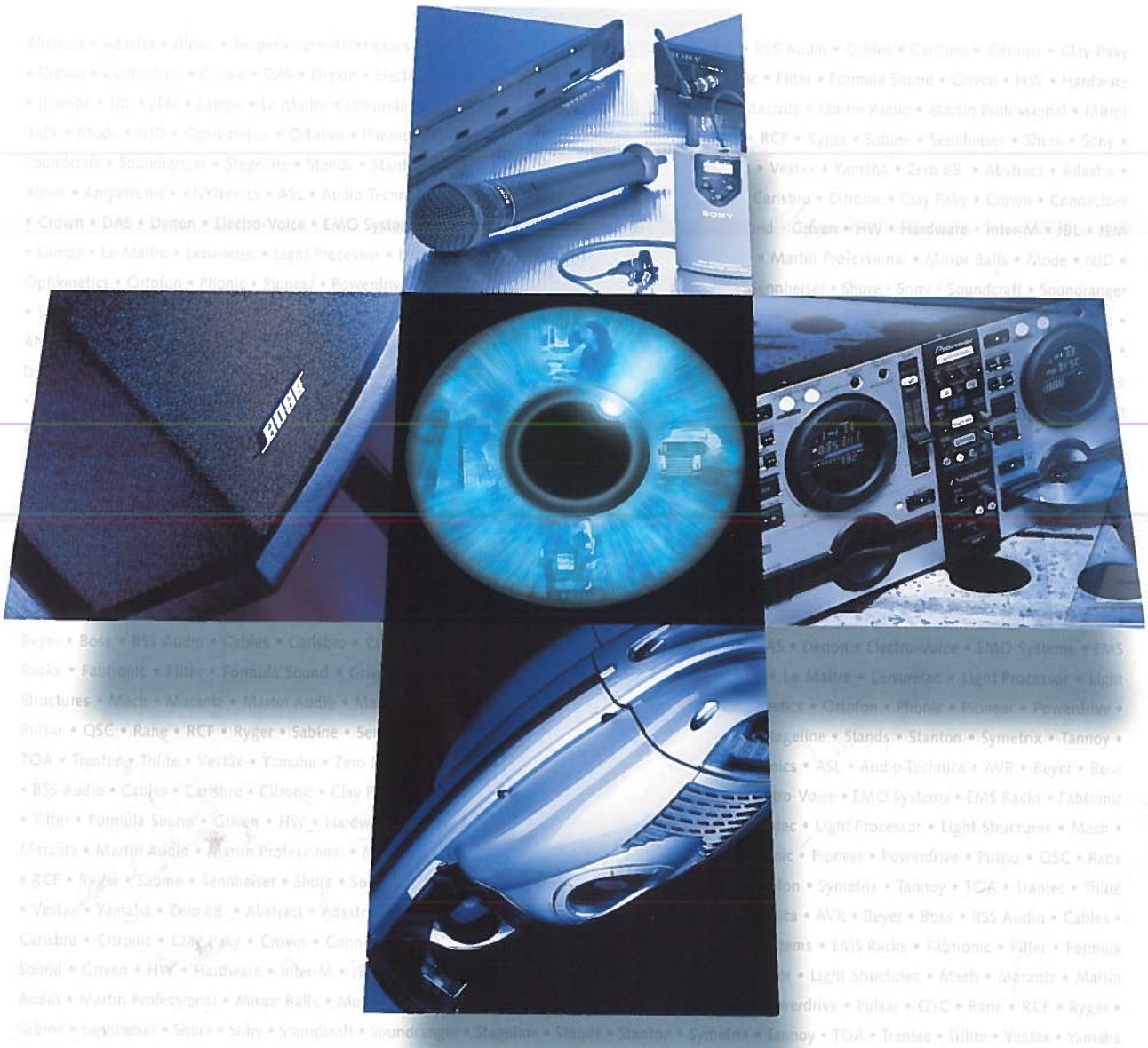
- Lee Towers at the Ahoy

AES 2000

- The audio buzz from LA

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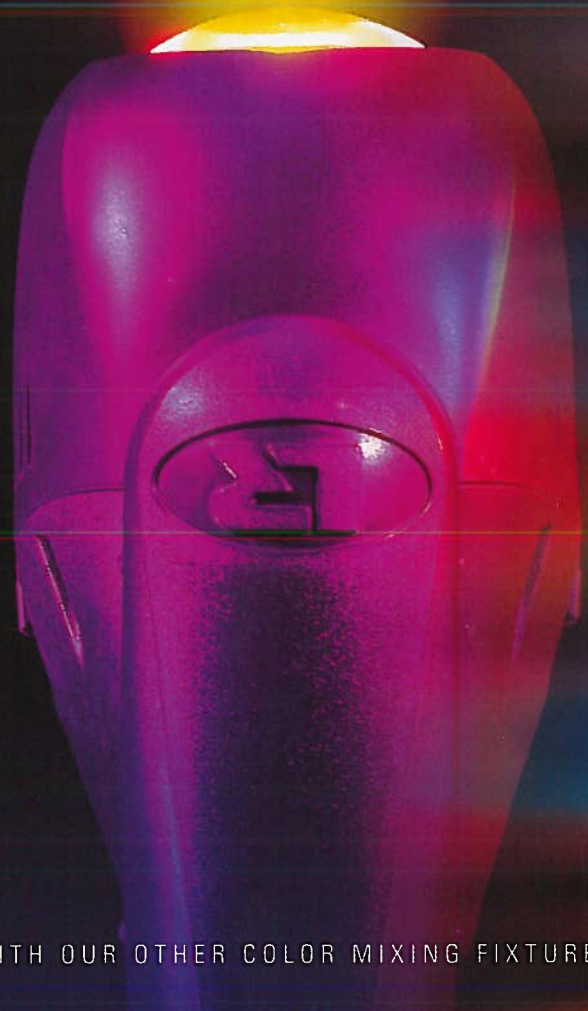
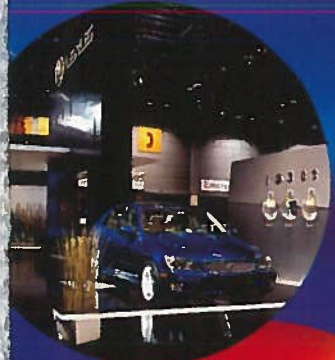
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Lighting & Sound INTERNATIONAL

November 2000 Volume 15, Issue 11

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Lighting & Sound INTERNATIONAL

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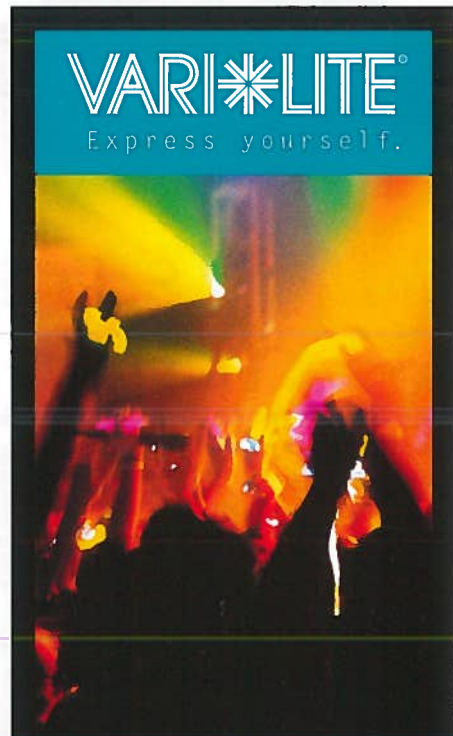
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Vari-Lite Sells Showco and Completes European Deal

Two of the USA's largest sound reinforcement companies are to join forces. Vari-Lite International Inc has entered into a letter of intent to sell Showco, Inc, its sound reinforcement business, to an affiliate of Clair Brothers Audio, Inc.



Vari-Lite CEO Rusty Brutsché, pictured recently at LDI, Las Vegas.

"The combination of Showco and Clair Brothers will create an impressive sound reinforcement company," said Rusty Brutsché, chairman and chief executive officer of Vari-Lite. "The decision to sell Showco to Clair Brothers was based upon the long-term benefits to Showco's customers and employees as Vari-Lite concentrates its efforts on the development, manufacture and sale of its Vari-Lite systems and continued operation of its lighting rental and production services offices in North America, Asia and London."

Showco, which is celebrating its 30th anniversary this year, was formed in Dallas, Texas, by Rusty Brutsché and Jack Maxson and from the early days of providing touring rigs for such bands as Led Zeppelin, Three Dog Night and James Taylor has evolved into one of the world's premiere audio production companies with a product portfolio that includes the Prism sound system, digital controller,

stage reference monitors, Prism L3 compact loudspeaker system and the Showconsole which was launched last year.

Based in Lititz, PA, Clair Brothers has expanded enormously over the last ten years and has manufacturing and affiliate offices in the US, Switzerland, Australia, England, Mexico, Singapore and Japan.

Formed in the late 1960s by Roy and Gene Clair, the company has a client list that includes Garth Brooks, Mariah Carey, Michael Jackson and U2, Clair also has its own product portfolio that includes the S4 and S-4II

sound systems, CTS system processor, monitoring and custom development sectors.

The deal has been greeted with surprise in the US, where the two companies have battled it out for high-profile tours in the last few years, complete with competitive product inventories. As a result, both companies are considered to control approximately two thirds of the total US touring market. The sale is subject to various conditions but is scheduled to be completed by December 15, 2000.

In a separate move, Vari-Lite has now completed the sale of its operations in Belgium, The Netherlands, France and Sweden to First Events BV, an investment company that owns Focus Showequipment BV in Amsterdam.

Dome Contracts Scrutinised

The industry rumour-mill has gone into overdrive following the news of the arrest of four people in connection with irregularities at the Dome. The arrests came part-way through Scotland Yard's investigation into fraud allegations at the Dome and followed scrutiny of the way in which contracts were awarded. According to a report on the Financial Times' website on October 14, the arrests related to the procurement of a contract by a south-east London lighting maintenance company and focused on a number of individuals at the Dome. L&SI contacted Scotland Yard and the NMEC, but both refused to comment, the latter only willing to say that its internal control system had identified the irregularities and the matter was now in the hands of the police. See No Comment, page 68

Dry Ice Not to Blame

An inquest into the circumstances surrounding the death of student Joanna Smith, 19, who died following an asthma attack, thought to have been triggered by a dry ice machine at a nightclub, has concluded that there was no link between the two. The incident happened at First Leisure's Volts (now renamed The Works) nightclub in Kingston Upon Thames on September 7 last year. Christopher Russell, the barrister representing club owners First Leisure, told the inquest: "This type of machine has never been associated with harmful effects." Coroner Alison Thompson concluded that Joanna had died from natural causes.

Show-Control by Artistic Licence

Purchase online: ArtisticLicence.com

Artistic Licence is pleased to announce the launch of Show-Control - a miniature 60 channel DMX512 controller.

Overview:

Show-Control is a compact DMX512 controller. Operating on either battery or mains power, Show-Control is perfect for trade exhibitions and museum exhibits.

Show-Control can be programmed using keypad and LCD display, by snapshotting received DMX512 or with our offline PC software Show-Edit.

Show-Control can drive a total of 60 DMX512 channels. All fades operate as LTP which makes control of moving lamps simplicity itself.

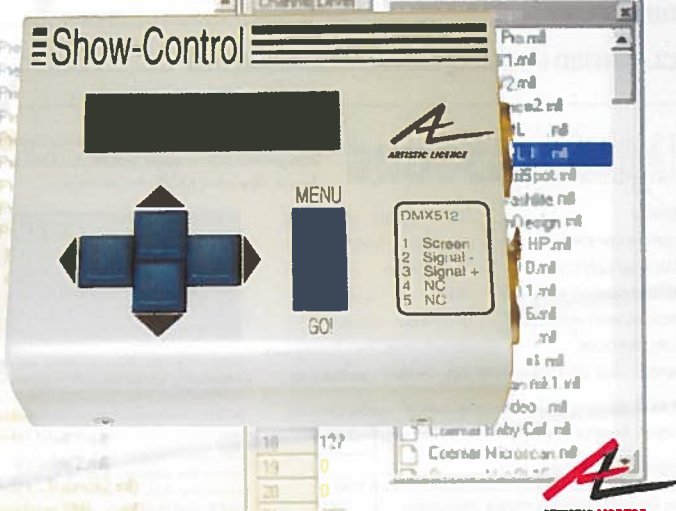
Show-Control is powered by an internal rechargeable battery, with a normal life of 25 hours and uses a high brightness backlit LCD screen.

Show-Control Features:

- ~ 60 channel DMX512 output
- ~ 250 level memories
- ~ 40 sequences
- ~ 4000 sequence steps
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Show-Edit Features:

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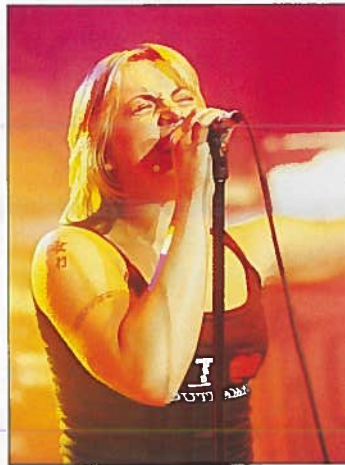
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Pete Barnes, assuming the triple role of LD, set designer and production manager, explained that he had been carrying the idea for the design for Mel C's Northern Star tour in his head for some time.



"I went to the Pompidou Centre in Paris four years ago, and one of the works was a cave by Bernard Buffet, called Jardin d'Hivers. It was very simple - just a white landscape but with heavy black contour lines like you would find on a 3D map. Ever since seeing it I've wanted to do something in that style."

Barnes applied the concept to a design that had to be practical for small-scale touring - Melanie C's first major tour plays to civic halls rather than the arena circuit tramped by the Spiceys. The floor and cyc are decorated with seemingly random lines, and a trio of stylistic trees adorns

the stage, marked out in black and white. The trees themselves, which were fabricated from aluminium section and covered with velcroed fabric, provide suitable mounts for a dozen MiniMACs, which add a further vertical dimension to the two-truss main rig.

The fixtures, which are between 2.5m and 3m from the stage floor, are positioned upstage of the six-piece band and under

crackers for additional effects. Barnes elected to tour with a pair of Stark I200HM1 followspots rather than relying on local stock.

Meanwhile, the on-stage sound set-up had changed considerably since Melanie's showcase UK tour last year. Monitor man Graham Blake explained: "The whole band started off with in-ears, but they felt that the result was a little bit clinical and left them isolated from each other. We've now gone over to a mixed system, with half the band wearing in-ears and the other half using wedges." The wedges in question - Nexo PS-15s - which he had used as band monitors for bigger Spice Girls productions, met with approval from Blake: "Even used as passive

wedges, they sound very good - though it's heavily dependent on the amplifier.

We're using Lab Gruppen power amps on this tour and they sound great." Side-fills are d&b C7s with C4 subs. The change to

a hybrid system has meant the replacement of Blake's diminutive Yamaha 02R console with a more traditional Midas Heritage 3000.

Melanie C's world tour was in Europe during October, and finished in Milan on November 2.

Mike Mann

Northern Star

Barnes' expert direction provide an ideal match for the larger luminaires in the trusses. The total equipment count (sourced from Lite Alternative) includes 12 Martin MAC 500s, 22 VL5s, five 6-way bars and a half dozen 4-light Molefays with colour-changers for cyc lighting. A Wholehog II provided control, with a pair of Deathstar strobes and DF50

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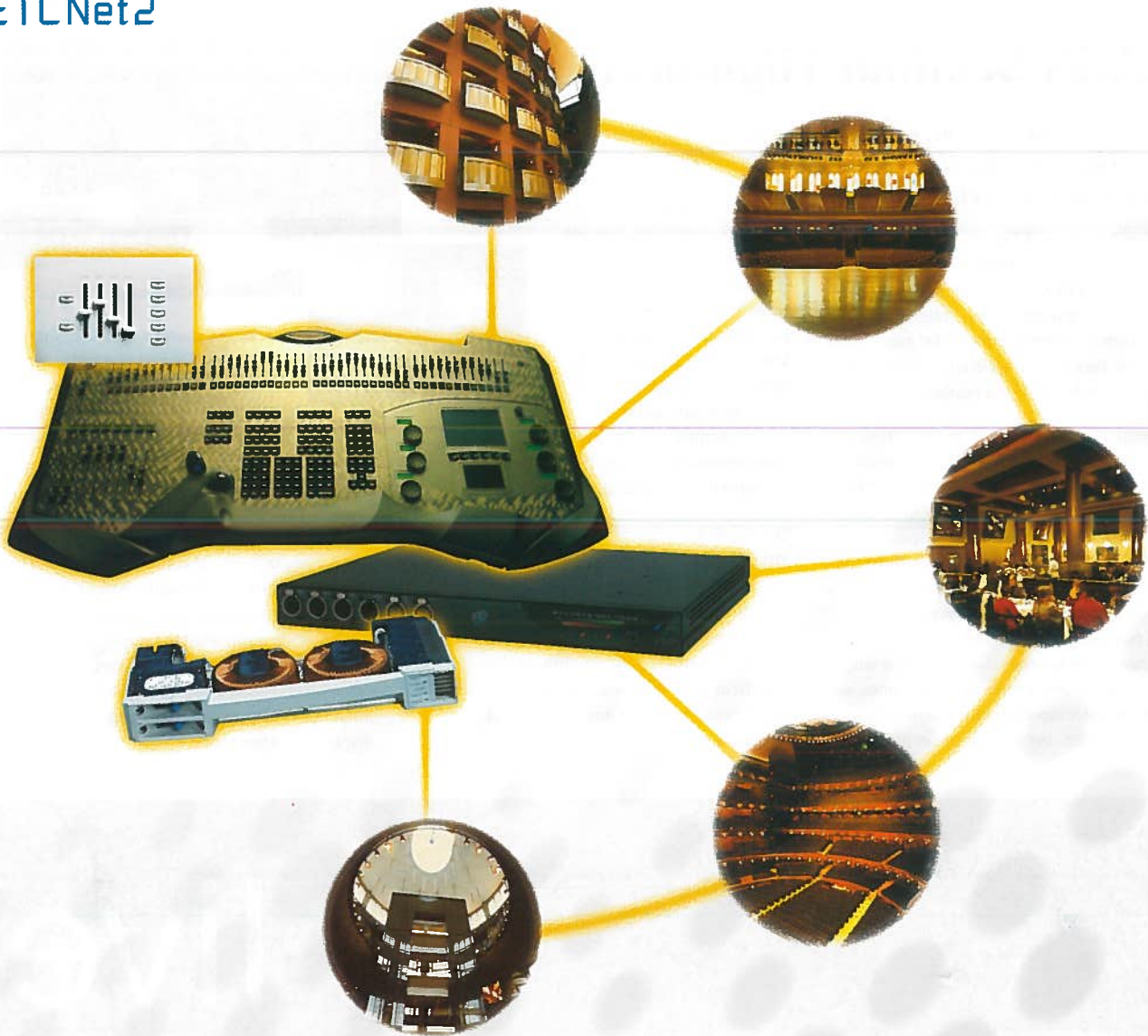
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PLASA Seminar Highlights

As promised in our last issue, we offer you some of the main highlights from the seminar programme at PLASA.

Trends in Leisure and Entertainment (TILE) took a day of seminars to impress their niche upon the many PLASA attendees. Three sessions under the titles 'One Millennium - Two Cities', 'Guts of Mega-Theme Parks' and 'Cruise Ship Show Technology' gave a healthy slice through the rich end of the market.

Yves Pepin from ECA2, Kevin Murphy from Electrosonic and Adrian Hicks from consultants Wave G, gave us a comprehensive view on their involvement in the Dome and the Eiffel Tower events of the Millennium Eve. The speakers enlightened us with fascinating insights to the build-up of such events. It was quite obvious - if you hadn't already noticed - that politics, or rather, politicians, contributed more to the hindrance of the process than any other single factor. Even the sheer scale of both venues was dwarfed by their meddling. But there were positives to offer - because of the ability to

make direct procurement, the issue of sponsorship proved very positive. The overwhelming moral, endorsed by all three was, whatever the gaps and hold-ups, don't wait, just get on with it. A similarly muscular panel met for the other two sessions, the dissertation by Dennis Varian of ETC Europe on the precedence of approach to massive leisure parks, though somewhat dry, was very informative. So too the information presented to us on Cruise Ships.

The day-long series of AV seminars was well-attended. The sessions kicked off by looking at 'Applications of Displays and Screens'. We live in a climate where surveillance and its technology is simultaneously creative and sinister. Whatever your opinion on this minefield area, it is most definitely in a state of fast-moving, constant flux and onward development.



The first speaker was Rob Sherman from Sony Broadcast and Professional Europe. He talked generally about the Public Displays and Dynamic Signage and their

possibilities in terms of advertising, signage and as a digital conveyor of useful - and constantly updating and changing - information. He drew attention to the huge potential of this technology in terms of specifically-targeted marketing. He was followed by Mike Coleman from Barco Digital Cinema. Coleman's presentation addressed the application of the latest high-output projectors in concerts, cinemas and conferences. He also looked at the influence of digital cinema in large screen displays in other areas.

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Elsewhere the AV Consultancy, E-Control and Technology Convergence seminar offered a fascinating insight into current practices and future directions for those involved in the AV industry - both on the home front and on a global level.



Mike Coonie from Auditorium Design and Technology gave an informative talk on the changing role of the AV consultant and provided us with a breakdown of the consultants' role throughout a project. He spoke of the need to liaise closely with the clients, architects and technical team in the quest to effectively turn a mini-studio into an office, as video-conferencing becomes an integral part of the workplace.

To slam home the point of how video-conferencing is changing the workplace and saving companies money in the long term, he cited an example of an international corporation who spent \$30 million a year on employee airfares before installing video-

conferencing facilities in all their branches around the globe.

The Panja team (formerly AMX) continued the session with a look at control systems, including remote

control with diagnostic capabilities and internet-based control. Robin Van Meeuwen from Crestron UK finished off the session with a continuation of the control topic and discussion of LAN/Internet control and communication and the facilities which allow a sharing of resources and a real-time AV helpline. The underlying question behind the morning's talks and discussions seemed to be how to build future technology into your systems.

Other topics covered throughout the day included AV device control, control systems and the implications of the Internet and IP control, the role of AV consultants in relation to technology and show control and staging.

Technology and its application was the theme running behind the Audio@PLASA sessions. In a session which covered the design of sound systems for medium-sized venues, Steve Jones of the Symonds Group talked attendees through the various stages from assessing the needs of the venue through the budgets and on to the final design solution.

He was followed by Deb Britton of US consultancy Peak Audio, who highlighted for attendees the fact of the growing use of Ethernet networks in audio installations. She took delegates through the Ethernet structure, showing how audio network design throws up its own challenges. She also emphasised the need for a suitable infrastructure and the special requirements that technologies like CobraNet impose on a network. The final session of the day, led by Barry Grzebik of Apogee, considered line array principles, covering the applications and methodology behind linear array technology.

In tandem with the main seminar programme, a number of training sessions focused on health and safety issues, offering practical information largely relating to the running of a company.

The Pacific 5.5°-13° Very Narrow Zoom.

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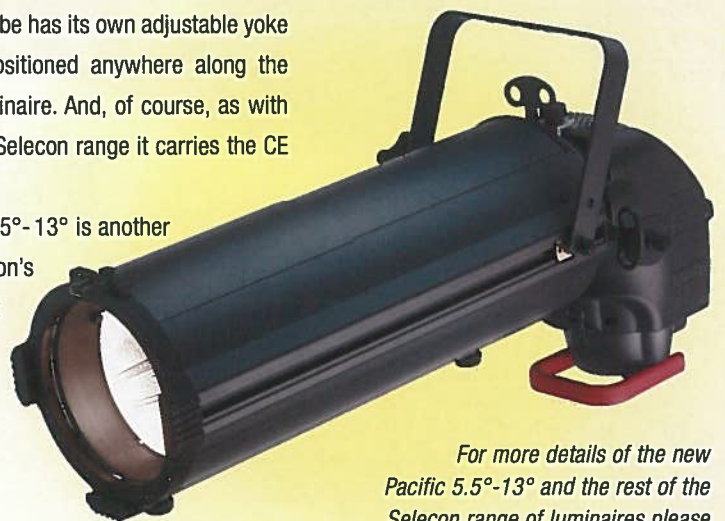
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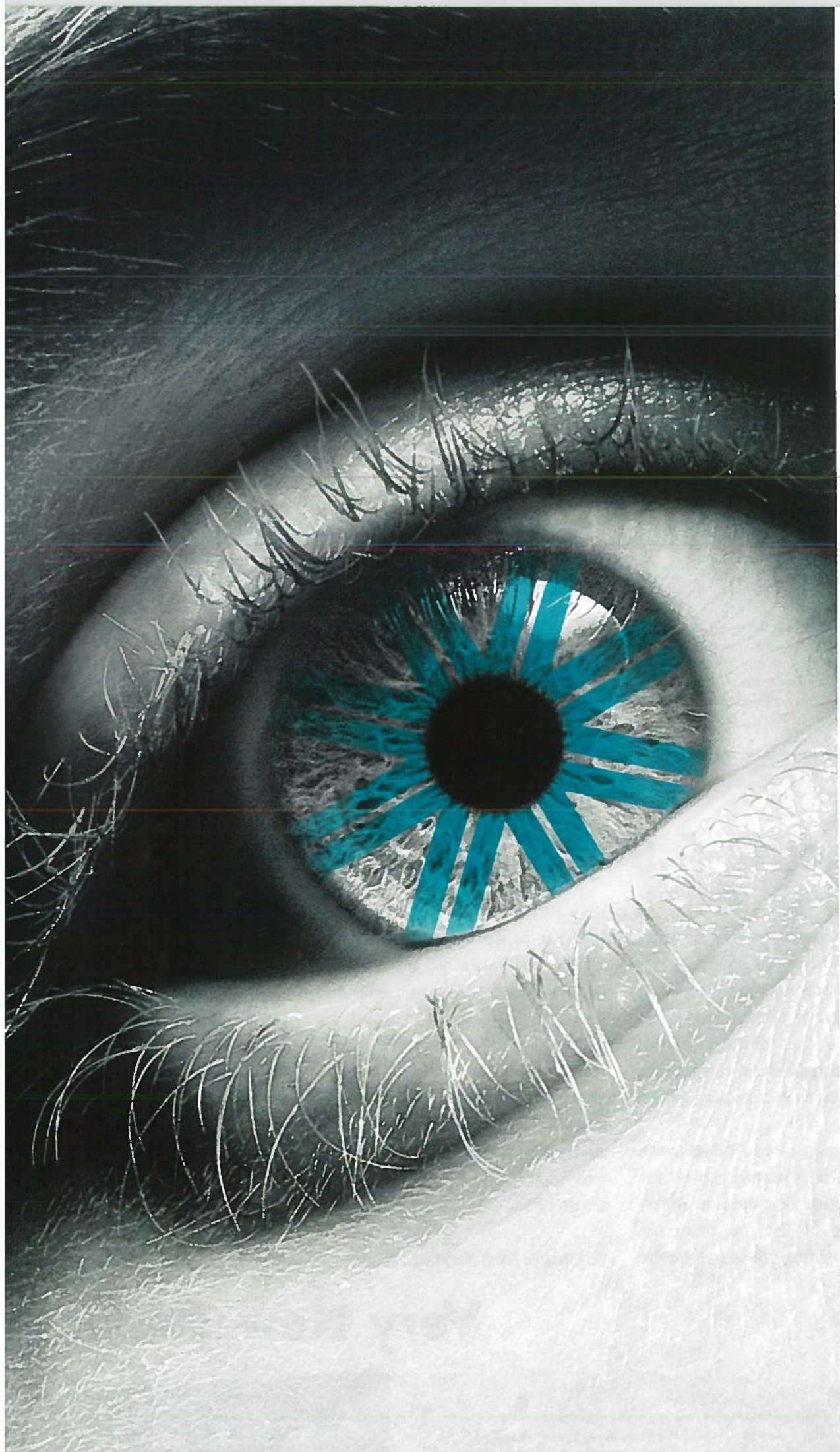
For more details of the new Pacific 5.5°-13° and the rest of the Selecon range of luminaires please contact your nearest dealer.

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Changes at Fourth Phase

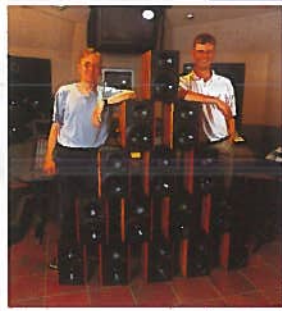
Following the new name comes a new structure for Fourth Phase, the re-branded lighting arm of PRG.

Jeff Senkovich has recently been appointed chief operating officer of the PRG Lighting/Audio Group. He has been with PRG since 1997, joining the company as southeast regional manager. He took a broader role with the lighting and audio division in the spring of 2000 and in his new role is now responsible for all of the operations of Fourth Phase, LSD/Fourth Phase, ProMix and Electrotec in North America and the UK.

Industry veteran **Martee Nuruddin**, previously general manager of Fourth Phase Orlando (Vanco), is now a group vice-president of Fourth Phase, responsible for the rental sales and Fourth Phase operations in New Jersey (Production Arts), Orlando, Las Vegas (Cinema Services) and Burbank (Production Lighting Systems). **Mark Rabinowitz**, formerly the Orlando operations manager, has been appointed general

manager of Fourth Phase Orlando, whilst **John Monaco**, who has a long history with various PRG divisions, has come on board as vice-president of operations at the Las Vegas location. **Pat Little**, previously operations manager of Fourth Phase Las-Vegas has been named general manager of that location.

Concurrent with the rebranding, the offices of PLS and Production Arts West are relocating to new facilities, and will be known as Fourth Phase Burbank. PRG has also expanded its audio operations in the Las Vegas market. The West Coast Audio Group has relocated most of its concert touring inventory from Los Angeles to Las Vegas, but the sales staff will remain in LA. Sister company Fourth Phase Burbank will join them in late October.



LIPA Upgrades with DAS Audio

The world-famous Liverpool Institute for Performing Arts (LIPA) has re-equipped its five-studio recording complex with DAS Monitor 6 close-field monitors throughout.

The order for 13 units includes the upgrading of studio 2 to full 5.1 surround sound production capability. The new Monitor series from DAS Audio marks the company's return to the studio market after almost 30 years of exclusively designing and manufacturing sound reinforcement systems.

Paul Nunnington, DAS product manager, Sennheiser UK (right) presents Jon Thornton from LIPA with the DAS Monitor 6 speakers to re-equip the five-studio complex.

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LCS has introduced, through its newly-appointed UK distributor Sound Dept, the CueConsole - a modular control surface which replaces the conventional front-of-house sound mixer.

LCS Unveils CueConsole



CueConsole's approach to digital control

surfaces is its adaptable modularity. Four types of control modules interface with the core of the system - the SuperNova or new Matrix3 audio engines. (The foundation of Matrix3 is the 3U LX-300 frame. Up to 32 of these can be linked, supporting a maximum of 400 inputs and 512 outputs.) Because CueConsole is merely a control surface, with no audio passing through it, the interface back to the audio engine is standard network interface cable. As a result, the modules can be set up in the conventional FOH position, or sited in different locations.

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Is Time Running out for 28% of the Sound Systems Industry?

Over a quarter of all UK sound systems companies will not see out 2001 in their present shape, according to Plimsoll Publishing. Identified in their new First Edition 2001, Plimsoll Portfolio Analysis they are predicting in 2001 these companies will disappear, be taken over or be forced to change to stay in the market.

The analysis, which included 1019 companies in total, predicts that the Winners and the Chancers, who are capturing market and profits with a combined sales growth average of over 15.2% are pushing the Losers out of the market. As they try to maintain sales and profit targets, acquisition activity could intensify in 2001.

The First Edition 2001 describes four types of company strategy. The Winners have low borrowings (debt) as a % of sales and have high sales growth. The Chancers have high borrowings and high sales growth. The Sleepers

have low borrowings and low sales growth, whilst The Losers have high borrowings and are growing below average.

For these 131 Losers, time is running out. Their level of debt is high at 38% of sales on average. These companies have lost market share and sales growth average for the latest period is showing an average decline of 11.5%. Their margins are showing a loss of 2.0% on average and almost 60% of them are loss-making. They have borrowed to stay in the market, but how long can this strategy be maintained?

For these 131 Losers, time is running out. Their level of debt is high at 38% of sales . . .

The publication contains an up-to-date analysis of 1019 UK sound systems companies covering their last four years of trading. To order a copy call Jennifer Ovington on +44 1642 257800, or for a full version of this particular research visit www.plimsoll.co.uk. Readers of L&SI can obtain a 5% discount upon ordering.

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All Aboard

PLASA Members Baldwin Boxall took advantage of the one storm-free day in October to invite a host of clients, colleagues and friends to join them on Sussex's equivalent to the Orient Express.

The Bluebell Line was the UK's first preserved standard gauge passenger railway, re-opening part of the Lewes to East Grinstead line of the old London Brighton & South Coast Railway in 1960. Since then it has developed into one of the largest tourist attractions in Sussex, yet it still remains true to its objectives of the preservation of a country branch line and its steam locomotives.

Over 50 people joined Baldwin Boxall on the day thanks in no small part to its growing reputation as a generous host. Terry Baldwin and David Boxall welcomed guests to the picturesque Sheffield Park station before inviting them to take lunch on board one of the Railway's steam locomotives as it journeyed part-way up the beautiful Bluebell Line. Lobster Bisque, Roasted Quail, Beef Wellington and Chocolate and Almond Torte were washed



Terry Baldwin (centre) with Gwen Leaver of Adastra and Maureen Reeves of International Fire & Security News. Inset, Nick Baldwin with L&SI's Jane Cockburn

down with some particularly fine wines - with stops en route to try out the special beers at Horsted Keynes station and allow some members of the party to ride on the footplate of the train before reboarding for yet further refreshments (was it our imagination or did the countryside become more blurred the longer we stayed on the train?).

Those in attendance came from across the industry and included guests from ADT, Next Two, BBC Fire, DNH Loudspeakers, Romers Electronics (from Blackburn), Sound Productions, Dublin (in fact, Gerry McGlinn flew in from Dublin just for the day!), Blick, Instant Fire, SDS, WEAC, PLASA and the ISCE to name just a few.

Correction: Stageline

In our May 2000 issue, we reported that Stageline had launched legal proceedings against Five Corners seeking a number of injunctions to prevent Five Corners from trading.

We also reported that as a result of Stageline's claim being rejected by the Quebec courts, Stageline was ordered to pay \$22,500 to Five Corners.

However our further investigation into these matters has demonstrated that legal action was not taken against Five Corners but against its owner Carl Richard, who counter-claimed in the same proceedings. We apologise to Stageline for any inaccuracies in our news item. As we now understand it, relief was granted to each party in relation to their claims and counter-claims.

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L&S Eye

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Review of the Edinburgh Festival in a recent issue of The Economist.

"You don't drink anymore, you don't take drugs, you don't chase women - why are you doing it?"

Live sound engineer Roger Lindsey's wife questioning his devotion to touring.

"Lighting is closely related to music - it's atmospheric and ethereal, a thought process that is transformed into something that fills a space."

Award-winning lighting designer Anne Militello, profiled in our January issue.

"She's in the attic."

The audience at a New York production of Anne Frank, so infuriated by the actress playing Anne that they couldn't help themselves when the Gestapo appeared.

Turbosound United Play at Chelsea FC

As a prelude to the recent PLASA 2000 show, Turbosound held its annual convention at Chelsea Village - home of Chelsea FC.

The day-long event was attended by a number of Turbosound's international and UK distributors, as well as main installers. Following initial addresses by chairman Mike O'Flynn and managing director Alan Wick, sales appraisal and strategy reports were given by Gary Smith and Bill Woods respectively.



Distributors were honoured with awards for outstanding sales activity within given categories, and the day's formal activities concluded with a briefing about new Turbosound products in the marketplace.

(Reports that Chelsea only allowed in one UK distributor are untrue.)

G-E-T.com Get Together with Navigator

G-E-T.com, a trading portal for the entertainment industry, has formed a strategic alliance with Navigator Systems.

The collaboration is seen as an opportunity for both companies to develop an integrated internet trading platform, utilising a

combination of Navigator System's HireTrack Eclipse package and G-E-T's product-led internet search engine. G-E-T users sourcing equipment through the portal will benefit from faster, targeted product searches. Companies subscribing to G-E-T will be given the option to batch upload their equipment to G-E-T's search system via HireTrack with minimal inputting required. G-E-T will also benefit from the addition of Navigator's customers to its database.



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Dale Announces Elektralite Plans

Keith Dale (pictured right) has announced that he is to represent Group One's Elektralite brand of lighting control products outside the US. Dale, who recently left Celco, has a long association with Group One, who were previously the US distributor for Celco products.

Group One, based in Farmingdale, New York, is the US distributor for Clay Paky and Pulsar,

Celestion, XTA Electronics, Cadac and SPL of Germany. The company manufactures the Elektralite brand of universal lighting controllers for live and fixed installations, including the CP100, the CP10XT and the new CP20. Dale will develop the brand awareness of the Elektralite product outside of the US. More details of the venture are expected in the near future.



The Lion King Roars into BLMC2000

The Broadway Lighting Master Class has lined up an eclectic programme for this year's event which takes place in New York from December 6-10, 2000. Tony Award-winning lighting designer Don Holder will present an in-depth look at his acclaimed lighting for Disney's *The Lion King*.

BLMC has obtained a block of hard-to-get tickets for this sold-out Broadway musical as one of two major performance elements in this year's programme. BLMC attendees will also get to see Radio City Music Hall's Christmas Spectacular at the magnificently renovated home of the world-famous Rockettes. The visit will also feature a one-hour guided tour of Radio City and a technical discussion of the lighting after the performance with LDs Ken Billington and Jason Kantrowitz.

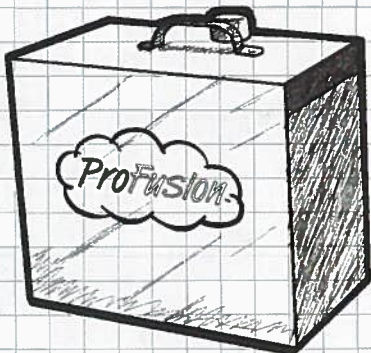
The BLMC programme will feature some of the leading names from theatre. Among those joining creative consultant Jules Fisher (*Jane Eyre*) will be Peggy Eisenhauer (*Cabaret*), Beverly Emmons (*Jekyll & Hyde*), Wendall K. Harrington (*The Who's Tommy*), David Hays (founding artistic director, National Theatre for the Deaf), Don Holder (*The Lion King*), Vivien Leone (associate designer, *Sunset Boulevard*) and Richard Pilbrow (*Showboat*). Additionally, BLMC will feature two special panel discussions: the Lifetime Achievement Panel led by moderator Steve Terry, president of Systems Group/Fourth Phase and an exclusive discussion with members of *The Lion King*'s creative team, moderated by Jules Fisher.

The event will also feature a 'Products of the Century' panel of two full-length, beginning-level classes on programming moving lights. Visit the website to register online or send an e-mail to blmc@intertec.com. All PLASA Members are offered a 15% discount.

Next Two & MEDC

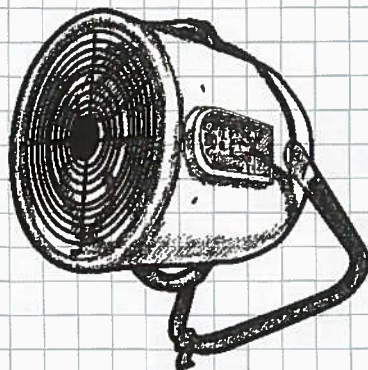
Next Two, manufacturer of PA/VA loudspeakers, has recently been acquired by MEDC Ltd, specialists in the design, manufacture and application of field devices for potentially explosive atmospheres. Managing director, Chris Simms told L&S: "The Next Two product range will complement and extend the existing MEDC range. It is our intention to develop the product line by improvement of existing products as well as the ongoing introduction of new products." Next Two will continue its sales operations from its base at Uckfield, East Sussex, with the same team.

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The Lyric, Hammersmith

The famous Lyric Theatre in Hammersmith has taken a further step towards a digital future, thanks to a Lottery grant.

In addition to new sound equipment in both performance spaces, The Lyric has also purchased a GeniusPro Strand 520i desk - for use in the Main House, and also replaced the dimmers in the Studio Theatre with digital LD90s. The former was supplied by Stage Electrics and the latter ordered through White Light.



Marquee Audio have supplied a full complement of audio equipment. This included a new powered Meyer UPM-IP/UMS-IP system for primary sound reinforcement in the 120-seat Studio Theatre - the first time

any capital expenditure had been committed to this space for some years. Head of sound Luke Manning (pictured, top) chose a 32-channel Yamaha M2500 mixing desk for use in the 555-seat main theatre.

Although Strand's 500 Series desks had been in the Lyric's focus for around the past three years, the purchase was still made slightly earlier than expected. "We mounted a production outside, literally, in Lyric Square, with Mac moving lights running alongside conventionals," explained chief LX Clare Tattersall (inset). "It was impractical to move our existing Galaxy outside - and plotting moving lights on a Galaxy is a tedious process - so rather than hire in a board we brought forward the delivery date."

The 520i was supplied with two monitors - one displaying the cue sheets and the other the channel levels. "It's a 350-channel desk but we expect to expand on that in the future. As we have not been able to afford to replace the Main House dimmers we have had to convert our STM dimmers for digital, but hopefully at some stage in the future we will be able to make the full changeover."

The 120-capacity Studio Theatre has complemented its new seating and sound reinforcement system with five racks of Strand LD90s (one of which contains a block of non-dims), providing 104 channels of theatrical dimming and four channels of house-light dimming.

Currently in rehearsal with a production called *The White Devil*, which is heavy in sound effects, The Lyric has found that the new Akai S6000 sampler has already come into its own. In addition to these items, Marquee Audio also supplied a Sony IU minidisc and CD machine as playback sources, as well as a Lexicon MPXI digital multi effects processor and some Shure, AKG and Crown mics.

The Lyric is both a producing and receiving house, and the new installation has been sensitively carried out to allow visiting productions to plumb in their own equipment. Manning commissioned and installed the system himself - with support from Marquee Audio. "Andy Huffer at Marquee has been very helpful, providing lots of extras, such as cable and multicore, as well as electrical boxes, trunking and everything else necessary to enable us to carry out the installation."

The relationship developed so well that not only have Marquee now negotiated with the Lyric to stage manufacturer showcase presentations of their own at the venue, but have been back to fit an RCF Monitor 8-based system into the Lyric's Cafe, providing them with the audio headroom to soar above the normal level of background music by turning it into its own performance space and staging special events.

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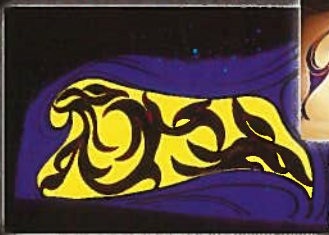


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Images of War

Built by Sir Christopher Wren in 1685, the Royal Hospital in Chelsea is a retirement home for old soldiers - the famous Chelsea Pensioners. The London landmark provided an unusual venue for a technically-sophisticated son et lumiere show, Men in Scarlet, commemorating the Hospital's 300-year history.

Men in Scarlet weaves the experiences of the old soldiers into a story, much of it using the words of the Pensioners themselves as they fight for their country at Waterloo, in the Crimea, against the Boers, and in two World Wars. The Hospital itself acted as the projection screen and backdrop for the light show, while the soundtrack was presented in surround sound.

Manning the 48-input Midas Heritage console for a week of shows was Huw Richards, for many years the front-of-house sound engineer for Oasis - ideal preparation for mixing a soundtrack of great British battles. He and his system techs, Iain Reinhold and Jonathan Hitching, battled torrential rains to present a highly accurate and realistic soundtrack.

SSE Hire of Birmingham provided a predominantly NEXO Alpha sound system which was controlled by a TiMax acoustic imaging system from Outboard Electronics. Stacks of Alpha (each with two M3 mid/high cabinets) were placed at eight positions around the courtyard - two either side of the colonnade which formed



the central projection 'screen', then the other six in a standard surround sound layout. These were used for music and the distant battle scene effects.

For the near-field effect, and carrying most of the dialogue, six SSE PM12 monitors were placed left, centre, right in front of each of the two grandstands.

In each grandstand, an overhead system consisted of rear-facing Nexo PS8 speakers, mounted on a lighting bar at the front of the seating canopy, which were used primarily as delays for narrative and dialogue.

Under each grandstand, a Nexo S2 sub-bass system added a realistic shake to the larger bomb and cannon effects, as well as filling out the frequency range of the surround system. Nine Nexo NX241 digital controllers were used, plus a couple of analogue controllers for the PS8s in the stands.

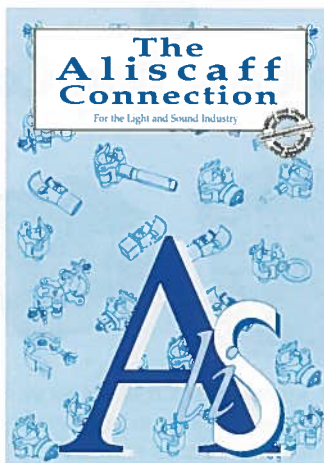
Richards' amp racks were unusual, featuring Amcron, Crest, Lab-Gruppen and the new digital amp from Camco.

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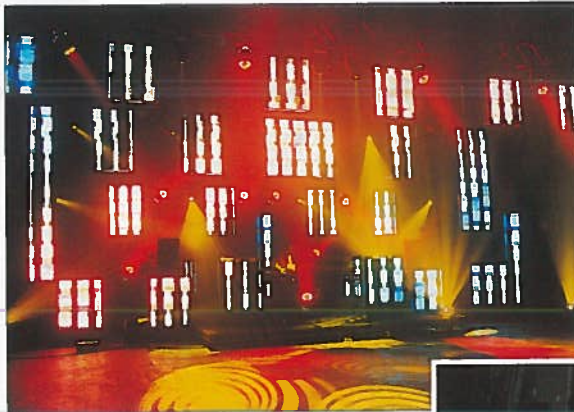


Illuminating Video

Visitors from the lighting and creative media worlds were given a unique preview of the kinetic future when Screenco fronted a two-day Illuminated Video Workshop at Three Mills Island Studios recently.

In association with a prime team of concert service providers, including Vari-Lite Production Services, Avolites, Stage One Creative Services, Creative Technology, Aerial Camera Systems, SSE Hire, ShowSec and Vertigo Rigging, the experimental two-day interactive workshop graphically highlighted how the boundaries between the rapidly-converging disciplines of automated lighting and video displays are being pushed back. The workshop was the brainchild of Screenco's Mike Walker, whose vision for the event was born out of a desire to bring the creative skills of video and lighting together. Production manager for the event was Adam Wildi at Hothouse, assisted by Mary Jefferson from Tiger Productions.

Two leading show lighting designers - Vince Foster and Nick Jevons - were asked by Screenco to blend their visual techniques, with each pursuing a completely different path in two large studios, back to back. For Foster, and VL Virtuoso board operator Theo Cox, it was a conventional live concert stage with a widescreen video display, and for Jevons it was a fast-changing club/dance environment, working in conjunction with DJ



Above, Studio 9. Inset, Nick Jevons (left) with Screenco's Mike Walker

Far page, Studio 8 and inset, the sound team of Robin Whittaker, Justin Grealy, Mick Staplehurst and Huw Richards

Callum Wordsworth to deliver spectacular colour-changing set elements, interacting with live video graphics.

In Studio 8 Vince Foster had produced the 3D visualisation for the band show and presented Theo Cox with the CAD drawings to carry out his own imaginative interpretation. His lighting rig featured 20 VL2416s, 30 VL5s, six VL5Arcs, 18 VL6s, 18 VL6Bs and 11 VL7s luminaires, all controlled by a Virtuoso console. A large (9m x 4m) upstage Screenco 15mm LED video screen took remote tracking images from Aerial Camera Systems and graphics from 2Ci, which were flown, split, trucked and moved by Stage One Creative

Services' Q Motion system. Video director Mike Brown emphasised that this had been backed up with full engineering and camera support - using the Electrosonic Vector image processor. The set design was a challenge that Vince Foster was happy to take up. "I became involved because I used the 25mm LED screens to great effect before Screenco took over Unitek - notably with Zucchero, Steps, Party In The Park and Basement Jaxx. I had been moving increasingly towards video with my shows and had built up a library of atmospheric, non-specific film footage and textures. Often on tours the final decision is down to the client, and suggesting LED screens can be

like offering a crucifix to a vampire - production managers are scared of the content until they have seen it. Hopefully, Illuminated Video Workshop will have cut through those prejudices."

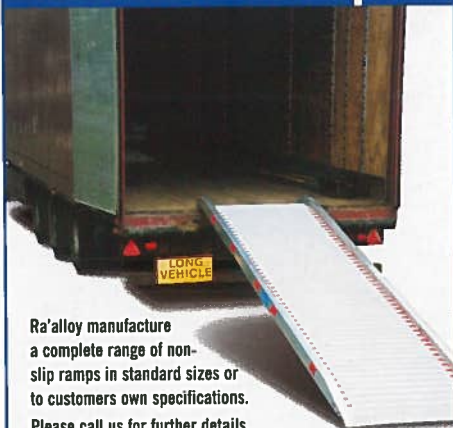
But for most people the dynamic highlight was to be found next door in the

Studio 9 dance environment, where Nick Jevons was firmly in control behind his Avo' Sapphire board. The Super Furry Animals/Reef LD used a DJ set in conjunction with Screenco 25mm LED modules, and the VLPS lighting rig, to present new visual possibilities. While graphics creators, 2Ci's Habs Akram, showcased his interactive video mixing systems, the bulk of the graphics were provided by Sophie Pendrell.

Nick had been recommended by Avolites' Steve Warren after discussions with Mike Walker as to who might capture the spirit of the workshop most creatively. "Steve had seen me on Super



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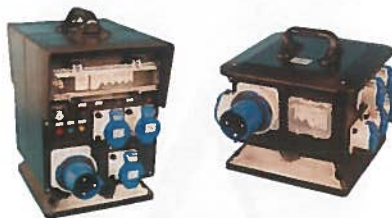


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Furry Animals where we had 28 Sony video monitors, which became my light source. I had tried to figure out how I could light the band without using conventional luminaires, and a video monitor became a light source rather than a definite image. Each 29" module was hung individually and filled the stage."

After conversations with Screenco's Adrian Offord and Mike Walker, he saw a way in which he could extend the concept. Jevons took 32 of the 25mm screens - all hung individually - and built a show comprising entirely of random video graphics, textures, colours and scrolling numbers - much of it computer-generated - triggered from a Mac G3 using Director software. Processing was again via the powerful Electrosonic Vector image processor and the show also utilised three VHS players and mini DV Cam. "In addition," continued Nick, "I have a monitor which is playing back the VHS source material and I'm filming that to create some really interesting images - in other words it's being filmed twice." The lighting in Nick Jevons' show comprised a mixture of VL2416, VL5, VL6 and VL6B luminaires, controlled by an Avolites Sapphire desk.

The genesis of Stage One Creative Services' precision movement of Screenco's LED video screens came from two of the summer's biggest shows, the Royal Military Tattoo 2000 and Party In The Park, where Stage One's Q-Motion system was successfully employed to track giant video screens with millimetre precision. For Stage One, the Workshop provided the perfect opportunity to demonstrate how such large stage elements can be moved in three dimensions, using off-the-shelf systems. Stage One director Simon Whittaker says: "The idea was to show, in conjunction with Screenco, what can be done other than to simply have a static screen - in technology terms, it was effectively 'RMT2000 meets Party In The Park'.

Between demonstrations at Three Mills Island, Avolites control equipment provided a forum for discussion, practical feedback and new ideas relating to how lighting, moving image and digital graphics control systems might develop and become increasingly integrated in the future.

Vertigo demonstrated the neat, precise rigging that is the company's trademark, while SSE Hire, mirrored the video effect experimentation with some aural gymnastics of their own. In the live sound room, the PA comprised eight stacks of Nexo Alpha E - with the top boxes flown - grouped into four output points. A further eight Nexo PS8s, located in pairs to mirror the flown Alpha EM arrays, supplemented the mid/high

frequency. On each side, the Alpha B118 bass units were ground-stacked in blocks of four.

SSE Hire's Mick Staplehurst had designed the system with the intention of being able to replicate the movement of the screens across the horizontal and vertical plane, through reinforced sound. From the FOH Midas Heritage 3000 desk, Mick focused the sound output through the central PA stacks, then as the screens panned, so the emphasis of the output panned through the stacks. Engineers at front-of-house were Huw Richards and Justin Grealy, with



Maddie Novissimo working monitors from a Midas XL3. The system was driven by Crown amplification.

In the dance area the DJ outputs were mixed down

to two channels through a Yamaha M2000 console to provide a stereo input into Out Board Electronics' TiMax delay and level matrix, which in turn distributed the sound to six complete stacks of Nexo Alpha and two SSE Betamax.

A number of different stereo image definitions were set up within TiMax, so that the sound could be centred on different areas of the room and moved around the space. Out Board's Robin Whittaker commented: "The cues were set up to be triggered manually from the TiMax. Cues were programmed to counter rotate the left and right feeds around the room, or zig-zag them up and down or jump or fade them to any desired position in the room. As the track on the turntable breaks up or down in tempo or goes into a percussion break, the pre-programmed cues were used to add a spatial dimension or wild effect to the track. A further two TiMax inputs had been given over to spot effects, so, in addition to the movement of the sound, effects were overlaid at certain appropriate points."

At the end of the two days, Nick Jevons summed up the mood: "Screenco seem over the moon with the results." This sentiment was endorsed by production director, Mike Walker, who declared that due to the overwhelmingly positive feedback, the concept could be progressed through other similar events in the future.

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Toxic8, Cambridge

A major sound, lighting and video installation has just been completed at the new Toxic8 club in Cambridge. With interior design by Steve Howie of Howie Designs, the club's visual inspiration drew on the imagery of Fritz Lang's 1927 masterpiece movie Metropolis. But Toxic8 is anything but silent!



CP Sound won the technical design and installation contract amidst stiff competition: audio throughout was designed by CP's Colin Pattenden with lighting by CP's Russ Evans.

A ground-floor bar acts as a feeder area for the 500-capacity club, and features music and visuals controlled from behind the bar via a six-way switch and volume control installed by CP Sound, together with three Sony K5 televisions and six JBL Control 28 speakers. Additionally, a mobile DJ set-up is available for special events. This consists of a Denon 2000 Mk 3 twin CD player and a Citronic 10/4 mixer and mic. The first and second floors have been fused into one area: the audio

spec here includes another Citronic 10/4 mixer and Denon CD player, two Technics 1210 decks in the DJ box and a customised CP 10/1050 DJ monitor. Dancefloor speakers are two twin 15" 1200W JBL i-746 cabinets, and for the mid-range, JBL 300W MS112 tops, hung in the corners of the void area.

Dancefloor lighting includes three Solar 250 projectors with red infused oil wheels and eight MADScan 411 APs in the void, pointing up and down. Control is from a Pulsar Masterpiece 216. On the second floor, fixtures include two 1500W

Anytronics Megastrosbes, four additional MADScans, two ITM 250 MADScans and four ITM 250 MADStars. Another three Solar 250s with oil wheels are focused on the walls. At each corner of the lighting truss is a 300W JBL MS105 cabinet, pointing outwards above the void.

On the third floor VIP area, CP rigged four JBL Control 25s. Again, the six-way selector and volume control for these is behind the bar, together with a 110-disk CD player. Atmospheric lighting comes from another four Solar 250s with oil wheels.

CP Sound also designed the sound and rigged Control 25 speakers in Toxic8's two stairwells - ensuring that music is everywhere - even in the toilets, which feature Paco 8" ceiling speakers. All speakers throughout the building are driven from the first floor amplifier room, containing a host of control and processing devices including a full selection of RSE amplifiers.

The club launched in time to catch the new academic year where it should prove a popular haunt for the students who, when they have finished debating the schizoid postmodern dialectics of *Metropolis*, can pepper their studies with some serious partying!

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MAC 2000

Profile

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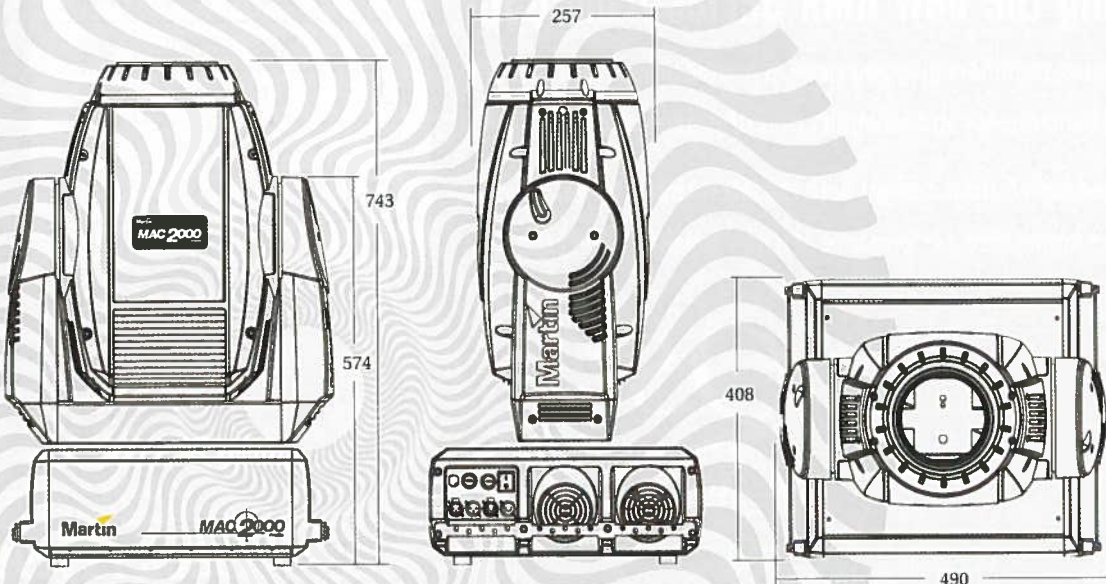
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Another Order for Artistic

At LDI in Las Vegas last month, for the second year running, Artistic Licence received a Cease and Desist order from Color Kinetics Inc (CKI), relating to Artistic's LED lighting systems.

CKI holds a patent in the USA for the control of colour-changing LED lighting systems, and claims that Artistic's LED-based Digital Lighting Product range infringes their intellectual property rights. CKI's Kathy Pattison told L&SI: "We very much respect what Artistic has done in the DMX community, but where LED systems are concerned, we will defend our intellectual property rights."

Artistic's Wayne Howell told L&SI: "They turned up with their solicitor at the busiest time of the show, when the booth was full of customers. It really amounts to little more than a childish attempt at harassment." Howell continued: "We have made a number of approaches to this company to try to find out what it is they are upset about. To date we have not received any coherent response. With regard to their claims, there is simply no substance... I find it rather insulting to be accused of copying another company's design. We're proud of our reputation for innovation."

Pattison, however, told us that CKI has held "multiple discussions, both internally and through counsel" with Artistic Licence.

(Our review of LDI 2000 will appear in the December issue)

Federal Signal in Capital Move

Federal Signal has opened its first London office. Based in Tapping Street in Docklands, the new office provides a regional marketing and sales base to support Federal Signal's strategy of designing and developing voice alarm systems based on its Millbank range. Area sales manager Darren Morgan will head up the London operation.



TMB's Boat Trip

TMB's celebrated annual boating excursion, which took place over the weekend of October 1st, brought together a diverse industry group from the US and overseas. The trip to Ensenada Mexico, drew attendees from as far afield as Mexico (Toma Cinco, Guadalajara) and Japan (Ken Production Services, Inc., Yokohama).

Also represented were Acey Decy, Barbizon, Cinelease, Cinema Services, Delicate Productions, Hollywood Rentals, Location Lighting, LSD, Oasis Stage Werks, San Diego Stage, Starlite Global, TM Motion Pictures and Versales. LSD's Chris 'Tiny' Ward entertained a visitor from even further afield (see picture). Much fun was had, fish were caught, and many hallowed traditions, including the exploding of Elvis, were upheld.

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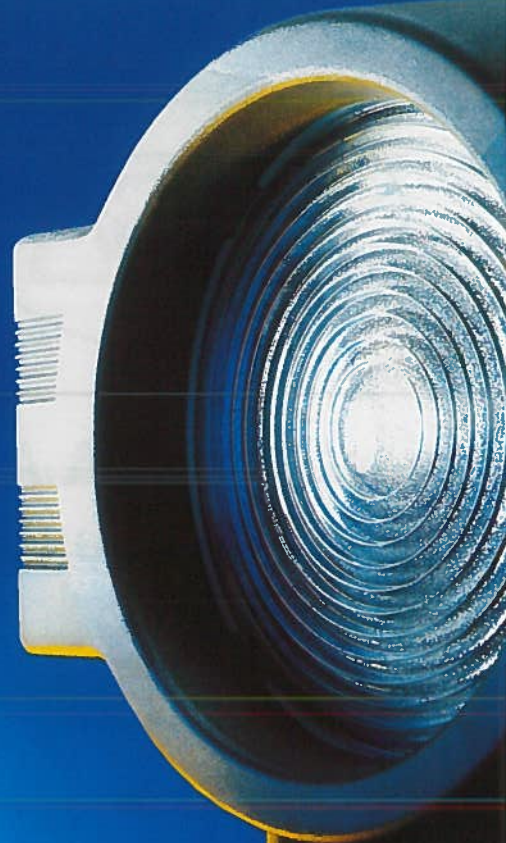
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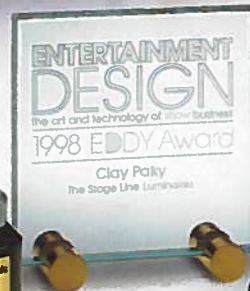


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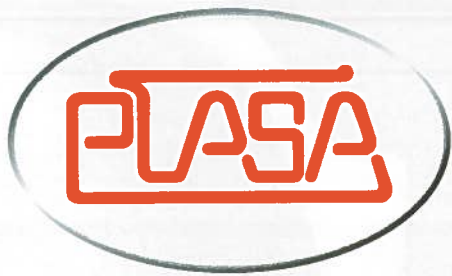
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PLASA Announces SESA Trade Support Programme for 2001/02

PLASA has announced its programme of supported trade show missions for the 2001/02 financial year, under the SESA (Support for Seminars and Exhibitions Abroad) funding programme.

PLASA is able to sponsor four events in 2001. These will be PLASA Presents Light & Sound Shanghai, 4-6 April 2001 (support available for both exhibition and seminars); Showtech Berlin, 10-13 May 2001; AES 111th New York, 12-15 September and SIB International, Rimini, March 2002. In addition to these, PALA Singapore (July 2001) Expomusic Brazil (August 2001) and LDI Orlando (November 2001) are on the reserve list, pending funding reappraisals by British Trade International (BTI).

This programme breaks new ground for PLASA, as it marks the first ever SESA sponsorship of Showtech, as well as PLASA's first direct sponsorship of an AES exhibition (AES 110th in Amsterdam, 2001, will be sponsored via APRS). In addition, 2001 marks the transition of PLASA

SUPPORTED TRADE SHOWS

PLASA SHANGHAI

SHOWTECH

AES

SIB, RIMINI

Shanghai from its three-years under the Sector Challenge programme to fully-fledged SESA funding, underlining the maturity of the event.

SESA is the British Government's system for assisting UK exporters to participate in overseas trade events. It is a Trade Partners UK service run by the British Trade International team of the DTI. BTI

brings together into one unit the import/export teams from UK Business Links, the Foreign and Commonwealth offices in British Embassies, Consulates and High Commissions throughout the world, and the country information desks based at the DTI in London.

The SESA funding programme provides a grant of 60% percent of proven space and construction expenditure, up to a ceiling payout of £2,300; for seminar speakers a grant of 50% of proven preparation and presentation costs is available, again with a ceiling payout of £2,300.

For further details contact Anna Pillow at the PLASA office on +44 (0)1323 410335

New Members -

The following companies have recently joined PLASA.

FULL MEMBERS

Buster Cases, Bury, was formed in 1990 as a manufacturer of flight cases.

Lightfactor Sales, Greenford, was a corporate member, which has now applied for full membership.

Small World Enterprises Ltd, Salford, manufactures PA systems and is a sound and light installer in nightclubs.

Elektroniikkakeskus oy, Finland, was founded in 1977 to manufacture AV control system software and audio matrix systems with control panels.

Power Gems Ltd, Manchester, was founded in 1991 as a manufacturer of electronic ballasts.

ASSOCIATE MEMBERS

Simon Corder (lighting designer) London

Paul Trew (consultant) Newport

Eddie Akka (managing director) Manchester

Tony Walker (company director) Five Ash Down

Simon Adams (electrician and lighting technician) Channel Islands

William Sandleson (retailer, installer and servicer) Glasgow

Ray Gatehouse (audio, fire and security engineer) Southampton

Phil Pike (head of technical presentation) London

Simon Cooke (lighting design, hire and production) Malden

John Hardwick (owner) Loughborough

Ed Manwaring (project manager) Tunbridge Wells

Neil Mayston (supplier of lighting and sound equipment) Erith

Ian McDonald (consultant) Salisbury

RESIGNATIONS

Sound Division Ltd had gone into voluntary liquidation and therefore resigned from the membership.

News as it HAPPENS ...
www.plasa.org/news

Industry Research

Business Diagnostics, the market research company, had now completed its initial fact-finding first stage of PLASA's industry research programme. As a result, research questionnaires are being mailed out to all PLASA's full, corporate and international members in mid November. The intention is to have some baseline results by the end of the year.

PLASA

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Multiform Stays Afloat

No sooner had Sussex-based Multiform Technology Group announced success at the PLASA Show and set out the showroom to include the newest lighting effects from Meteor and Sagitter, than it began to rain!

Multiform's factory, in close proximity to the swollen River Uck - one of the worst flooded in the South East - was also built two feet below the eventual high water mark of Uckfield town, and therefore suffered a great deal of water damage on and after October 12th 2000.

Help came from all quarters. Once the water had receded enough for the factory doors to be opened, the Multiform team with the help of visitor John Lethbridge, rolled up their sleeves and took up hose pipes, brooms and buckets to clear the invading mud and water. Managing director, Iain Price-Smith told us: "Multiform would like to assure customers that business will return to normal as soon as possible. A large amount of stock has been destroyed, and production will be disrupted for several weeks, but thanks to the dedication of the staff, our office is now fully operational again and open to business."



Truss Theft

Between 7.30pm on Monday 6th November and 8.00am on Tuesday 7th November, Essex-based lighting and production company Knight International had one of their 7.5 tonne Iveco Trucks stolen, containing an entire ground support system and two covered PA wings.

Unfortunately, whilst the truck itself is insured, the insurance does not extend to its contents, valued in excess of £45,000. Thieves were possibly oblivious to the fact that a customised Penn Fabrication 32 x 24m roofed ground support was inside the truck. The system had been used over the weekend at an outdoor event, with a get-out on Sunday and with staff resting, the job of unloading had been left till Tuesday. The scrap value of

aluminium is low - the only real value of the equipment is within the industry itself and to Phill Knight and Chris Doy who customised the rig. Knight, the MD of Knight International, acknowledges the scale of the loss, but hopes the company will weather this blow and it won't halt the company's future plans for expansion.

The contents included eight pieces of Penn Fabrications 2.4m pre-rig loaded with Par 64, three pieces unloaded, 10 pieces of heavy duty ladder box truss at 3m, four at 2m, 90° bends, four rolling cages, four winches, six pieces of triangle truss at 3 and 4m and four three-way triangular bends. The truck was an S-reg, with Knight International on the front, the doors and with the company logo on the driver's side. If anyone has any information on this crime, or is offered large amounts of truss for very little money, please contact Knight International on 01245 362133.

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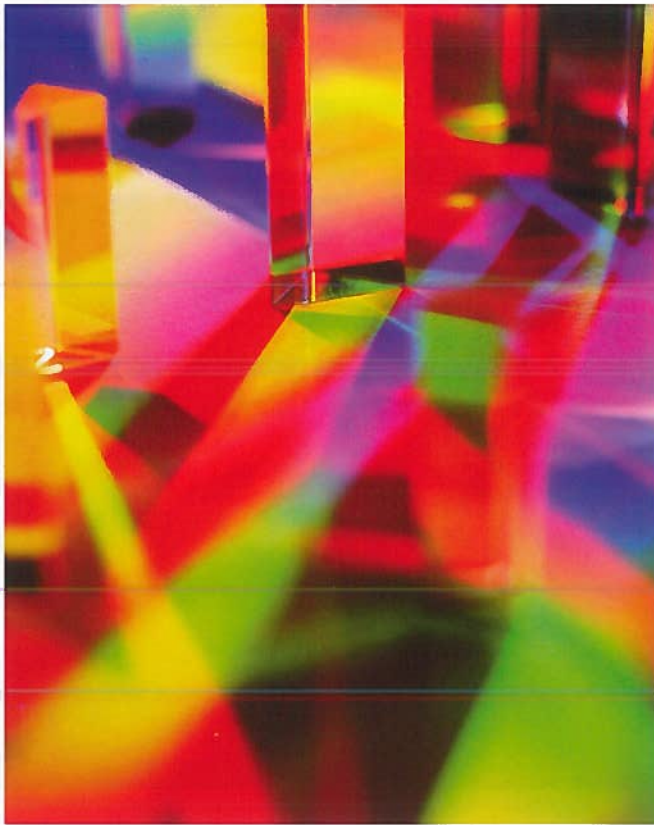
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News
Round-Up



African Revival

Currently wowing theatre-goers in South Africa is African Footprint - a song and dance spectacular, which is set to stride its way into the international arena.

Scheduled to tour Europe later this year, the current home of the production is in the replica of the original 19th century Globe Theatre at Gold Reef City. It was Solly and Abe Krok's idea to copy the original Globe Theatre at Gold Reef City - a theme park recreating early Johannesburg, taking the opportunity to utilise an intended 'mini-plex' cinema whose backers had pulled out.

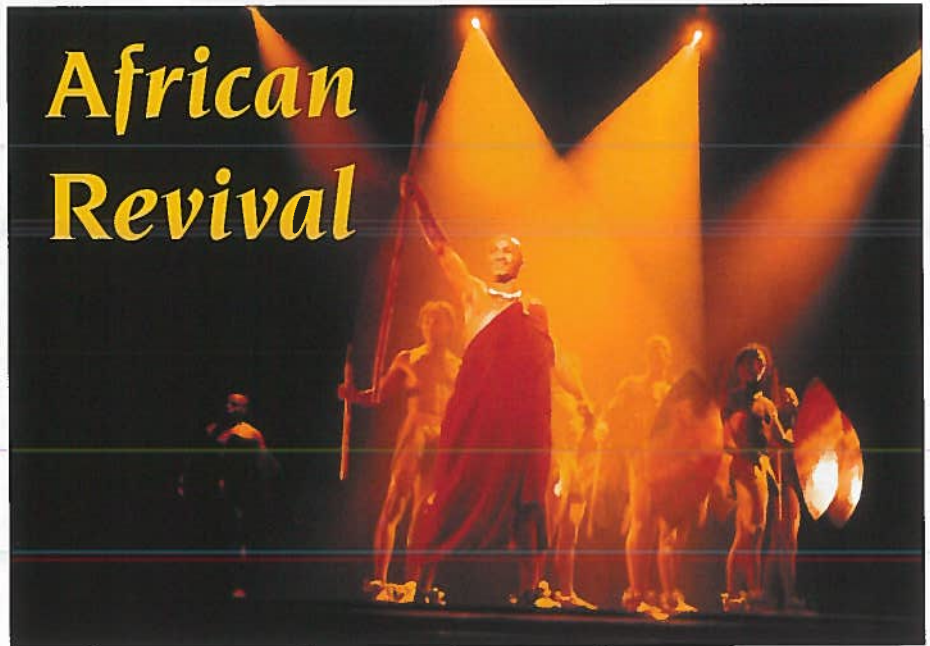
They brought in consultant Richard Loring, and his production manager Debbie Batzofin, who in turn approached lighting designer Denis Hutchinson. The roof of this intended small cinema was raised by two metres, which allowed seven metres clear over the stage and a balcony in which patrons wouldn't have to kneel. But even so, it wasn't possible to include a proper dome in the auditorium (much less a fly tower over the stage). The alternative was a barrel vault ceiling, in spite of the acoustic disadvantages it presented. Fortunately, it was accepted that the type of show staged in the venue would always use amplified sound. Hence acoustically absorbent tiles for the ceiling were specified as part of a scheme to make the room nearly, but not quite, acoustically dead.

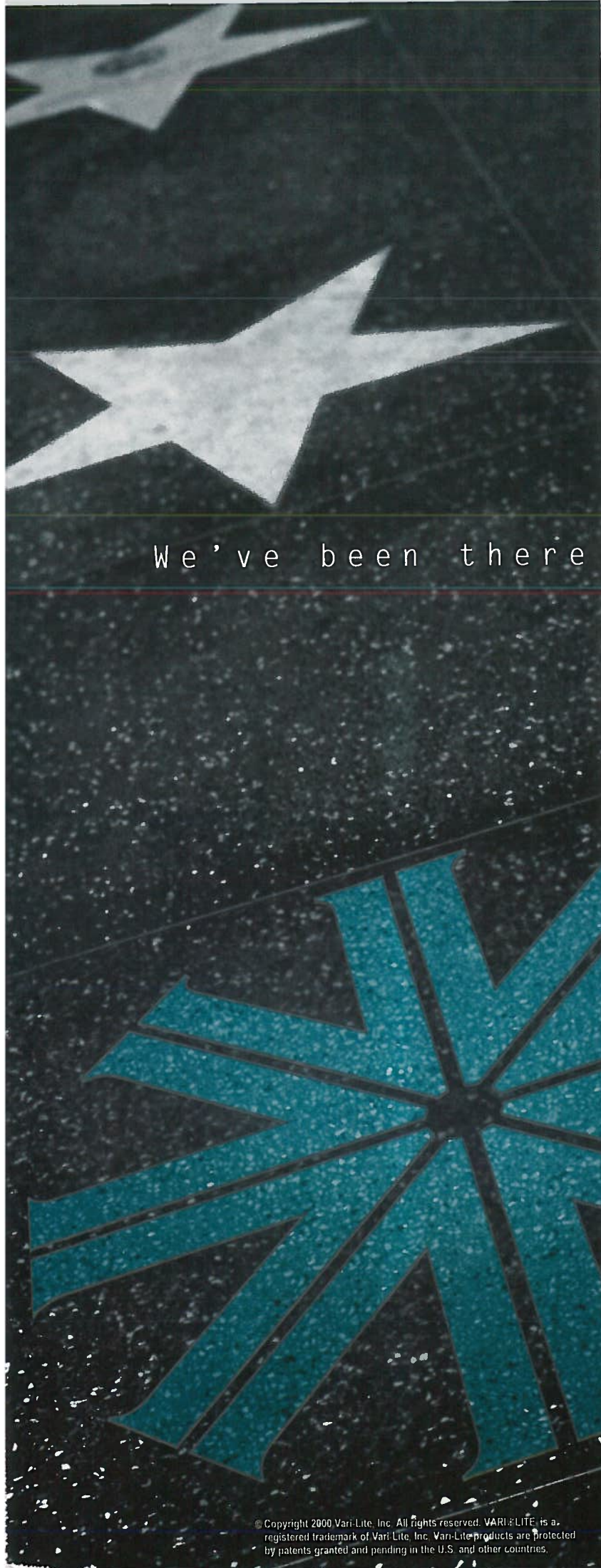
Another fortunate outcome was that the control area for both lighting and sound could be incorporated as part of the auditorium. Sound equipment for the 306-seat venue includes a generous 40-channel DDA mixing desk with 64 balanced lines between control and stage, with a further 12 to the amp room. Speaker lines run through a patchbay from the QSC amplifiers to normal cluster and side-fill speakers (EV Sx300), sub bass (EV Xcb) and "whispers" (EV S40) for both the front rows and the balcony, as well as to effects positions at the rear of the auditorium, and

onstage for monitors. Signal travels through the suspension cables of all the auditorium speakers, which makes for a very neat look. The processing is by Rane and Lexicon and other sound equipment includes Sennheiser (radio), AKG and Shure microphones and Marantz and Sony playback systems. The system was initially designed by Simon James and Denis Hutchinson and all quoting suppliers were given the opportunity to tailor the requirements to take advantage of the strengths of their particular products - an approach which produced some interesting ideas and a final system which appears to be pleasing far more people than not!

The stage lighting installation was limited by a total 750 amperes of available power. Had the new cold mirror HPL/GKV revolution not happened, the lighting designer would have been in serious trouble; as it is, being able to use the new technology reduced what would otherwise have been 1.2kW units to 600W - a major saving in both load and running cost. There are 102 Strand Lighting SL series of varying beam angles, Cantata Fresnels, Par cans, and CCT floodlights. Of special interest are the Zip Strips and Comet followspots, both supplied by Altman. The Zips allow one to light a backcloth from as close as half a metre away.

There are 24 Chroma-Q colour scrollers, while the moving light element consists of eight Martin MAC 250+ units. Control of both the intelligents and the 96 Zero 88 dimmers is through a Strand 520i desk and the venue includes both DMX and scroller tie lines throughout. Dimmers are connected through a hot patch to some 200 outlets around the theatre. The heavy rains of last summer caused construction delays and the major installers - Prosound and Electrosonic SA - had their start dates changed time and time again. In the end, both installations went ahead painlessly, and President Thabo Mbeki opened the theatre on May 11th with *African Footprint's* world premiere.





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Theatre by the Lake

Keswick's Theatre by the Lake has been celebrating its first year of operation. Built with a big (£4.5 million) lottery grant to replace the old Century summer touring theatre which ended its days by Derwentwater, the new theatre opened as a year-round operation, on time and within its £6.25 million budget, in August 1999.

Since then the theatre has opened 10 productions of its own, as well as welcoming touring companies and local amateurs. 75,000 tickets have been sold for over 400 performances, an overall 65% capacity, which compares very favourably with most regional theatres. What used to be a tourist attraction has become a favourite with local audiences too - the number of Cumbrian residents attending performances has increased enormously, and the theatre's home-grown pantomime attracted a 95% capacity.

Keswick's residents have something to be proud of in their new theatre, a low-slung, slightly Japanese-looking building (by the MEB



Partnership, with Christopher Richardson primarily responsible for the design and theatre consultancy) which sits among trees just a stone's throw from the lake, looking out across meadowland to the fells. Its least interesting elevation is the one that the visitor sees first, but a large shield bearing the legend 'Theatre by the Lake' alleviates the starkness of this view.

The 350-seater auditorium itself is approached from the airy first floor. At first glance, its metal balconies and side-boxes recall the courtyard theatres of Iain Mackintosh, but the normal

configuration of the seating is more Victorian, with most of the audience in a shallow stalls arc under a balcony. Wide side aisles give an unusual sense of space. There is a useful flexibility about the area, too, not simply in the lifts which can add a forestage or create an orchestra pit, but in the demountable seating which enabled the spring production of *Romeo and Juliet* to be played in-the-round. An open walkway in

the technical gallery which runs all round the walls above the space, including the proscenium, gives easy access to lighting positions, and similarly unobtrusive access is available from the balconies. Control is from the rear of the stalls.

The theatre also boasts a small (70-seat) studio with similar flexibility - Denis Lumborg's *One Fine Day* was playing to a corner-angled seating arrangement when I visited. Time will tell whether the theatre can keep hold of the large audiences it has been attracting with its inaugural, fairly populist programming under artistic director Ian Forrest. Its present success has been achieved with very little public funding, but it will need more subsidy to help its more adventurous plans.

Ian Herbert

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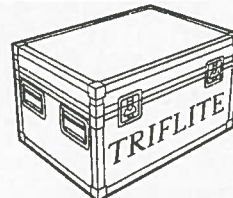
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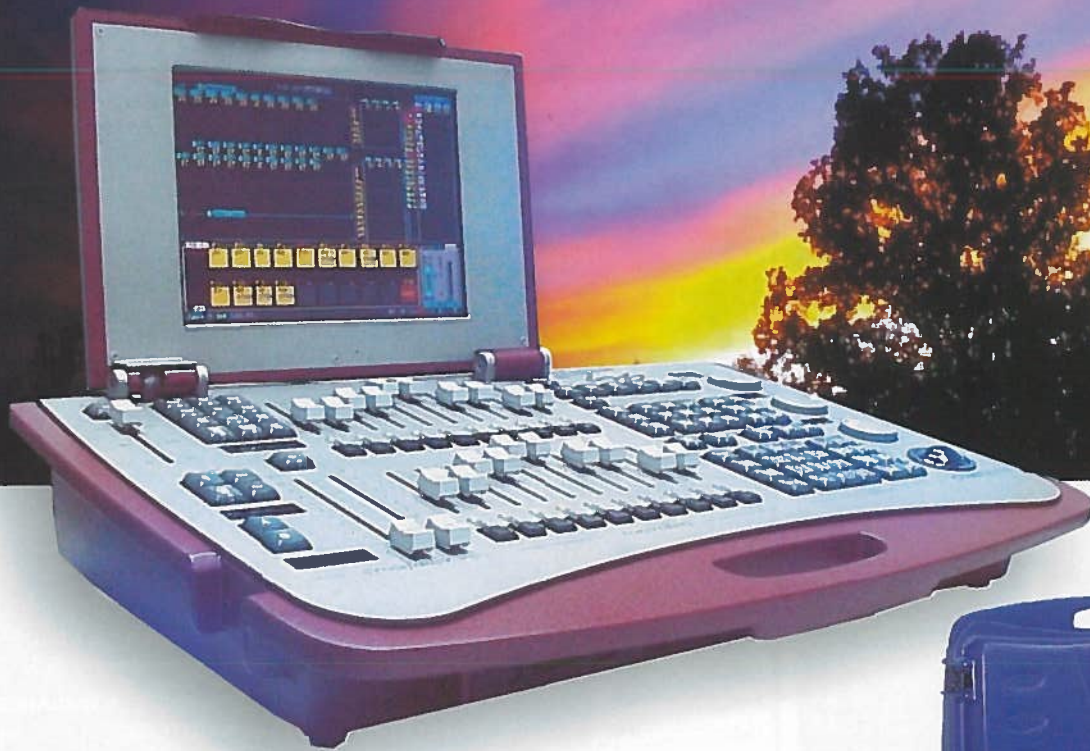
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The Big Mission

Game shows just aren't what they used to be and Denmark's 'Den Store Mission' (The Big Mission) just may take the prize for, well . . . best prize.

The Big Mission is already generating a lot of interest in Scandinavia with the winner of the competition earning a trip into space aboard the first commercial spacecraft. The Big Mission went on air in October, billed as a competition whose lucky winner will be crowned "First Dane in Space".

The show consists of several 'levels,' each presenting a unique challenge in skills relevant to astronaut training - knowledge, physical skills, teamwork and mental strength. Contestants are eliminated over the course of several half-hour shows until The Finals in which 10 contestants remain. Much in the same style as the popular Survivor show, contestants will be eliminated one by one until a final winner remains. The elimination process will include a trip to Cape Canaveral and the Kennedy Space Center in the USA, as well as authentic tests previously used to train astronauts.

Martin's local distributor, Martin Danmark, supplied MAC moving heads including MiniMACs, MX and PAL scanners and a TrackPod followspot system to



TV2 studios in Copenhagen. The luminaires were spread across a host of stages and incorporated into the lighting scheme at all levels of the show. Par cans were also used in the lighting scheme. Lighting designer for The Big Mission is Torben Lendorph, with lighting programming completed by Thomas Brockmann.



photos: Allan Toft

Web Five

Christmas is coming so do your shopping online . . .

5

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Skyscape at the Dome
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The ART dimmers were specified by lighting consultant Michael Atkinson, who says
"The venue had to be so many things to so many people, that it was essential to choose a reliable and very flexible dimming system."

Skyscape photographed by Rob Brown, courtesy of Edvin Shirley Staging



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Do It In The Desert With Gearhouse



There are many places in the world where climate, lack of infrastructure or the absence of a suitable venue have made large-scale events impossible - and there are many such places in Africa. But now Gearhouse South Africa has announced that the Tensile 1 system has arrived on the continent.

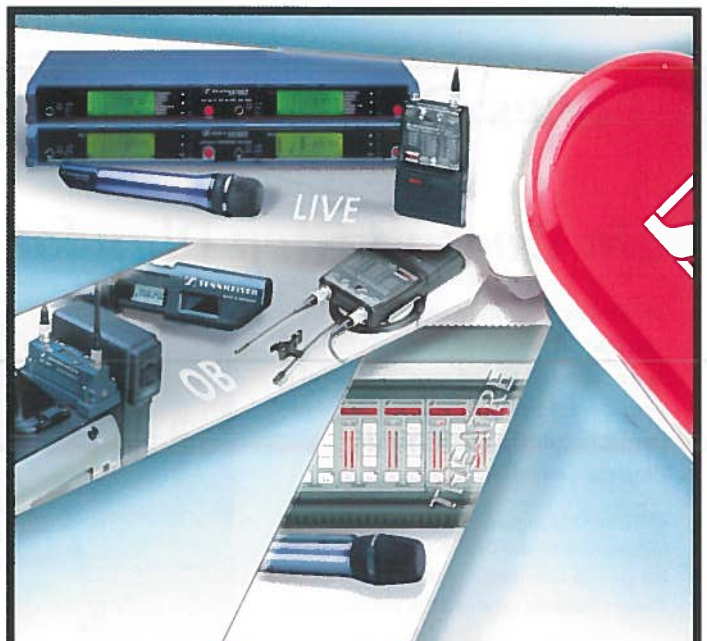
Listed in the Guinness Book of Records as the largest movable venue in the world, the system travels in 10 40ft containers and will be stored in Gearhouse South Africa's warehouse in Johannesburg. Tensile 1 is a modular system that can be configured in eight basic formats, varying in size to suit requirements: 75m wide and up to 150m long in its largest configuration, the structure can accommodate 8,769 people in theatre layout, seat 12,600 people for a concert or banquet, or provide a dance area big enough for 22,500 people.

"We believe that Tensile 1 will provide exciting opportunities to South Africa's event makers," says Russell Stephens, national manager with Gearhouse South Africa. "The African continent offers some spectacular venues for functions which have previously been inaccessible." Since landing in South Africa in September, the Tensile 1 has already been used for a product launch by Daimler Chrysler, a dance party in Johannesburg and a luncheon function for government departments.

Martin Professional Enters Joint Ventures

Martin Professional A/S has entered into an agreement with the owners of its two Argentinian distributors to establish a joint company, Martin Professional Argentina SA.

The newly established company handles the distribution and service of the group's products in Argentina. Martin will hold roughly 20% of the shares and will maintain its registered office in Buenos Aires. In Hong Kong, Martin has entered into an agreement to establish a similar company with its local Chinese partners. Martin Professional Hong Kong is expected to be operational before the end of 2000, and will take over distribution from its former Chinese distributor. Martin will hold 20% of the shares in the company, which will have its registered office in Hong Kong with branch offices in Shanghai and Guangzhou in China.



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Rain Doesn't Stop Play for TPC

Despite considerable amounts of unseasonable rain this summer, work has continued on the construction of a new concert hall for the Philadelphia Orchestra, designed by Theatre Projects Consultants.

The project is managed by David Taylor (pictured) from the Connecticut office of TPC, but George Ellerington of the London wing of Theatre Projects provided the unique theatre



equipment package with an array of stage lifts, acoustics banners, hundreds of reverb chamber doors and a 40-ton three-piece canopy, all controlled from a custom PC-based memory system.

The concrete is complete to auditorium level in the concert hall and, to stabilise the building, the attic floor overhead is being poured at present. Despite the difficulties in construction over the summer, the site is being considered for an OSHA safety award. The second performance space, a 550-seat recital theatre is also underway. In this space, the entire auditorium floor can drop on a lift to give a flat floor. A 75ft diameter revolving stage allows for quick change around between a recital hall with a solid end wall and a full-flown dance and drama proscenium theatre. The Kimmel Center for the Performing Arts completes in December of 2001.

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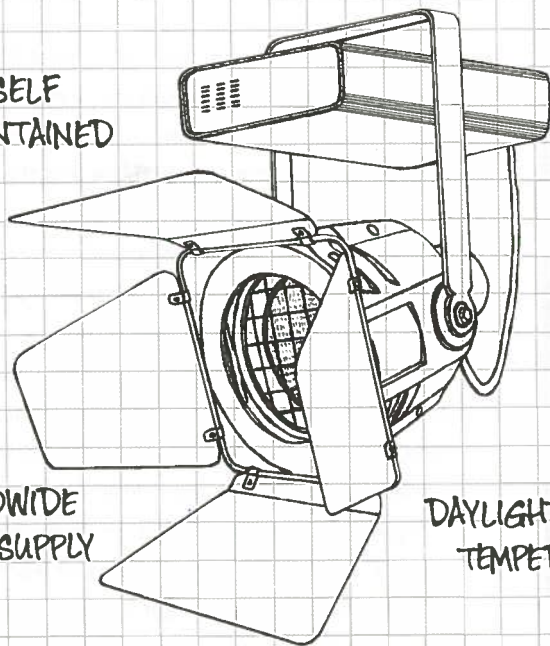
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Casino Effects

The Effects Company was chosen to supply some unique effects equipment to the Casino Estoril in Portugal. The Casino recently carried out a major refurbishment of its 1,500-seat theatre.

Lighting designer Andrew Gardener was commissioned to update the facilities, allied to a new production titled *Tempo* and specified a four-head CO₂ jet system, four Cirrus Lowsmoke systems, a Turbo 3000 smoke machine with fan projection, CO₂ monitoring system and control systems. The Lowsmokes were installed in four separate stage positions with permanent condensate draining systems and DMX control. Members of The Effects Company team attended to ensure that the whole system was installed and working correctly, advising the local technical crew on the correct high pressure CO₂ system and electronics/control system.

Listening In . . .

The UK's highly-successful summer television production, *Big Brother*, relied heavily on Sennheiser RF systems to relay sound transmission, not only for the nightly Channel 4 broadcast, but also for the 24-hour Internet broadcast.

Each contestant on the show was fitted with a clip mic and Sennheiser SK50 miniature body-pack transmitter, supplied by Cine Video Audio Hire Division. The Sennheiser EM 1046-UHF receiver rack was used in conjunction with Cine Video's own Triax remote antennae system, enabling the RF aerials to cover a vast area.

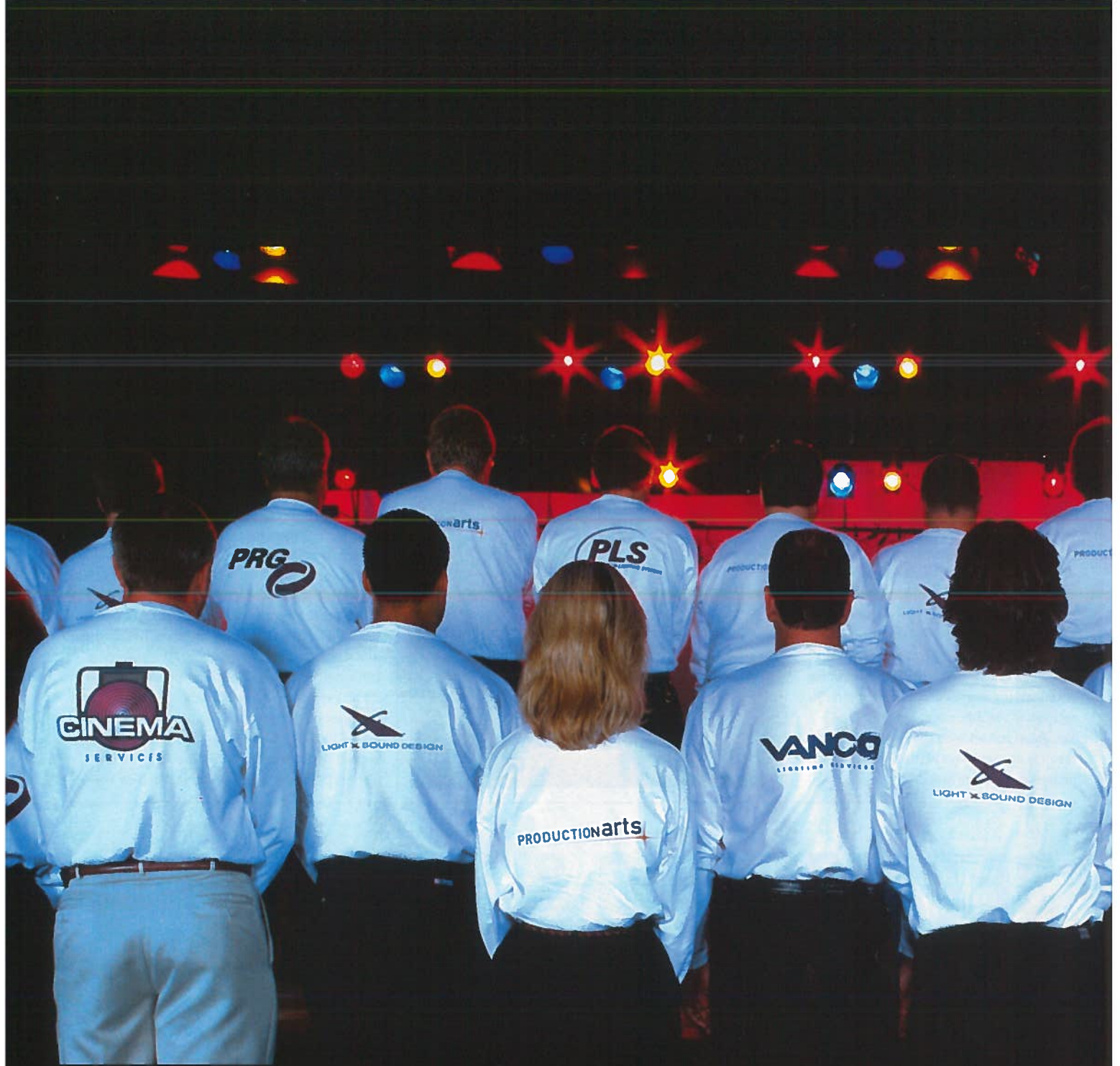
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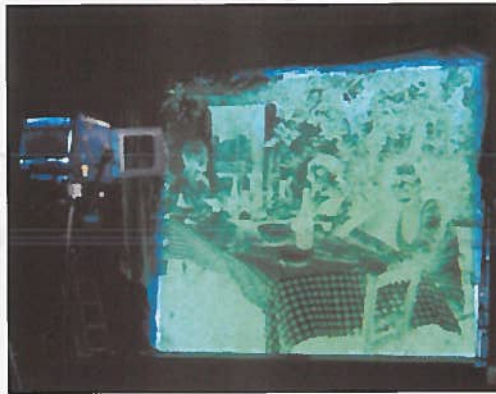
Names you Know...



Art of Grass

An amazing 10ft high by 11ft wide image in grass is currently on display at the V&A in London, acting as a reminder of the original appearance of the V&A's 14th century Devonshire Hunting tapestries.

Artists Heather Ackroyd and Dan Harvey have explored the art of grass before (you may recall seeing it in L&SI) but needed technical expertise for their most recent project and turned to Wyatt Enever at DHA. Using a technique similar to that used to transfer continuous-tone images onto glass gobos, Enever converted a continuous tone image into a random-dot break up and then transferred this to film which could withstand high temperatures. A Pani projector was then used to project the image onto a frame of earth containing germinated grass seed, which then grew in relation to the amount of light projected. The grass was allowed to dry and the result is an incredible sepia photographic images depicted in grass.



Ocean State Rigging in Liquidation

L&SI has learned that the directors of Ocean State Rigging Systems Ltd have decided to commence liquidation proceedings. The Hertfordshire-based company is a subsidiary of Ocean State Rigging Systems Inc, which was established in the United States in 1978 to service the film, corporate and touring industries, and has offices in Rhode Island and Florida.

Edwin Shirley Brings De La Guarda to Vegas

Edwin Shirley Staging (ESS), the international staging and structure specialist, is helping to bring international stars De La Guarda to audiences in Las Vegas for the first time.

ESS has built the 18m high structure using ESS' successful Tower Systems that will house the acrobatic extravaganza. The \$1.2million contract is the first major contract to be completed by ESS' new US office based in Austin, Texas. ESS Inc was formed in May this year when Edwin Shirley Staging took over the operations of Upfront Inc. ESS' staging will help bring the show to life with a 30m x 20m x 18m high structure. The structure forms part of the Rio Hotel complex in the heart of Las Vegas and will remain there for three years, the duration of the show. The production, called 'Villa Villa' is the same show that was performed to great acclaim in London's Roundhouse last year and still playing off Broadway in New York.

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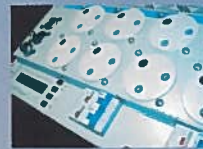
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MOBOs Fly at Ally Pally



London-based MJK Productions has helped to open a new era in the long history of legendary Alexandra Palace by flying, for the first time, a substantial sound, lighting and video production from the venue's vaulted glass roof.

The MOBO Awards have grown immensely over the past five years. Increased ticket demand for this year's MOBO Awards brought about the move to Alexandra Palace, with a show hosted by MTV's Trevor Nelson and TLC's Lisa 'Left-Eye' Lopes. Live performances included Craig David, Gabrielle and the much-anticipated return of Sade.

The Great Hall at 'Ally Pally' was completely refurbished following a disastrous fire in 1980 and a new glass roof installed. However, the roof was never intended to support heavy event production rigging, with a maximum loading of 1500 kilos on each arch and no greater point load than 500kg.

MJK Productions had produced the BRIT Awards in the Great Hall in 1995, using a ground-supported production. This time MJK's Mick Kluczynski, production manager for the MOBOs, was determined to fly his production, the heaviest single element being a four-tonne followspot platform located high over the seated audience's heads. "The loading restrictions made it rather critical, as it wouldn't support even the weight of a mothergrid to carry a lighting rig. We had to get very creative. We went to the house riggers, Outback, and discovered they had been in negotiations with the original architects and engineers, and had got to a critical point when our show came along."

The production design for the MOBO Awards 2000 called for no less than 18 tonnes of equipment, including a massive Vari-Lite lighting system, Britannia Row's Turbosound PA system and Black Pig's video screens, to be rigged from a mothergrid flown from the roof. Outback's Stuart Cooper explains: "The venue has given us more responsibility for rigging matters and we've been dealing directly with the roof's original design team. The owners were aware that the roof loading was not helping them commercially, so a lot of effort has gone into finding a good solution."

Outback contacted Harry Garner, of consulting structural engineers Pel Frischmann, the original engineers of the roof, and worked with him on a solution. Garner suggested that instead of rigging from the beams, the show could be rigged directly from the giant 15ft-deep trusses that support the roof itself.

Chris Simpson of Alexandra Palace adds: "We are aiming to come up with a new figure for future productions and are working on changing the 'headline rate' that we advise to organisers, event producers and production companies."

Future events for MJK Productions include the BRIT Awards in February 2001 and the Dance Star Awards next summer.

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People

Phil O'Donnell (right) has been appointed CEO of Strand Lighting. O'Donnell has been with the company for 22 years and during this time has held several positions, including managing director of Strand Asia and President of Strand Lighting Inc. For the past two years he has been running global sales and has been a member of the main board. As part of his executive team, he has appointed **Peter Rogers** to the position of global sales and marketing director and **Bill Campbell** to the position of managing director for all European operations. This team will take over the day-to-day running of the company, and **Jim Ryan** remains on the Strand board as a major shareholder.



Lambda has appointed **Gareth Collyer** and **Gerry Frost** as shareholding directors. Collyer and Frost have been on the company's main board for over 18 months, and will maintain their active roles as technical director and sales director, respectively.

Strong International has appointed **Jerry Ross** as vice-president of sales and marketing for the Strong Entertainment Lighting Division. Ross will oversee the divisional offices in Orlando, Atlanta and Hollywood, which provide SkyTracker searchlights, Strong followspots and Xenotech Britelights to the entertainment and film industry worldwide. Prior to joining Strong Entertainment Lighting, Ross owned SkyTracker of Florida, and was one of the largest independent providers of xenon promotional searchlights in the US.

Federal Signal has announced the return to the company of **Alan Weston** as area sales manager for the North of England and Scotland. Weston, who has vast experience in the voice alarm industry, rejoins Federal from specialist public address installer TG Baker Sound. In addition to developing markets for existing and new Millbank products, he

will also focus on the company's Akusta products, dedicated to the oil and gas sectors.

LMC Audio Systems' head of sales and marketing for London, **Graham Allen**, has been appointed head of sales and marketing for LMC, company wide. Allen has 10 years' industry experience and has worked for several major players including Behringer, Shuttlesound and more recently Sysco (The Systems Company).

London-based rental company Dobson Sound has welcomed

Nicholas Hughes to the role of technical manager. In addition to being a graduate of the prestigious Tonmeister course at the University of Surrey, Hughes also comes with extensive experience in the service and repair of high-end professional audio equipment, most recently with Boffin Island, the service company for Funky Junk.

Essential Lighting has appointed **Peter Feeney**, **Toby Hughes** and **Martin Lubach** to its board of directors, in recognition of the long-standing commitment and contribution they have made to the business. At the same time, **Simon Clench** will be joining Essential as production electrician to provide support and a resident client link for its project managers.

Jai Auguste has joined the sales department at TMB's UK operation in Brentford. With his many years of experience as operations manager at The Spot Co and more recently as head of sales, design and installation at HFM Lighting, Auguste will become an integral part of TMB's sales operations.

Vari-Lite Production Services has appointed **Colin Brooker** as regional sales manager - a highly significant role as the roll-out of the new Vari*Lite sales luminaires makes its impact felt on the European marketplace.



Since joining the industry in 1992, Brooker has worked in numerous lighting production roles - in his new role he will be working closely with **Simon Roose**, European dealer manager.

Autograph Sound Recording has promoted **Andy Brown** (pictured below) to operations manager. His new role will involve liaising with the in-house sound designers, production sound engineers and hire department. Two new production sound engineers - **Alex Apthorpe** and **Ken Hampton** - will be joining the Autograph team. Apthorpe has spent three years working in the sound department at the National Theatre and will look after Autograph's audio software library and installations, whilst Hampton will bring to the table his sound engineering skills particularly in the specialist field of large-scale theatrical touring production.

beyerdynamic has appointed **Matthew Nettlefold** to its technical sales team. Formerly a sales representative with an active interest in the music industry, Nettlefold spends his spare time working in the project studio he built and installed in his home, and is currently putting the new XTA SIDD dynamics processor through its paces.


Dog News . . .

Mackie Designs has announced that **PD** (aka 'Phy Deaux'), the company's corporate Chihuahua, passed away on 28th September.




PD's image as Mackie's Corporate Chihuahua rose to prominence in Mackie advertisements, websites, marketing videos and product manuals. Ron Koliha, Mackie's marketing deity and PD's owner, told us: "PD was the one who I could turn to for honest critiques of all of my marketing concepts. If she didn't like it, she would simply piddle on it . . . literally. PD will surely be missed."


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lighting technology



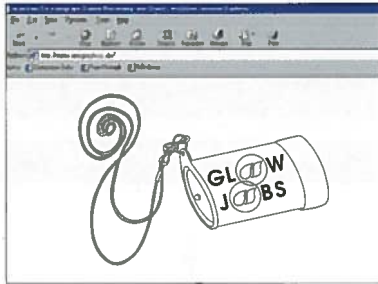
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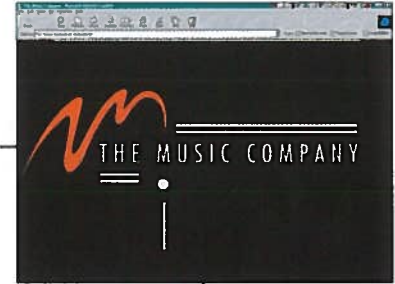
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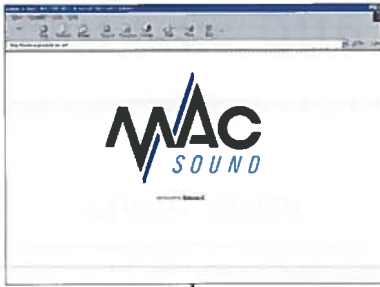
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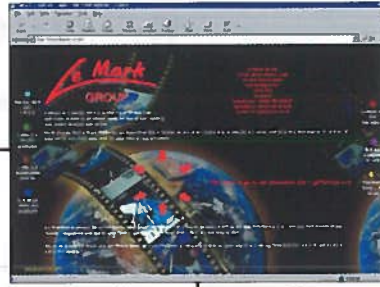
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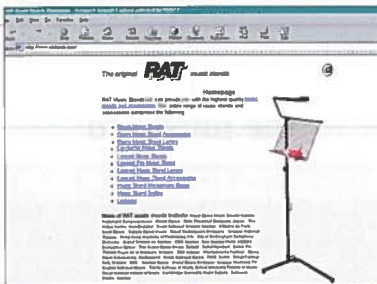
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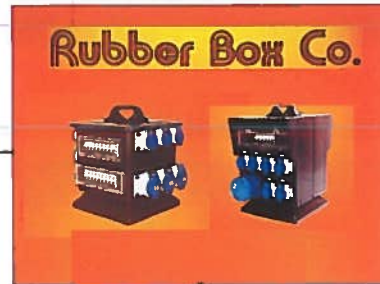
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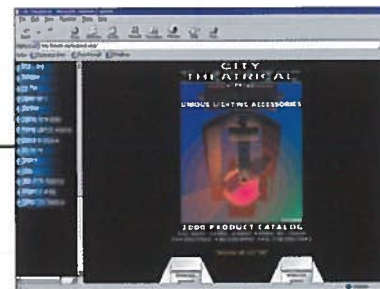
www.whitelight.ltd.uk

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city theatrical



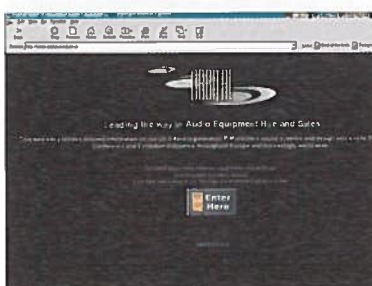
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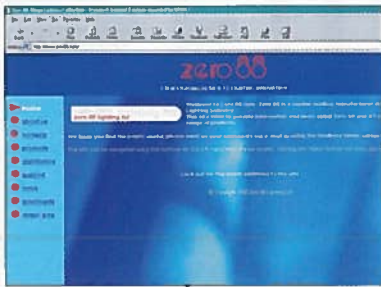
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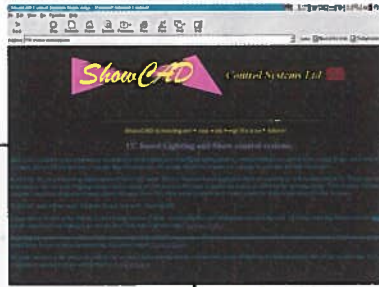
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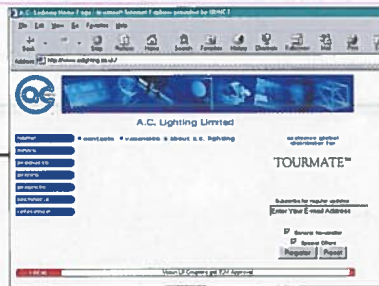
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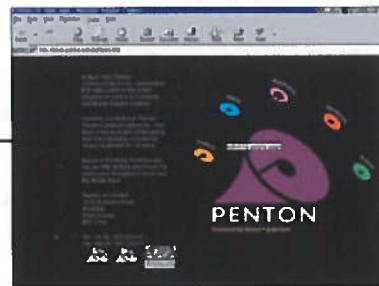
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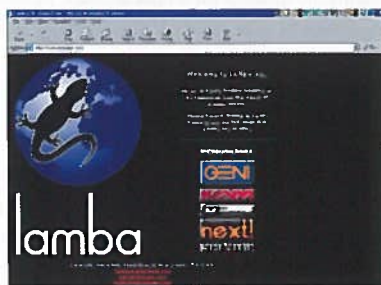
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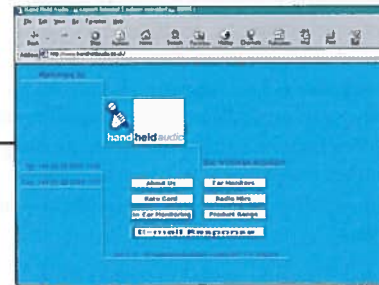
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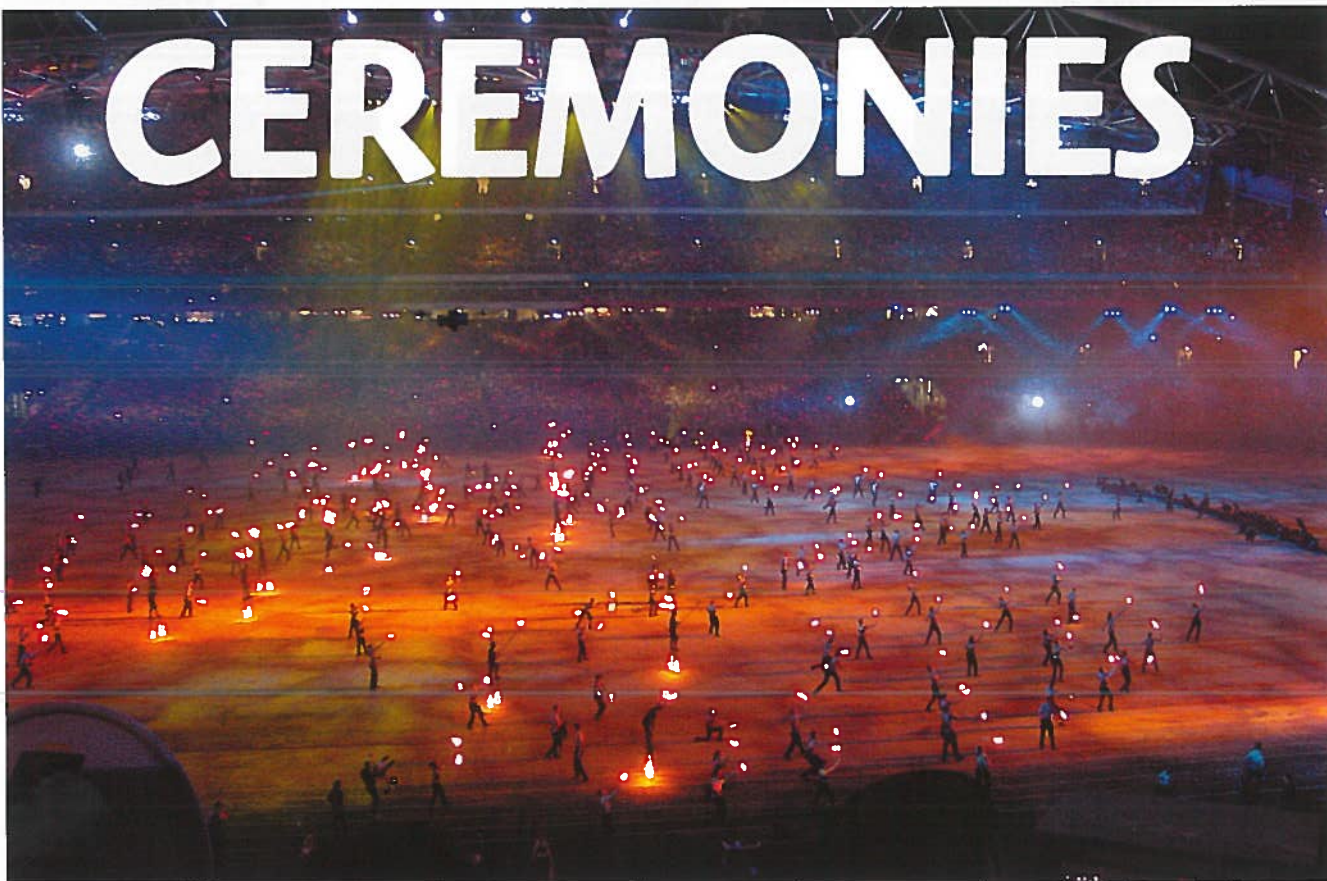
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CEREMONIES



Whatever else you may have to say about



the opening ceremony of the XVIIth Olympiad in Sydney, you have to admit it was big, bold, and well-crafted. While your personal preferences may not run to hundreds of building workers tap-dancing on checker-plate, bush rangers with pyrotechnic muskets, or ballet performed by an assortment of giant glowing sea creatures, there was little evidence of the show being constrained by the production facilities of an athletics stadium.

The opening ceremony saw a cast of 13,500 people and 120 horses performing on a painted floor cloth which covered the entire field of play - some 20,000sq.m (five acres). While around 110,000 punters saw it live in the stadium, an estimated 3.5 billion more watched the ceremony on television - a big house for a one night stand that took four years to produce. Never before in Australia has such a large production organisation been assembled. Special dispensation had to be sought from the extraordinarily tight (paranoid?) Olympic security administration in order to avert the confiscation of the hundreds of Leatherman multitools being worn by the crews!

LIGHTING

Early in the planning stages for the Sydney Olympics, Ric Birch, director of ceremonies, took the controversial decision to stage the ceremonies in darkness, to enable a theatrical level of control over the look and the

Andy Ciddor joins the technical crews for the spectacular Opening and Closing Ceremonies at the recent Sydney Olympics

atmosphere. This was the first, and quite possibly only, time that an Olympics opening ceremony has been performed after sunset. (US television network NBC had originally requested that the ceremony be held at 10am Sydney time, to coincide with evening peak viewing time on the US East Coast.) The upshot of Birch's decision was that between the stage lighting design and the audience and architectural lighting for television, the rig became the largest lighting system ever assembled.

Although the majority of the audience would watch via television, Birch elected to employ a theatre lighting designer because he considered the ceremonies to be large stage shows. Freelance designer John Rayment (see Profile this issue) was engaged around 18 months before the Olympics, to design the opening and closing of both the Olympic and the Paralympic games. Rayment is known for his many years as resident lighting designer for the Sydney Dance Company and freelance designs for such companies as the Australian Ballet, Sydney Theatre Company and the Australian Opera.

Rohan Thornton, one of Australia's most experienced live television lighting directors, was brought in to the Ceremonies team in early

2000. His role was as a liaison with the television production team, and to provide the ambience for the television broadcast, by lighting the audience, the stadium, and the surrounding precinct. Once the TV cameras were in the venue for rehearsals, Thornton's duties expanded to include the unenviable task of mediating between the broadcast engineers' desire for more light and less contrast, and Rayment's theatrical atmospherics.

As the complexity of the plot became clear during rehearsals at the disused Schofields aerodrome, another freelance lighting designer, Trudy Dalglish, was co-opted to the team, to plot and call the cues for the 26 followspots (these were 18 2k and eight 4k Lycian Xenons). The 30 spot operators would gather before dark each evening for a briefing from Dalglish, before dispersing to their eyries in the distant corners of the stadium.

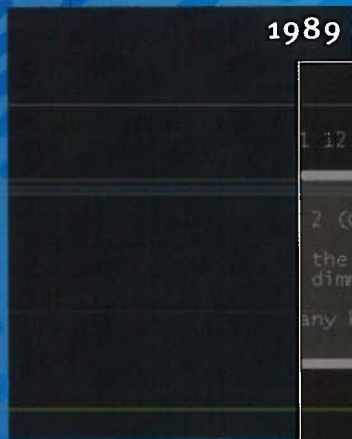
Prior to commencing the lighting design, Rayment went to Europe and the USA to talk with equipment manufacturers and suppliers, to ascertain what was available and what might become available for the Olympics. He was specifically looking for a high-output, narrow-angle robotic spot, to deal with the long throws in the stadium. High End Systems offered to produce a higher output version of their Cyberlight for the project, and thus the Cyberlight Turbo was born: 300 of them featured as the main robotic spots in Rayment's final design. Rayment then drew up a lighting plan and equipment specification to be put up for public tender.

The contract to supply, install and operate the lighting rig went

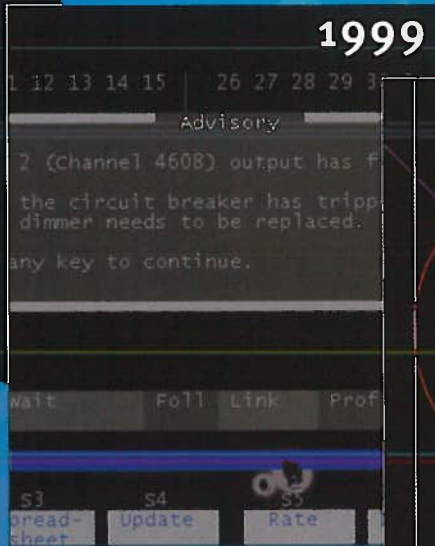


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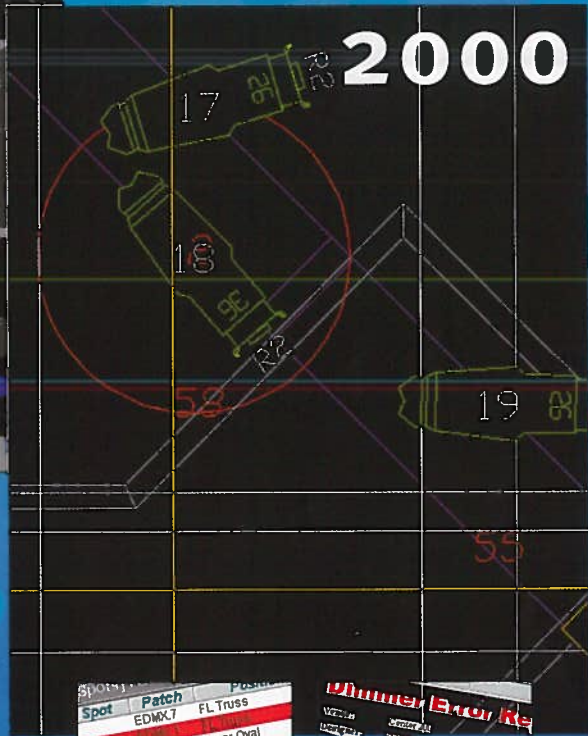
1989



1999



2000



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Spot	Patch	Position
EDMX.7	FL Truss	
EDMX.13	Inner Oval	
EDMX.32	Outer Oval	
EDMX.21	Inner Oval	
EDMX.9	FL Truss	
EDMX.14	Inner Oval	
EDMX.22	Inner Oval	
EDMX.3	FL Truss	
EDMX.5	FL Truss	
EDMX.6	FL Truss	

Dimmer Error Key	Dimmer Error Key
ERR1	FL Truss
ERR2	Inner Oval
ERR3	Outer Oval
ERR4	Inner Oval
ERR5	FL Truss
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Right, the Turbo version of High End's Cyberlight, 300 of which were in the spec Centre, one of the seven Wholehog desks deployed across the stadium

Bottom, audio director Bruce Jackson front-of-house



60 Par 64s, 48 four-way groundrow floods, 92 KinoFlo tubes and 36 eight-light minibrutes. Robotic instruments included 300 HES Cyberlight Turbos, 40 HES Cyberlights, 136 HES Studio Beam PCs, 132 HES Studio Colors, 84 CityColors and 16 CityBeams from Italian manufacturer Studio Due, 48 7k Space Cannon Ireos Pros and 28 2k Space Canon Easy 2000s.

Controlling these 14,208 channels across 35 universes of DMX, necessitated seven

Wholehog 2 desks (plus seven back-ups) for the stage and arena, a 3,000-channel Strand 550i (plus tracking back-up) for audience lighting, and another Wholehog 2 (plus back-up) for searchlights on the roof and exterior of the stadium. With extremely limited time scheduled to be available in the stadium for plotting, the seven mainstage Wholehogs were set up in a room off-site, with a network of WYSIWYG computers.

This allowed the board operators to familiarise themselves with the design, and Rayment to pre-plot the palettes, and even some of the states, that would be refined at the stadium once the rig was in the air. The WYSIWYG software was configured to

let each operator look at their own output, that of any other console, or the composite result of the 12,000-odd control channels in that system.

All DMX data was distributed over a Strand Lighting Shownet which enables up to 36 streams of DMX to be moved over a 10Mbps Ethernet network. As almost all trunk runs within the stadium exceeded the 100m limit of Ethernet over Category 5 data

cable, data was transmitted via optical fibres which had been installed in the stadium on Bytecraft's advice. Network manager Murray Taylor deployed 25 Strand SN103 4-stream DMX input/output nodes. In the control area there were nine SN103s configured for DMX input, and in locations throughout the stadium, from behind the stage, to the gantries under the roof truss, 16 SN103s were configured as DMX outputs.

The fit-up was conducted over a period of six weeks, with schedules having to fit around rugby matches and other events in the stadium,

until the venue was finally handed over to Olympic Coordination Authority a mere two weeks from the opening ceremony. Lighting technical manager Paul Rigby and crew supervisor Niki Koumos split the venue and the 60-strong rigging crew, into four zones, each with its own crew under a crew chief. In order to give approximately balanced loads to the crews, the North section included the stage, the torrent and the (now infamous) cauldron. The South sector included all of the audience lighting for the television coverage, whilst the East and West sectors each consisted of a series of trusses, along virtually the full length of the arena.

If numbers like nine console operators, 106 lighting crew, 4,500amps per phase of mains, 57 mains feeds into 207 distribution boards, or 3,615 power and 2,519 DMX cables, don't quite give you a feel for the scale of the rig,

think about this one: it took just over two hours for the show crew to power up the rig for each run.

PROJECTION

Amongst the more striking images from the Opening ceremony, are

those of an inconceivably-large white flag, being passed down, hand to hand, from the top of the southern stand, onto the field of play. There it was held aloft by all of the athletes and officials participating in the Olympics. As the flag moved down towards the arena, images of athletes were projected on to it from four 7kW Xenon EITC PIGI scrolling image projectors on the roof of the eastern stand. When the flag was in position on the field of play, an image of the white dove of peace (mandatory for an Olympic opening ceremony) filled the flag. This image, and that of the Olympic rings, which appeared a few minutes later, were projected from another six 7kW PIGI projectors, located in the east and west roof gantries, on either side of the field of play. The projectors, control systems, and all image preparation were supplied by a Sydney-based company, The Electric Canvas.

All four projectors throwing the images of athletes, projected the same keystone-adjusted image, overlaid to produce sufficient intensity for the television cameras. They were synchronised via a local RS422 network by a single operator with a notebook computer. The six projectors on the gantries each projected a separate keystone-adjusted section of the final image, with sufficient overlap for an apparently seamless join. They were computer synchronised on their own RS442 network, which utilised spare optical fibres, originally installed for the sound and lighting networks, to carry the data the several hundred metres between gantries. Focus alignment on the flag was extremely difficult, due to the absence

to Bytecraft, an Australian company well known in Europe and Asia as a developer and manufacturer of lighting control and scenery automation systems. The company had previously been consultants to the producers, from as far back as the design phase of the Olympic stadium, to ensure that adequate power, cabling, suspension and communications infrastructure would be available for the ceremonies. Bytecraft had recognised from the outset that it was unlikely to be able to source the entire rig either from its own constantly working production stock. Stephen Found, lighting producer for the Olympic ceremonies, and one of the founders of Bytecraft, brokered an international network of partnerships to provide the equipment and support necessary to implement Rayment and Thornton's designs.

This consisted of Bytecraft who provided the system and network design, installation, co-ordination, management, crewing, operation and maintenance. They also supplied the dimmers, some of the conventional luminaires and some of the power cabling and distribution. Procon Multimedia of Germany supplied the majority of luminaires, doublers, colour scrollers, truss, chain motors, the majority of the power distribution, DMX distribution, power and DMX cabling, and associated infrastructure. Strand Lighting in the UK provided 550i consoles and the Shownet DMX data distribution system.

High End Systems of Austin, Texas, developed the Cyberlight Turbo and also provided the Wholehog consoles, operator training, and two of the operators. The UK's Light & Sound Design (now LSD/Fourth Phase) supplied consultancy services, whilst CAST Lighting of Canada provided WYSIWYG visualisation software and one of the Wholehog operators.

The lighting rig consisted of 1,628 luminaires consuming around 3.3 Megawatts of power. There were 658 conventional luminaires including 112 ACLs, 100 4kW HMI Pars with doublers (60 also fitted with colour scrollers),





Left and inset, scenes from the closing ceremony. Bottom, the complex audio patch set-up in one of the control rooms



from the rehearsals of the 10,000 flag-holding athletes. The Electric Canvas crew overcame this problem with a golf buggy equipped with a 1.2m x 2.4m sheet of plywood, mounted at flag height. By carefully driving the buggy along the image overlap points, the positioning and focusing of the projectors could be slowly completed, in between the plotting of lighting cues.

For the closing ceremony, The Electric Canvas projected a wide range of images onto the 10 visible, pentagonal faces of a dodecahedron, a task involving extremely critical projector location, alignment, image manipulation and masking. The alignment was performed by placing a white, masked-out sheet, in the gate of each projector while it was still switched off. The image of the dodecahedron was then aligned with the mask, in effect, using the projector as a plate camera.

AERIAL EFFECTS

The Olympic stadium, as with most arenas, is singularly lacking in flying facilities, a fact that Ric Birch did not allow to deter the creative teams. In particular, director/choreographer Meryl Tankard and designer Dan Potra used flying to great effect in the Deep Sea Dreaming sequence, where illuminated sea creatures of all sorts appeared to fill the entire volume of the stadium. Aerial effects manager Richard Hartman, with his team of riggers, engineers and technicians, started in April 2000, with a single proof-of-concept line spanning the arena, between the roof trusses. As these trusses had been designed to carry a vertical load, considerable testing and measurement work was carried out by engineering consultants Sinclair Knight Merz, to establish permissible horizontal loads for a flying system.



The production system consisted of 10 catenary wires suspended east to west across the arena. Nine of these lines were fitted with two winches, lift and traverse, to provide both vertical and horizontal movement for a single pick-up. These were used for the majority of flying effects for the Hero Girl, the sea creatures, and the flaming Ned Kellys. The tenth line was fitted with nine pick-ups on a single winch to carry the Wandjina backcloth in the Awakening segment. The Siemens motor controllers on the winches were driven by a controller from APC Technology in Adelaide.

Extraordinary safety precautions were required to fly performers on this hybrid theatrical, industrial and commercial system. In addition to spotters with E-stops watching each line, there were two independent overtravel cut-off systems and a three metre slow-travel creep zone at the top of the lift lines. Each line also had independent electrical, hydraulic and resistive braking systems. As a final precaution, there

were rescue teams on the roof, on standby to lower in any performer who may have been stuck in the air as a result of a winch malfunction.

SOUND

The audio director for the ceremonies was Bruce Jackson, an expatriate Australian. He is regarded as a guru by many in the live sound business for his stadium and arena work with such immortals as Elvis, Bruce Springsteen and Barbara Streisand. Jackson was approached by Ric Birch some two years before the Olympics, and although they had some preliminary discussions, the process began to take shape in June of 1999 at the Olympic Stadium. To assist with the process of selecting an audio

contractor, Jackson and Birch arranged for a shoot-out at the stadium, in which Australia's major sound production companies demonstrated the PA systems that they had to offer. To the surprise of many in the industry, Jackson selected Norwest Productions, not only for the quality of the Eastern Acoustic Works (EAW) system that they presented, but most particularly for their ability to supply the necessary infrastructure to support their system.

Matching the approach that Bytecraft had taken with the lighting system, Jackson sought partnerships to provide two key components for the project: a means of distributing audio signals around a venue as large as the stadium, and a system for the production and replay of the recorded elements of the production.

Jackson was considering using Klotz Digital's VADIS optical fibre-based distribution and processing system, but wanted to test it under live conditions. The opportunity arose on Barbara Streisand's Australian tour in March 2000, when the backing choir was too large to fit into the Sydney Football Stadium for the performance. Jackson placed them in the nearby Sydney Cricket Ground and connected them into the mix via the VADIS. This enabled him to evaluate in the field, the quality and reliability of the fibre optic links.

The 12-card frame VADIS system used for the Olympic Stadium was configured as a variable level cross-point matrix, to route all microphone inputs, replay sends and outputs, between the control rooms, the stage and the various FOH and foldback speaker locations, scattered throughout the venue. Monitor engineer Ian Shapcott was impressed to receive such unusually clean replay feeds that he could push his monitor levels without fear of distortion. An additional card frame was installed in the nearby International Broadcast Centre. This gave broadcast audio producer Colin Stevenson and his team, splits of all signals, including mic inputs and the 12 AES stereo feeds from the hard-disk replays.

Australian digital audio pioneer, Fairlight ESP, was approached to support the Olympics project with a digital recording system. Fairlight not only supplied its new Merlin 48-track hard

disk recording system for recording the music, but also supplied three MFX3+ Workstation/Replay systems, together with Steve Logan as operator and editor. One MFX3+ was used as the main replay source, a second as its mirrored, jam-sync'ed back-up, whilst the third was used for wild, spot effects. The effects MFX3+ was also loaded with a full copy of all other material, to act as a second level of back-up for replays.



Foldback for the thousands of performers and athletes was from 12 EAW KF755 downfill boxes, sitting directly on the ground, behind FOH boxes. Over the five levels of stage there were 20 EAW SM200iH wedges and eight Zeck Vector T3s, many of them either under grilles or set in to the stage structure. Solo performers and the eight conductors were supplied with wireless IEMs, predominantly Shure PSM 600s and PSM 700s, although slightly slimmer Sennheiser IEMs were used to fit under costumes.

Full advantage was taken of the capabilities offered by the Fairlight multitrack hard-disk replays. Not only was there a full stereo mix laid down for each segment, but all of the stems and effects for the mix were available on separate tracks. This enabled Jackson to re-balance the mix during production, or if necessary, edit the stems directly. Taking matters a step further, Jackson had Steve Logan on the MF3X+ machines and John Simpson on the back-up Midas Heritage 3000, working as an on-site production studio.



Above, the flamboyance of the closing ceremony

Left, the spot crew

Whilst every live act was fully mic'd, there were also studio recorded versions of each act and all of the theme music for the ceremony. The Aboriginal music was recorded at communities throughout the country, and some rock and techno tracks were recorded at the artists' preferred studios. However, the vast majority of the music was recorded by Studios 301, headed by senior recording engineer Richard Lush. As the replays were to be used for both live and broadcast sound, Lush laid the reverb on to separate tracks, allowing it to be used for rehearsals and broadcast, but not for FOH. All sessions were recorded by Steve Logan on the Fairlight Merlin, with a Fairlight MFX3+ as a back-up.

With most of the performance occurring in the centre of the arena, Jackson chose this as the point of origin for all PA delays. The main stadium FOH sound was provided by 23 pairs of EAW KF 860 (60° x 30°) and EAW KF861 (90° x 30°) tri-amplified virtual line array speakers, powered by Crest 8001 and CA9 amps. To provide coverage for the un-roofed Northern and Southern grandstands, roof trusses at the ends of the East and West stands were rigged with 24 EAW KF750s (35° x 35°) tri-amplified, three-way boxes in four clusters, each two-wide and three-deep. Coverage for the upper ends of the East and West stands was augmented by a further 32 EAW KF750s, flown as 16 clusters, each of two boxes on their sides. The flown KF750s were powered by Crown

VZ5002 and VZ2402 amplifiers, with Pip II interfaces to the Crown IQ network.

The second ring of delay utilised the existing house system - five Bose 9702s per side, to cover the upper seating banks. A third ring of delay, seven Zeck Vector T3s per side, was rigged in to provide coverage of the very last rows of seats at the tops of the main stands. Due to the shape of the stadium, the location of the seating and the available rigging points to fly boxes, every overhead box had its own delay and EQ settings. Front-of-house was mixed by Steve Law on the main Midas Heritage 3000 /48, with a Mackie CFX20 as a sidecar.

Although the recorded tracks were used during the performance, the Sydney Symphony Orchestra, who were also performing live, were fully mic'd as a further precaution against system failures. The Audio Technica microphones used included 4050s, 4051s, 4047s, 4041s and 3525s. The lectern microphone used for the official speeches was actually a cluster of three miniature Countrymen microphones (two cardioid and one omni). As an additional back-up, the speakers were also wearing radio lapel mics. All radio microphones were Shure Bros U1 bodypacks, with Beta 87 capsules. Peter Twarz, on sabbatical from Australia's Shure distributor, Jands Electronics, looked after the fixed end of all wireless devices, handling mic receivers and in-ear monitor (IEM) transmitters. Doc Wood (an Emergency Room doctor in his spare time) handled the moving end of the wireless devices: the microphone transmitters and the IEM receivers.

COMMUNICATIONS

On a production with a crew numbering in the thousands and a cast 10 times that size, effective and reliable communications are an absolute minimum requirement.

Acknowledging that experience with communications on this scale is not easy to find, Ric Birch had planned from the outset to hire in one of the most experienced communications management teams in the world. Communications director, Larry Estrin and communications manager, Peter Erskine, have been dealing with very large productions, and Olympic Games in particular, for a long time. The system that they specified was based around a ClearCom Compact 72 Matrix system.

Estrin had originally sought radio spectrum allocations for 16 simplex radio channels and one trunking channel for two-way radio use. However, as the rehearsals progressed, the ceremonies team eventually came to use 700 two-way handsets on 17 simplex and four repeater channels (allocated in the 450MHz military band to avoid possible interference), together with 22 trunking channels.

The wired communication system consisted of 22 matrix stations and 18 distinct talkback loops. Cast calls were vastly simplified when the comms team, "borrowed" the unused mono program feed which is reticulated to virtually every space in the stadium. In many cases it was simply a matter of switching existing speakers over from the stereo to the mono feed. In-ear monitors were amongst the most arduous of the communications responsibilities, simply because of their numbers. Nearly 3,000 FM wireless receivers were used by the cast for either program or cueing feeds. Every horse rider, tap-dancer and dance captain had an IEM. Erskine recalls the day in the rehearsal venue, when IEMs were first issued to the 700 tap-dancers from the Eternity segment. The FM transmitter technician started playing the rehearsal tape through the transmitter to set-up his levels. Eerily, in total silence, 700 enthusiastic young tap dancers began to dance.





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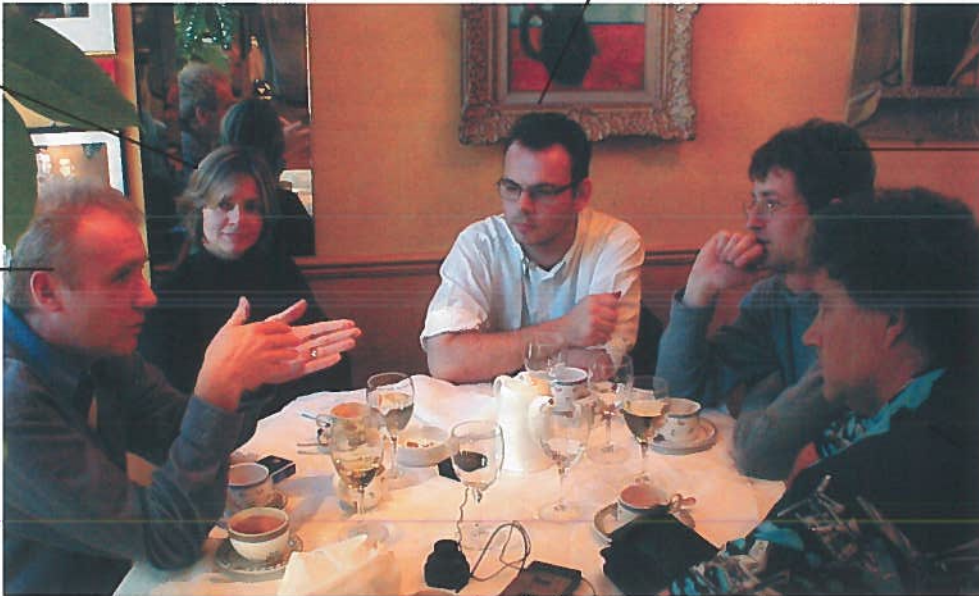
Ruth Rossington -
L&SI editor

Dave Parry -
club audio designer

Simon Baker - theatre sound designer

Mike Mann -
audio journalist

Roger Lindsey -
live sound engineer



Langans Coq D'or, London
Wednesday October 11

This month sees the first in a new series of round-table discussions between industry professionals. Each discussion will feature a different part of the performing arts spectrum, and will feature a trio of contributors from a variety of technical and artistic backgrounds. In the first of the series, Ruth Rossington and Mike Mann talk to three leading sound designers from the world of live touring, theatre and nightclubs.

The Contributors . . .

Roger Lindsay has been mixing live music since the late 1960s, initially working as road manager with acts including Procol Harum, John Mayall and The Velvet Underground. In partnership with an embryonic Soundcraft Electronics he formed Europa Concert Sound in 1972, touring the world with the likes of James Brown, Ry Cooder and Joe Jackson. 1986 saw Roger move away from the rental side of the business, to concentrate on live and studio engineering for a variety of high-profile clients. His impressive CV includes Prince, James Taylor, Sade and George Michael, as well as audio consultancy roles for one-off events such as the 1992 Olympics in Barcelona and Party In The Park.

Dave Parry, as co-founder of club sound specialist Most Technical, has been responsible for some of the UK's most innovative dance installations, most recently completing the awesome multi-room system at Fabric in London. Other design and installation credits include Ministry of Sound, The Coliseum and, as he himself puts it, "plenty of less salubrious places". Having started out at the (in)famous Camden Palace on lights, he quickly discovered the error of his ways and moved over to audio. His current workload includes an interest in HIT (Human Induction Technology), developing floor vibration systems for dance venues.

Simon Baker is Autograph Sound Recording's youngest theatre sound designer, having been headhunted from the Royal National Theatre last year. His RNT career spanned such productions as *Closer*, *King Lear*, *Mutability* and *Copenhagen*, while he was appointed associate designer for the London production of *Rent*, co-designed *Tess* and has recently completed *Witches of Eastwick* with Autograph founder Andrew Bruce. Dividing his time between the auditorium and the studio, Simon has produced effects and music for a huge variety of applications, including several TV productions.

Lighting & Sound Round Table

L&SI: Firstly, what brought you into the industry, and why did you choose your particular field over any other?

DP: Even though I work mainly in clubs, live music is my first love. This is why it's so good that a place like Fabric is putting on live acts - people love it. We're pushing the dance acts to perform live now - people like the Chemical Brothers. Instead of just playing records, they perform - they bring their drum machines and samplers to the gig and they are starting to push the boundaries a bit.

RL: My first job as a 'sound engineer' was at the Royal Albert Hall with Mott The Hoople. At that time, apart from John Thompson at WEM, I was one of the few people who knew how to operate three WEM AudioMaster desks - a total of 15 whole channels! I realised then that live mixing was what I really wanted to do, and eventually sold off my interest in the rental business, to allow me to devote all my time to live engineering.

SB: I used to be a sound operator, and dreaded production periods - but as a designer I love the atmosphere. I prefer being in the auditorium to the studio, but if I was leaving college now I'd be very tempted to go into video. At the National, I specialised in intimate sound and effects for plays, but since being at Autograph, Andrew [Bruce] has pushed me more into the bigger musicals, which has been a real experience!

L&SI: All three of you are at the top of your respective professions. Do you feel that the listening skills required to achieve that success are innate or can they be learned - and does technology help?

RL: I think it's a combination. There's no substitute for a good pair of ears, but you can develop your listening skills. My wife June is a good example - she's not a professional engineer, but she's been coming to shows with me for over 20 years and now listens to things much more intently than most.

DP: The knowledge you use to make decisions has to come from experience. You can use a spectrum analyser and set a sound system pretty much flat, and the result is passable - but if you get someone who's got a good idea of what they're hearing they will make it 10 times better.



“Some say that live touring is dying - but I believe there’s now a new generation of musicians and audiences who want something that is real, live, and not predictable.”

SB: We use speaker analysis systems a lot in musical theatre, but you have to understand that they are only a starting point.

During *Witches*, we spent a long Sunday analysing the system and when we were happy, someone suggested using a radio mic to check it out. Of course, it sounded like absolute crap! I find that in terms of hearing what’s going on, I can end up listening so intently to every tiny detail that I become completely aware of all sorts of things - like the differences between mic capsules and placement.

RL: If you go into a venue for a soundcheck and you’re listening to what the system and the room are doing, you can find yourself adding and subtracting all sorts of fine detail - and then realise that something is still missing. At these times, it’s often best to just take a step back, go for a cup of tea - you can then return, relaxed with ‘fresh ears’ and get it just right.

L&SI: Tea? This isn’t the preferred drink of the hardened touring professional, surely?

RL: No, for me it’s mineral water. Live touring has changed a great deal. Once, when bands arrived at the hotel the cry was “Where’s the bar - where’s the nightlife?” but now it’s more likely to be “Where’s the health club?”

L&SI: On the subject of changes, how are the various entertainment markets developing - what will be the next big thing?

DP: The change in bar licences will have a massive effect on clubs. If you can stay in a pub until 3 or 4am, you’re not really going to want to pay



another £15 to go to a club for another couple of hours. Getting round this doesn’t just mean cutting the entrance money - clubs will have to provide real entertainment - and most people have forgotten what this is. The Internet is also changing the way venues work - the output from Fabric is already on the Web so you can listen in to what’s happening in each room.

SB: One of the biggest problems for theatre is its shrinking market. At the moment, going to the theatre is a fairly middle-class hobby. If you’re 14 or 15 years old and you’ve got £40 to spend, do you buy a new game for your PlayStation or do you go and see a musical in the West End? That’s the market that producers have to attract, because in 10 years’ time they’ll be regular theatre-goers. Places like the Royal Court or the Almeida have tried to do this by bringing in big movie stars and putting them on stage - but theatre has to develop beyond that - to present work in different ways.

RL: The situation’s a little different for live music - even though new audiences are growing all the time. There are now many ‘live’ acts who rely heavily on playback, and I think that audiences will eventually realise this. They may not know the lengths that some acts will go to to disguise the fact that they’re not performing live, but they

“With someone speaking on stage you have to make the audience believe that they’re hearing the actor’s voice, not the speaker system. That’s the big difference.”



can tell the difference when it really is. When they see an artist like George Michael doing stuff they never thought possible, live - without the aid of a safety net or a DAT - it’s exciting. Some say that live touring is dying - but I believe there’s now a new generation of musicians and audiences who want something that is real, live, and not predictable.

L&SI: Audio has a reputation for lagging behind other technical fields in the performing arts. What are the limiting factors?

DP: The curse of the DJ. These people get paid a stunning amount of money to just play records and they don’t even know how the mixer works. When someone’s being paid 10 grand to do two hours’ work, that’s appalling. Money can be quite an issue - especially as a

club system is owned and paid for by someone who doesn’t usually understand it. The idea of gearing up to handle DJs, live bands and corporate events scares a lot of clubs because of the level of

investment - but if you look at the return you can make, especially on corporate work, the equipment pays for itself very quickly.

SB: Budgets are a major factor - what you can get per week for a show at a rental company like Autograph bears no relationship to what we have to spend to put it on. The money you can’t ever recoup is becoming important - the cost of making flightcases to fit neatly in the truck, or the right cable infrastructure to be able to move a show quickly. Often it comes down to having the money for the right staff, and people seem to want to pay less and less, so it can be difficult to attract the right operators or production engineers.

L&SI: Is it really just a case of ‘More, please, sir?’

SB: Not totally. Time is becoming an issue. Historically, a theatre tour might set down in one place for six months and

then move on, but now we’re looking at weekly moves for shows like *Grease* or *Saturday Night Fever*. To us, these are massive systems that now have to move in 48 hours.

RL: I don’t believe that the problem is always money. I’ve heard shows that were sonically stunning - the kind of show where you wish you’d been the person mixing - and they weren’t the most expensive productions. There’s a terrible temptation to throw money at a problem, and we all know that with today’s technology you can ‘polish a turd’, but what really limits the creative process is the artist, and the sound engineer’s interpretation of what the performers are doing. This is one area where the live music market is very different - the artist never gets to really hear

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what you're doing with their performance. They have to trust your judgement totally.

L&SI: Do you see differences between the quality of sound reinforcement in your field and the other disciplines?

SB: They are very different environments. We have an obligation to provide a clear, precise vocal coverage to every seat in the auditorium - and in a very intimate way, compared to arena or stadium work. When you go to a live gig, you're slightly detached from the stage, whereas in the theatre you're much nearer to the action. With someone speaking on stage you have to make the audience believe that they're hearing the actor's voice, not the speaker system. That's the big difference.

RL: At the ideal live show you shouldn't hear the loudspeakers - this is a situation that's not exclusive to theatre. I don't want an audience's attention diverted left or right - I want it focused on the stage. The difference is that in a lot of live touring situations, the audience's past experiences have been very poor. If you walk into a West End theatre you expect good sound in that controlled environment. But in an ice-hockey arena, audiences may have seen rock acts where the whole room just resonated. I believe that the engineer's job is to go in and raise their expectations - to make them say: "God, that sounded good - I could hear everything!" Audiences sometimes have low expectations, but that doesn't mean we have to live down to them.

DP: Clubbers probably expect the highest sound levels of all, but I don't want my punters going out with their ears ringing at the end of the night, saying they'll never come again. If you look at superclubs where there are massive sound systems in a really small area, you realise that what we do can seriously harm people. Give people a good sound system and they'll come back - it's been shown time and time again. You have to do better than the home or car hi-fi system otherwise why are they going to pay to get in?

L&SI: Are you saying that people are influenced by the sound system?

DP: If it's good enough, they'll come specifically for the sound system - it can be a major selling-point of the club. Strangely, it's the punters, not the DJs, who notice.

RL: There are many acts where the quality of sound is a major priority - it can often be the main consideration when buying a ticket, but there are other cases where the audience will ignore poor sound, provided the performers look good.

SB: Theatre audiences are slightly different - we get letters, we really do! We are playing to a very particular audience who won't just tell you if they couldn't hear. They'll want their money back.



L&SI: Manufacturers in the audio industry often stand accused by customers of not listening to their needs. Do you subscribe to this point of view?

RL: In some cases, you get the feeling that manufacturers are answering questions that we haven't asked yet. There has been a huge rush to embrace digital technology, but

companies should first talk to the people who actually use these products.

SB: We've seen a shift towards digital technology - but it's not all appropriate and some of the apparent advantages are outweighed by the disadvantages. I was involved in a show where we installed a digital desk as a band submixer. It was supposed to be perfect for what we needed, and had all these amazing features - but the sound designer said: "I don't like the mic preamp and the effects sound terrible," - so you realise that you're unable to use the product for its intended purpose. The rock and roll market often takes precedence over theatre, because the market's so much bigger.



"If you look at superclubs where there are massive sound systems in a really small area, you realise that what we do can seriously harm people. Give people a good sound system and they'll come back - it's been shown time and time again."

DP: There's a huge amount of gear marketed at DJs now - they all buy this stuff and use it in their homes, but when they get to a club they won't use the technology. A new club installation might have anything up to £10-12k

of samplers and effects in the DJ box, when almost all of what they do could be done on a DJ-type CD player - which is £500.

RL: It has to be said that with all the low-cost recording systems available now, almost anyone can master their own record at home for a very small outlay, but if he or she doesn't have the imagination it won't succeed. In live sound, if control gear isn't fast and intuitive to use, it doesn't matter how sophisticated it is - it won't get used.

SB: There is also a whole generation of operators - myself included - for whom the whole digital worksurface concept is scary. If I stand in front of an analogue desk, for example, and I've got 120 faders in front of me, I feel confident that I know where I am. Give me a mixer with 16 faders, and even if it will light up to tell me something strange is happening, I think 'Help!'.

L&SI: Finally, if you could improve one aspect of this industry, what would it be?

DP: It would have to be to improve education - to get people interested in the business and make it a more worthwhile place to be.

RL: I'd love to see the 'black magic' disappear from live sound. This isn't rocket science, but many talented potential engineers are intimidated by the technology. I have no idea what goes on electronically inside a mixing console, but

I've made my living knowing how to use them.

SB: Theatre sound design is still seen as a technical thing - but we are starting to see that change. Younger directors have brought with them creative teams. I look forward to seeing the next generation of designers and operators, who will have had a very different upbringing from us. Maybe the new experiences that all three of us are hoping for will be made up of elements of club culture, theatre and live music.

photos: Chris Toulmin



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Tony Cottelier

No Comment...

If it's the profile of The Dome that is the image that sticks in the public mind, by now it will be changing from an inverted saucer into something decidedly pear-shaped. With all the other nonsense surrounding the entire exercise from the start, we shouldn't be surprised.

"It is hardly surprising that this has occurred, with a culture at the New Millennium Experience Company (NMEC) that meant that the bidding process was opaque and less than obvious to those submitting bids."

favours granted by suppliers are rife.

IT IS HARDLY SURPRISING that this has occurred, with a culture at the New Millennium Experience Company (NMEC) that meant that the bidding process, especially for the design contracts, was opaque and less than obvious to those submitting bids. It's no surprise then to find that Clare Sampson, who sat at Jennie Page's right hand, was able to hand out three substantial contracts worth several million in fees, to a company controlled by someone with whom she was having a relationship at the time. This infers nothing about the quality of Tim Pyne's

designs for those three zones, but the process by which the decisions as to who would get the work should have been transparent and untainted by any personal connections. All the more so, since the entire project has subsequently turned into a very public disaster.

THE MAJOR ERROR was in adjusting the visitor figures to match the expenditure in the first place. Nobody in the industry believed in the figure of 12 million visitors. That was never going to happen within 12 months, nor could the structure have coped with such numbers.

Actually, the expenditure probably needed to be even greater to create a world-class attraction, but then a period of five years would be the absolute minimum to turn a profit, or to break even. Arguably the most successful attraction of them all, Mark Fisher's central show, still allegedly cost £80 million which is a huge sum of money in the overall context. If everyone concerned had confronted the true cost, with realistic visitor numbers at the beginning, there must be some doubt as to whether The Dome would exist at all. None of the potential buyers seemed prepared to even return the cost of the building itself!

NOW WE HAVE the unsavoury picture of the National Audit Office (NAO) stating that the NMEC was insolvent from the day that The Dome opened and strenuously resisting approving additional funds from the lottery, even where those funds had already been agreed by the various boards. This has resulted in several small companies being strung out for payments, including Lighting Technology, whose Bruce Kirk revealed on Newsnight on BBC2, that they are still owed £0.5m by The Dome operating company. Meanwhile, if the case is eventually proven against the previously-mentioned individual, he will have brought shame on us all.

SOME OF YOU may have noticed that last month's column did not include the usual cynical review of the less mainstream events at the PLASA Show, such as my 'Swag of the Show Award' (a tie between Flying Pig's analogue fans and Autograph's 'Glow Job', mouth activated torch - by the way Autograph, I never did get one). For the same reason, nor will this month's include such items from LDI 2000, other than the second-hand item included below.

THE REASON for these omissions is that, not long after PLASA, and before LDI, an unexpected medical intervention, a recurrence of a previous alien visitation some 20 years, prevented me from travelling or communicating for a few weeks. Before you ask, I am fine now, thanks to some brilliant surgeons. However, once again it was a sharp reminder of the fallibility of our existence, and the irony was not lost on me in view of the fact that I have been an active promoter of Light Relief.

SO HERE'S THE ANECDOTE from my spy at LDI: A few years ago, when Peter Johansen was still in control of Martin Professional, he made an ill-tempered and ill-judged speech at an LDI awards ceremony during which he announced that the champagne provided by the organisers was 'crap' and that in future Martin Professional would provide proper champagne.

THIS THEY DULY DID, until this year when the champagne was turned into Martin-labelled beer, not by any biblical miracle, but presumably through an act of fiscal prudence. Seizing the opportunity, when Marcel Fairbairn of Tracomann went up to collect Coemar's well deserved award for the CF7, he apparently announced to his audience, "by the way the beer is crap, next year we will provide the champagne!" Touché Marcel.

CONGRATULATIONS to Rusty Brutsché in carrying off the sale of Vari-Lite's European operation, and more particularly on completing the sale of Showco to Clair Bothers. While this must have broken Rusty's heart, after all Showco was where it all started for him, it is a clear sign to Vari-Lite shareholders and the industry alike as to where his priorities lie today.

DUE TO MY temporary incapacity, I wasn't able to send this column's good wishes to Richard Pilbrow and his lovely wife Molly last month. Molly is undergoing chemotherapy at present and, on behalf of the entire industry, I would like to offer our heartfelt thoughts during this most difficult of times.

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Mike Mann

catches up

with Robbie

Williams,

whilst Steve

Moles heads

Stateside for

Sarah

Brightman

Aiming

“This is a show that starts with a finale and then gets bigger,” quoted production manager Wob Roberts - and he should know, having been with Robbie Williams since his first solo outing in 1997, when he played to an audience of 600 in a rehearsal studio.

Now, at the helm of a tour that sold over ¼ million tickets in under 24 hours, could Roberts afford to relax? “The thing about working with Rob is that he gets terribly nervous that he won’t live up to the enormous hype. We have to support what he does on stage 100 percent - and we wouldn’t have spent all this money if we had wanted to back-pedal.” And spend they have - and the average concert-goer would be pleased to learn quite how much effort has gone into their night’s entertainment. A total of 23 supply companies are credited in the production handbook - and this does not include the various smaller specialist contributions towards the set.

Liz Berry, in her role of creative director, has overall responsibility for all things visual. “When you see how the lighting and projection have to work together and integrate into the set, it makes sense to have one person who’s responsible for it all,” commented Berry. This has involved working with set designer Hattie Spice, video director Richard Turner, as well as the team at VLPS in London and Le Maitre, who appeared to have supplied enough pyro to the tour to overthrow parliament. Asked if the enormous size of the visual production was in danger of dwarfing the artist, Berry’s answer was emphatic. “The one thing I learnt from my first show with Rob is that I can’t upstage him - no

matter what I do! He has such a presence on stage that it’s always his show - not mine.” As far as the concept of her design is concerned, Berry takes the lead from the artist himself: “It’s very old-fashioned in some ways - there are a lot of theatre tricks in the design, but the start is full-on Spinal Tap!”

The 60’ x 40’ (18m x 12m) arena stage was used for three distinct sets during the 100-minute show. These encompassed a flown band riser (provided and controlled by Stage One) that spanned the entire upstage area, a full height tab track to heighten the theatrical feel of the show, and a large quantity of soft goods - largely supplied by David Perry Productions. Every vertical surface was used for projection - which, explained Berry, called for a certain discipline in lighting the show. “You always have to be aware that any surface will pick up lighting just as well as projection - so I often need to use complementary colours to avoid crashing into the video images.”

Berry’s lamp count is in keeping with the overall scale of the show - over 120 moving heads, including her favourite VL2Cs, VL5s, VL6Bs and 16 of the new VL2416 1200W HMI washlights. These, according to Matt Croft at VLPS, were so new that they were taken straight from the airport to rehearsals - a brave move on Berry’s part. Another first was the use of the Virtuoso console - previously unused in concert touring in the UK. Despite the complexity of the show, Berry had no trouble with either of these new designs. A Wholehog, manned by Rich Gorrod, handled the conventional equipment. One unique element of the lighting design was the use of no less than eight followspots - all truss-

mounted, with six mounted on an outriggered front truss and a further two back spots upstage of the singer.

Video is an important element of the Robbie Williams experience - though not, as one might expect, to provide fans with huge close-ups of their idol. In fact, Berry chose to ditch the traditional side screens (using them only for advertising during changeovers) and provided the audience with a system that could project across the entire upstage width of 50’ (15m). Using two pairs of Barco ELM G10 projectors driven by a 4-camera DPU - all from Nocturne Europe - video director Richard Turner was able to place graphics, clips and live footage on a multitude of soft screens that formed part of the ever-changing set. The challenge, he explained, was providing feeds to a number of different positions using the same four projectors. “We have had to program three different convergences into the G10s,” he explained, “which compensate for having to project onto different screen surfaces in different planes.” The high-powered Barcos have proved themselves on this tour, he added. “The G10s have been a Godsend - we can line them up with houselights on - in fact Liz has asked us to shut them off while she focuses as they’re too bright for her!” For the audience seated at the rear of each venue, Turner provided a pair of screens, fed by a separately-switched show relay.

Robbie Williams is a Britannia Row show - so it was a surprise to see four slender columns of L-Acoustics’ line array system being used. This, it transpired, was down to FOH engineer Dave Bracey. The configuration for the larger arenas was one column per side comprising 12 V-dosc

High

cabinets, with a pair of dV-dosc boxes underslung, covering the main area, plus outer columns of eight V-dosc, again with dV-dosc enclosures for the near-field.

"This works well, right down to the barrier," explained Bracey, who had first used the system on a US tour with

The Cure, having been a committed Turbosound fan for several years. "It's a completely different sound, though - and both systems have their trade-offs. With the V-dosc, there is only a very slight drop-off for the last three or four rows - but these UK venues are smaller than we were using in the States." The speaker system, which was supplied by Westfalen Sound along with system tech Sherif El Barbari, was supplemented by a number of Aura subs.

In order to keep the star's vocal level under control, Bracey employed a Tubetech CL1B compressor, though he pointed out that with an artist who is so spontaneous, there is a limited amount of processing that can be done. The FOH XL4 console was expanded by the use of a diminutive 16-channel XL3, while the main board was also used to provide MIDI control of the effects racks on a song-by-song basis.

Canadian monitor engineer Martin Wareing was taking a rather more manual approach, with a packed Heritage 3000 console, Turbosound wedges (including the new 1x15" + 2" design) and Flashlight sidefills. The original system of six Shure PSM600 IEMS had shrunk to three by the middle of the tour; these were run directly from the desk outputs.

With the UK success still ringing in their ears, the creative team are now preparing for Robbie's march into Europe in the spring - and though the production will be cut from eight to six trucks to make back-to-back touring feasible, European audiences are sure of a big surprise. And despite such enormous pressures and the hassle of a complex production, Wob Roberts and his team managed to do all they could to help and made time to make everyone welcome backstage. Even the journalists. And that's a rare thing . . .

Mike Mann



Billed as the biggest home-grown

production of

the year, Robbie Williams' Sermon On The Mount tour stormed across the country this Autumn. Inset left, production manager Wob Roberts and below, creative director Liz Berry

road for 10 months last year. This current tour started in South America in August, goes to Europe November 16th, and reaches the UK in the New Year to coincide with the release of her album there. She is currently one of the biggest international touring acts out

Right off the bat, let me admit that I don't know what qualifies as a great operatic voice. Some people have 'golden ears', I know a few, and they can perceive every nuance and detail of what can be heard. But for the rest of us, we have to train our ears, and it's a training course that lasts a lifetime.

So for me, Sarah Brightman has a beautiful voice, and I would hazard that 90% of the audience here in Las Vegas have no greater appreciation of opera than I, and will agree. How many of those who attend Covent Garden discern a difference betwixt Garrett and Te Kanawa is another matter, but the thing is, we know what we like.

Love 'em or hate 'em, one of the most redeeming features of the average American's character is their propensity for identifying what they like, and then pursuing it wholeheartedly. Brightman's latest album, *La Luna*, has been released in every territory except the UK (expect it in the New Year, says Chris Vaughan, her production manager) and is already in the US top 10, so a 5,000 capacity Vegas audience is no surprise. "And we're selling between five and eight at most venues," he added. The tour commenced early September, and runs until mid-November in the US - that's no mean achievement. One of the most noticeable features of the current US touring market is the paucity of UK talent around, especially new stars, so good for her.

What startled me most about this 'crossover' act is how like a regular rock star she is. I knew her long ago, way before Andrew Lloyd-Webber, longer ago than even the stockings and suspenders of *Hot Gossip*. She was a sweetie then, and as all the crew confirmed, she's a sweetie still, so don't expect tales of drunken debauchery. But in other ways, she fits the mould, as Vaughan explained: "She was on the

of the UK." Interestingly, Vaughan revealed that last year's outing was in fact her first real rock and roll tour, "and she loved it."

Brightman is managed by Jurgen Otterstein (OK Vision), his Scorpions connection accounting for the presence of Vaughan and his assistant

Debbie Bray, and for the fact that leading German concert company Rocksound are the main contractor, though for the US they rely on allies LSD for lighting (now LSD Fourth Phase) and DB Audio for sound.



"They're very cooperative," said Vaughan, "Patrick Woodroffe designed for the tour, wanting PC Beams and Coemar CF7s. Rocksound bought the Beams, LSD the Coemars, and agreed to share across both markets. Johan Engles is responsible for set design, and another regular collaborator of Patrick's, Micca Burgese, choreographed it. There's lots of little arty bits, very theatrical looks, so it was expensive to put together."

Not least the Triple E electric tab track on the huge curved front truss built by James Thomas Engineering; the drapes sweeping gracefully to reveal a 60ft wide stage, and setting the tone for the evening. Tabs aside, bold theatrical statements are few: two flying sequences, a spectacular costume gag atop a monumental Globe, and a muted pastiche on *Phantom* - but when they do occur they're all very classy. You can see why Vaughan rates the production as expensive.

Brightman 'flays' courtesy of a Foy machine, it being the responsibility of veteran rigger Pete

Rayel and Sven Knight - the latter's background more in theatre than touring. "She does one sequence on a static line," said Knight, "the second on twin lines where she performs back somersaults. She loves flying." To which Rayel interjected, "actually she hates flying, she just likes Sven." Always a bit of a wag, Rayel, who rigs all the PA and lighting points, had one very pertinent observation to make. "DB supplied 45ft chains with their motors, totally unsuitable for getting the X-Array system trimmed up away where it needs to be." Which seems a major shortcoming for a well-established US company, even more so when you discover that to ameliorate Rayel they then sent him 100ft chains, obviously taken from double reeved motors. Rayel has now chopped them to an appropriate length "besides the chain buckets weren't big enough." With lighting rigs regularly trimmed at 30-35ft above stage these days, how does any sound company expect to get by with 45ft of lift when the PA is rigged from the arena floor?



Patrick Woodroffe's spectacular lighting design for Sarah Brightman in concert at the MGM Garden Arena, Las Vegas

The X-Array itself performed well, house engineer Colin Borland being well satisfied. "I normally use Meyer, have done for years, but chose this because we're playing arenas and this system gives me the same coverage." It was a tad noisy in the absence of any signal, despite which it gave a surprisingly subtle rendering to the 18-piece string section when asked. There were also two appallingly noisy moments, even members of the lighting crew commented on them, but this was obviously some sort of RF interference - something very hard to avoid in a city like Vegas. Andreas Linde-Buchner on monitors confirmed this: "about 40 RF systems in operation in the Grand alone," and had spent the afternoon finding a best frequency for Brightman's two Shure radio mic systems.

Monitors are very interesting: there is no back line at all, only the drummer of the six-piece band ensemble producing any noise on stage at all, so you'd think Linde-Buchner's job would be easy. "In some ways, it is. Everyone except her is on headsets, just the percussionist and MD on wireless systems because they move around a bit." But it's the stage sound for the Star that takes the biscuit. "I try to keep her mix as quiet as

possible." He has just a pair each of Meyer USM 1Ps and 2Ps on the truss. "She has to be able to hear herself, hear her own breathing, and hear herself from the big open sound coming from the room." That's quite tricky: the vocal dynamics of some of her songs sees him move 15dB on her channel fader to avoid onstage overload:

Both Boland and L-B have Midas Heritage desks, choosing it for the automation. Having programmed the show, Boland admitted that his is the easier job, having only very occasionally to "grab her vocal".

Lighting is in the capable hands of Eneas Mackintosh. For those who don't know him, a long-time resident of

Rome, Mackintosh worked with Woodroffe in the early years, later forming his own lighting company in Italy which went on to hold the VL franchise. He has now abandoned commerce, and returned to his original calling, concentrating on design and live shows.

Woodroffe has been compelled to follow the aesthetic of Engles' set: "It's all very blue," he said, as will no doubt be apparent in the photographs accompanying this piece. Admittedly, the first half of the show, featuring songs from *La Lune*, is all about moonlight, but surely a waste of Woodroffe's talent to limit the palette so? And the repertoire of *La Lune* isn't restricted to classical, or even popular classics. She sings variously *Scarborough Fayre*, *Whiter Shade of Pale*, and *Nessun Dorma* - surely some latitude for variety there? Woodroffe was able to lift the mood on a couple of occasions, much to everyone's relief, and in the second half of the set could let rip with vigour. "She's very clued up about what a show ought to look like," commented Mackintosh, "because she's very theatrical." Theatrical in the way Kate Bush used to be in live performance, lots of exaggerated arm waving, all rather passé, but still . . .

Mackintosh found the Coemar CF7s especially useful: "The zoom is enormous, and they keep their position well. But they are a bit tricky to focus, because they're long and heavy. However, given time, they're fine." Otherwise, his job is that of show controller on a theatrical show, rolling step by step through the cue hierarchy on his Wholehog 2.

Steve Moles

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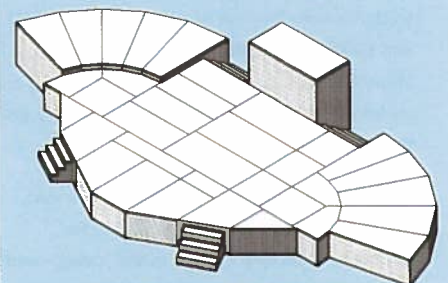


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Ian Herbert, Asleep in the Stalls...

The programme for Andrew Lloyd Webber's new musical, *The Beautiful Game*, features photographs of the whole creative team, including lighting man Jean Kalman and sound designer Martin Levan – not quite a first, since I seem to recall the features of Mr Henderson staring out at me recently from another programme almost as lavish, but nevertheless rare to see the full team credited.

"The real problems in this slovenly, patronising show are not technical ones, however. The team has delivered, presumably, what the producer-composer wanted."

IT'S QUITE AN INTERNATIONAL TEAM, incidentally with both a Canadian director and designer in Robert Carsen (who works mainly in France) and Michael Levine. Meryl Tankard the choreographer is an Australian, the costumes are from American Joan Bergin, lighting is by Frenchman Kalman, and I believe Martin Levan, like the author (Ben Elton, of whom the less said the better) and the composer (guess who?), is English. Perhaps it's not entirely surprising that this lot's

simplistic view of Northern Ireland's troubles comes over as somewhat remote from Ulster's bleak reality.

ONE COULD HAVE HOPED for a lot more from such talents. Unlike *Witches*, which reeks of professionalism and pays confident, knowing homage to its musical comedy predecessors, *Beautiful Game* is sloppily amateur in most departments and a pale imitation of its forbears: from the opening overture's flutes and percussion rises the shade of *Riverdance*. Later, aimless dancing gangs recall the less successful moments of *West Side Story*. The actual choreography

of a football match, the principal contribution of the usually excellent Ms Tankard, is lethargic enough to make you think that even chess is more of a contact sport. Levine supplies restrained sets, which for much of the time simply suggest the bare walls of the Cambridge Theatre stage, breaking out only occasionally into some Jeremy Herbert-like stills of outdoor scenes framed on the back wall. Jean Kalman's lighting looks for much of the time like rehearsal states, cold white lighting of the kind you associate with him, showing his true flair only in the occasional tightly-defined acting area. There's a moment in Act 2, when the look of a chilly prison scene echoes the football changing room of the lighter first act, which is sheer Kalman, but it's one of few. Towards the back of the balcony the sound seemed pretty good, at least technically – you can't blame the sound designer if the chorus belt out quiet numbers at top volume, or if a deliberately limited band produces only limited interest in its sound range.

THE REAL PROBLEMS in this slovenly, patronising show are not technical ones, however. The team has delivered, presumably, what the producer-composer wanted. The trouble lies in the book and lyrics, which aren't the province of this column, so if you want to know more about that side you'll have to look in Theatre Record.

IT'S AMUSING that my visit to *Beautiful Game*, a low-budget show by Lloyd Webber standards but still one that won't leave much change from a couple of million quid, came between two excursions to Eastern Europe, where I saw a succession of visually explosive productions that were each probably put together for the cost of one of the good Lord's rarer clarets. I have some serious reservations about the brash young directors who are leaving their calling cards with some major manglings of the classics on the festival circuit, but there are a couple of Russian designers you should know about.

YOU PROBABLY DO KNOW about Emil Kapeliush if you are a follower of Russian design,

because the notes on Alexander Morfov's production of *The Tempest*, presented by the Komisarjevsky Theatre of St Petersburg in the Nitra Festival in Slovakia, describe him as 'legendary'. The towering spars which are the main feature of his *Tempest* set do multiple duty as the masts of the wrecked ship, Prospero's cave and the woods that surround it. With the aid of an uncredited (but splendid) lighting designer and a physically active cast, Kapeliush conjures up appropriate stage magic for Morfov.

HE CROPPED UP AGAIN two weeks later in the more intimate setting of the St Petersburg Theatre for Young Audiences, with a superbly evocative yet far from conventional Chekhov set for a production, by Grigory Kozlov and Ivan Latyshev, of *The Wood Demon*. In this studio performance, the rough-hewn audience seating was a living part of the set, a suspended birch-wood bisected by a long wooden pathway leading up into the bleachers. The way in which the trees were swept aside to make new stage spaces reflected the multi-purpose spars of *The Tempest*, and in both productions one had the benefit of acting in the finest Russian tradition from surprisingly young casts.

I SAW WOOD DEMON as part of this year's Baltic House Festival in St Petersburg: the home theatre (which used to be called the LenKom – LeninKomsomol – but has adopted this more neutral title) presented an astonishing version of *Taras Bulba* by the rising Ukrainian director Andrei Zholdak, which interpreted Gogol's story in a series of brilliantly hyperbolic, largely wordless tableaux. The visual element was the production's strong point, to the credit of designer Sashka Bilozub. For a start, he constructed a theatre space on the theatre's main stage area, a 25m square boxed enclosure, for which the stage level consisted of rough wooden walls, three metres high, behind which the 'stalls' audience sat. Stalls indeed, for these were wooden two-seater boxes with a small square opening at eye-level, which could be boxed in further by covering the opening so that the spectators looked out of a pair of peepholes. On top of the 'stalls' was a single continuous row of dangerously rickety balcony seats. No safety officer would have permitted the structure, but it survived. I was up there, folks.

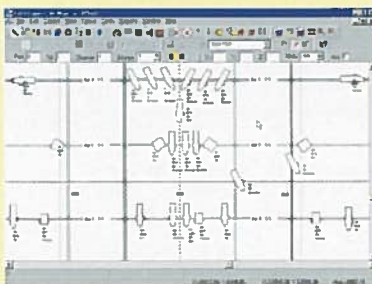
WITHIN THE ACTING SPACE, all manner of unlikely things went on, many of them for far too long. We started fairly quietly, with a gang rape, and worked our way down from there, with all sorts of heavy exercise for the play's large, multi-age cast. We had live fish, buckets of milk, much flying in and out of props, snow, brilliant small-resource lighting (again uncredited), and heavy drumming both live and recorded. At one point I thought, 'Blimey, this is what Grotowski would have done if he'd had a big cast, a disco lighting system and some big speakers.' It was magnificent, in an awful, punishing sort of way. And it didn't seem to mean anything at all. Very like Grotowski, in fact.



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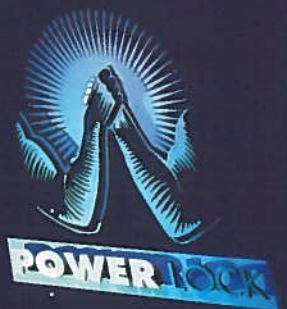
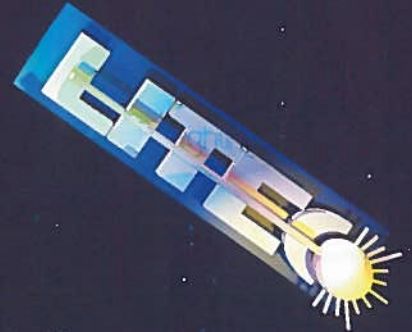
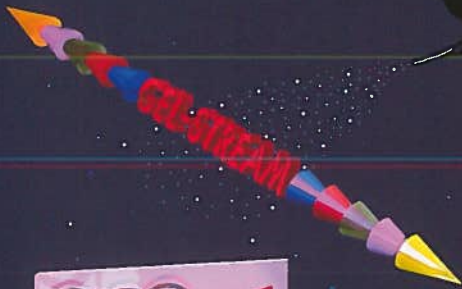
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On the 15th October, Seattle was in festive mood: the Mariners had just beaten the NY Yankees at the Safeco Stadium on the waterfront, and for the first time this town had a chance of staying in the World Series playoffs.



It was not to be, but it still meant a lot in Seattle, notorious for having one of the lowest sunshine rates in America, and a commensurately high suicide rate; to them, winning over the Yankees is a big deal. As if in celebration the next day was one of unseasonably high temperatures and sunshine.



On such an auspicious day I visited the Experience Music Project (EMP), Frank Gehry's voluptuous emplacement adjacent the Space Needle, downtown. From the outside it's hard to tell what will be revealed, but one thing is certain, it's bold, it's brash (in an erotic kind of way) and it's intriguing.

The EMP is the brainchild of Paul Allen. Who he? One of the USA's wealthier citizens, and a resident of Seattle, he helped cuddly Bill found Microsoft way back when all of us thought computers were giant tape machines whirring away in the bowels of the Pentagon. As a child of the post-WW2 baby boom, the young Allen was immersed in the revolution of rock music, and even before he'd begun to acquire his prodigious wealth, he became infatuated with a fellow citizen, one Jimi Hendrix. Over the course of his life, Allen has amassed a formidable collection of Hendrix memorabilia, and in the early nineties deemed it time, with the collusion of his



Rock Culture

Steve Moles visits The Experience Music Project

sister Jody Allen Patton, to present this archive to the public.

"Paul and Jody beat out the ideas over a period of time," says Paul Zumwalt, EMP's director of design and construction. "In fact, it was Jody who determined to make more of it, making the focus not just Hendrix, but the wider

celebration of rock music and the way it has shaped and influenced modern America." Zumwalt has been in the Allen fold for over a decade, having worked previously on some of Allen's other endeavours, notably the sports stadia of the two teams (Basketball and US Football) he indulges so passionately.

Now one thing should be made clear at this juncture, the EMP project is essentially privately-funded, and although other companies did become involved and contributed to the project as it evolved, it is Allen's wealth and vision that drove it. EMP has now been open since late June 2000, and to quote Zumwalt, "On current projections of visitor attendance, and supplementary income, we're well on track for becoming self sufficient." Residents of Greenwich and Hanover eat your hearts out.

The building costs are not available, but the land lease alone is \$300K per annum, so an adult ticket price of \$19.95 lets you do some of the maths on required visitor attendance. But the point is this, none of the craven commercialism that has blighted so many New Millennium projects in the UK is evident here. If sponsors have taken a role at the EMP, it's to support and nurture the project, not use it as an opportunity to emblazon their junk logos over every surface. There's no scrimping here, the technology harnessed at the EMP is the latest, and it's not cheap - with one important distinction: it's not necessarily the most expensive, it's just the best for the job.

There is something in common here with the now defunct Centre for Pop Music in Sheffield: both shared an ethos "not to make this a place where people come to see Michael Jackson's glove in a glass box," as Zumwalt characterised it, "but to be an interactive experience." The difference is in the content. Here, what's inside reflects to the exterior not just in terms of style and innovation, but in budget too. With Sheffield, while the exterior was fresh, what was inside was largely undeveloped and drastically under-funded. If I were to make a guess, I'd say less than 5% of the total Sheffield building budget went on content, the converse is true of the EMP. Allen and his sister also had clear ideas about content long before ground was broken.



"It was 1995 when Gehry first came on board," informed Zumwalt. "He was the perfect choice for a building about popular music. His take is on the flow, on the energy of the music. While the exterior is jarring and erratic, it's also smooth and flowing." Gehry,

when first engaged on the project, visited a leading custom guitar maker in Seattle: "He gave Frank lots of pieces that he no longer needed, and Frank took those away and studied them for reference to form. Although the building in no way resembles a guitar, its smoothness does - 'swoopy' was the key word Gehry used. The choice of colours is possibly the only direct reference." Parts of the exterior are coloured the pale blue of a Fender Jaguar, while others reflect the Les Paul Sunburst.

I was first introduced to the project by Willie Williams, he of U2 and REM lighting design fame. He's a sometime resident of Seattle, and contributes to the largest section of the EMP, the Sky Church. Working alongside Gerard Howland of the Floating Co (a theatre and opera design house) Williams has produced an amorphous space that's emblematic of one of EMP's major themes - adaptability. "We've allowed in the construction of the building - it's internal format - for a change in content of some 20% each year," explained Zumwalt. While content in other areas is detailed, Williams and Howland's Sky Church is deliberately unstructured, it's main function to be used for a variety of live events.

The Church is one of two EMP areas currently devoted to live performance, the other being the Liquid Lounge (no prizes for guessing where that is). Essentially it's the first 'room' when entering the building: 85ft high, and of similar scale in the other two dimensions, the Church is basically a flattened oval, with a huge, curved Sony LED videoscreen along one wall (the screen is made up of 10" wide strips, covering approximately 1,500sq.ft, similar to the palisade screen used on U2's Pop Mart). Williams has decorated the room with his trademark humorous lighting: strings of festoon lights around and behind the screen, fitted with candle flicker bulbs, are just one example. For more muscle power he



Far page, an exterior shot of EMP viewed through Monorail Canyon.

Jo Allen Patton and Paul Allen in front of EMP

This page, the Hendrix Gallery and the Media Exhibit Guide (MEG)



has Studio Spots liberally distributed around the six high arching, vertical trusses that define the walls opposing the screen, with more fitted above the seven 'jellyfish' that mask the ceiling. They're called jellyfish for good reason for they're 3M circles of diaphanous

fabric set horizontally, supported at eight points around their perimeter. They pulse rhythmically up and down, exactly mimicking the motions of the poisonous sea beast.

Although the room serves little direct purpose apropos the EMP as a visitor attraction - its only concession to display being some discrete Perspex covered panels in the floor revealing items of memorabilia - it is a great space for live shows. "We opened with a big launch spectacular," said Zumwalt. "From the onset we wanted to make plain that this was a live venue, not a museum of dead artefacts."

Big launch is right: the opening festival included Metallica, Run DMC, Sheryl Crow and the Eurythmics among others, though since then the Sky Church gigs have been limited to more local talent. "But next year we're going to invite acts touring nationally to play here. The building already has the technology for satellite up-links, and we already broadcast concerts on our website, so we can reach a larger audience." Beyond live shows, the Church plays a continuous programme of AV sequences developed in-house, and keyed to a variety of musical styles, each fulsomely realised through a JBL Venue Series PA around the walls, that can bring full concert levels when demanded.

The On Stage area is one of the more playful aspects: a small, darkened room dedicated to fulfilling everyone's rock star fantasies. A full wall video allows you to be filmed and photographed at the musical instrument of your choice while you play along, on stage, in front of an ecstatic virtual crowd of thousands. Silly, but fun.

The big Sky Church is only part of what EMP is about - elsewhere connections between the visitor and the music biz' are more emphatic. Before going there, however, it's worth drawing attention to a device that one of Allen's many hi-tech companies has developed for the EMP. This device, the Museum Exhibit Guide (MEG), will revolutionise visitor attractions all over the world.

In essence, it's like an MP3 player, headphones and a box of chips and buttons; a machine capable of storing and replaying a large amount of digitised material. The difference here is its use as an information tool. Adjacent to just about every exhibit is a small 'info' logo. Point the MEG at the logo, hit a button and it automatically downloads information about that item into the MEG. You then have control over how you listen to the info which also has links to other items, so halfway through a dissertation on a Hendrix guitar, you can skip to a related byte on say, people who play guitar with their teeth. The great advantage is that the visitor has control over the flow of info. The beauty is that because you download the info at each object, you can jump around all over the place. You can also bookmark items that interest you, and listen in later, maybe over lunch in the café. (Excellent grub by the way, even the burger transcends junk food. Thanks guys.) The MEG is already in V2.0 multiple language version, and has been taken up by several US public establishments.

Or there's the Digital Lab, sponsored by Compaq, and filled with 24 computer terminals, each with a 17" display flat screen monitor, which give access to the full archive of material. Presently, just a quarter of the items have been catalogued, but work is well underway to increase this to the full 80,000 artefacts that the EMP currently possesses in its collection. As an educational database it's incomparable; furthermore you can have limited access to this material via the EMP website at www.emplive.com. And for all you



music history students out there, become a 'Roadie' member (\$35 pa), available to anyone who lives outside Washington State, and you get access to the full archive, free entry whenever you visit, plus other perks.

The Sound Lab is probably the most comprehensive, interactive, part of EMP. As an example, I got to mix down a four-track recording of the original Sweet Dreams by the Eurythmics (Dave Stewart is an EMP fan). Using a Mackie mixer, a guided session took me through pan, parametric EQ, effects, and level; allowed me to access and modify all those parameters on all four tracks; and then gave a free session at the end to take the raw recording and try to match the mix to the actual released mix on the single.

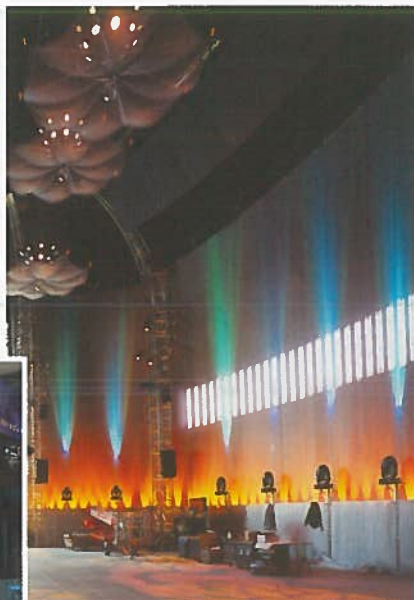
There are three similarly-equipped musical instrument platforms (guitar, bass, keys and drums) each featuring tutored sessions at novice, intermediate and free-form level. Each platform is acoustically separated. Just to put the icing on the cake, there are 12 fully-soundproofed 'Sound Pods' around the perimeter of the Lab, dedicated again to each instrument, including vocals. All the rooms are reverberantly enhanced, something the user can manipulate; I had the pleasure of singing along with Nancy Wilson from Heart. Now I know why I write for a living.

Three larger booths provide for 'band' jamming; a demo theatre is exactly that, accommodating 30 people; and DJ Neighbourhood provides two similar facilities, with automated tutoring, for aspiring scratchers and spinners.

Zumwalt informed me that in order to nurture up-and-coming talent, the EMP will soon provide for CD recording, asking only for a cut of the royalty of that particular track, so those musicians might develop unfettered.

Right, the Sky Church interior, complete with videowall

Below, a Demo Kiosk in the Sound Lab, one of the most interactive elements of EMP



In terms of being entertained, the 'Artists Journey' is the most passive area for punters, in that you just sit back

and enjoy the ride, sat as you are on a hydraulically-controlled action grandstand, watching an Imax-style wraparound video. The seats even have nozzles in the backrests that either blast you with air to enhance the feeling of movement (down a time tunnel) or more subtle odours to confirm where you are (a rock show). Lighting is by Jeff Ravitz (LD for Bruce Springsteen, etc) once more underlining how Allen chose to seek out valid input to every area.

As you begin to grasp the scale of the venture, it soon becomes apparent that credits would just be too numerous to mention. However, Soundelux Showworks of Orlando Florida should be mentioned for installing the lion's share of audio and video. Howard Schlieper, project manager for Soundelux, singled out the main components. "Nearly all JBL speakers and amps, though some Crown and EAW units feature as well. Projection is mainly Barcos, whilst audio control is largely down to the Peavey MediaMatrix with QSC Cobra-net and BSS Soundweb 9088s for DSP," (38 in the

general building, another nine in the Sky Church). Visual information is provided by 30+ plasma touch-screens from Displayworks, and another eight 42" Sony Plasma screens for the intro section to The Artists Journey.

One final important lesson from the EMP is how they've nurtured their audience. The teacher sessions in the Sky Church mentioned earlier are a spin-off from a well-planned campaign. As well as many local schools programmes, the Electric Bus is an educational vehicle that has toured the US since June, and will reach over one million people in its first

year. Containing samples of exhibits from the EMP, the bus is also home to a fully-functional recording studio, a small live performance stage, and portable music technology similar to that in the Sound Lab. The Experience Art Camps have an even longer reach, having been run for the past three summers. Two-week sessions offer kids the chance to work alongside established performance and creative artists.

In conclusion, I have to say that the thing I liked best was the MEG, not just for the way it freed up the visitor to peruse at will, but for the fact you could be somewhere surrounded by hundreds of others and not be constantly plagued by them.

The other thing I felt was a touch of sadness. Sad because on several occasions the place made the hairs stand up on the back of my neck. Why? Because it made me realise that whatever the musical revolution that Hendrix, the Beatles et al, were in the vanguard of, was an opportunity of time and circumstance. It's over now and my kids and yours will never be able to experience what it was like emerging into a new era. But at least the EMP will give them some idea.

Photos: Richard Brown, Stan Smith, Tim Streetporter, Lara Swimmer.



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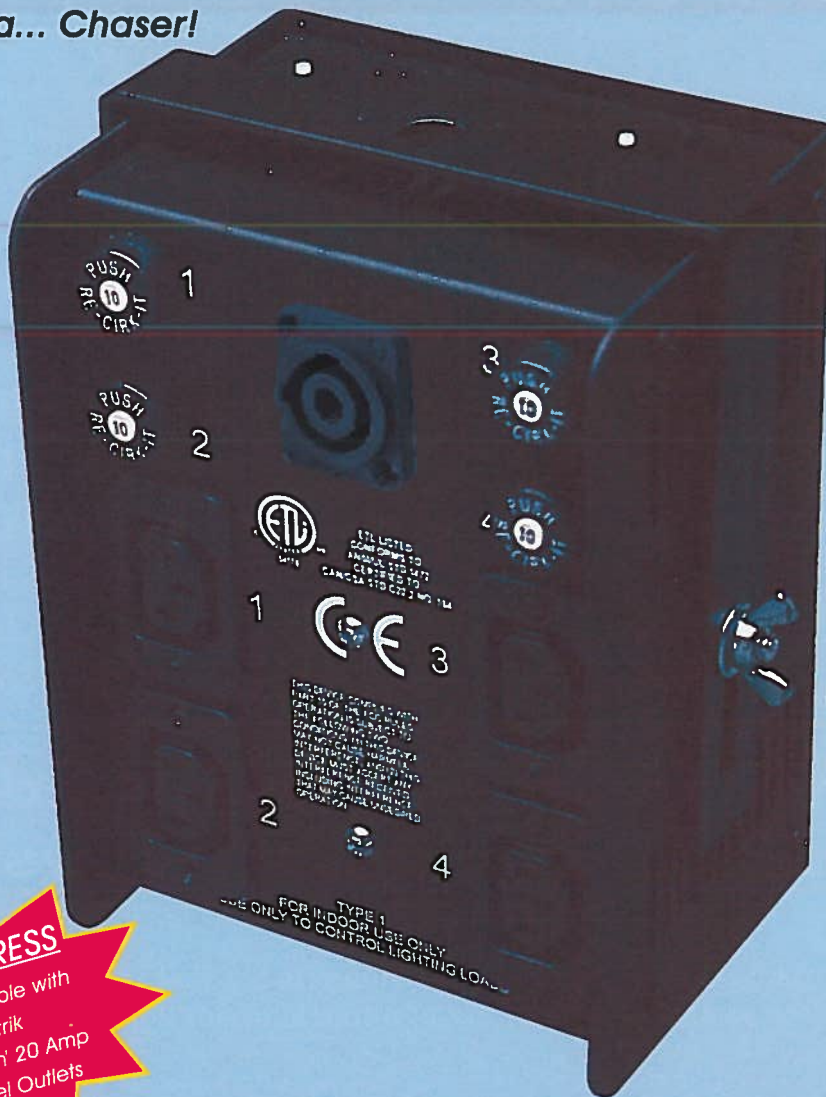
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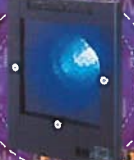
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Rising to the . . .

Challenge

Dutch superstar Lee Towers' recent five-night 'Jubilee Gala of the Year' at the Ahoy, Rotterdam saw one of the country's most lavish productions. L&SI was there

Even if his posters had not adorned the walls of the Ahoy's backstage production office, there would have been little doubt that we were in the presence of the star of the show. You couldn't miss the imposing stature, the broad shoulders, the immaculately-coiffed hair, the spangly black jacket and the gold-finish Shure radio microphone in his hand, while the other hand was extended in an affable greeting to L&SI: "You guys are from the UK? Excellent. Enjoy the show." This was indeed Lee Towers.

Mr Towers is not so much a star in Holland as a phenomenon. His recent run of five shows at the 10,000-seat Ahoy arena in Rotterdam was rounded off by his 50th (yes, 50th) show at the venue over an enduring span of 16 years. He was described, for the benefit of those unfamiliar with his repertoire, as the 'Tom Jones of Holland'. This comes close to accurately defining the audience demographic, but does scant justice to what is, by anyone's standards, a fairly awesome production.

Utrecht-based Sightline Productions is the company responsible for pulling the no-holds-barred, no-expense-spared show together, along with production suppliers Ampco Pro Rent for PA and monitors in conjunction with DaCapo Orchestra Sound, Flashlight Rental for lights and rigging, together with Frontline Rigging Consultancy and 10 Feet Lighting Operators, Screenco NL, Stageco and NOB Décor for stage and set.

The set and its lighting were, naturally, the first things to grab the attention, filling one entire end of the arena and projecting out some 15m into the auditorium. The set was dominated by a massive 20m wide by 5m high LED videoscreen from Screenco Holland - the equivalent of three standard 4x3 aspect ratio screens side by side, used at various times either

individually or as one giant 'letter box' format backdrop. Sightline Productions' Dennis van der Haagen explains: "We're using one video OB truck for the videowall and another for the broadcast. We're using 11 cameras in all with three dedicated to the screen."

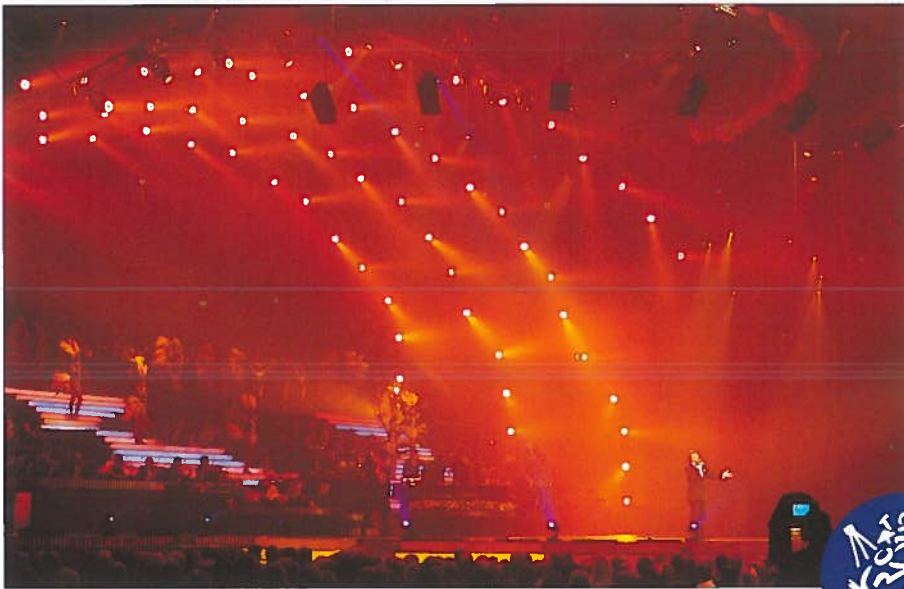
The lighting was one of the largest rigs ever assembled for an arena show, as Flashlight's Marc van der Wel says: "It's a really big rig with 278 automated fixtures, 189 hoists and 700m of truss. The set designer is Hub Berkers who has been working with numerous artists and television productions, and has been creating Lee's designs for many years." The production drew some 3000 amps per phase: almost 9000 amps in total. Kasler Pyro and ABC Laser added their own effects to the show. Flashlight's Hans Graumans takes up the story: "This is a very large production and space is an issue. There's a rigging crew of 12 because 80% of the points are on bridles, which means two points for each motor and there are 189 Lodestar motors."

As you might gather from the basic specifications, this is a rig designed not only to provide a wealth of big looks for the stage, but to light the rest of the arena too - partly, it emerged, so that Mr Towers could get a clear view of his fans. This entailed the deployment of 200 Par cans and 50 Cyberlights along the balcony edges around three sides of the venue, while the combined stage and audience rig was under the command of a single Ethernet backbone - exclusively developed by Flashlight - that dramatically reduced control cabling from what would have been up to 20km of DMX cable to one single fibre-optic strand.

"Lee wanted the show to have a huge look," explains LD Henk Jan van Beek. "We started off with the set design and then I built the lighting design around it. There was a part that had to be lit, and a part that had to be in black, unseen. In this area we mounted all the conventional lighting - the backlights for the orchestra. The zooms we used for the effects are also in the black, and then we filled a series of arched trusses over the stage with 108 VL5s, and the look was complete.

"The request from the artist was that he wanted to see the whole venue, so it was filled with Cyberlights so that we could light the audience. They were recording for TV and DVD, so I





Above, the Vari-Lite arches are clearly visible. Below, part of the lighting crew - Ben Kastermans, LD Henk Jan van Beek and operators Ton Swaak and Ezra Hommel. Below right, members of the audio team - orchestra engineer Stephan Behrens, sound designer John Kriek and Hugo Scholten



had to make sure that the balance between the LED screen, the lighting, the artist's wishes and the TV images was perfect.

"When you look into the set you're looking into a series of layers coming forwards from the back. Where the artist is walking, we use Studio Spots which are all on the 'Hog whilst a second 'Hog, controlled by MIDI, is used for all the Cyberlights." There were, as you'd expect, a large number of cues. "We have a ballet, a large orchestra, a lot of change-overs. The main lighting layers include four arches filled with VL5s to create a nice colour wash on the set and the orchestra.

"For conventional lighting I've used 200 Pars, some with scrollers. The front lights for the orchestra are ETC Source 4s, providing spot colours. In the next layer I'm building the heavy profiles, and for those I've used the Clay Paky 1200W Stage Zoom - a very powerful light. And for the venue we used about 200 Pars and about 50 Cyberlights mounted on the balconies." Wybron scrollers, five Strong

Super Troupers, 11 mirrorballs, six Vari* Lite VLMs (Moving Mirrors) and six DHA Digital Light Curtains also featured. In control of all of this were two Compulite Micron 3Bs for the set and conventionals. The first of seven Wholehog consoles and Hog Wings controlled the VL5s, a second was filled with all the wash lights, and a third with the profiles. The show was prepared in WYSIWYG at Flashlight by LD Henk Jan van Beek and first operator Ton Swaak.

A very neat touch was the rare appearance on a concert stage of the automated AR500 miniature architectural luminaire originally

developed by Vari-Lite Inc, but subsequently evolved and marketed by ETC as the Irideon 2. Henk Jan van Beek: "We used the Irideons for a nice, tiny look, creating fine details on the set, and we controlled them from one of the Wholehogs."

Flashlight opted to employ its own Ethernet backbone-based lighting control system, which entailed one flat cable. "This is a very nice system to use," explained van Beek. "You can control it and see what the output is from the cable; if you have a problem with a light you can see exactly what it is. Flashlight created this system and it makes a large job like this very easy and reliable."

Victor Anderssen, Flashlight's specialist Ethernet engineer for this project, explained the rationale behind the all-digital system: "There are around 300 moving heads up there, which obviously entails a lot of DMX lines in the rig. So we had a choice of either doing it conventionally or with an Ethernet

network; we chose the Ethernet 802.3 route for simplicity and the cost savings it offered. There's also the possibility of routing a lot of cues and sources through the system, such as audio, video and effects.

"There are boxes within the rig so that we can split the lines, which means we go from a basic standard hub-to-hub network from FOH to our 'dimmer city' just like in an office building, connected by a single fibre-optic cable which contains the backbone of a star network and conveys all the information between one switch and another - and from there, we go on into the roof with the co-ax. We have a split

box going into the backbone inside the truss, and in the back truss we split up the network into each layer of truss to drive the 16 DMX lines through 256 DMX-Ports. Everybody is on that network so it makes it a lot easier, and it's a military quality cable, so most of the risk that you have with snake lines is gone. It's also optically-controlled so there's no connection between power and FOH, making it much easier and safer for people working on the boards or the grid - there are no earth links."

"We've put in 189 motors to fly the rig, which is a new record for the Ahoy," adds Dennis van der Haagen. "In the upstage area everything started to get too heavy for the house beams - somewhere between 50 and 60 tonnes - so we put a huge ground support in the back.

This takes the weight off beam one allowing us to get a monorail in for getting the videowall in place, which actually sits on a platform. We're using 100sq.m of Saco LED 15mm pixel pitch screen from Screenco."

The Ampco Pro Rent team's approach to the sound design went several steps beyond the standard approach to arena PA. Instead of the standard left-and-right stage hangs and a few delay clusters, Ampco opted for a more complex distributed system.



Kees Heegstra headed Ampco Pro Rent's team and Eric de Bruyn, MD of the Ampco Group, was in attendance too - as he has been for the past 16 years. "Normally we would use a big rig on the left and right side," explains Heegstra, "but on this one we've tried to make it as close as possible to the audience so that it feels like something they'd get in their living room. We split up the room and tried to have the same distance from every cabinet to the audience. It's a difficult room and a distributed system undoubtedly gives the best result, although it involves a lot more work."

Sound designer John Kriek adds: "I wanted to cover the expensive seats very well; these people are all friends of the artist and have paid a lot of money. But the problem is that if people start standing up they're higher than the stage, so we have to get the right frequency response in the first 10 rows." The answer was a flown semicircle of 11 Renkus-Heinz SR-5 loudspeakers over the stage front. The speaker is a full-range two-way passive cabinet with a built-in crossover and 'Complex Conic' horns, powered by a 1" HF driver and a 12" woofer with a 700W programme power rating. Kriek adds, with a wry smile: "We really

had to fight for them because the other disciplines didn't want to see any speakers!" 12 main stacks of Renkus-Heinz Synco Touring (RH-STS) system made up the distributed PA, with a combination of four high and four low cabinets in almost every stack. The 'STS' part of the name denotes the special configuration developed

same two artists who required Sennheisers. Orchestra and band members were provided with the Nixx system by DaCapo, whose team mic'd, mixed and monitored them. The Nixx system allows each musician to adjust his or her own in-ear mix balance. The flipside to this, of course, is that the monitor system had to provide up to 45

individual sends, with a few Synco CW152A biamped 15" + 2" wedges as back-up. A Midas Heritage 3000 and a Crest LMX supplied the monitor mixes, and the SMS (Symphonic Microphone

System) was used to internally mic the high strings. Bases were mic'd with Schertler pickups, the brass with AKG C419s and woodwinds with various AKG mics.

Out front, two 48-channel Heritage 2000s and a 16-channel XL3 Split desk provided the mixes, with the matrix feeding an XL88 to control the distributed system levels via BSS Varicurves.

jointly between the Synco Network (of which Ampco was the founding partner) and the Californian loudspeaker manufacturer. The RH-STS package is completed by Crest amplification, Synco loudspeaker controllers and flying hardware. The high/mid cabinets are based on Renkus-Heinz's CoEntrant Topology technology, which combines the output of multiple drivers into a single waveguide.

The arena PA comprised four 12kW clusters, two 10kW clusters, three 2kW sub-low stacks, 11 SR-5 front fills and four TRC-81 front fills, while the distributed system consisted of six 12kW clusters.

These were supplemented by a pair of Deltamax backfills. In control were two Midas XL88s, 10 BSS FCS 926/920 Varicurves, eight BSS TCS 804 system delays and two BSS FPC 900 wireless remotes. In the control racks were Klark Teknik DN 3600 programmable EQs, a DN 7204 system delay/equaliser and an XTA 1/3 octave equaliser. The orchestra was pre-mixed using a pair of Mackie 32-channel and one 16-channel consoles.

On stage, the musicians were universally equipped with in-ear systems - all Shure, apart from two artists who preferred Garwood. Shure, too, was the name on the radio microphones, apart from the



Above, the BSS/Midas XL88 loudspeaker drive racks

As the intro video segued into the great man's ceremonial arrival on stage, the besuited audience was treated to the sight of cartwheeling dancers descending in backlit translucent balloons to the accompaniment of a massive blast of pyro. And that was just for starters. Walking around, the effort put into the distributed sound and lighting design proved how worthwhile it had been, with all three sides of the house getting a fine sound and a great view of the action. It was quite a show.

Performance photos:
Ivo Lucas Luyckx

Crew photos:
Mike Lethby





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John Watt

Second Take...

John Watt's view from beside the camera

If the autobiographical detail appears a bit thin this month, it merely reflects the relative silence coming out of the phone. If this is retirement, it isn't all it's cracked up to be. But still, it gives me the opportunity to watch what has replaced my sort of programming in this brave new world.

DOWN AT SHEPHERDS

BUSH they have produced a new look for the flagship morning news show 'Breakfast'. More aptly it could have been called 'Dogs Dinner'; I have always been better than Greg Dyke at coming up with snappy titles. Jeremy Bowen, the new anchor man, has earned a stint away from the firing line in the world's hotspots, though this won't stop him from being sniped at by the likes of me until he lightens up a bit. After all, he is getting paid. Being used to terrible events unfolding behind him,

it's not surprising that he still seems to be keeping a wary eye over his shoulder. With good cause too, as whoever produced those venetian blind gobos behind that custard yellow sofa (maybe Bruce Gingel's taste wasn't so bad after all) is capable of anything. Nature has rules about the way it produces shadows; incongruous angles of naturalistic objects certainly are attention-grabbers, as demonstrated on this show.

NO SOONER HAS HE FOUND HIS CAMERA

(there's a red light on the 'on air' one Jeremy, but

you'll always be a beat late if you depend on it) than up comes a 'down-the-line' interview. The wide-screen monitor displaying the distorted remote correspondent is carefully placed up stage so that the presenter in the studio must screw himself round about 120 degrees to see it. He should count himself lucky; if Sophie Wrayworth is doing the down-the-line, she has to look round Jeremy as well to see the monitor. After the first question there's a 20 second delay while their voice travels umpteen squillion miles to a satellite and back (our viewers are too thick to notice) which gives them the opportunity to check whether the gobos were as bad as they thought the first time. They are.

HAVING FINISHED

the down-the-line, back they pirouette to camera two, then four, finally settling on camera one, only to have to go through the whole thing again: cut to the weather lady with pot scourer hair, trying to look cheerful on the Embankment in a downpour. On one hand she does have reason to be happy as she only has one camera to choose from, which makes life simpler, and there are no gobos. However, they've come up with another distraction to ensure that you miss the crucial information. To the right of the frame is an electronic weather map, presumably emanating from Milton Keynes. Nothing remarkable here, except that there's a soft-edged wipe between it and her through which passers-by drift. All of human life is here, and it certainly indicates more about the state of the world than the highly selective contents of the programme which it all too briefly shoulders its way into. There was a very nice dog, limping a bit, this morning, and was that a lighting director driving a mini cab. "Ere, do you know who I had in the back of my cab..."

I WON'T MOCK THE AFFLICTED,

as Frankie Howerd used to say, by mentioning the lighting - I know I'm the only one left in the civilised world

wanting to see three-dimensional faces. I know the brief: we want to shoot everyone from any angle. Well, it's a success, you can see everyone, but a bit less false edge wouldn't do any harm.

CARE OF THE STLD. I went to see the Dome last week, the sort of visit which this group still manages to set up and with some style too. I have mixed feelings about the place, and only really saw the show following a short walkabout of the nearly empty Zones, so perhaps I shouldn't comment. The idea of doing a show in a translucent building has to be a curious one though. The ability of the lighting to focus attention on the performers must be pretty ineffective for the daytime shows. The show, as most people know, is acrobatic and therefore largely in the air and in-the-round, so those small figures, sometimes at long distances, certainly needed 'picking out' from the background. This failed to happen even in the evening performance I saw, partly due, I learned later to staff cutbacks and therefore fewer followspots. These same financial difficulties mean lower staff levels and less maintenance and so have resulted in cuts to the show which don't help an already obscure plot.

THE DESIGNER HAS chosen a glossy floor for the main stage and an outer circle of more glossy floor, which becomes part of the performance space at times too. You can't light a mirror (book one, page one) as you just see reflections and flare. Patrick Woodroffe's huge but distant rig fought physics all the way. This is your last chance to see the set pieces of scenery, which are stunning. The bright red 'Tower of Babylon' which rises and goes on rising to 30m from that shallow revolve is worth the price of a ticket. If you are privileged enough to see 'the works' as we were, it's worth the price of two. The arial 'ballet' is quite special too and to think, like me, they work without a safety net... they on one wire, while I find two handy to make most lights show off their full potential.

AS THOUGH IT ISN'T ENOUGH that the Australians have pulled off a great coup by stage-managing the most glitch-free Olympics ever, I now hear from Denis Irving (following a recent moan about barrel clamps), that he designed a roller barrel clamp years ago. Both Denis and I think this equals happiness for the average lighting person, but apparently the market for them was limited - a shame. Anyway it shows that this glossy magazine even reaches the most far-flung of our colonies. I had lunch recently with the everlasting king, Bill Klages from LA. He reads us too, but never gives me a quotable story, which is why he is where he is today. He will be at Showlight 2001 in May (my current hobby), hope you will be too; we may catch him off guard.

"I won't mock the afflicted, as Frankie Howerd used to say, by mentioning the lighting - I know I'm the only one left in the civilised world wanting to see three-dimensional faces."

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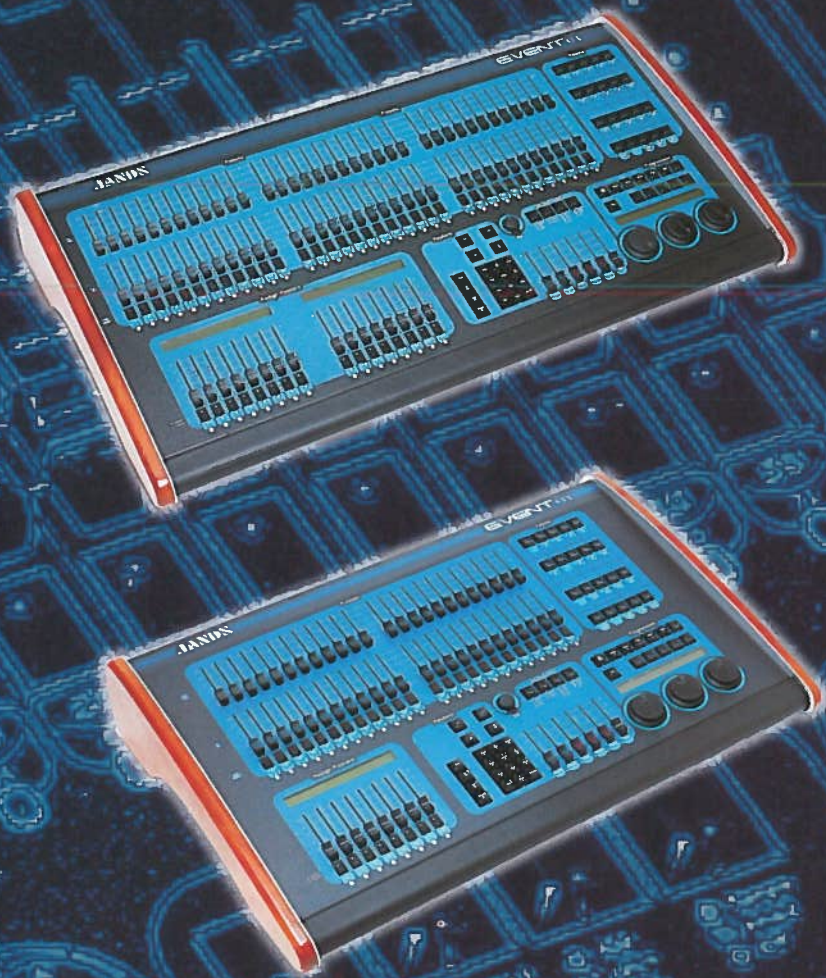


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AES, Los Angeles



Much of the performance audio buzz at the LA Convention Center at the end of September surrounded the new line array PA systems, but there was more besides. L&SI reports on some of the highlights



TRADE SHOW



AKG Acoustics launched the PR 81 pocket receiver, a lightweight, durable and feature-packed miniature diversity receiver based on AKG's WMS 81 wireless technology. The company sees its compactness and plug-and-play operation as ideal for small broadcast and video production houses. AKG also unveiled the WMS 40 UHF wireless system, a fully-

featured transmitter/receiver system at what AKG says is a 'breakthrough price' for a product of its ability.

Allen & Heath staged the US debut of the ML4000 dual-function (FOH/monitor) console. Slotting in between the GL400 and the recently-launched ML5000, it's a VCA-equipped 12 aux, eight audio group mixer with eight mute groups, a four-way matrix and enhanced LCR and IEM facilities. VCA groups and the LCRplus panning system join ML5000-derived features such as an angled fader bay, 32-, 40- and 48-channel formats, all with two dual stereo channels and a compact footprint.

Audio Technica promises 'a new benchmark in wireless performance' with its ATW-7373 handheld condenser wireless system, which comprises the ATW-T73 handheld condenser microphone/transmitter and the ATW-R73 true diversity receiver. At the heart of the ATW-T73 is the same element used in the AT4033 microphone, a mainstay of recording studios, a combination which A-T says adds up to studio quality sound with road-proven toughness.



AES at the LA Convention Center

Harro K. Heinz (second left), and members of the Renkus Heinz team pictured at the company's new US headquarters in Foothill Ranch, California

Jimmy Kanalek of Group One with XTA processors

Cadac launched its R-Type desk, aimed squarely at the touring market and packaged in a new, lightweight 24-channel modular format. A slimmer module width and lighter monocoque frame design marks a radical move for the company, but traditional Cadac features are retained, including the ability to configure the module layout freely, and the R-Type provides facilities for both front-of-house and monitor mixing.

Crest Audio introduced its CT Series loudspeakers for touring and fixed installations. The trapezoidal CT Series is comprised of six models: four trapezoidal enclosures (the CT1, CT2, CT3, and CT4 subwoofer), and two floor monitors (the CT1m and CT3m). Crest also showed its X-VCA console, featuring VCA control of input channels, analogue subgroups and linked stereo dynamics, including compression, limiting and gating on all subgroups, plus powerful EQ and MIDI scene mute systems.

Crown Audio highlighted six new Contractor Series amplifiers for the installation market. The CH1, CH2 and CH4 offer both low and high impedance outputs per channel, while the CL1, CL2 and CL4 are engineered for high power, low impedance loads and provide 2, 4 and 8 ohm options per channel. The company also announced its Internet Industry Partnership (I2P) with Crestron Electronics, designed to allow partner manufacturers' products to operate seamlessly in a Crestron systems environment via Crestron e-Control.

EAW unveiled three additions to its SM series of wedge monitors. The SM84 is a high-output two-way stage monitor with a revolutionary 4 x 8" low

frequency driver configuration and split baffle design, it employs a 1.4" exit neodymium compression driver on a 90°H x 40°V angled-front horn. The SM12 two-way stage monitor has a 12" low-frequency driver, 1.4" exit neodymium compression driver on a 60°V x 40°H constant directivity horn. Similar to the SM12, the SM15 is a high-output, two-way stage monitor system with a 15" low frequency driver. Also new from EAW is the E-Powered Series, with rugged internal amplifier packages.

Electro-Voice was one of the key line array protagonists. The company showcased its new X-Line Series of line array speakers, designed to provide wide horizontal dispersion from a single vertical line array with highly coherent wavefront summing in the vertical plane, delivered by EV's proprietary high-frequency wavefront alignment device. The X-Line system consists of the main system enclosure, the XVLS, a downfill cabinet, the X-fill and an extended bandwidth subwoofer, the X-sub.



Innova Son demonstrated its new Sensory Large Scale Series, featuring the same electronics as the Sensory Live Series, with a simultaneous total of 96 input channels, mixable into 46 pre-mix buses, all

assignable to 20 matrix buses and/or to LCR master buses. It features the same control surface as the Sensory Live Series, and its small footprint. The Compact Live takes its place in the Sensory Live Series as the smallest unit; the console frame, which integrates a retractable screen, contains the audio rack, featuring up to 32 local mic/line inputs with eight extra line ins.

JB Professional brought its new line array system (first seen at PLASA) to AES, with the unveiling of its Vertec Series Model VT4889 three-way



system. Based on JBL's Vertical Technology, the trapezoidal enclosure features proprietary, patented lightweight neodymium components which JBL claim offer significantly more power for their size and weight than any comparable device.



designed to integrate the DX8 digital mixer/processor with SIA's SMAART system. Also new is the ART Series of five active and two passive two-way installation loudspeakers.

Meyer Sound, meanwhile, had its new MTS-4A four-way self-powered loudspeaker. Designed to provide a single-cabinet, truly full-range solution for applications requiring powerful deep bass reproduction, it offers the potential to eliminate the need for

separate subwoofers and associated electronics. New cone designs feature in the line-up of 18, 15 and 12" drivers derived from Meyer's new MS-8xx Series, and the system is quad-amplified with total peak output of over 2400W. Also new from Meyer at AES was the DF-4 self-powered medium-throw down-fill loudspeaker, designed to supplement the coverage of flown arrays with matching frequency and phase response with other Meyer speakers.

QSC introduced the 'A' versions of its PowerLight 2 Series of power amplifiers for touring applications. These mirror the power points of the line's four base models, but include on-board signal processing capability, switchable gain sensitivities and adjustable power limiters. Other road-ready features include defeatable input clip limiters and low-frequency roll-off filters, along with a variety of I/O options and QSCControl interface.

Renkus-Heinz, the worldwide distributor for ADA Acoustic Design Ahnert's EASE acoustical simulation software, announced that it will distribute SIA Software's SMAART Live to its business partners worldwide, effectively making SMAART Live part of R-H's end-to-end solution package. SMAART Live interfaces with EASE acoustical modeling

software as well as R-H's D26A Digital Controller. The company used AES to launch two new CT Compact models, the CT328 and CT4212, aimed at bringing reference-quality CT Series sound to more intimate situations using CoEntrant Transducers loaded on Complex Conic horns in TRAP (TRue Array Principle) enclosures.

Soundcraft's news was the commencement of the worldwide shipping of its Series Four console, unveiled at PLASA. Series Four follows the Series

Five's layout, but in a much more compact (24- to 48-channel) frame size. This fully modular, eight subgroup desk has four extra stereo mic/line inputs, each as fully featured as the standard mono input strip, and more stereo strips can be added in place of mono inputs as required. Eight VCAs, eight mute groups, four-band EQ with two fully-parametric mid bands, 10 auxes, LCR panning and a 16 x 8 matrix also contribute to an extended feature set. The new and highly-specified 40-input Spirit LX7 console was also on show.



Tannoy revealed its first active installation loudspeaker, the i6MP, a bi-amplified model with a 6.5 inch dual concentric driver. It is the first Tannoy product to feature Pro BASH technology, reducing weight and enhancing efficiency in a range of compact and high-power enclosures.



Turbosound showed its TQ-425SP, the latest addition to the company's QLight Series of loudspeakers. The compact QLight Series is engineered for theatre and corporate/industrial work, as well as fixed installations, and the TQ-425SP is a self-powered, front-loaded sub-bass unit with a 1600W amplifier and a pair of 4" voice

coils with 15" drivers. It's also available in a non-powered format to complement the TQ-440 self-powered, three-way, full range enclosure in conjunction with the LMS-D6 loudspeaker management system.

XTA Electronics, on US distributor Group One's stand, introduced its new SIDD (Seriously Intelligent Digital Dynamics) dual channel dynamics processor, which provides a comprehensive suite of dynamics tools including compression, gating, dynamic EQ and delay, complete with instant storage and recall of all user settings either via the front panel, MIDI or computer software in 1U of rack space. It's based on the same hardware platform as the DP226 loudspeaker processor, and features 24-Bit I/O and 40-Bit internal processing, utilising XTA's algorithms in the EQ and limiter sections, coupled with brand new algorithms in all other sections.

A detailed report of all the new product launches at LDI will appear in our December issue.

Mackie showed its Fusion Series of active sound

reinforcement speakers (first covered in L&SI in April 2000) at AES, claiming the range as "the first professional sound reinforcement speaker system to completely create an ideal union between speakers, compression drivers and amplifiers". The flagship of three families of active speaker products is the Fusion 3000, a full range three-way active speaker. Connection is provided

to an active subwoofer system like the Fusion 1800A, a double-18" design broken down into two individual enclosures which incorporates a high-power amplifier. Mackie Industrial

announced the Mackie Central rapid proposal deployment software, aimed at automating the proposal and documentation facets of a sound contractor's business, and launched its software

JBL's Vertec line array system, first seen at PLASA

Mackie's new Fusion 1800A - a double-18" design broken down into two individual enclosures incorporating a high-power amplifier

The Turbosound TQ-440 self-powered full-range enclosure

Meyer Sound introduced the new MTS-4A and DF-4 self-powered loudspeakers

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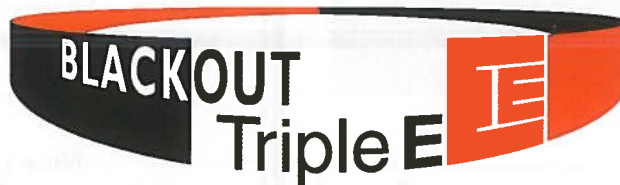
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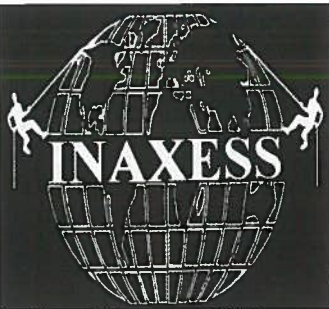
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Leading supplier of sound and lighting systems to the theatre, TV and education markets requires an experienced electronics service engineer to work in the workshop and 'on-site'. The role will involve the repair and maintenance of a wide range of sound and lighting equipment, including computerised lighting control systems and digital dimmers. The successful applicant will be self-motivated, organised, flexible, willing to learn new technologies and keen to work on his or her own initiative. Must hold a clean driving licence - computer literacy would be an advantage. Salary dependent upon age and experience.

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Location: Berks • Salary: £18-23K + Company Van • Job Ref: 250/2

Leading supplier of sound and lighting systems to the theatre, TV and education markets is looking for a qualified electrician. Working to the highest standard, the ideal candidate will be capable of managing both staff and materials to oversee electrical installations of sound and lighting systems throughout the UK. Must hold a clean driving licence. Salary dependent upon age and experience.

Assistant Electrician

Location: Berkshire • Salary: £14K • Job Ref: 250/3

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In Profile...

L&SI Talks to the Industry Trend-setters

I have negligible background in rock and roll and concerts. And indeed in corporate events. And indeed television. But that's probably why it was best that I do it!

So says John Rayment, the man responsible for the stunning lighting of perhaps the most-watched events the world has ever seen: the opening and closing ceremonies of the Sydney Olympic Games. "It didn't occur to me that it should be a problem," he adds, "because I was happy to announce to

anybody that I hadn't done an Olympics before. But then, there aren't many who have!"

A life-long Sydneysider, Rayment is clearly delighted that he was invited to be involved with the Games - "the little sports carnival" - and proud of his contribution to them. In particular, he seems pleased that he was able to light the show using the same approach and technique he has brought to all his work:

"I don't light space, I light shows. The ideas were generated from the movements or the patterns, and from that you create a design where every light has a place and a purpose. And it's a performed design - it's not static. It ebbs, it flows, it has rhythm. And - particularly in live theatre - it exists only when it's performed, and then it's gone. You can't walk around with a big portfolio - just a list of names. It's quite unique for me to now have probably one of the best showreels you could get."

The path to his Olympic success began in London in the seventies when, after training as an actor, he made the traditional Australian visit to Britain and applied for a job as stage manager of a London-based dance company that was about to tour Europe. "On the day we left, I was told that I was doing the touring lighting! With contemporary

dance in particular there aren't any rules - I was working in empty space and I was making the big picture rather than just lighting the performer."

It was on this tour that Rayment met Graeme Murphy, who subsequently became artistic director of the Sydney Dance Company, the company with which Rayment is perhaps most strongly associated. It was also Murphy who prompted the next

important decision in his career, when Rayment became one of the first Australian lighting designers to get an agent and go freelance. "I wanted to find out whether I was just bathing in Murphy's reflected glory or whether I was a designer in my own right, so that's what I did." His career quickly moved beyond dance to include drama, opera, musicals and events such as World Expo '88, though he often balanced his lighting design work by serving as production manager or technical director to shows and events "largely," as he explains, "because I have an opinion on everything and that's easier if you're in charge!"

He also used his position to help his lighting work: "I introduced moving lights to the Sydney Dance Company - handily, being their technical director, I was able to make sure the budget was there!" But lighting is his first love. "I really enjoy transforming a space, sitting at a production desk in an empty theatre, turning off the worklights and then, OK, I get to do this stuff. I'm one of those people who subscribes to the view that lighting is an art that requires technical knowledge; it's not a technical skill with a bit of embellishment. What I'm interested in and delighted by is that the pictures I create serve the purpose. It's a derivative art form - it has to light something."

The path he takes to achieve those pictures is also very fluid. "I'm quite relaxed about saying I don't know - I haven't done this before - I'm now creating a design! I do the work that I have to do in order to get a rig in the air - I draw a plan because people have to know where to hang the lights. I



photo courtesy of Connections magazine

need a reason not to use colour rather than a reason to put colour in, though moving lights mean you can respond to a whole lot of situations very quickly. And at the first run of the show I'll write into the script points where I think a lighting change may occur, though I don't attempt to define it."

The scale of the Olympics brought in some extra considerations, though all were handled in a typically-Aussie relaxed manner. "Step one: got to throw a bloody long way, so big light required.

Then you go and research what lights are available to do that. Step two, don't want to use sports lights: I was adamant from the outset that for the night the stadium should be a theatre." His case was presented without the currently-fashionable computer modellings or images.

"There are so many people now who, with Photoshop or the like, say look at me, I'm a designer. But they're being very good painters with computers, they're not being lighting designers - lighting designers are out there using the light. Before that, all you can do is bring a gift of the gab and/or a body of work that says trust me - because I can't show you what you're going to get until you get it, and then it's too late if you don't like it!"

Fortunately, Sydney did like Rayment's work: a masterpiece of theatrical lighting - responding to movement and mood, defining areas, adding colour and excitement - on an enormous scale. And it became more than just lighting. "For us, just to see the acclaim and feel that we were part of something that was absolutely right for its time was incredible."

So what next? Sydney will remain his home and his base. "There's a clever bunch of people down there. And now the rest of the world knows about it. I just hope they don't all want to come and live down there - because we like it the way it is!" ■

Lighting & Sound

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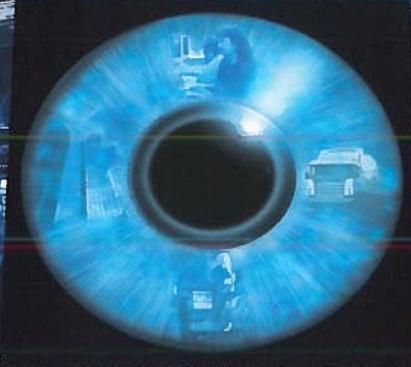
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