

LIGHTING+*SOUND* International



FX AT THE MGM GRAND HOTEL, LAS VEGAS

- EFX: Illusion on a Grand Scale
- Liverpool: McCartney's LIPA comes to life
- Sun Princess and Century: Technology on the Crest of a Wave
- Musical Notes: Channel 4's The White Room
- Touring Tricks with Alison Moyet and M People
- Sound Auditioning at Blackpool's Winter Gardens

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FEBRUARY 1996

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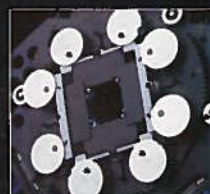
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It's a fair cop. We changed the spots on the Dalmatian (by computer - we didn't paint her, if you're worried). But the image demonstrates two important things. First, you can have the colour you want, where you want it. And, secondly, technology and colour really must go hand in hand.

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FEBRUARY 1996

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PLASA completes Show Hat-Trick

Hot on the heels of the announcement that the British Music Fair is to run alongside PLASA, is the news that Visual Communications 96, now renamed Presentation Technology 96, will also take place at Earls Court during PLASA, 8-11 September this year. PLASA chairman Paul Adams told L+SI: "This news, confirmed by the Executive Committee of PLASA, will emphasise to the whole industry what's possible for the future of entertainment technology 'on show' in London. It reinforces our commitment to PLASA's Millennium Initiative."

PLASA 96 Set to Lead Installer Marketplace

PLASA has announced that it is predicting continued growth in attendance for both exhibitors and visitors from the PA, background music and installer markets at the 1996 Show. PLASA attracted 11,886 visitors in 1995, of which 1,212 were installers, and indications are that this number is set to increase in 1996.

The market will also benefit from the increase in exhibitors that serve installers, together with the re-focusing of one of the industry's leading magazines, Sound+Communication Systems International. As the show itself has grown in international status, the installer market has benefited from the diversity of companies that exhibit and launch their products at PLASA.

The PLASA Show not only offers installers the opportunity to see the latest in the cutting edge of lighting and sound technology, but also a wide range of products and services essential for integrated technology solutions - from PA systems and loudspeakers, to trussing and DJ equipment. Additionally, it provides the ideal forum to forge strategic relationships with designers and manufacturers responsible for bringing products to market.

High End's Studio Color Debuts at LIPA Opening



Producer George Martin pictured at the inauguration of the Liverpool Institute for Performing Arts.

Last month's high profile opening of the Liverpool Institute for Performing Arts also marked the first public appearance of High End Systems' long-awaited Studio Color wash luminaire.

This fixture, first announced at the Frankfurt Musik Messe last year (its original *Technicolor* tag since changed), is based around a custom version of an MSR 575 discharge lamp, producing a colour temperature of 5,600 degrees Kelvin, which can be modified to 2,950K with a dichroic colour correction filter. Its three variable dichroic colour wheels produce a virtually infinite up/down subtractive colour correction. High End's Richard Belliveau explained: "It has infinite colour mixing capabilities, as well as fixed colours, because not all colours can be produced by colour mixing."

The added feature of the Studio Color's

beam-shaping capabilities is also an important plus for lighting designers. Belliveau continued: "Studio Color lets the user modify the beam's illumination characteristics, so the lighting designer can shape the light or tailor the illumination to fit the set."

The unit is aimed at a variety of applications, from live concerts, where its high output can match the higher colour temperatures of show lighting instruments, to architectural and studio installations. High End, via UK distributor, Lightfactor, supplied two of the units for LIPA's opening ceremonials, as well as donating Cyberlights and other equipment.

The Institute was opened on 30th January. For the full story on the inauguration, see main feature, starting on page 43.

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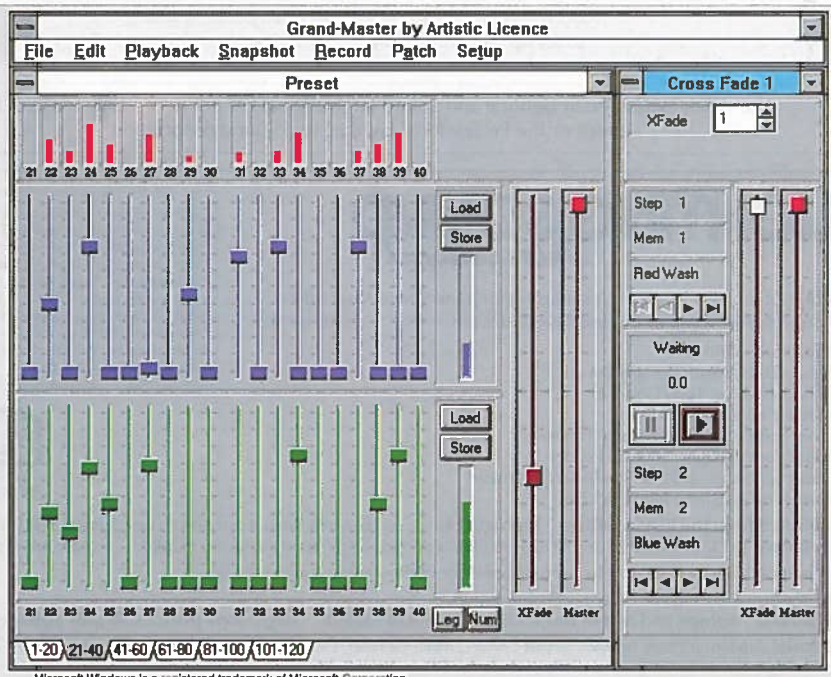
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Strand at Ravensbourne College



The collaboration between Strand Lighting and Ravensbourne School of Television & Broadcasting is to continue following the production of a training video 'An Introduction to Light and Shade'. Ravensbourne is shortly to embark on a series of training programmes using the latest Strand equipment in a series of hands-on workshops in the studios at Ravensbourne. These were put through a dry-run when Strand used the Ravensbourne facilities for a gathering of their European sales staff in mid-January.

The project 'Products in Action' involved four days of practical video workshops, including drama, day and night location work and multi-camera shoots. L+SI joined the course on the day when a 'light entertainment' project was being shot, designed and lit by the Strand team with orthodox television equipment in the morning and moving lights added in the afternoon.

Strand has donated a substantial amount of equipment to Ravensbourne, which is one of the few colleges to offer a degree in Professional Broadcasting. Its technical facilities are comprehensive and include a full production suite, full stereo sound facilities, two studios (the largest being 1200sq.ft), 16 PC networking stations, Beta SP editing systems, Lightworks edit suites, Hal and Harry digital production suites, 24-track sound dubbing and a comprehensive lighting, control and dimming set-up. The course is led by Bill Curtis, special projects manager, who is aided by professionals from the lighting and sound industry.

Pictured above is course tutor Bill Lee (right) and members of the Strand team with third-year HND students from Ravensbourne.

The Three Riggers

Three well known and experienced riggers in the touring market have bitten the bullet and addressed the gaping hole in their profession - namely training.

Mark Armstrong, Oz Marsh and Ollie Saunders have started up Safe Working Ltd, a company formed with the sole aim of providing training and safety instruction for the rigging industry. Their preliminary two-day course 'Safe Working - an introduction to basic rope use and personal safety', took place at CPL's premises in Greenford during January, and a report on the response will be released shortly.

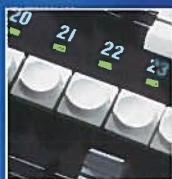
Safe Working Ltd approached suppliers such as CPL and PSI, and venues such as the NEC and the Royal Albert Hall, and received a very positive response.

Ollie Saunders, as well as having worked as a touring rigger, is a qualified and practising mountaineering instructor, and Mark Armstrong has a Post Graduate Certificate of Education and has taught professionally. Course two will cover the use of slings, running of motors, taking the twist out of chains - the do's and don'ts for chain hoists.

For further details on the courses available contact Safe Working in London, fax 0181-671 8150.



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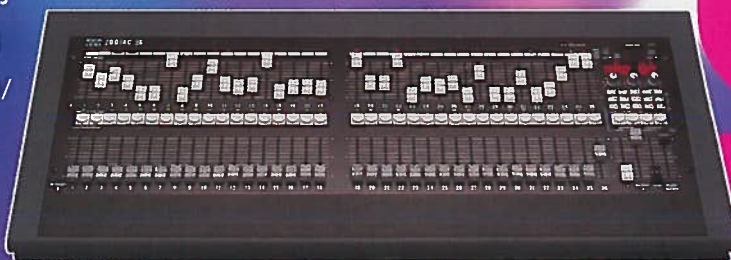
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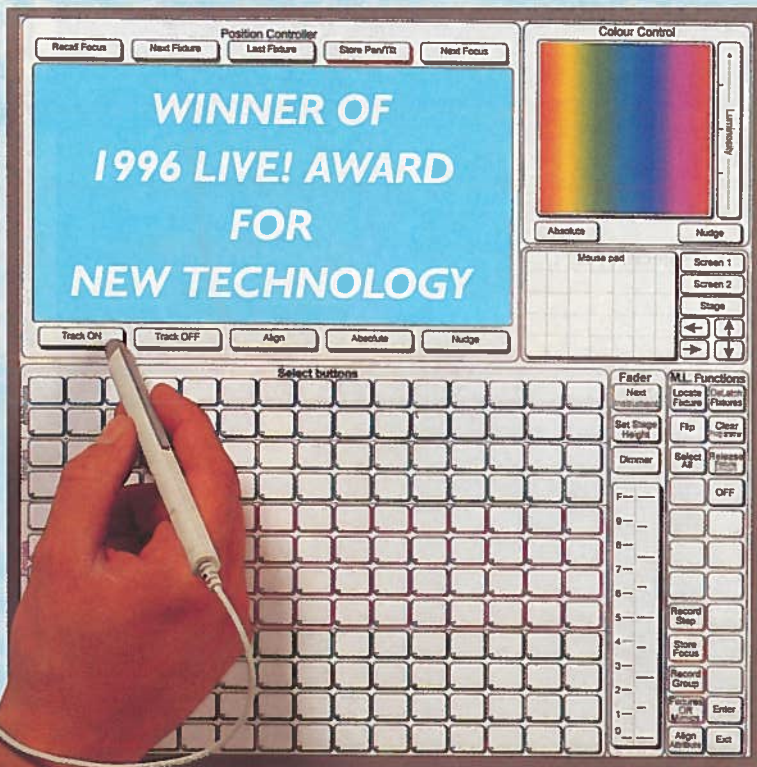
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The truly revolutionary Avolites 4D Track introduces the fourth dimension - time - into the realisation process of the show. 4D Track provides a unique and unrivalled interface for controlling moving lights, creating an interactive stage plan, alleviating the need for button presses and enabling the lighting designer to map out the stage and focus positions as desired, saving time in the process.

The XY tracking allows you to move as many lights as you wish as one - representing huge time savings when it comes to preset focuses.

More importantly, you can now 'follow-spot' performers ...it has already been used successfully to track ice skaters, and it's only a question of time before this function becomes a commonplace 'live' requirement in all types of performance.

Now, when a performer moves off the target position, you use the 4D Track in 'nudge' mode to move the beams and pull the moving light memory back into focus on the artist.

Massive amounts of time can also be saved in colour mixing. Virtually all moving lights offer colour mixing that is powerful but extremely difficult to manipulate manually. However with the 4D tablet you can build up a complete palette of colours, within minutes, without having to touch a wheel.

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All the lighting designers who have worked with the Avolites 4D Track estimate that it is at least 30 times faster than using previous technology.



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Autopilot Takes Flight

Ever since computer-controlled moving lights first revolutionised professional lighting in the early eighties, the development of an automated followspot has been high on the lighting designer's wish list. The technical breakthrough came last year when Wybron Inc launched the Autopilot, a system that locates performers in three-dimensional space and follows their every move in real-time. Now Autopilot is available on a hire basis in the UK, following the signing of an agreement between Wybron Inc and the UK partnership of Theatre Projects Lighting/Concert Production Lighting who have added Autopilot to their inventory of lighting equipment for rental (see news, L+SI Dec 95).

Theatre Projects has acquired the exclusive UK rental rights to the system, which picked up the Best New Product award at both PLASA 94 and LDI 94. For many, the first opportunity to experiment with Autopilot in the UK came at Theatre Projects' recent 'playshop', held in late January at the company's Greenford headquarters. Lighting designers were invited to see for themselves the flexibility of the system with Alan Thomson and his staff from TP/CPL, being joined by Daryl Vaughan and Adrian Offord of Wybron for a full demonstration of the system.



Wybron's Daryl Vaughan (left) with Alan Thomson of Theatre Projects/CPL.

Electrotec Purchase

US-based Electrotec PA company, who were recently acquired by Aura - a major manufacturer of transducers in America - have recently taken over Cambridge-based AudioLease, purchasing the assets and goodwill of the company. Inevitably, such deals take time, and the lawyers only finished crossing the 't's just before Christmas.

There are already stocks of Electrotec's Lab Q system in the UK, and an AudioLease monitor rig is out in the US with Motorhead. Gordon Lilley will take the role of general manager in Cambridge, while AudioLease founder Steve Sunderland will act as a consultant, applying his skills in the area he knows best - sales and marketing - on both sides of the pond.

Steve Moles

Showlight International



The preparations for Showlight 97, the international colloquium on entertainment lighting, took a further step forward recently when the organising team met at Vari-Lite Europe's headquarters in London to discuss plans for the event which will take place at the Flemish Opera House in Ghent at the end of April next year. To date, 24 international exhibitors have signed up and the organisers - the National Illumination Committee of Great Britain - expect to sell the remaining 10 stands before the end of April.

The recent meeting was bolstered by the presence of international representatives from Belgium who are co-ordinating the event in Ghent. Pictured above are Giovanni de Schampheleire (Arf & Yes - Ghent), Ken Ackerman, Chris Watts (Irideon), Raph Janssens (ADB - Zaventem), Bob Anderson, John Watt, Brian Fitt and John Smith.

Internet Live

• With more and more companies making the decision to take up a presence on the Internet, Web authoring services are big business. However, the tools of the Internet are improving all the time, and as Web page design and HTML authoring facilities become increasingly user-friendly, the option of doing the work yourself (a much cheaper option, and you might even enjoy it) is becoming a steadily more attractive one.

Several people I have spoken to have done just this, and found it a surprisingly straightforward process. A simple site featuring information about your company and the products or services that you supply could be put together in a very short space of time - then, you have a presence on the Web, and building on it is a simple matter. If you are looking to put an extensive product catalogue on-line, the process will be more time-consuming, but may still be possible. An increasing amount of the work involved in translating this information into a Web site can be done for you by Web authoring packages, but doing these things yourself is half the fun, isn't it?

But, if it's quick and painless results you're after, rather than fun, then there are plenty of people around who'll do it for you. If you are already connected to an Internet provider, they will be able to advise you on which route to take in creating your own site, and what tools are available. If you are still unconnected, and are not sure where to start, we can put you in touch with a local provider.

• New on the Internet are PLASA member Artistic Licence, whose catalogue can now be found at: <http://ourworld.compuserve.com/homepage/artistic/>

The catalogue contains product details, photographs, technical information and prices for the company's entire range of DMX512 test and control equipment.

• SoundField, the Wakefield-based multi-capsule microphone manufacturer, has also arrived on-line. Full product, company and distributor details can be found at:

<http://www.proaudio.co.uk/sndfield.htm>

• The USITT (United States Institute for Theatre Technology), whose Web site you can access from PLASA's Related Industry Links page, has recently received the accolade of being voted among the top five per cent of Web sites by Point Survey. The site was appraised for content, presentation and 'experience'.

Lee Baldock

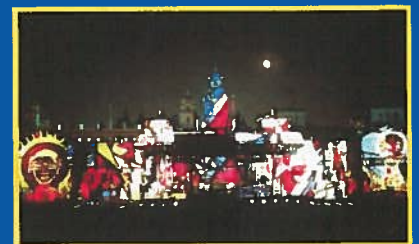
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VA Seeks Listing

Visual Action plc, the international film, camera and AV equipment hire company, formerly known as Samuelson Group, is to seek a listing for its shares on the London Stock Exchange in early spring. Kleinwort Benson Securities is the sponsor and broker to the issue.

The company has over 40 years' experience in the film, television and media industries and operates in the UK, USA, France, Australia and South East Asia. Its principal activities are the hire of film cameras and associated equipment for the production of commercials, television drama and films, the hire of video equipment for outside broadcasts and AV equipment for presentations and launches.

Visual Action is a wholly-owned subsidiary of Eagle Trust plc. Immediately following the Listing, Eagle Trust is expected to have a minority stake in the business. Since 1992, following a period of reorganisation and the introduction of new management, the company has shown a rapid improvement in turnover and profitability. In the year to 31st December 1994, the company made operating profits of £7.0 million on turnover of £65.6 million. The results for the year to 31st December 1995 are expected to show further improvement. Including new money raised, the company is expected to be capitalised at around £65 million.

Lite's German Base



Ending a period of speculation, Lite Structures' managing director, Adrian Brooks, has confirmed that the company has recently established a base in Lotte, Germany, in association with German partners Focus Showtechnic. The move will take Lite Structures one step closer to the important German market and further improve the service on offer. The operation is headed by ex LMP staff, pictured from left to right, Frank Rethmann, Raimund Riedel, Detlef Wiedenhoft, Ralph Kortmann and Jurgen Schulte.

Beast of a Rig

The Russian All-Stars' latest ice skating spectacular, 'Beauty and the Beast', is currently touring the UK, with the assistance of a 24-piece Martin Audio PA system from Capital Sound Hire.

The production is touring 32 venues across the country, taking in arenas, large concert venues and smaller theatres. In total, there are 10 Martin Audio W2 two-way enclosures and an F2 rig, comprising four subs, four combi's and four bass.

VL Theatre Style

Vari-Lite Europe has reported that the latest Vari*Lite automated luminaires (the VL5B wash luminaire and the VL6 spot luminaire) are having a dramatic impact on the theatre market.

For the first time, Vari-Lite Europe is supplying its equipment to the RSC for their stage version of *Les Enfants du Paradis* at the Barbican. Lighting designer Simon Corder has specified eight Vari*Lite VL5B wash luminaires on DMX.

VLE has also supplied nine VL5B wash luminaires, three VL6 spot luminaires and a Mini Artisan II control console to the Royal Opera House for their new production of Michael Tippett's *The Midsummer Marriage*, with lighting design by Wolfgang Gobbell, which opened in early January.

Turbo-Charged

A Turbosound Flashlight rig provided the sounds at a New Year's rave in London, attended by over 12,000 clubbers.

Organised by event promoter, the World Dance Organisation, the rave took place at London's Docklands Arena. The sound system was supplied by Blue Box Company of Sussex, Turbosound's near neighbour and specialists in providing sound systems for dance events.

According to Mark Metcalf of Blue Box, the criteria for the World Dance rig was that it should be powerful, yet simple. A total of 48 Flashlight enclosures were used in four flown clusters, two left and right of the stage, and two at the back of the arena - effectively turning the arena into a huge dancefloor.



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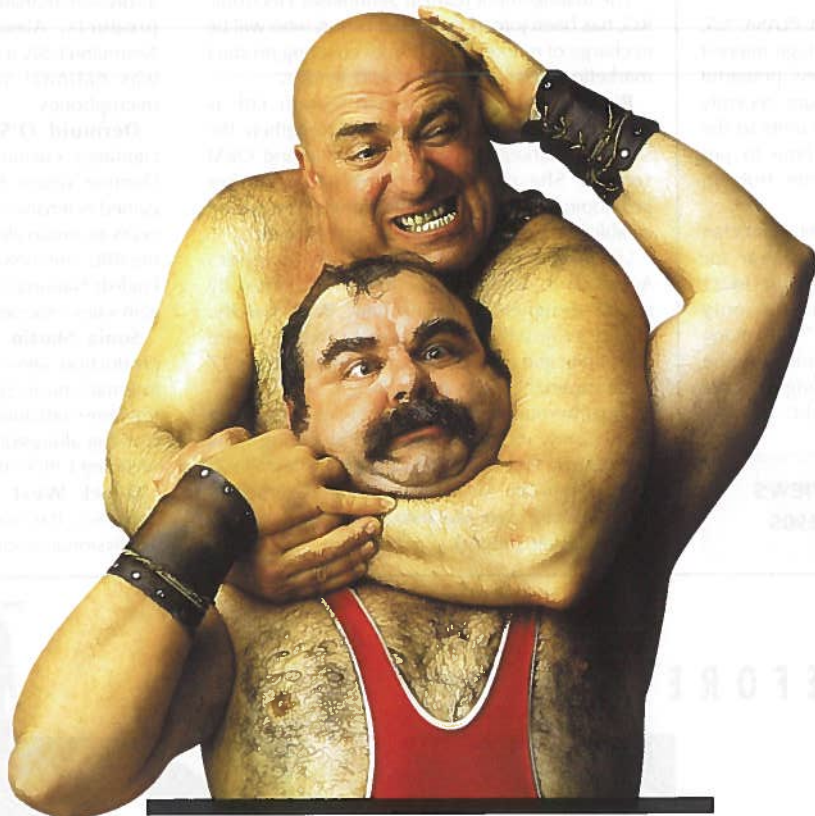
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In the Limelight



The Hippodrome's deputy chief electrician **Adrian Barnes (right)** with **Jack Exell** of **Lighting Technology** and the **Limelight** followspots.

Following the launch of **Limelight** at **PLASA '95**, **Lighting Technology** have reported huge interest from the lighting industry in the new powerful 2kW Xenon followspots. The company recently completed the sale of the first three units to the **Birmingham Hippodrome**, just in time to put **Cinderella**, their Christmas pantomime, truly 'in the limelight'.

David Muir, the Hippodrome's chief electrician told **L+SI**: "We searched for over a year for followspots that could perform to our exact requirements and **Limelight** was the only followspot that fulfilled all our needs." With many more enquiries for these followspots on the books, **Lighting Technology** are hoping to put a great many performers in the 'limelight'.

**FAX YOUR NEWS AND VIEWS
TO L+SI ON (01323) 646905**

People News

Jerry Gilbert has left **Nexus Media** to establish his own PR company. He has spent 14 months at **Nexus** as business manager, following the sale to them of both **Disco Club & Leisure International** and **Live** magazines last year. **Jerry** was founder and co-owner of both journals.

Millbank Electronics has appointed **Fergus MacDonald** as director of sales and marketing. He brings with him much experience in the telecommunications, fire and security markets, having worked many years for the **G.E.C. Corporation**.

The management team at **Sennheiser Electronic KG**, has been joined by **Stefan Exner**, who will be in charge of marketing and sales covering product marketing, sales, advertising and service.

Rachel Williams has joined **Osram Ltd** as assistant marketing manager to strengthen the strategic marketing team in the trade and OEM sectors. She will be responsible for further developing the market for the range of new and established products in the **Osram** portfolio.

US-based theatre and media designers **Auerbach & Associates Inc** have been joined by sound designer and consultant **Paul Garrity**. **Garrity's** role will include a broad range of theatre consulting and project managing, reflecting his 17 years experience in systems design.

Loughborough-based **Stage Services** has taken on two new members of staff. **Pat Pilling** joins from **Derby Playhouse**, and his new role will see him responsible for stage installations, tracking and hardware. **Sue McDonald** will provide sales and customer support.



Sonia Martin.



Dermuid O'Shea.

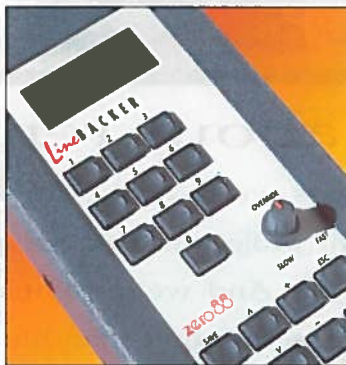
Crest Audio US has been joined by **Jeff Alexander** as division manager responsible for touring sound products. **Alexander** was previously with **Neumann USA**, a division of **Sennheiser**, where he was national sales manager for **Neumann** microphones.

Dermuid O'Shea has joined **Cerebrum Lighting's** customer sales team. He joins from **Donmar** where he was sales manager. Having gained extensive technical knowledge from his 10 years as studio electrical operations manager with the **BBC**, and before that as chief electrician at the **English National Opera**, **O'Shea** then went on to gain sales experience as a financial adviser.

Sonia Martin has joined **CPL** as customer production sales executive. Previously with **CYP Internacional** in **Spain**, where she was responsible for international operations, **Martin** will be working alongside **Carol Croft** and **Lester Corbin** servicing **CPL's** concert and touring clients.

Derek West, previously with **Dynaudio Acoustics**, has once again returned to **Tannoy** as professional product manager.

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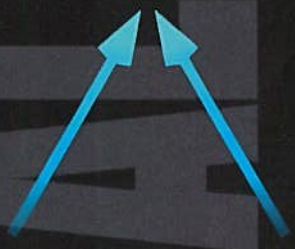


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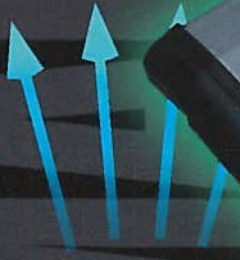
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ESTA Grows and Grows - John Offord reports from New York

With no less than 49 applications to join the US organisation ESTA (Entertainment Services and Technology Association) since the recent Lighting Dimensions expo in Miami, the association will soon be rivalling PLASA in membership numbers.

"Many companies joined at the LDI show," executive director Lori Rubinstein told L+SI. "We were helped in a major way by the number of existing members on the show floor at LDI. They make the best sales persons, and if they saw exhibitors who had not yet joined ESTA, they gave them the sales pitch! Also, many people picked up application forms from us and called or wrote in afterwards. One company simply said: 'we were looking through your membership directory and I guess we had better join'."

Including the recent applicants, the membership of ESTA now totals 285, of which 107 are dealers and around 80 are manufacturing members. The balance includes affiliate members, designers and consultants and individual members.

To cope with its fast-growing range of activity, the ESTA offices on Sixth Avenue in New York will soon be expanded and it is hoped that within six months the planned four full-time staff will be in residence and set up to cope with the challenge. "We are moving next door as the space we are now in is very small. We also plan for our technical standards officer to work at the office so that members can be serviced from a central source," explained Lori Rubinstein.

The first year of ESTA's work on standards has



Lori Rubinstein of ESTA.

seen them establishing ground rules, and preparing policy and procedures documentation, and they are currently undergoing review by ANSI, the American National Standards Institute, to become an accredited standards body. "In addition to writing standards, we also want to establish a 'standards watch' for our members," explained Rubinstein, "to notify members of what's going on and of matters that might affect their businesses."

In their recent newsletter, ESTA announced that they would be publishing a new journal to be titled 'Protocol'. "The intention here is two-fold," continued Rubinstein. "We need to get our news about the Association on a more regular basis and in a more professional manner, with an improved layout and content. In addition to mailing it to all

our members we will distribute it at all major trade shows." For 1996 there will be three issues: the first will be timed for USITT and Frankfurt Music Messe and the later editions for PLASA and LDI.

"Obviously trade shows are a big issue for the Association and our members and at our most recent board meeting we were asked to represent members' interests at trade shows around the world. In the US we are hoping to work closely with the managements of the LDI and USITT shows to make improvements and to attract more customers onto the floor. We are also looking to establish good working relationships that can be mutually beneficial."

ESTA are members, along with PLASA and VPLT of Germany, of the recently-formed World Entertainment Technology Federation, and the similar structure of each association means a great deal can be achieved, not only on the international scene, but by the exchange of information that avoids duplication of effort and advances the speed of work on individual projects.

Three years ago, during a breakfast meeting with representatives of the TDA (Theatrical Dealers Association), PLASA nudged those concerned to re-structure the association so that manufacturers could join the organisation to provide a joint dialogue. "It was a major turning point for us," said Lori Rubinstein. "Throughout all our changes and development, PLASA has been enormously encouraging and helpful and many of us feel that we couldn't have managed it without this support."

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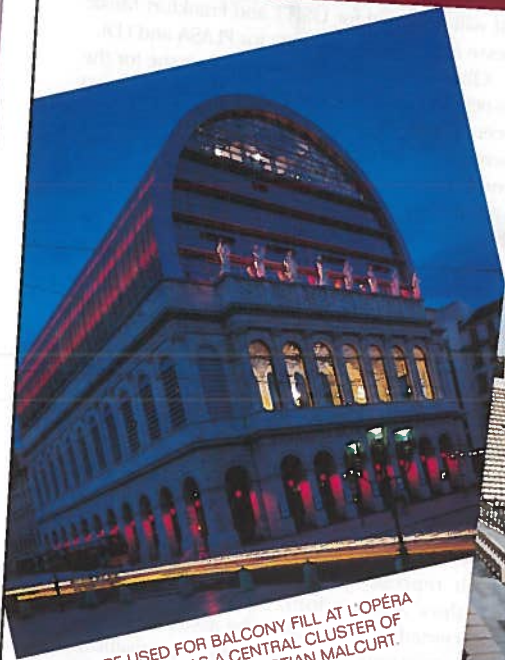
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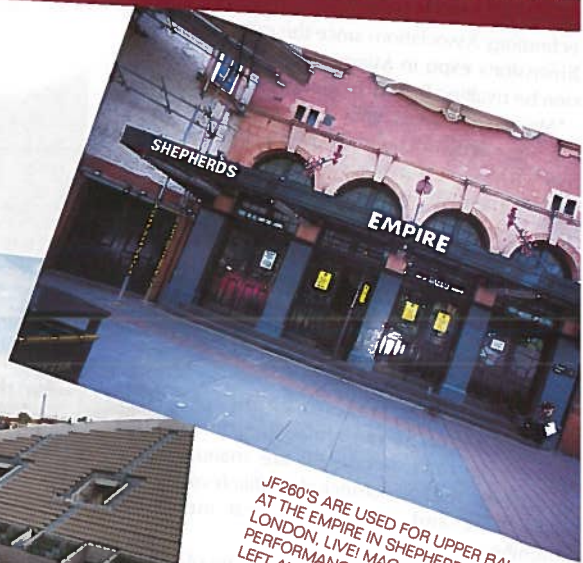
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Award Winning Tommy Hits Town



On its journey from Broadway to London, Tommy has won 24 major awards, including five Tonys, one of which was for lighting designer Chris Parry. The show opens in London on March 5th at the Shaftesbury Theatre, and M & M Light Solutions has been awarded the contract for the lighting, dimming and control specified by associate lighting designer, David Grill.

Through White Light, M & M Light Solutions has supplied 210 Source Four ellipsoidals and 48 Source Four Pars - the company's largest contract yet for ETC lanterns - plus four 36-channel Smart Rack dimmers. Controlling the Source Fours is ETC's new 1536 Obsession, the first to be used in a West End production. Combining ETC reliability in a 'tracking' style of console used on Broadway, it has been designed to handle the biggest and most complex of productions. Tommy is using the full potential of the Obsession's multi-user facility, allowing the designer, rigger and operators to work simultaneously, linked to the central console with Ethernet.

The Obsession is also being used to control three Skywalker fog machines supplied by M & M, specified because White Light needed "reliable foggers that could be controlled through the lighting desk". Bryan Raven of White Light also commented: "I'm delighted to be supplying the ETC equipment. We have been very impressed with the performance of the Source Fours so far in the UK and the Obsession has an excellent reputation."

New Year Challenge

Event organisers and equipment suppliers, DLC Dubai, finished 1995 with one of their busiest nights of the year.

Projects included a five minute fireworks display and New Year celebrations at the Hilton Beach Club, the installation of a sound system at the Forte Hotel, Dubai, a multi-coloured laser show at the Abu Dhabi Marina and Yacht Club, intelligent and generic lighting and staging and sound equipment at the Dubai Creek Golf and Yacht Club, as well as the installation of intelligent lighting at the Emirates Golf Club, also in Dubai.

Club New England

Soundcraft have recently supplied consoles to two New England nightclubs.

Boston's newest rock venue, the Mama Kin Club, features a Soundcraft Venue II console with theatre module, which allows monitoring of input signal level without requiring a meter bridge. Monitoring is handled by a Soundcraft Spirit console, whilst the Venue feeds a powerful JBL PA system. The front-of-house system is run through a Soundcraft Delta Deluxe console, also equipped with theatre modules.

Symposium, a 1000-capacity dance club in Stamford, Connecticut, has turned into a major showcase venue for the new Soundcraft D-Mix 1000. Its main dance floor features a 29-foot high ceiling, two large VIP lounges, and a sound system comprised primarily of JBL loudspeakers.

SOL Returns

Entex are set to organise a series of one-day trade exhibitions under the 'SOL' (Sound & Light Show) title, during 1996.

The first of these events include SOL Wales & West in Newport, SOL South in Southampton and SOL North East in Newcastle-upon-Tyne. Organisers Entex also propose to run several other shows around the country, including an enlarged Midlands 'SOL' autumn event in Birmingham.

Full details are available from the exhibition office on (01973) 122484.

Showcase 96

The 1996 edition of the Showcase International Music Book is now available. Formerly known as Kemps International Music Book, the 28th edition of this directory provides a comprehensive guide to the music industry in the UK and Europe.

Entries include name, address, telephone, fax and contact name and have been thoroughly checked and updated to provide an accurate reference book. A full alphabetical index facilitates ease of use and a separate artiste index is also included which is cross referred to management, booking agent and record company.

Further details are available from Showcase Publications Ltd, telephone 0181-348 2332.

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Wind in the Willows Weaves its Magic in the West End

L+SI looks at the sound system behind the RNT production of Kenneth Grahame's classic.

The Old Vic is currently home to the Royal National Theatre's production of *Wind in the Willows*, running for a brief season prior to embarking on a national tour in March. Featuring an all-star cast, which includes Francis Matthews, Jeremy Sinden and Bob Goody, this production combines the old with the new - particularly with respect to the technical team and their innovative automation techniques.

Sound hire company Orbital was commissioned by PW Productions, responsible for staging the current show, to handle equipment supply and installation. Orbital put together a brand new sound rig in line with sound designer Simon Baker's specification. The equipment line-up, created very much with the tour in mind, includes a 32-channel Cadac J-Type mixer, d&b FOH system and Trantec radiomics. Orbital designed a complete multipin system for maximum reliability and fast set-ups, with the typical one-day turnarounds demanded for regional touring.

The sound reinforcement element on the show has to be very subtle, combining complex effects and reinforced music with a totally acoustic verbal delivery. The original Royal National Theatre production was designed by Paul Groothuis, who acted as sound consultant for this version. "The venue itself presented no real problem - the Old Vic has an excellent acoustic," explained Simon Baker. "We had already insisted on and been granted an auditorium position for the Cadac and apart from fine-tuning the d&b system with some sidefills, everything went in very much as we had envisaged. The main challenge, however, involved the siting of the band and ensuring that they were an integral part of the stage action throughout. This did pose a few headaches, as there is nearly always some of the band on stage at any one time and the bandroom had to be very close at hand! In the end, we created a bandroom up stage right, next to the revolve operator, this being the only way we could combine the two requirements.

"From the equipment point of view, we wanted a top quality system which would be in line with the RNT tradition. The Cadac J-Type was a natural choice and has proved excellent in service. On the radio-mic front, we are using the new Trantec S5000 UHF system, which has worked very reliably. Although it was not originally on our spec list, Orbital encouraged us to conduct an A/B comparison and we were very impressed. Our aim



with the sound design was to ensure that it was as transparent as possible, putting together a system which would guarantee this. So far, so good!"

The automation on the show is something of a departure from normal techniques. Baker elected to use Vision software on an Apple Mac for all sampler control, in turn using the Cadac automation system to provide master control of the Mac. The show involves around 80 different effects sequences in total, with Simon wanting to simplify the actual trigger procedure as much as possible.

He explains: "One of the benefits of using Vision is that you can assign a sequence to a key on the QWERTY keyboard, enabling complex effects to be simplified to a single button push. We have set the system up so that Vision reacts to the Cadac's 'Note On' as if it is a QWERTY key - when it receives this instruction, Vision is triggered and kicks the sampler in. In effect, we are able to keep the desk automation and sound playback as two separate entities, controlled from a single platform via the Cadac - getting the best of both worlds in terms of flexibility.

As *Wind in the Willows* prepares for its close at the Old Vic at the end of February, the technical team is preparing for an exhausting tour - 26 venues in eight months!

The Oxford Lighthouse

The New Year has brought the launch of a new lighting design company - The Oxford Lighthouse - which will handle all aspects of lighting design for the theatre, exhibition and architectural industries, from presentation to equipment supply and installation.

Based on years of experience working with clients such as Porsche Cars, National Power and English Heritage, director Chris Ward intends to offer a broader service to the end client through closer working practices in the presentation stages of a contract. Current projects include exhibition work for Neff kitchens and installation work for IBM computers.

The company can be reached at 19 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire OX14 1DY, tel (01235) 539139.

Tribal Trance

Following on from the success of the capacity New Year's Eve party, London's new venue in Battersea - Adrenaline Village - recently played host to the first of a series of Trance Nights, promoted by Aquarius, called Tribal Mission.

With a venue of such scale, great importance was placed on sub-dividing the space into distinct areas. On entering the building the reception area was draped with netting, theatrical masques and UV active features, before opening into the backstage area, lit only by high-power UV. Market-style stalls were surrounded by huge Escher-style UV drapes. A false ceiling was created using parachute cloth and a high power projector illuminated the backstage screen, from back and front, generating stunning visuals. Even a genuine Arabic tent had been hired in for artistes to use!

The main arena, featuring the stage area and 50kW speaker stacks, was surrounded by large projection screens with images being constantly updated from a central tower loaded with a dozen projectors, erected and operated by Subvision. Intelligent, UV generic lighting was provided by Leisure Resources International, who also rigged, programmed and operated all effects lighting.

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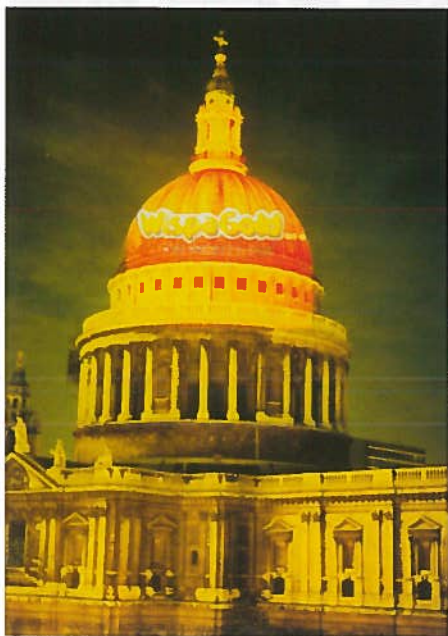


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PROFESSIONAL SHOW LIGHTING

Wispa'ring Gallery



The recent projection of Cadbury's 'Wispa Gold' logo onto St Paul's Cathedral was produced by Labyrinth Promotions using an Osram XBO xenon discharge lamp.

The richly coloured logo was created by shining the 5,000W projection lamp through hand coloured large format slides. The production team ray-traced the dome of the Cathedral from the top of a nearby building, to take account of the curvature and ensure that the image was in focus.

Quest - Performance

Performance Technology has merged with Quest Technical Systems Ltd. The two companies started at a similar time and have been working together on a number of projects over the last year.

Performance Technology's experience in museum and leisure-based projects, added to Quest's expertise in video conferencing, corporate and business communications installations, provides a foundation which will enable the company to meet a wide range of requirements.

Quest were recently awarded BS EN 9001 for their Quality Management System.

Studiomaster Dane

Studiomaster have appointed a new distributor for Denmark - Ascon Trading A/S, based in Aalborg. They will be handling the full range of products for recording and live sound, and can be reached at Postbox 7079, Hobrovej 335, DK-9200 Aalborg Sv, Denmark, tel: (45) 98 18 50 66.

Martin in to Bat

Capital Sound Hire won the contract to supply the sound equipment for the opening ceremony of the 1996 Cricket World Cup in Calcutta, and fielded a full Martin Audio F2 rig. The company provided a front-of-house system comprising 16 F2 mid/high cabinets and 16 bass enclosures, along with 12 BSX sub-bass boxes. The monitor system included two flown F2s.

Leamington Sight and Sound have also installed Martin Audio equipment in the Holyhead venue in Coventry. The main 10kW PA comprises four EM250 subs, eight EM25s, eight W1s, four W3s and two WX3 controllers. Leamington have also installed Martin systems at The Hazeltree in Corby and The Coliseum and The Jaguar in Coventry.

Martin also report that following the launch of their ICT300 and ICS300, installations have now been carried out at several venues, including Scruffy Murphy's in Hanley, the Peacock in Kettering and the Venue in Doncaster.

Corn Technology

Crest Audio UK Ltd, distributors of Crest's amplifier and console ranges, has had its Century Series GT FOH console and CA4 and CA9 amplifiers installed in the Bedford Corn Exchange.

The BCE, with its large, reverberant hall, presented an acoustic challenge for installers Northern Light. However, by specifying a high powered distributed system, incorporating 12 speakers down both sides of the hall and Crest Vs Series amplifiers, Northern Light quickly overcame the problem.

Like all consoles in the Century series, the GT installed at the BCE uses an internal balanced bus system on all primary buses and to all eight aux sends per channel. The low noise of the GT is achieved by the use of the latest monolithic technology in its pre-amplifier circuitry.

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Yamaha's Irish Jig with LMC Audio Systems



Mervin George (Euro Hire), Dave Wiggins (LMC) and FOH man Kevin O'Dwyer with the PM3500.

LMC Audio Systems recently supplied the first of Yamaha's new PM3500 FOH consoles to hit the road in the UK. The desk was supplied to Euro Hire for the recent Celtic Swing Tour, which featured a headline bill of three Irish folk-rock acts.

A PM4000 was originally specified, but a demonstration of the PM3500 by LMC swung the decision in favour of the new console. Yamaha's latest addition to its PM series, the PM3500, offers major new operational advances, including a compact channel strip layout. The desk offers mute automation and MIDI control, VCA groups,

and the same input, EQ circuitry and sonic characteristics as the PM4000. It is available in 24, 32, 40 and 48 input frame sizes, all with four stereo input modules as standard. A new 12 x 4ST + 4MN matrix configuration, with four of the eight matrices offering stereo output, enables a total of five stereo mixes to be set up.

Input channels, aux returns, and the output bus are all under automated mute control. The 128 scene memories can be recalled via a 10-button numeric keypad, by eight direct recall 'hot' keys, or by MIDI program changes.

WYSIWYG Exclusive

AC Lighting have been given exclusive rights to sell WYSIWYG, the award-winning lighting visualisation software from Cast Lighting and Flying Pig Systems. Part of the new sales strategy will involve a substantial reduction in price.

By reading the DMX output from a lighting console, WYSIWYG is able to produce a real-time computer simulation of what would be happening if the lighting rig was hung and working. The 'virtual' stage creates the impression of seeing the venue on a TV monitor, with the lighting fixtures being controlled from the lighting desk in the normal way. WYSIWYG shows real-time, movement, colour changes, varying intensity levels and gobos, all in full 3D.

India Live Aid

India Live Aid is an event which is being held in England to raise money for dealing with social problems in India, and will include a live link-up with Bombay for Asian artistes to contribute their support. The charity is looking for sponsors and promoters to help make the project as successful as possible.

For further details contact India Live Aid on 0181-232 8714.

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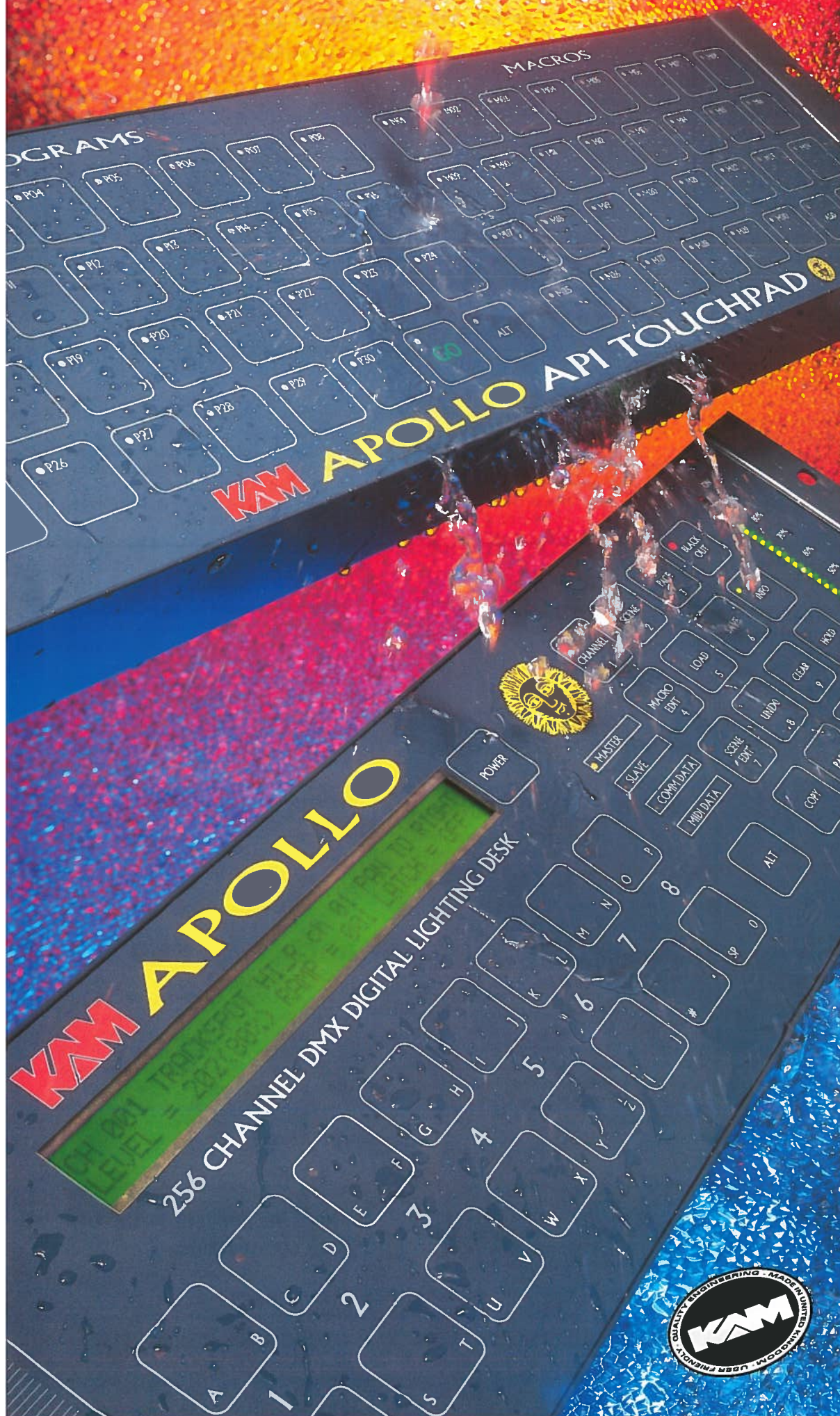
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Window Wonderland

Just six months after its formation, The Lighting Department won the contracts to design the lighting for the Christmas windows of some of London's top West End stores, including Harvey Nichols, Dickens and Jones and Liberty of Regent Street.

The company was set up by Richard Rafter in May last year to offer clients the benefits of an in-house lighting designer - without the overheads. The company provides not only the skills of a highly experienced creative lighting designer, but also the hardware, and for Christmas 1995 this included some very special effects.

Harvey Nichols' Christmas windows took stars as their theme, with metal stars in the Sloane Street windows and huge 10ft panels with frosted stars etched into them in the front Knightsbridge windows. In addition to the lighting of the actual window displays, which gave a feeling of light spilling out from the windows, Richard also used dichroic gobos to project coloured star shapes onto the pavement in front of the store. The use of dichroics meant that the gobos could be left in the powerful ETC Source Four theatrical flood lanterns without fear of the colour burning out or fading.

At Dickens and Jones, the company had to light knights standing in stone-effect archways - but had very little space between the arch and the window in which to hang a complete lighting system. The solution was to use Selecon low voltage and metal halide lanterns which take up very little space, but provide a controllable beam of light.

The Lion, The Witch & The Wardrobe, on which the windows at Hamleys' store in Regent Street were based, required the illusion of movement. Selecon Acclaim metal halide lanterns were used, in conjunction with an animation disc, to provide a flickering fire effect. To give movement to the Lion, flying across the window, the lantern was situated on a fan which gave a slight movement to the light beam as well as to the lion.

The Timberland shop in Bond Street used Richard Rafter's design talents to give extra impetus to the Christmas display, which was based on the company's tree logo. Richard had custom glass gobos made of the logo, which were put in each of two lanterns and projected onto the pavement outside the shop.

For Liberty's store in Regent Street, The Lighting Department again used low voltage Selecon Accent Lanterns and the new Acclaim metal halide Fresnels with purple dichroics. As well as the inside of the windows, custom-made purple dichroics were also used on the building's external flood lights to highlight the purple theme of the windows.

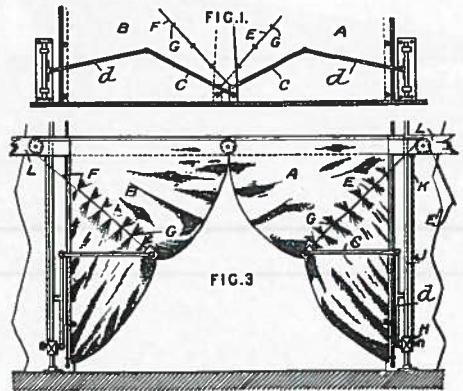
Also in time for Christmas, the Scotch House upgraded its complete window lighting rig and purchased a range of Selecon low voltage Accent spots and tracks from The Lighting Department.

ONE HUNDRED YEARS AGO THIS MONTH

British Theatrical Patents 1801-1900

Patent No: 3249, 13th February 1896.

Theatres.—The lower central corners of tableaux curtains A, B are attached to links c connected to links d, pivoted to blocks or posts at the sides, and are raised simultaneously by cords E, F passing through curtain rings G and over pulleys to a common cord E'. The weight of the jointed rods c, d tends to close the curtains, preferably so as to overlap one another. The upper edges of the curtain may be fastened to a horizontal beam L which can be raised with the curtains above the proscenium. The rods d are pivoted to blocks H, capable of sliding on vertical rods J, or to small carriages running on vertical guide-rails. In order to prevent jamming, the carriage or block H may be connected to the beam by a rod or chain K.



Edward Lytton gives his profession as 'Theatrical Manager', though he may well have specialised in the technical aspects of the late nineteenth century theatre. In 1909 for instance, he was developing new flying equipment for Wyndham's Theatre in London.

This particular patent describes in detail a method of making a set of 'Tableaux Curtains' or House Tabs swag and at the same time rise or guillotine. Whilst this technique had undoubtedly been used prior to 1906, this specific patent describes a very precise way of achieving reliable results. Quite often an effect was the same from the audience's point of view - but it could be achieved by several means, and the one depicted here is testimony to the fact.

V-L Denver Dealer

Vari-Lite Inc has expanded their Series 300 dealer network to include Berland Technical Services Inc, in Denver, Colorado.

As an authorised Series 300 equipment dealer, Berland Technical Services will initially carry a stock of six VL5 wash luminaires, six VL6 spot luminaires, and a Mini-Artisan 2 console. With this most recent addition, Vari-Lite now has 22 Series 300 equipment dealers located worldwide.

Zero 88 Centralise

From 22 January you will be able to contact anyone in Zero 88 on one central telephone and fax number - tel (01633) 838088 fax (01633) 867880.

The sales team is moving to Norman House, 97-99 London Road, St Albans Herts AL1 1LN and the existing St Albans fax (01727) 843676 will remain in use up to 31 July this year.

The technical helpline telephone number will change to the new number shown above, and service will continue as normal. The showroom and training centre will move to Cwmbran to provide customers with new, improved facilities, as will the quality control and accounts departments.

Laser Projects

Laser Images Inc, the Los Angeles-based laser and entertainments company, has created a new multi-faceted entertainment division called Special Projects Group (SPG).

The new division, led by Kurt Wilson, has been set up to develop and produce entertainment projects for theme parks, casinos/resorts, international tourist attractions and other special venue projects.

The primary services offered by SPG will include creative and technical design, consultation and production of waterscreen shows, venue attractions and major event productions. The new division is already slated to design, develop and produce a waterscreen show installation for the 'Dragon's Lair' project near Branson MO, which was scheduled to begin production in January.

BBC choose P&G

Control specialist Penny & Giles has announced further successes for its MM16 assignable 16-fader Workstation Controller. Four MM16s have been installed at BBC South in Bristol, where the units are in regular use by up to 15 staff, providing improved control of the station's SADIe hard-disk editing systems. As well as many features for BBC Radio 3 and 4, recent programmes to benefit from the installation include 'You and Yours' and 'Afternoon Shift'.



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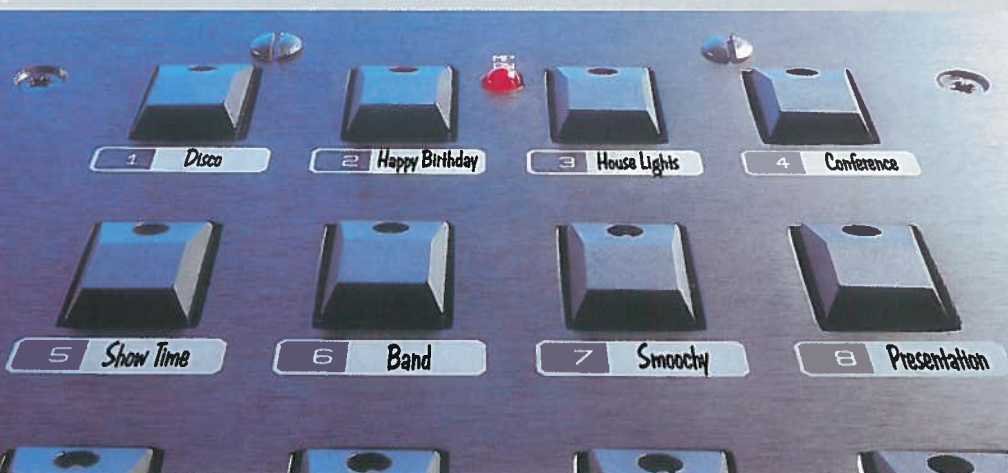
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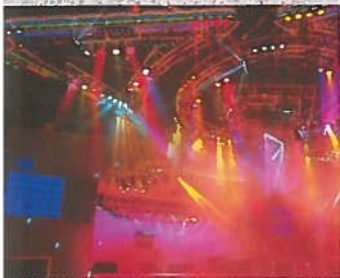
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Yamaha R&D Centre Expands



Andrew Kemble and Genicho Ito of Yamaha-Kemble at the new centre.

Yamaha has opened its new R&D Centre in prestigious new premises in Chiswick, West London following a move from its previous site in the West End. The new base is one of three such centres around the world, the others being in Tokyo and Los Angeles.

The refurbishment of the new building was undertaken by Neil Grant of Harris Grant Associates, recognised as a leading studio design consultancy, having been responsible for such high profile facilities as Peter Gabriel's Real World recording complex in Box, Wiltshire, Hitokuchi-Zaka Studios in Tokyo and Mutt Lange's new facility in upstate New York.

HGA's design for the centre is based around a suite of similarly sized and specified purpose-built project studios for the centre's engineers; Yamaha R&D Centres employ a combination of full-time employees and freelance consultants, all specialists in their own particular fields. The building houses three separate Yamaha operations: the R&D Centre, YME (Yamaha Musicsoft Europe) and YSTE (Yamaha Systems Technology Europe).

The centre is chiefly responsible for contributing to research and development for Yamaha's Electronic Musical Instrument and Professional Audio divisions. Many famous Yamaha products, including the VL range of physical modelling synths, QY and RY sequencers, the DMC1000, programmable mixer 01 and the new 02R digital recording mixer have all had major input from the centre, from market research, product concept and development, through to evaluation and refinement and instrument voicing.

Francis Purchase EL

Francis Searchlights, the Bolton-based designers and manufacturers of specialised lighting products, have purchased the business of E L Lighting International Ltd of Milton Keynes.

E L Lighting (Edison - Lumo) comprises two distinct product groups: the Edison range includes low voltage spotlights, downlights, and voltage track systems for the commercial and building markets, whilst the comprehensive range of Lumo spot and floodlights are designed specifically for the television, theatre and film industries.

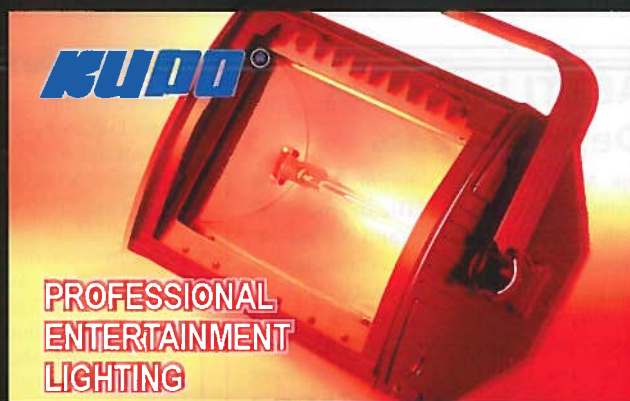
The business is being transferred to Francis' factory in Bolton and will ensure the continuation of one of the last wholly British manufacturers of studio lighting. The additional workload will create a number of new jobs at the Bolton site which currently employs 40 people, and will open up new markets for the company to develop into the future.

Workshop '96

Theatre Design students at Croydon College will present 'Workshop '96', an exhibition of second year setting, costume and lighting designs, from 14th-20th March. This exhibition offers an opportunity to view new talent in the theatre industry and discover backstage techniques. The course has had many successes in its 58 year history, with many ex-students now in charge of departments or working freelance in theatres, workshops and workrooms all over the country.

The preview evening, this year on 13th March, is well attended by leading representatives of the theatre industry, sponsors and press. As well as an important introduction to theatre employers for students, it is also a popular media event. The lighting design students who undertake the management and organisation of the Workshop will present a 'Launch' to the guests (similar to a trade show presentation).

For further information on Workshop '96, contact Jonathan Martin on 0181-686 5700.



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AETTI Initiatives Developments

The Arts and Entertainment Technical Training Initiative (AETTI), the national body delivering NVQs (and SVQs) for backstage occupations, has announced some major new developments.

Firstly, there is the accreditation of a further two AETTI NVQs bringing the total now available to six. The new qualifications, 'StageCraft Scenic Fabrication' at levels 2 and 3, contain joinery units from the Construction Industry Training Board NVQs which will make it easier for crafts people to transfer between the two industries.

AETTI NVQs are awarded jointly with the City and Guilds of London Institute (CGLI) although Scotland has its own body, SCOTVEC, which has also just given provisional approval to the first AETTI Stagecraft qualifications at levels 1 and 2 to become Scottish Vocational Qualifications (SVQs) and 'Scenic Fabrication' at levels 2 and 3 will become SVQs in February 1996. The remainder of the AETTI's qualifications at levels 3 and 4 will become available throughout 1996.

The CGLI has given approval to Theatre Technical Training Services (TTS) to begin to assess the NVQs at theatres of participating members including the Royal National Theatre, the Royal Shakespeare Company and the Royal Opera House. TTS is also able to offer assessment to suitably registered members of the ABTT.

Currently, nine other organisations are working towards being able to assess the AETTI NVQs and SVQs and if all are successful up to 70 theatres and colleges will be offering the qualifications by the end of 1996.

WL Add GamColor

Following an increase in demand over the last few months, White Light have added GamColor to their stocks of colour filter. The trade counter in Fulham currently stocks both Lee and Rosco colour filter, but with the recent increase in enquiries and orders for GamColor, over 1600 sheets arrived in January. The deal, between White Light's Bryan Raven and Great American Market's Joe Tawil, was concluded at the recent Lighting Dimensions International exhibition in Miami.

As part of the launch, all members of the Association of Lighting Designers have been sent a swatch book.

Stagetec for Spirit

Stagetec (UK) Ltd have just been appointed a Soundcraft Spirit Folio dealership. The company's Andrew Stone told L+S: "The Folio range of audio products complements the company's rapidly growing profile of sound and lighting products. The addition of Folio to our product range serves to enhance our commitment to offer customers the best products available to meet their requirements at the most competitive prices."

Laser Animation

The ninth annual conference of the International Laser Display Association (ILDA) was held in Miami in November, and conference activities included seminars, workshops, new technologies, safety issues and ILDA's second annual trade show.

The ILDA awards, presented at a gala banquet, went to seven different companies. Four awards went to both Audio Visual Imagineering of Orlando and Laser Fantasy International of Bellevue, Washington, whilst other winners included Tarm Showlaser GmbH, Lobo Electronic GmbH of Germany and Laserpromotions of the Netherlands.

Sound Workshop 'Split'

Following a period of sustained and dramatic growth, The Sound Workshop has divided into two separate companies, each to be owned and managed by one of the current partners. Richard Lockyer, who founded the Halifax-based audio specialist, will run a new company, Internet Audio (Europe) Ltd, while his partner David Mitchell, previously technical director, will take over the reins at The Sound Workshop. The 'split' is entirely amicable and reflects the Workshop's recent polarisation into two specialised areas. The intention is that each business will now be more focused to its particular market.

The Sound Workshop can be reached on (01422) 345021 and Internet Audio on (01422) 822122.

Sensible Time Travel



Sensible Music recently took the world's media a step back in time for the launch of the new Beatles anthology.

A long-standing Sensible customer and (more famously!) The Beatles' record label, EMI approached Sensible Music to arrange the PA, sound feeds and musical equipment, in keeping with The Beatles' era, for the event at London's Savoy Hotel. Sensible organised and supplied look-a-like equipment in the form of Vox amplifiers, Rickenbacker & Gretsch guitars, a Hofner violin bass, Ludwig drums and Reszo mics.

Help with authentication was also on hand from Sensible's Mac McCaffrey (above) - formerly a real-life Cavern-goer - who helped TV's 'Schofield's Quest' to recreate a mock-up Cavern.

Depro UK

Depro GmbH, specialist in UVB-active materials and plastics, have opened a UK division. A dedicated team have been assembled to supply the company's product range, which, they claim, includes the only odourless fog fluid available. Depro UK have also secured the UK rights to the Romulus Lighting Concept, manufactured in the UK by Intek Electronics of Poole. Depro UK can be reached in Poole on (01202) 7160910.

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- Narrow/wide fresnel or PC optics
- Silent cooling system, with thermal switch

FLY

Pulp and D&B Beside the Seaside - Steve Moles reports from Bridlington

The East coast resort of Bridlington had gone to sleep for the winter. The guest houses were boarded up, the chintzy sea-front cafes and penny arcades were all closed, and the holiday makers from the borders of Scotland and the cotton mills of Yorkshire were but a distant memory. And then Pulp arrived.

The enigmatic Jarvis Cocker with his sardonic humour and Oxfam suits had come to waken them from their slumbers. So terrifying was this prospect to the good Burghers of Bridlington, that a detachment of mounted police from the Humberside constabulary was requested, lest the subversive lyrics of the group rouse the town's youth to riotous debauched behaviour more familiar in the big cities.

Lyrical content is at a premium with Pulp; the witty observation of 'Common People' or 'Disco 2000' are acutely accessible to any who care to listen. No wonder then that sound engineer Jon Burton put good vocal enhancement at the top of his list for PA characteristics and has chosen a d&b 402 system for this tour.

Since September 1995, he has been using a demo system from d&b for all Pulp's British dates, while Entec took a more measured route to assess the system's roadworthiness and general viability before committing to purchase. The show at Bridlington Spa was, in fact, Jon's first show with Entec's own system, the company having taken the plunge financially whilst Pulp toured the clubs of Europe using house systems. Going straight into a show with full production, but without rehearsals, is tricky at the best of times; it was fortunate for Jon that he had already started to feel his way around the demo system from d&b earlier. "I'm coming to terms with the low end," he said in response to a question about possible frequency hot spots or weaknesses in the system. "Dispersion seems to be the problem in small venues. It's definitely true with this system that the more you fly, the better the coverage."

That said, the system is physically relatively small and easy to manage; the mid-high holds 12", 4" and 2" compression drivers, the bass is a single 18", and Jon is also using the B2 sub-bass cabinet, which sports a pair of 18"s. The approximately 30" cubed (though actually wedge-shaped) cabinets



The enigmatic Jarvis Cocker fronting Pulp at Bridlington Spa.

are an easy one-person lift, though the mid-high is a bit of a heave. Bridlington Spa is an old-time seafront ballroom. Wider than it is long, the stage looks out onto an 85ft by 60ft sprung dancefloor with two shallow gallery-style balconies above. The high ceiling above the main floor is crowned by a stained glass and decorative-stucco dome some 25ft in diameter.

Flying is limited to just a couple of points each side of stage and the positions are rigid, forced by specific holes in the plaster-work. With two points used for the lighting truss, Jon was only able to put four cabinets in the air each side, two mid-highs and two bass. There was enough height for the cabinets to be tilted down onto the balconies keeping the sound away from the dome. On the stage was a three-high, four-wide combination of the two cabinet types, with three B2s per side on the floor.

The flying points were, unfortunately, about eight feet downstage of the front stage edge, so there was some phase dislocation between flown and floor systems, but the hall is so short and the balconies so horizontal (rather than tiered) that the effect was of no consequence. The mid-highs were clearly separate enough for there to be no discernible interference between the two sources,

whether on the balconies or downstairs; the bass, however, sounded a little unresolved downstairs, but was thick and rich above. This may be attributable to the two types of bass cabinet used. Upstairs, the flown single 18" 402 bass cabinet (frequency range 48-160Hz) dominated and coped well with the kick drum and bass guitar, downstairs the double 18" B2s with a lower 35-68Hz range (but with the crossover set to run them up to 120Hz) seemed to muddy the sound of these two instruments by being asked to do something

outside their range. Conversely, the lower end of the keyboard register was richer below and, not surprisingly, absent upstairs. As Jon noted, dispersion is the key to this system.

He mixed from the new Midas XL200. That Jon uses 46 channels for the band, plus a rack-mounted 14-channel Soundcraft Spirit stretch, came as a bit of a surprise for a six-piece pop group, but when you discover the range of instruments the band like to indulge in - five live keyboards including a Farfisa, plus dozens of old steam technology key's sampled onto an Akai - you begin to understand. There's even a Deluxe Stylophone for one number.

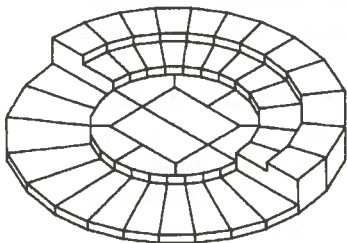
Justin Grealy on monitors runs 14 of Entec's own wedges off an XL3, and the stage levels run up and down, severely at times, requiring close attention. But, as was stated earlier, it's the vocals that matter. "I have to have a lot of bottom end on Jarvis's voice," Jon said. "He has quite a deep baritone and I have to make sure it's there in the mix. I'm using an Audix OM3 microphone for him. Not only is it good on feedback rejection, but it's also bloody tough. He's only managed to smash three since I started using them. One lasts about three weeks. Much as I'd like to use a Beta 58 it wouldn't last five minutes with him."

Jarvis is a very physical performer, slightly spasmodic, he is all the things John Otway never quite managed to achieve. Simultaneously awkward, vulnerable, camp, beautiful, he demands the audience's attention. He also likes to fully cradle the mic' cap in his palm and when not doing that has a penchant using it as a percussion instrument on any available hard surface.

In the end, the Humberside Police were grateful for the overtime and a quiet night at the seaside. If Jarvis is to be believed, the civic fathers managed to display their cultural constipation further by requesting the band desist from playing their hit 'Sorted for Es and Wizz' lest it corrupt the minds of their youth. They played it anyway, of course, and much to our surprise not a single soul was corrupted. The only fans who seemed the worse for wear at the end of the night were those who had taken the Government's new guidelines on alcohol consumption to heart, and with some vigour.

As Jon so accurately surmised: "For much of the audience, it's their first show. They've only ever heard the band on CD or at a disco before, and they want to hear the words." That's how it sounded, Jarvis Cocker, the Vic Reeves of Brit Pop, was in full voice and they loved it.

ALISTAGE

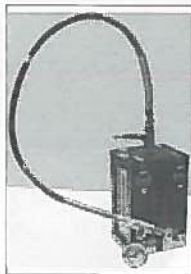


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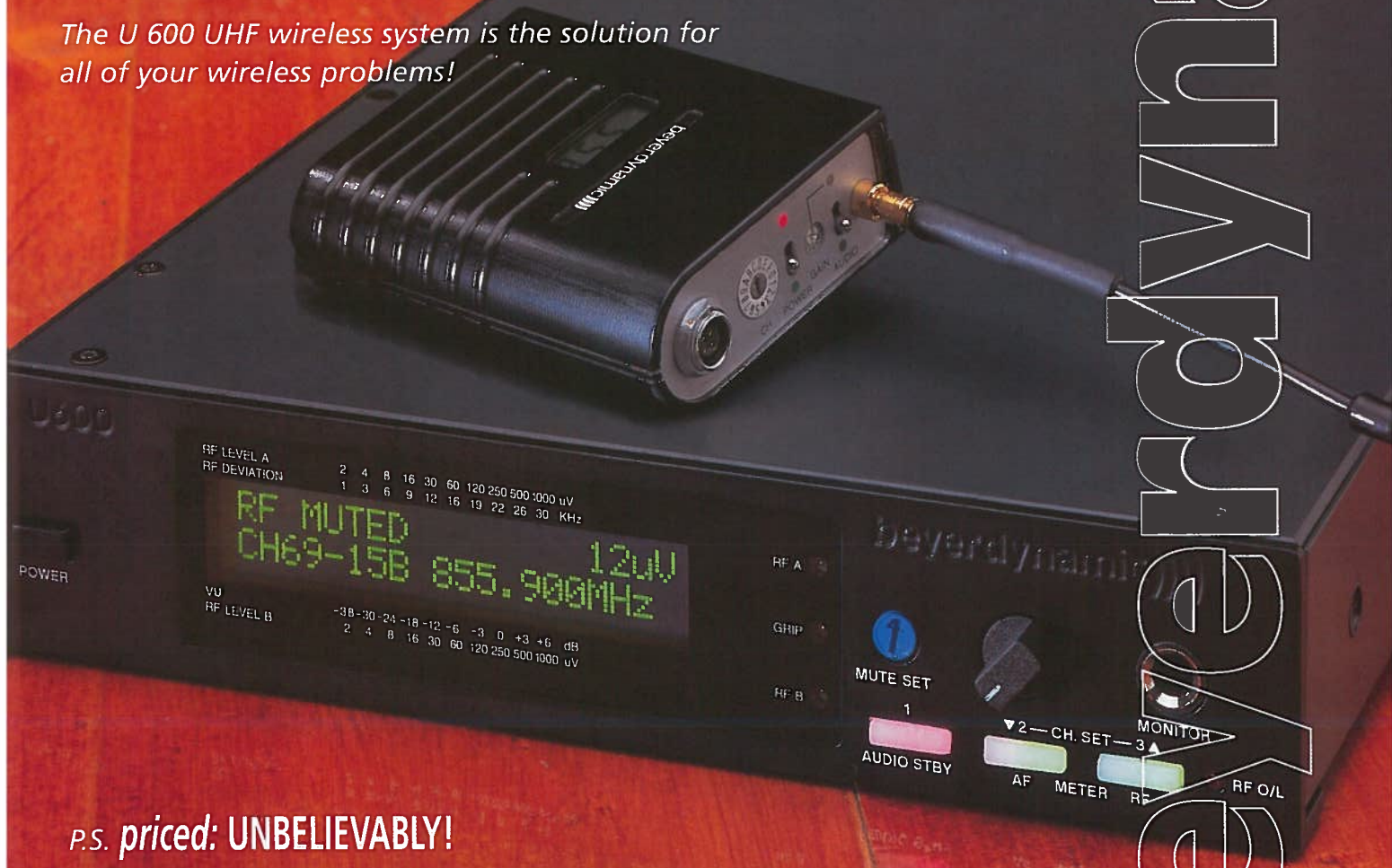
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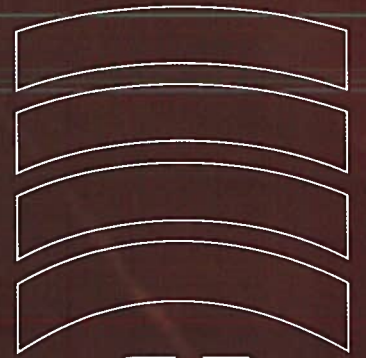
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The Central Theatre - Chatham



The refurbished Central Theatre, Chatham.

The Central Theatre in Chatham has recently undergone a major transformation, and for those of you familiar with the former Methodist Chapel in the High Street, a return visit will prove fascinating.

Rochester-upon-Medway City Council, who are the funding body, commissioned a major refit of the technical areas of the theatre. The last two years have seen refurbishment and development in FOH areas, including the expansion of bar and catering facilities to allow daytime revue shows and art exhibitions. The specifications for the project were prepared by the theatre's technical manager, Chris Stevens, in consultation with theatre manager Anthea Rathlin-Jones, and Alan Paulus of Trafalgar Lighting, who supplied and installed most of the equipment.

The theatre is now equipped with a purpose-built, spacious control room, housing state-of-the-art equipment, and the most significant upgrade is the creation of two new front-of-house lighting positions. Two 38ft Tomcat A-type trusses have been flown on Verlinde chain hoists, and the new trussing in the auditorium is lit from within by Par 16s. The under-balcony and stalls fillings were retained, and the trusses hold eight refurbished Patt 60s to light the seating. The new system is controlled by a Zero 88 Octet.

The stage lighting control system has doubled in size to 120 channels of Zero 88 LTC dimmers, fed from a new 300a TPNE supply, controlled by a Jands Event Plus desk. The desk was chosen after careful consideration as a result of its ability to cope with the large number of one day shows, offering a high manual content with processor assistance. The theatre's stock of lanterns has been considerably increased, with more Par cans, Cantata Fresnels and profiles, as has the stock of accessories, strobes, and mirror balls. Another first is the Effects Company DMX-controlled smoke machine.

The sound system was also updated. The existing 12-channel desk has been replaced with an Allen & Heath GL 32-8-2 console, complete with a full processing rack featuring seven Yamaha Graphics, two SPX 990s, Behringer noise gates, KT compressors, and Denon CD and cassette players. The Multicore system has been designed so that the desk can be operated from the control room or the rear of the auditorium.

The speaker system features a central cluster of four ElectroVoice SX200s, flown on the first truss with a further pair as infill. Two pairs of EV 15" bass bins, one each in stalls and balcony, take care of the bottom end. Also available, by way of a patch in the amp rack, is the Dolby Surround system with 18 speakers around the stalls and balcony. The fold-back system uses four Community wedges and the existing JBL M300 series, which also serve as cinema speakers.

A new feature is the inclusion of a 35mm projection system. Supplied and installed by Sound Associates, the theatre now has a Victoria B 5000 Cine Meccanca Projector, with full Dolby stereo sound, and a 24ft x 11ft Cinemascope screen, supplied by Frank Howard Ltd.

E/T/C Win at Outdoor Event

The sixth Outdoor Event and Live Music Production Show, held at Wembley Conference Centre in January, was a great success, according to organisers and exhibitors, attracting over 5,000 visitors during the three days.

PLASA members JYG and E/T/C Audiovisuel were exhibiting at Outdoor Event for the first time. E/T/C Audiovisuel collected the Best New Product Award at the show, for the new lamphouse for their PIGI high power projection system. The lamphouse, which is up to 20% brighter than equivalent 5kW or 7kW units, now makes PIGI a complete, integrated projection system, including double scrollers, remote control lens and dedicated software and interfaces.

Outdoor Event 1997 will run from 14-16 January, again at the Wembley Conference Centre.

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NSR Aid Parade

The 1996 New Year's Day London Parade marked the start of another full year of events for NSR Communications who have been the main supplier of sound and communications equipment to this event since its inception 10 years ago.

NSR were asked to supply systems to cover both the grandstand area at Piccadilly and the VIP grandstand area along Whitehall, in addition to supplying semi-silent generators at both sites with the capacity to feed television, security, public address and catering facilities. A music system kept the crowd informed and relayed music from various static performances throughout the day.

With the commentators within close proximity of the speakers, the risk of feedback was a potential problem, resolved by a Sabine feedback exterminator. Static performances at both sites required that the NSR control units had to have DAT, CD, reel-to-reel and cassette facilities, along with multiple radio mics, talk-back and monitoring for both sound and radio networks for the parade.

TF Take on Verlinde

Total Fabrications have become the official distributors for Verlinde products in the UK, and have introduced the Stagemaker Li10 chain hoist.

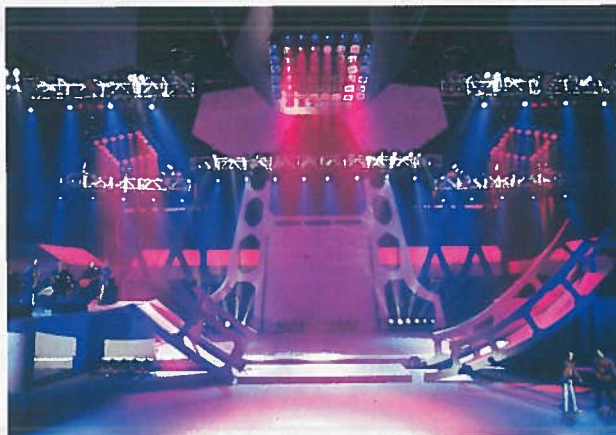
Features of the Stagemaker Li10 include a load capacity of one ton, a completely enclosed Class F hoisting motor, built-in weight overload limiting device, adjustable upper and lower limit switches and low voltage control.

FUXX 95 in 4:1

German company NDF (Neue Deutsche Filmgesellschaft) produced the intriguingly-titled FUXX 95 (Extra Large Soccer Party) for the SAT 1 television station in December at the Frankfurt Festhalle.

NDF commissioned Crystal Sound of Baden-Baden to undertake technical management of the programme, whilst the lighting was designed by Manfred 'Ollie' Olma.

Due to time limitations, Hans Hommen of Crystal Sound and Ollie Olma suggested that the lighting programming be done in Showtec's 4:1 Studio. The size of the stage - 80ft wide and 75ft deep - meant that only 60% of the set could be included. However, by setting up and programming a number of Starlite and Cyberlight fixtures in a side room, 90% of the programming was carried out in the Studio. Audience lighting was entered 'blind', so that only the brightness values had to be altered. When the results were implemented in the Festhalle, no alterations were required, despite the limitations imposed by the size of the venue.



The lighting set-up in the 4:1 Studio.

Blackpool Illuminations

Howard Eaton Lighting Ltd (HELL) has produced custom battery-powered backpack light sources and fibre optics for costumes appearing in the Stageworks Worldwide Productions of the Hot Ice Show, based at Blackpool Pleasure Beach.

The fibre optic costumes will be entertaining audiences at venues across the globe, including Bangkok's Siam Park and Germany's Europa Park. Following on from the successful co-operation between the two organisations last year, when two larger backpacks were used, HELL supplied smaller lighting units for the ice skaters, who are suspended 12 feet in the air to give the appearance of flight. The most difficult aspects of the project were the concealment of the packs and the spreading of the fibre optics, which are lit from a single source, to cover the entire costumes.

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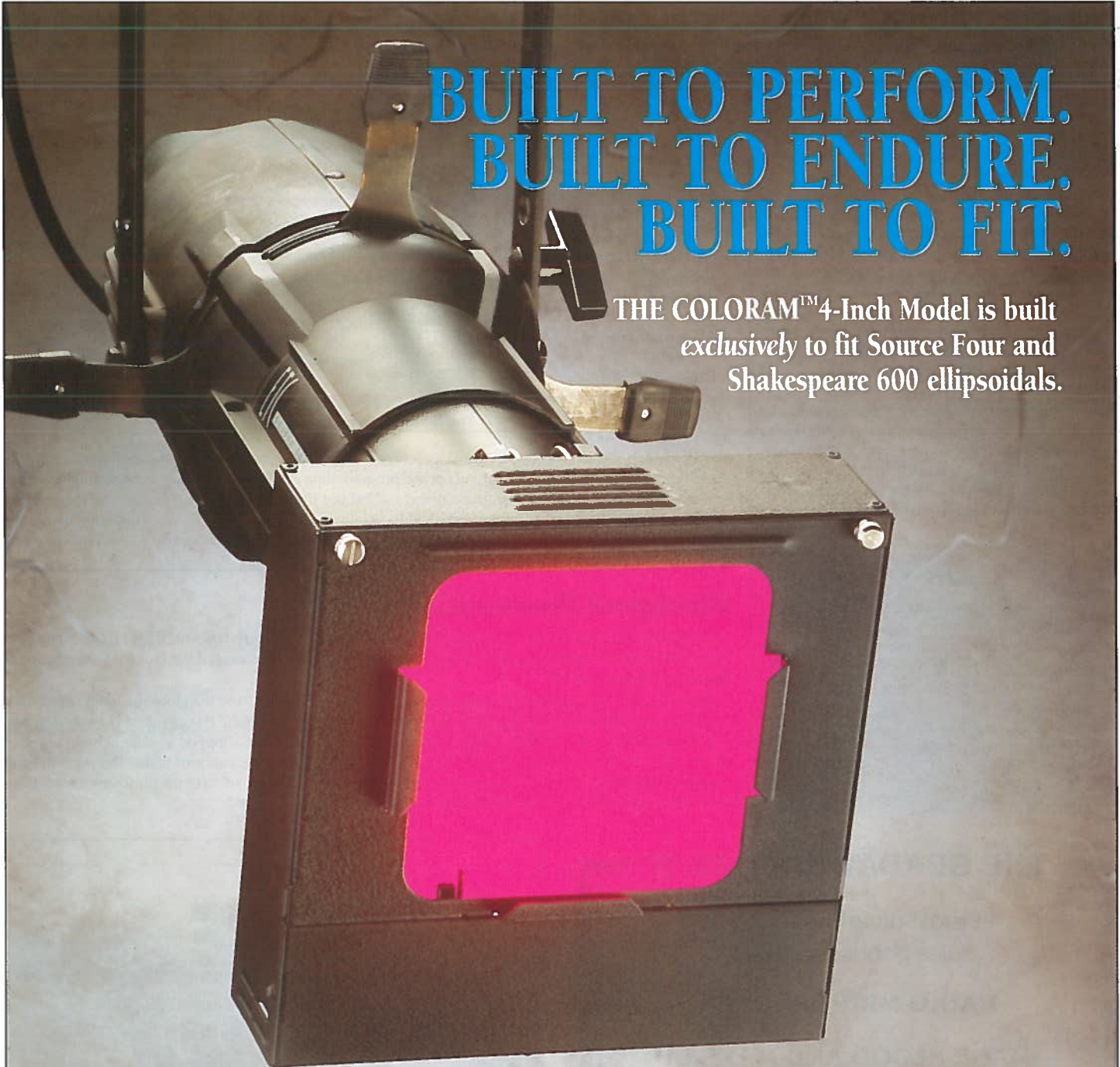
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Sennhesier for RTE



RTE's head of television sound, Charles Byrne, with the Sennheiser UHF radio mic system.

Irish national broadcaster, RTE, has purchased a 16 channel Sennheiser UHF radio microphone system for its newly refurbished Studio 4. The £2.7 million refurbishment has created a fully digital, £16.9 million state-of-the-art production studio, capable of accommodating audiences of more than 300 people.

The system is based around two EM1046 frequency selectable, eight channel receiver racks, 10 channel switchable belt pack transmitters and eight hand-held transmitters.

PSL Anchor for Rufo

Pic Systems Ltd have become the UK distributor for Norwegian flight-case manufacturer, Rufo, following the latter company's PLASA debut in September.

Rufo have been PSL's Norwegian distributor for the past four years, and the move was a natural progression for the company after their success at the PLASA Show.

Tower of History

On New Year's Eve, Production Arts helped make Cleveland's bicentennial celebrations unforgettable with the transformation of a historic building into stage, set and show.

Using four 12,000W HMI and two 6,000W HMI Pani projectors from Production Arts, lighting designer Abigail Rosen Holmes painted fantasy and history across the face of the city's 400-foot high Terminal Tower.

Produced by Walt Disney World Special Events, 'Fanfare for Cleveland' used large-format architectural projection to enhance the event's video, lighting effects and fireworks. With projectors placed on a rooftop about 800 feet away from their target, Holmes had to be sure the images would be clear. The power of the 12,000W projectors was critical, as was the decision to hand-tint the slides, rather than use film processing, providing better light transmission. Production Arts also relied on the Camera Obscura technique to ensure that the images fitted precisely with the architectural details of the building.

SSE Out and About

SSE Hire have a varied workload utilising a range of equipment for 1996. Two Midas XL3 consoles are on the road with Tori Amos, and a further two are with the Holsten Indie tour. Both tours also feature a mixture of Crest and Crown amplification and Electro-Voice speaker systems. Another XL3 is in use on the Hotel Babylon TV show, while the European Snowboarding Championships in Italy have a Yamaha PM4000 from SSE.

Litehouse Update

Following our news story last month on the new Trade Photographic Services Litehouse venue, we have learned from Cyberdescence Design that they were responsible for much of the installation in the studio, using equipment supplied mainly by PLASA member companies.

Cyberdescence were responsible for the design and installation of the bright plated viewing deck and control platform, and the permanent Trilite truss grid, including movable ladder spans and a projector platform. The lighting installation consisted of a Zero 88 Sirius control desk and LC dimmers, distributing through a custom-built Socapex patch panel to CCT luminaires. The curtains, which were hung on a motorised Triple E track, were made for Cyberdescence by Gerriets.

Dee Sound Choose RH

The Copenhagen Cultural City of Europe Festival at the Kanonhallen opened with a performance of 'Universal Copywrights', using a Renkus-Heinz CoEntrant system supplied by Belgian rental company Dee Sound & Light.

The company had recently purchased eight stacks of CoEntrant CE-3T and CE-3 subs as a front-of-house system for their European Theatre Shows. Dee chose RH for its high level of performance and degree of tonal clarity, definition and precision. The company's expansion continues with the addition of a Midas XL200 console and the Renkus-Heinz SR5A cabinets for delays and centre cluster use on a theatre tour through Yugoslavia, Israel, Austria, Poland and Sweden.

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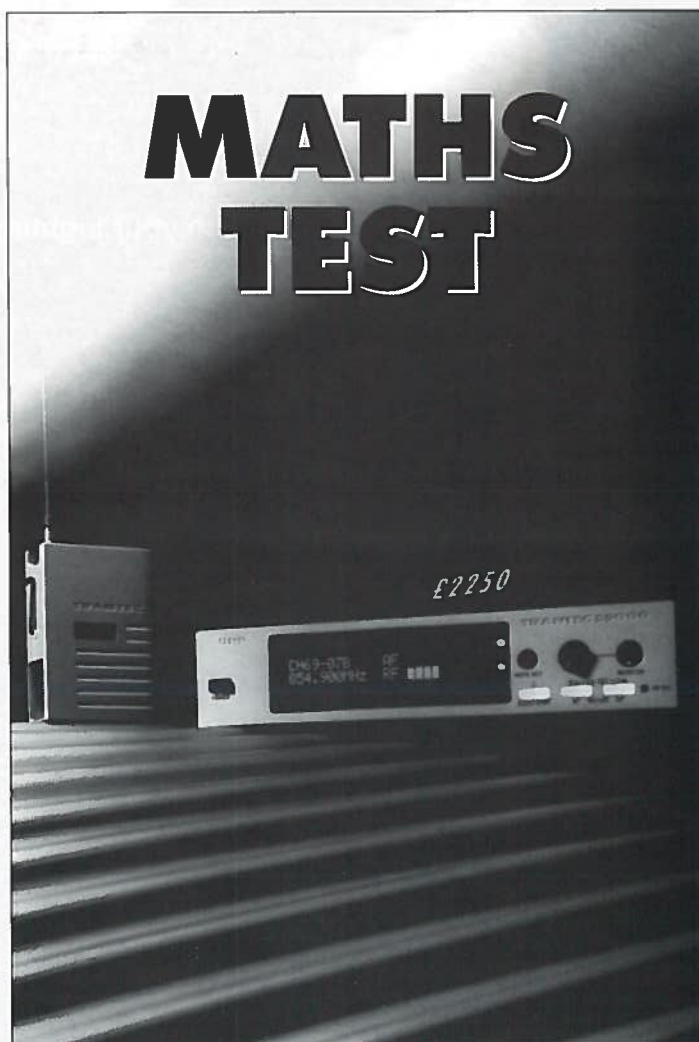
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Live! and well in Hammersmith



The Avolites table at the Live Awards played host to the company's May Yam, Meena Varatharajan, Rick Salzedo, LD Dave Byars, Shahid Anwar, Tony Shembish, Steve Warren, Sonia Martin (CPL) and Micky Johnson with LDs Gerry Caulderhead and Patrick Marks.

This year's Live! Show, which repositioned itself in the more pleasant surroundings of the Hammersmith Novotel and, as usual, the highlight of the event was the Live! Awards dinner, compered by Jools Holland. Among the winners of the 28 awards were Avolites, who received their third consecutive award, and on this occasion it was the Best New Technology award for their Graphic Tablet. The award was collected by managing director Rick Salzedo.

Other awards went to Jim Ebdon (sound engineer), John Ormesher (monitor engineer), Mark Fisher (set designer), Dave Byars (lighting designer), Light & Sound Design (lighting rental company), Britannia Row (audio rental company), PSL (video production), the Midas XL4 console (audio product) and the Clay Paky GoldenScan HPE (lighting product).

Trade Show Round-Up

PLASA Missions

1996 will see the Professional Lighting and Sound Association organising DTI-supported trade missions to SIB (Italy), Entech (Australia), PALA (Singapore) and Lighting Dimensions (USA), in addition to a possible special mission to China Music and Light in Shanghai.

Further details are available from Anna Pillow on (01323) 410335.

The Television Show

The first-ever TV Show Forum will take centre stage at this year's Television Show in March (13th-15th), with a keynote address by Greg Dyke, chairman and chief executive of Pearson Television. This inaugural lecture will provide the main focus of the show, attracting an audience of more than 300 industry professionals.

The TV Forum will take place in the early evening of Wednesday, 13th March 1996 - the first day of the three-day show at the Business Design Centre in Islington - which will offer a full programme of workshops, sessions and social events, as well as a major exhibition of the latest products and services for industry professionals. For further details, contact IIR Exhibitions on 0171-344 3861.

Leisure Asia 96/TiLE-Asia 96

From 21 to 23 March, over 50 speakers from 18 countries will meet in Singapore to share their views and expertise on emerging trends covering every aspect of leisure facilities in this region at the first TiLE-Asia Conference (Trends in Leisure and Entertainment).

It will run in conjunction with LeisureASIA 96 - an 8,000sq.m exhibition, highlights of which will include a virtual reality cafe, best exhibit award and one of the world's most sophisticated talking robots, SICO, as the show's mascot. For further information, contact the organisers on +65 290-5810.

Lightfair International 96

Lightfair International 1996, now in its seventh year, will take place in San Francisco on May 14-16 and the organisers hope the event will attract over 11,000 attendees from architects, engineers, lighting designers and interior designers to facility managers, developers and electrical contractors.

A highlight of the 1996 show will be the return of three specialised lighting pavilions. These attractions will focus on niche markets, products and components for theatre, entertainment, specialty, international and decorative lighting. Further details are available from organisers AMC Trade Shows in Atlanta, Georgia, telephone +1 404 220 3000.

So, the new S5000 UHF system from Trantec looks good and costs a good deal less than most of its competitors too, but when it comes to the acid test, just *how good* is it?

to the S5000 (Hello Delta, Hello Dimension)

The S5000 has also made a name for itself with a number of broadcast and professional theatre companies and has even made its West

ACID TEST



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End début in the Fats Waller musical *Ain't Misbehavin'*. (A big thanks to Orbital)

In short, the S5000 out-looks, out-prices and most importantly, out-performs almost every UHF receiver around - and there are tests to prove it.

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LIPA IN THE LIMELIGHT

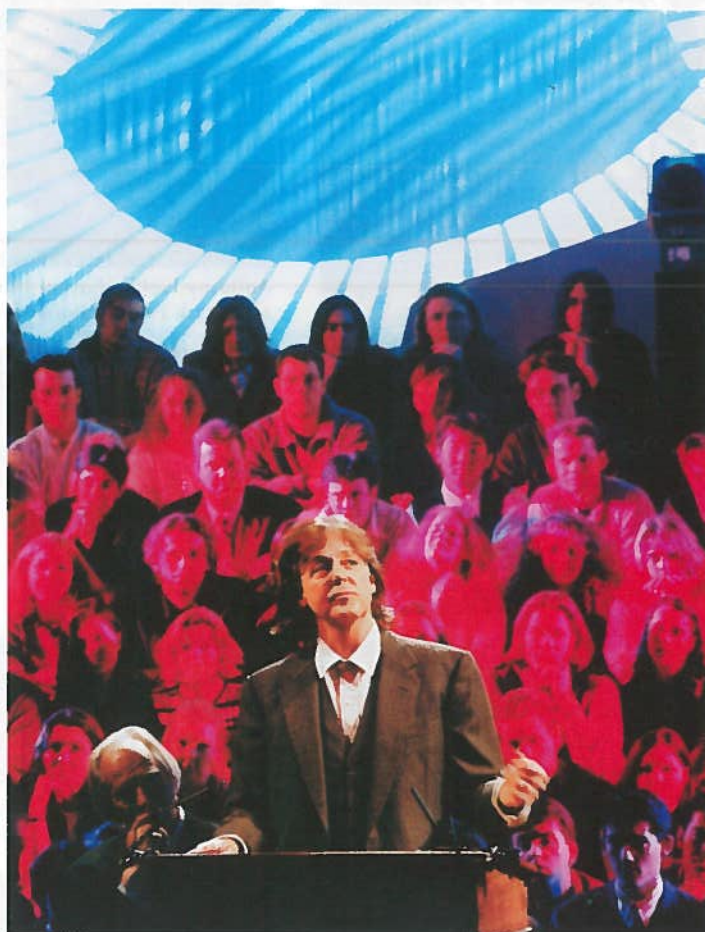
John Offord reports from Liverpool and highlights a major role played by High End Systems coupled with the public debut of Studio Color

In a situation high with emotion, the Liverpool Institute for Performing Arts, featured in our January issue, was launched on 30 January by a string of big-name speakers, a specially-invited audience, and a group of students facing them from on stage. In a very smooth-running production, the proceedings were chaired with great empathy by the chief executive of LIPA, Mark Featherstone-Witty, who introduced no less than 11 speakers, all of whom had been influential in aiding the establishment of the Institute, and were there to shout about its merits.

Key to the whole day, as far as the news story-lines were concerned, however, was Paul McCartney, and after his arrival on stage and a short, unscripted speech, the audience rose as one to bring LIPA well and truly to life. It also signalled the start of unaccompanied choral singing from a group amongst the ranked students, and they in turn triggered a highly effective lighting performance programmed by Tim Grivas of High End Systems of Texas, using an array of equipment donated to the Institute by the company through their UK dealers Lightfactor.

The High End association with LIPA had originally been forged by Lowell Fowler, one of the founding partners of the company and a compulsive Beatles enthusiast. As a youth, The Beatles had changed Lowell's life, imbibing him with the spiritual enthusiasm and determination to make his career in the music business, and he felt a real affinity with LIPA and its world-famous patron.

Once he had wind of the project, Lowell Fowler set out on a mission to ensure that the Institute would receive as much technical support and 'donations' in the form of equipment, from High End/Lightfactor as



Lead patron Paul McCartney, pictured during the inauguration of the Liverpool Institute for Performing Arts.

possible. As High End's UK distributors, Lightfactor sales personnel were involved in LIPA planning and pre-production meetings from an early stage and briefed the technical staff on what was involved in installing and maintaining an intelligent lighting system. Lightfactor also rigged the system and ensured the opening ceremony ran like clockwork for LIPA's lighting department.

The system consists of 10 Cyberlight SVs, six Trackspots, eight Dataflash AF 1000 strobes, a

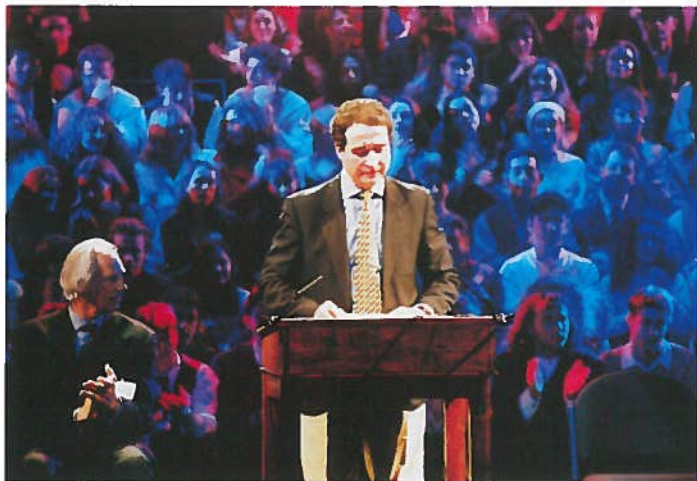
handful of Multirays and two F100 smoke generators with control provided by the multi-layered Status Cue console. It was considered essential that the Institute be able to use the lighting in the main Paul McCartney auditorium, as well as break it down to use in the many smaller practice rooms and dance studios. It was therefore designed with the practical considerations of versatility and flexibility.

Lightfactor's Mick Hannaford told L+SI that future plans include both themselves and High End Systems being engaged with the Institute in the planning and presentation of courses, seminars and technical training programmes surrounding the utilisation of the equipment. He added: "This is just the beginning of what we hope will be a fruitful on-going dialogue with LIPA, and it underlines both High End and Lightfactor's commitment to those who will be the future of our industry."

One of the notable 'appearances' at the opening of the event, was the public debut of a pair of High End's Studio Colors, their first automated, moving yoke, full-colour mixing, wash luminaire which made a big impression with its powerful 575W MSR light source.

In addition to High End Systems and Lightfactor, many more PLASA members have been involved with the LIPA project, and several of these were highlighted in our major feature on the project in our January issue. Of particular note was the commitment to the project by the Harman Group who are also looking to play a role within the development of various training courses. It is hoped to include a detailed article on the sound technology aspects of LIPA in the next issue of S+CSI, the sister magazine to L+SI.

further pictures on following page



LIPA chief executive Mark Featherstone-Witty takes to the podium. To his left is The Beatles' one-time producer, George Martin.



Brigitte Unger-Soyka, Minister for Culture, Baden-Wuerttemberg, Germany, lends an international presence to the launch.

ADMIRAL

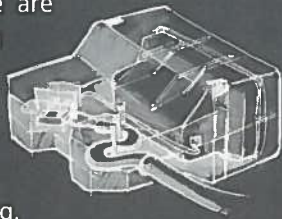
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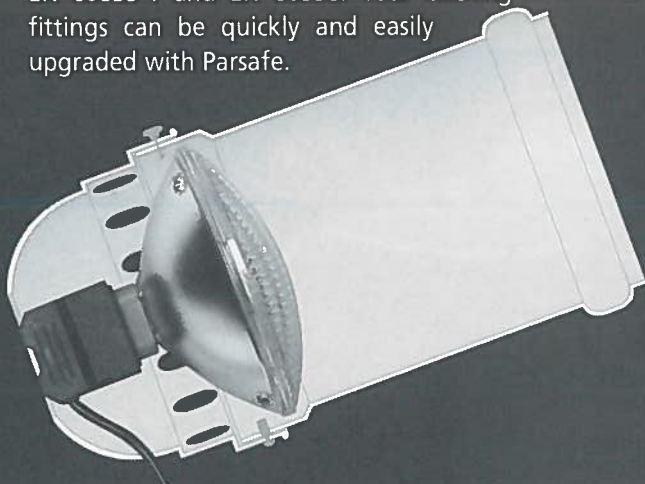


The unification of Europe and resulting harmonisation of safety regulations throughout the community has affected the use of the PAR light.

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Faces at LIPA



Anthony Field, chair of the LIPA council, with Paul McCartney and Mark Featherstone-Witty.



Audio consultant Sam Wise with Lowell Fowler and Bob Schacherl of High End Systems and LIPA's Paul Kleiman.



Andy Baker (left) and Spencer Brooks (centre, right) of Marquee Audio with Harman's Alison Brett and David Harman.



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FEAR AND LIGHTING IN LAS VEGAS

Robert Halliday at the multi-million dollar EFX Spectacular

"Do you know what the most amazing thing about this show is?" asks Patrick Seeley, production manager for 'EFX', the epic theatrical show playing in one of the theatres at the largest hotel in the world - Las Vegas's MGM Grand. My mind reels. The \$40 million production budget? The 11-month long technical rehearsal? The 70-strong cast, 70-strong crew? The 102 tons of stage scenery? The 85 tons of flown scenery and lighting? The 300 speakers? The 3000 dimmers? 2500 lanterns? 336 moving lights? 2700 amp three-phase power supply needed to make just the automation work??

"It's that there are actually some things we said 'no' to!" Seeley finishes.

It's hard to imagine what EFX is the ultimate example of theatre spectacle run wild, and the epoch of the



The wizards duel from 'Merlin, great master of Magic'.

incredible rivalry that has broken out between Las Vegas' new power-brokers. Not content with trying to build the biggest or most impressive looking hotels (the result of which is probably a draw at the moment: MGM is the biggest, Treasure Island with its hourly pirate battle outside its front door is the most impressive), the owners have also been competing on the entertainment they can offer inside their establishments. In the past this would have involved just finding a big name star and dropping them into a nightly girls 'n' feathers show; elements of this 'Old Vegas' mentality still cling on in some parts of the town, especially where, as with Debbie Reynolds, the stars have also become the hotel proprietors.

But this is the nineties; the caring, sharing 'new Vegas' desperate to appeal to a family audience, rather than the hard-drinking lone gambler. Theatrical-type spectacles are what's called for. And, strangely, most of what's now on show in Vegas can be traced back to a West End musical that, at the time, was considered to have been something of a flop.

That show was Dave Clark's 'Time'. Technically, a seminal piece: plot out of the window, but an epic John Napier set, Andrew Bridge let loose with Vari*Lites in the West End for the first time, and sound that literally shook the building from Jonathan Deans. Magicians Siegfried and Roy saw the show, liked it, and transported the entire production team to Vegas to create a permanent show at the then-new Mirage Hotel. New Vegas had begun. The race was on. In a bizarre twist (given that it actually pre-dates Time in terms of effects over plot), the Hilton brought in a permanent version of 'Starlight Express'. Then came Cirque du Soleil's 'Mystere' at Treasure Island. And so to EFX.

MGM were building the biggest hotel in the world. That hotel had a theatre - or 'showroom' as they're still known in the town. It needed to be filled and, for the biggest hotel, it obviously had to be filled with the biggest show. In a nod

to the 'old Vegas', that show was to be based around a star - Michael Crawford. In the UK, Frank Spencer seems like an alarming choice to front the most technically complex stage show in history, but Crawford is also a stage performer of note who America has taken to its collective heart for his portrayal of the disfigured 'Phantom of the Opera'. It's unclear what the instructions then were, but they must have been something along the lines of "go write a spectacular show".

The result, as conceived and written by Gary Goddard, Tony Christopher and the Landmark Entertainment Group, with music by Don Grady, takes Michael Crawford as the 'EFX Master' through four principal scenes: medieval times where he turns himself into Merlin and fights the evil witch Morgana and her dragons, a futuristic circus where he becomes a descendant of PT Barnum, the spirit world where he becomes the death-defying Harry Houdini, and a final transformation into H.G. Wells, travelling from London through a 3D film to a pre-historic canyon full of scantily clad slaves. This may be the new Vegas, but you still have to have something to please the old Vegas crowd...

That script was then turned over to a production team with a very strong track record: director Scott Faris, British choreographer Anthony Van Laast, designer David Mitchell (a double Tony award winner with Broadway shows such as 'Annie', 'Barnum' and 'La Cage Aux Folles' to his name), costume designer Theoni Aldredge (three times Tony award winner and responsible for more Broadway shows than any other designer in theatre history), lighting designer Natasha Katz (Tony award nominated for Disney's stage version of 'Beauty and the Beast', and with other work spanning the musical 'My Fair Lady' to the premiere of 'The Normal Heart') and - in a strange nod to the show that begat it, sound designer Jonathan Deans (of Time fame, as well as Siegfried and Roy and Mystere in Las Vegas and 'Damn Yankees' on Broadway). With

technology set to play an important part in the show, Jeremiah Harris and his production company, Harris Production Services, came in as associate producers, bringing in subsidiary ECTS Scenic Technology (now Scenic Technologies) as the principal set construction and automation company.

SET AND EFFECTS

This is where Patrick Seeley became involved. On joining the then relatively-new Las Vegas operation of Scenic Technologies, he recalls being told "here's this thing called EFX. See you in a couple of years."

At first glance, the problems can't have seemed that daunting. OK, so David Mitchell was designing a lot of scenery, with a completely different look for every scene in the show and for the linking scenes, but there was

a lot of space to put it in: the stage is 196 x 115 feet, with a 108 x 32 foot proscenium arch and has large wings and storage areas on either side. But the theatre had been designed and built before EFX came along. "It was actually built before there was even an entertainment department at the hotel," Seeley recalls, "and this led to all sorts of problems. At some point the power transformer for the theatre was cut because there was no-one around to say 'actually, we need that'. So the electricity supply is now very strange, with some of it coming from the hotel and some from the casino. Similarly, all the hanging facilities were very under-rated."

So, although the theatre had actually been operating for a few months before EFX moved in, principally staging concerts, the production team had to "start knocking it about to make it take the show". And not just the stage area: Mitchell's set design spills round onto - and in a couple of places even through - the side walls of the auditorium, which are themselves painted to become part of the set. The auditorium was re-modelled and re-coloured to suit the show, with the roof altered to ensure that, apart from the front truss, the copious amounts of front-of-house lighting are hidden from view.

The huge amount of scenery that the show demanded meant that, despite the large stage, space was still at a premium. The heavy flying pieces demanded automation, but their positioning - often within inches of each other - led to problems locating the motors. "In the end our engineers came up with an ingenious solution that now seems very simple," Seeley recalls. "They adapted our standard drive motors so that they could be mounted in a variety of ways, with the pulleys set on either side. We'll have, for example, one motor one way up on the floor and another motor hanging with the pulleys on the other side. Though the motors still have the spacing they need, the cables to the pieces are just inches apart."

Scenery doesn't just fly, though. Some of it tracks - though the number of tracks are limited

and, in a manner now familiar on many West End shows, a crew are kept busy in the wings changing scenery over and flying the unused scenery out of the way on storage winches. And some sections - notably the two huge animatronic dragons - rise from the floor, using a stage lift installed as part of the theatre's original specification. The sub-stage area is actually two storeys deep, and scenery change-overs also take place down here during the course of the show.

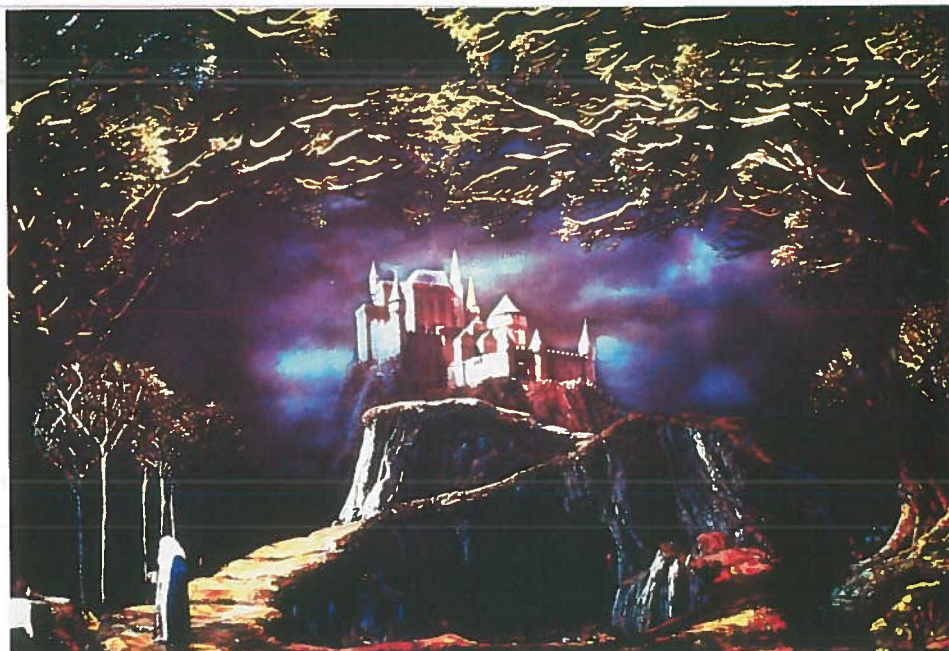
The show's automation is also controlled from the basement, with five operators each running one of Scenic Technologies' scenery control computers while looking at two screens that are switchable between 14 cameras. The control system - which Seeley believes to be the biggest in any theatre - has triple redundancy; each computer has a backup, and if that also fails, the operators can access the movement systems directly. Some supplementary controls are located elsewhere to reduce cable runs - the dragon operators actually sit in the dragon truck, for example.

Seeley actually feels that, demanding though fitting all of the scenery in and getting the automation working was, these weren't actually his greatest challenge. Instead, it was "having to co-ordinate people from so many different areas of the industry - theatre people, theme park people, animatronic people and so on. The animatronic people, for example, would say 'what do you mean it has to roll up and down the stage' and not get it at all. Then they would finally get to the theatre and see what we meant, and suddenly they'd understand why we'd insisted on quick-release connectors". And there were sometimes even problems with the people who were familiar with the theatrical environment - mainly in finding enough of them. "Crews for Vegas shows have traditionally come from Vegas," he explains, "but because there are now so many shows in town, and they're becoming more complex, we're running out of good local people. During the production period we were drafting in people from all over the place - during the dark weeks on Phantom or Tommy tours, it'd be 'right, now you're going to Vegas!'"

He also had some unusual requirements to deal with because of the vast array of effects in the show, ranging from the liquid nitrogen fog curtains that span the full width of the proscenium arch and are fed from a tank outside the building, to the pyrotechnics and the gas supplies to the fire-breathing dragons. And, one year after it opened, he's still monitoring and working on the show, helping to rationalise some of the excesses that crept in during the fraught production period.

LIGHTING

In the October 95 issue of L+SI, in the piece about the 'Les Miserables' tenth anniversary concert, there was a comment about the lighting rig and its 115 Vari*Lites, a number that was "something theatre can only dream of". EFX is, of course, the exception. To help her cover the huge stage area and the multitude of scenery it contains, lighting designer Natasha Katz specified a rig of 215 Vari*Lites (a mixture of VL2Cs and VL4s, with a handful of VL5s thrown in for good measure). Oh, and 84 Cyberlights and 32 Intellabeams. And 60 of DHA's Digital Light Curtains. And, to back all of that up, a conventional rig of over 2000 lanterns, 400 of which were topped with Wybron scrollers. And that's before counting the effects, which included 12 RDS projectors, four 70kW lighting strike strobe units and eight



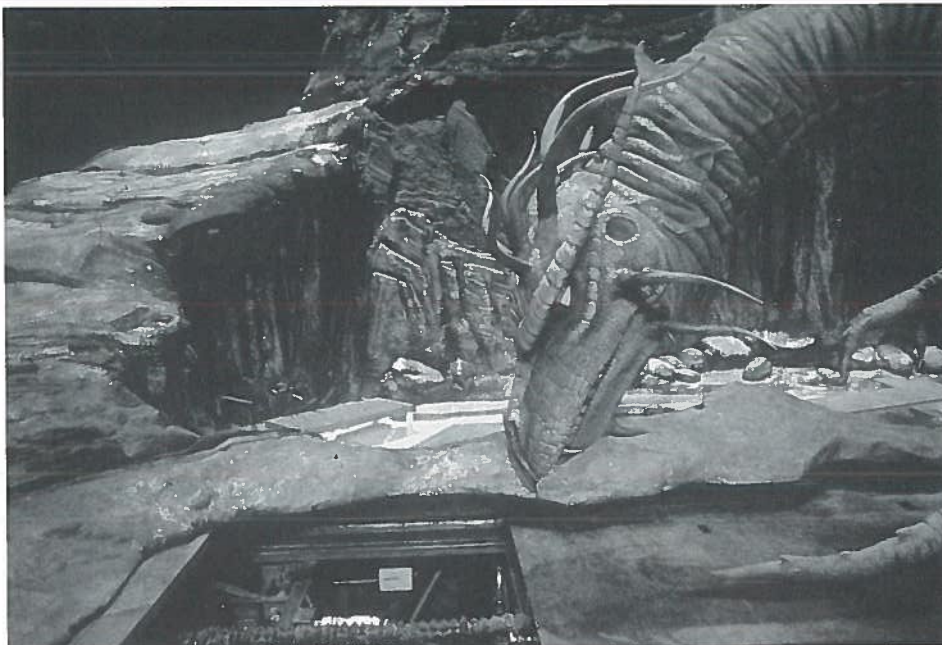
Pani projectors from Production Arts, coupled with Cyberlights, create a magical setting.



The illusory world of Harry Houdini conjures forth spirits in an English country house.



Slave Dance - part of the H.G. Wells tableau.



One of the pre-historic creatures from the wizard's duel from H. G. Wells.

Pani BP6 6kW HMI projectors, five topped with Pani's AS100 image scrollers. The Panis were supplied by Production Arts, who even created custom rotators for four of the image scrollers, to allow the image to move horizontally or vertically. The conventional rig is controlled from ETC Sensor dimmers which feature a fault-reporting system.

Katz specified the rig by working out the kind of looks and effects she would need, then specifying the equipment that would generate those effects. "I've used Vari*Lites for years, and will continue to do so," she explains, "but there are certain things they can't do, like rotating gobos or cross-fading colours in the 2Cs. We knew we'd need some of those things, so that led us to the Cyberlights." The conventional rig was then added to fill in around the moving lights. "The scrolls, for example, contain mostly pale tints, the kind of colour that it is quite hard to get out of moving lights."

She then had to fight the usual battle to find space to put the lights. Getting the rig in, though, was nothing compared to the problems of lighting the show. "The first week in the theatre was really just spent getting our sea legs," Katz recalls, "because the size of the stage meant having to think about things in different ways: you'd put up a sidelight wash and it would have no real effect." There was also the problem of co-ordinating all of the different lighting systems - an Obsession 3000 controlling the conventional rig, the Obsession operator also running a Macintosh for the DLCs, a Vari*Lite Artisan programmed by CD Simpson and a Compulite Animator running the moving mirror lights programmed by Paul Turner. Much of that co-ordination was handled by Katz's associate, Ted Mather, and assistants Eric Cornwell and Gregory Cohen. This has led to a situation, unimaginable a few years ago when Vari*Lites were only just affordable and their use had to be carefully rationed to specials, where they are used for much of the show providing general cover, with the Cyberlights and Intellabeams adding specials, such as rotating gobos or moving clouds. The Vari*Lites do still rule in the Houdini sequence, though: here Katz did succeed in closing the lighting down to very tight, specific areas and the VLs provide a series of isolated specials for Michael Crawford to walk through. However, Katz also sings the praises of the DLCs: "Without them, we

couldn't have lit the show at all because they provide all of the toning and backlight. By being able to position them, we could get highlights to specific parts of scenery."

The biggest problem with plotting tended not to be when something worked, but when it didn't. "With so many lights, the time to programme anything was enormous." Storyboards of the lighting were produced to help try to overcome this problem, but even so Katz still considers the show to be "probably only three-quarters lit, without much of the refinement we'd normally expect."

The result of Katz's work is a huge range of lighting looks, some of which are hampered only by what they are having to light. The backlighting and texturing created for the big set-pieces - the trees in the Merlin sequence and giant rock formations during the H.G. Wells scenes - is stunning, as is the start of the H.G. Wells scene, where the lighting plays off the 'look' created by the Pani projections. The Barnum sequence is less impressive because there is little scenery and a stage full of performers who have to be lit, so the lighting just shows the stage up as the enormous empty space it is. However, the Houdini act that follows is a triumph, because the lighting is held down to tight, white areas and manages to pull the audiences' eyes into specific places even on that huge stage. The most effective 'trick' in the show is in this scene, when five seated figures suddenly fly backwards through the air into darkness - proving yet again that 'dark' is as important a weapon in the lighting designer's arsenal as 'light'!

SOUND

Ask sound designer Jonathan Deans what it was like to work on the most expensive theatre production ever, and it's immediately clear that the show wasn't quite as out-of-control as it sometimes seems. "Even on a Vegas show there are still budgets! EFX is supposed to be the biggest budget there is, but it's in scenery." He pauses to reflect on the show, before adding: "if they gave me that kind of money, they wouldn't need the scenery . . ."

Even with the budget available, the project was so large that Deans brought in his Cirque du Soleil colleague François Bergeron as associate sound designer. Between them and their company Real Time Audio, they were responsible for every single item connected

with sound on the show - from the effects down to the installation of the last piece of cable. And that means that the men were more-or-less in charge of everything an audience hears, since all of the music and big chorus vocals in the show are pre-recorded and all of the principal's singing is fed through Sennheiser radio microphones.

The resulting sound rig is in proportion to the rest of the show: 300 loudspeakers driven by 85kW of Crest amplification in total, including EAW850s on either side of the pros arch, 24 EAW300s across the ceiling as a surround-sound system, 18 groups of delay speakers, and 136 sub-woofers built into the front rows of audience seating. Other subwoofers and speakers are built into many of the other scenic pieces, the aim being to allow sounds to appear from as close to their visual source as possible.

To achieve routing of this complexity, Deans and Bergeron take sound from the 48-channel Yamaha PM4000 mixer into a 64-output Level Control Systems console. This can either route sound to one particular output, or fade it around the outputs to create moving sound effects - the path an effect takes being easy to set up using the LCS 'Spacemap' system, that allows sound routes to be drawn on-screen with the system's Macintosh then working out the appropriate fades.

The LCS also triggers the rest of the sound system via MIDI, allowing the settings of the 32 BSS Varicurve parametric equalisers and 27 BSS TCS-804 digital delays to be altered during the show. Global changes are made for the different scenes in the shows, but Deans also makes use of the LCS 'vocal focal' system to alter the delays so that the sound appears to track the performer it is originating from, helping to ensure that the audience are watching the right person.

MIDI is also used to fire the Doremi Labs DAWN effects system, which stores the show's music and sound effects on 16 tracks occupying 16Gb of hard drive space, with a second system running as a 'live backup' that can be switched in immediately if one system fails. Hard drives were used because Deans "wanted to be able to play back up to 16 tracks individually with digital quality, and because we needed to have instant start-up and to be able to change things easily." This last was probably the most important factor: composer Don Grady was working on site with a synthesiser and then, when enough music had been composed, flew to London to record it with the Sinfonia of London orchestra. Those 48-track recordings were eventually mixed down to the 16 tracks on the DAWN hard drives, allowing the soundtrack to be mixed to best suit the auditorium.

At the same time, Deans, Bergeron, assistant Todd Meier and operator Mark Dennis had to create the many sound effects the show demanded, using a Pro Tools studio set up in the theatre. "We all had different rooms," Deans recalls, "so it became 'I'm going to work on sound effects today' or 'let's go and work on the stage'. It was a long production period, but we were working with good people and so could still be creative."

Even with occasional distractions, Deans and Bergeron have done a superb job on the show. Deans noted that the main challenge facing a modern sound designer is to match the quality that people hear from CDs at home and, for the most part, he has achieved that with EFX. The sound effects throughout the show are excellent, and the overall sound quality is superb. Many of the audience leave convinced

that the whole show has been lip-synched to pre-recorded vocal tracks. Fortunately, Deans takes that as a complement . . .

CONTROL

Of course, it's no good having all of these expensive toys if they can't work together. The EFX team could have followed the theme-park route, where one master console generates time-code and everything else follows. But they didn't, partly for practical reasons (in the show's early days many elements were run manually, and only added to show control as they were proven to work), partly to try to keep a 'live' feel to the show, partly because different sections of the show are 'led' by different departments - and also because, as Patrick Seeley wryly notes, "we still have to have people so that if the 'intelligent' lights misbehave, there's someone around to turn them off."

"Unlike many Vegas shows, EFX still has a show caller, who has ultimate responsibility for the show," Seeley explains. The show also has a show control department, but its role varies from cue to cue using a complex system devised by Scenic Technologies. The dragon cues, for example, are automation led - once the dragons are in position, automation signal show control, who start sending timecode to every other department. Those departments can then use the timecode as they need to - sound, for example, is converted into MIDI that triggers the DAWN hard drives and LCS system. Conversely, at the start of songs, sound can send MIDI information to the show control system, which starts timecode for the other departments.

Some cues are even actor-triggered, with performers pressing switches to arm and then fire pyrotechnics - though these triggers also pass through override switches held by technicians on either side of the stage, and can also be overridden by the air quality sensors ensuring that the pyrotechnics and flame effects are disabled if, for example, a gas leak is detected. Triggers that do get through all of the safety systems also send MIDI show control messages back to Show Control and on to sound, so that a sound effect coincides with the on-stage flash.

IN PERFORMANCE

And the overall result? Hmm. I think the audience's reaction says it best; they pay \$70 for a ticket, but are not quite sure why they should come and see the show, but admit to being seduced by the heavy advertising emphasising the show's spectacle and its incredible statistics. They arrive, take their seats. Some may notice the pre-show sequence, a long segue of moving projected



Michael Crawford as the 'EFX Master'.

images and gently changing soundscapes and audience lighting that tell a story all their own. The show starts with a giant projection head appearing, an effect that is a clear homage to Laurence Olivier's contribution to Time, but the view from many of the expensive seats is interrupted by ushers bringing in latecomers and waiters delivering the drinks that are included in the price of the ticket.

The nitrogen fog curtains come on: a stunning looking effect, but the temperature in the auditorium plummets as the air conditioning fails to cope. The audience reach for their coats. Michael Crawford rides up and down through this fog on his 'flying saucer' crane - occasionally vanishing completely, as do the first few rows of seating as the fog rolls over the front of the stage.

Muted gasps at the first scene change into Merlin's world. More for the dragons and shooting laser bolts. And for the film sequence that leads into the Barnum sequence, though this turns to disappointment as the 'spaceship' shown in the film turns into a sadly all-too-real, flat, cardboard-looking version tracking across stage. Then the biggest laughs in the show as a front-cloth comes in, leaving Crawford to what is basically an effect-free one man stand-up act taking the mickey out of the rest of the Vegas shows.

On to Houdini. Gasps as the seated figures attempting to contact the spirit world suddenly launch backwards through the air; possibly the best effect in the show. Then Houdini escapes from the water tank. No surprise there.

And so to H.G. Wells in his London study, the location set by a magnificent projected image of London. This leads into the 3D film time-travel sequence - which the audience have

known is coming from the 3D glasses tucked into their programmes. As soon as the H.G. Wells scene starts, most of them don the glasses even though the film doesn't start for another few minutes. They look ridiculous, and only Crawford's humour as he informs us it is now time to put the glasses on - adding that those who already have won't have found him looking any better - makes it seem less silly. After the film comes the slave dance, with the scantily clad chorus girls to keep dads happy, followed by a dramatic chase over collapsing rock faces, made to seem more ridiculous as people pause to clip into safety harnesses.

Then the finale. Then the audience clap. Briefly. But even as the cast re-group on stage for the curtain calls, the applause is going embarrassingly quiet. It takes some time to cycle through 70 performers, and the applause seems strained throughout. No-one is sure that this was \$70 well spent. Hell, that could have given them another half hour at the tables in the casino outside. And they might then have left wealthy, rather than chilly and bemused.

It's a shame, because \$40 million could have produced a lot of new, 'straight' musicals that might actually have had more emotional effect on an audience. But that's not the Vegas way.

This is not intended to belittle the work of the technical people - two pages' worth of names in the programme, set in very small type! - who got the show on. Technically, it is a stunning achievement. But it is not a stunning show; it goes nowhere. It's trying to be a musical, but it has no story, no 'beginning/middle/end,' no emotion. Even 'Starlight Express' has a story, of sorts. That's the difference, and that's why it has no real effect on its audience. In the West End or on Broadway falling ticket sales might by now have led to its closure - but the Vegas way doesn't allow tickets to be bought more than a few days before a performance, thus preserving its image as a must-see smash hit.

In the meantime, it's given work to plenty of people and companies, allowed Scenic Technologies to expand beyond the East Coast, allowed Harris Production Services to buy Vanco. Every cloud has a silver lining. If you happen to find yourself in Vegas and want to see a good show, go see 'Mystere'. And if you can't afford that, just go for a walk; watch the erupting volcano outside the Mirage hotel, the Pirates at the Treasure Island hotel or the stunning scrolling billboard-come-arched-roof over the renovated Fremont Street. Vegas calls itself the entertainment capital of the world and when much of that entertainment is free, EFX just seems like \$70 too much. Trouble is, more new hotels are being built. And someone is going to feel the need to out-spectacle EFX, whatever the cost . . .

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on the new Sun Princess and Century cruise liners*



The Princess Theatre aboard Sun Princess.

Two new first-class cruise ships debuted in December for two leading US operators, both of whom have strong European connections. At 77,000 tons, Sun Princess has taken over as the world's largest cruise ship from S.S. Norway, which originally entered service in 1962 as the ocean liner France. Sun Princess is operated by Los Angeles-based Princess Cruises, a subsidiary of the P&O Group, and she is joined by 70,000 ton Century, operated by Miami-based Celebrity Cruises, in which a 51% interest is held by the Chandris Group, which originates in Greece.

These two splendid new vessels are the latest offspring of a long lineage. Queen Victoria had just succeeded to the throne when P&O began operating passenger vessels in 1837, which rightly earned the company the sobriquet of the 'inventor' of cruising. Princess itself began in 1965 as a one-ship company offering cruises to the Mexican Riviera, and now ranks as one of the world's largest cruise lines, with nine vessels operating worldwide. Chandris has been in business as a ship-owner for over 80 years, its first passenger ship being a 300 ton steamer providing coastal services in Greek waters from 1922. In the 1950's, Chandris entered the Australian immigrant trade, and then expanded passenger and shipping activities in Europe and North America before seriously entering into cruising with Chandris Fantasy Cruises.

With the cruise market growing at an average of 10% per year, both Princess and Celebrity have wisely invested in a new class of cruise vessel for the 21st century. Sun Princess will be followed in 1997 by her sister vessel, Dawn Princess, and then in the following year by the enormous 104,000 ton, 2,600 passenger Grand Princess. All three vessels are being built at the Fincantieri shipyard in Trieste, Italy. Similarly, Celebrity is in the throes of expansion, with Century being followed by two sister ships to be delivered from the Meyer Werft shipyard in Germany (where P&O's Oriana was also constructed) over the next two years.

With the major cruise lines competing hard for the customers, on-board entertainment has become an area of great importance in their marketing plans, with each striving to outdo the others in the quality of their stage productions. In the words of Rai Caluori, Princess Cruises' director of entertainment, "today's cruise passengers have a very high expectation of on-board entertainment.

Technical innovations, as well as the size of new hardware, also play their part where space - or rather the lack of it - is a crucial factor in theatre design. Caluori credits Princess's senior vice-president of operations, Brian Langston-Carter, with pioneering the sophisticated hour-long, sumptuously costumed and orchestrated shows which are

now part of the line's entertainment programme. The Celebrity view, voiced by CEO John Chandris, is that "it is about evolving. We will now cause evolution in entertainment the way we have caused evolution in food".

Most of the lines operating seven day cruises offer two (or sometimes three) major production shows in their programme, with each being performed twice on one evening only. Headliner acts, cabaret and speciality shows fill the other evenings. To accommodate a large percentage of passengers in a single evening, the theatre capacity needs to be 45% of the ship's maximum passenger capacity. Princess Cruises are cleverly pioneering a different path aboard Sun Princess. Each of the two production shows run instead for four



Mystique - one of the most innovative productions yet seen onboard a cruise ship.



Sun Princess - weighing in as the world's largest cruise ship.



Not far behind, Celebrity Cruise's 70,000 ton Century.

performances over two nights, thus enabling the theatre seating capacity to be set at nominally 25% of the maximum passenger capacity. The Princess Theatre actually seats 550, allowing a much more intimate room to be created. Passengers can still enjoy a high quality show each night by alternating between this and the 500-seat Vista Lounge, where attention has been paid to extending the productions.

The two production shows staged are *Mystique* and *Let's Go To The Movies*. The former is one of the most innovative productions yet seen onboard a cruise ship. *Mystique* takes the audience on a mystery undersea adventure where they encounter a variety of strange and surreal sea creatures. This avant-garde show features acrobats and circus artistes from across Europe and the Orient who perform gravity defying feats of strength and balance. There is particularly effective use of lighting and sound and much credit is due to the production managers, TGA of Los Angeles.

Let's Go to the Movies is a more traditional cruise ship production with plenty of glitter and familiar musical numbers from Hollywood movies and Broadway shows. In the Vista Lounge, Gene Anthony Ray leads in a specially produced revue, while cabaret artistes and audience participation shows also feature in the programme.

The Princess Theatre has a two-deck height single tier auditorium and stage with a fan-shaped layout and comfortable theatre-type seating. The stage tower, also two-deck height, has a 12m wide proscenium and is supported by good dressing room, costume storage and backstage facilities. The interior architects are GEM of Genoa, led by Giacomo Mortola, who has created a fine theatrical space by successfully eliminating support pillars from the room. TGA, as theatre consultants, were responsible for designing and specifying equipment, while the entertainment technology sub-contractors are Paris-based Harbour Marine Systems (HMS) for lighting, sound and video and Glantre Engineering for rigging and stage equipment.

In the Princess Theatre, the lighting system is based on an ETC Expression II, with 192 digital dimmers of L86 type. Conventional luminaires are predominantly ETC Source Four ellipsoidals and Altman Par cans, many of which are fitted with Wybron Coloram scrollers. The automated lighting consists of 12 High End Cyberlights and 36 Vari-Lite VL5s controlled from a Wholehog II console. These are complemented by Lycian followspots,

"With the cruise market growing at an average of 10% per year, both Princess and Celebrity have wisely invested in a new class of cruise vessel for the 21st century."

Dataflash strobes, hazers and a Le Maitre flow fog system.

The audio is run from the centre of house position, directly under the lighting control area by a dedicated audio engineer. A main tie-line panel located in the starboard side of the proscenium wall can be used to send and receive audio signals from the stage to the control area's mixing console, allowing local mixing capability. There are four slave tie-line panels located throughout the backstage area, including 10 microphone sends, four monitor feeds, three line returns, one click track, one intercom and one video socket. Loudspeaker arrangements include a central cluster, two proscenium side arrays and surround-sound. Extensive monitoring and intercom systems have been installed in overhead positions, backstage areas, storage rooms and dressing rooms. This includes a video system for monitoring the show backstage and in the dressing areas.

Audio products include a Ramsa WR S852 console, Apogee loudspeakers and processing, Tascam 8-track digital recorders, Samson radio microphones and Clear-Com ring intercom, while show control is by a Richmond SM400

stage manager system. An extensive theatre video system includes a Barco Data 8110 projector, Elmo slide to video converter with Panasonic cameras, VHS players and digital audio/video mixing.

With flying height above the stage restricted, scenic movement in the Princess Theatre is largely achieved

through the use of stage wagons and traveller tracks, all of which were custom-engineered by Glantre. The principal wagon, which is 6.5m wide and 4.8m deep, stores in an upstage recess and tracks downstage a distance of 7.5m. This wagon incorporates three scissor lifts with vertical travel of up to 1.125m to permit creation either of stepping or a raised platform. There are two complementary side stage wagons of 3.25m by 1.80m which travel across stage and which can be used in combination with the main wagon. All wagons feature lighting, audio and video services with travelling cable management systems.

Nine motorised and manual Triple E traveller tracks are used for velour drapes, scrims, starcloth and rigid scenic pieces. An Austrian-type drape is positioned over the curved front of the forestage with 14 separate motors and 27 suspension lines, allowing an unlimited range of contours to be achieved. Six motorised line shaft winches from J.R. Clancy are used for over-stage lighting bars and other suspensions while hand winch sets also provide for border curtains and other applications. A custom-built touch-screen computer system, located backstage, controls all rigging and stage equipment.

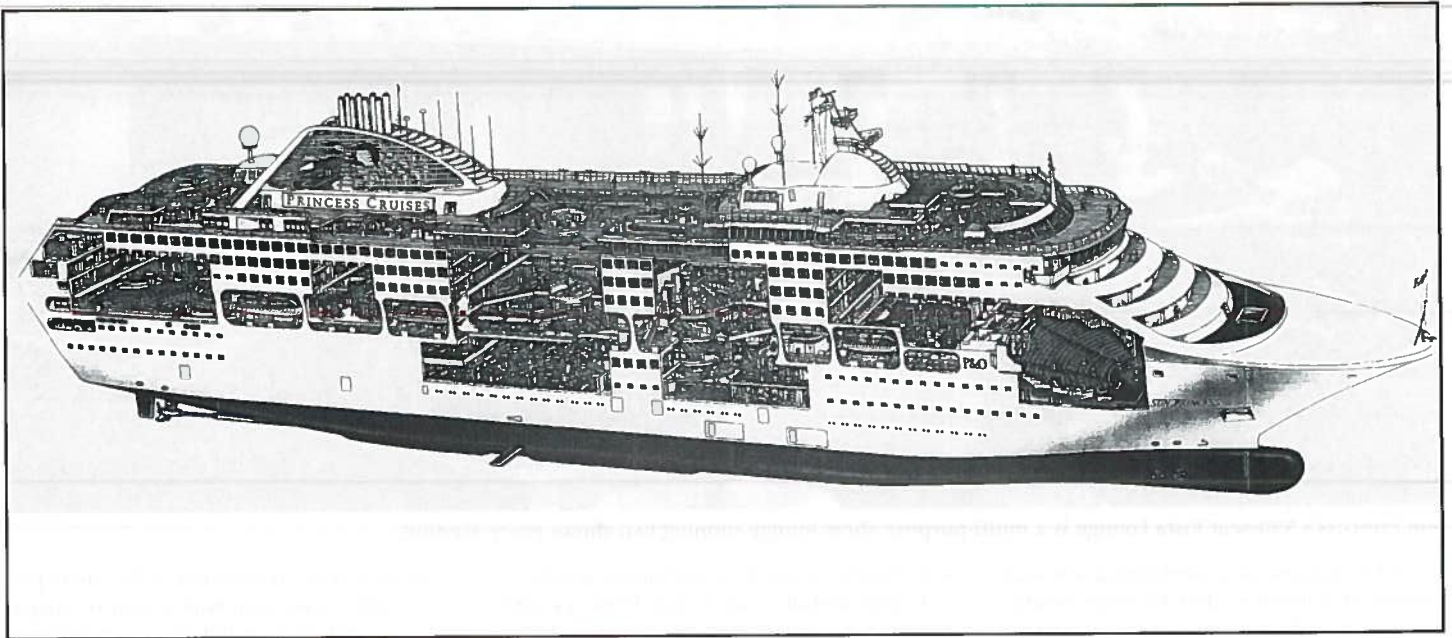
Space restrictions prevented inclusion of a traditional orchestra pit and so the band is placed on a motorised platform in the upstage recess positioned above the main scenery wagon. When the wagon is being set with scenery, the orchestra platform is raised to its highest level. When the wagon is empty, the orchestra platform can be lowered to a position immediately above the wagon. Other stage equipment includes a roller projection screen, draperies, cable reeling drums and scenic accessories.

The Vista Lounge is an ideal cabaret facility where the technical installations are scaled-down versions of those for the Princess Theatre. The lighting console is an ETC Expression II with 120 L86 dimmers. Audio is based on Apogee loudspeakers and amplifiers with a 32-channel Electro-Voice mixer.

Princess's marketing strategy includes increasing the volume of family cruising, and with this in mind, Sun Princess has well-equipped teenage and children's rooms.



Interactive media in the Cyberspace area on Sun Princess, designed by WWG.



Sectional cut-away of Sun Princess.

Little did Tony Gottelier, principal of UK-based entertainment environments design company Wynne Willson Gottelier (WWG) realise, when he proposed the project title Cyberspace, that the name would stick to become the ultimate title of the room.

The area called Cyberspace on deck 12 of the Sun Princess is dedicated to a younger generation of passengers and the name and concept was inspired by the idea of interaction by people with entertainment machines. However, in the implementation the designers were faced with a number of restrictions and not just the normally recognised hazards associated with ship-board entertainment projects. "We would have liked to have included some Internet terminals," says Gottelier, "but unfortunately the enormously high cost of calls on the Inmarsat system suggested that they might be considered less than user-friendly in the wallet department." Instead, WWG, with interior architects Njal Eide, created an area where the public can interact with sound and video imagery to shape their own entertainment environment.

Entry into the space is allowed by a sci-fi, hand-print-recognition console, which also displays the face of the individual and delivers a welcome message before opening the glass door. Smoke and sequencing lights in an overhead runway greet the visitor on the other side, and as the mist clears a massive wall-of-vision appears - 19 different sized televisions set into a curved, metallic fascia, the tarnished and pitted surface of which has apparently been eroded by years of exposure to the atmosphere - like a beached star ship control station.

These TVs are windows onto another world - a world of interactive video, in which users can operate the flight console themselves and manipulate moving images using only their own imagination - video scratching, in the jargon. They can also select their own sounds on-screen from a library of some 2000 tracks and linked to the system there are also robotic lights which move additional images around the space in panoramic sweeps. The area is linked to the ship's video arcade in which WWG has recreated the wall-of-vision, this time

incorporating some of the latest 3-D graphical video games from Sega and others.

WWG's growing reputation for the creation of exciting new en-tech concepts for spaces lacking design definition for a targeted audience, is likely to be further enhanced when Stena Line's new giant high-speed ferry arrives in UK waters in March this year with their Incredible Voyage concept on-board. Described as a mini interactive theme park for children, the designers have high hopes that this first will eventually jump ship to shore-based locations.

The main performance venue aboard Century, the Celebrity Theatre, was designed by London-based interior architect John McNeece. This room is laid out in the show lounge format with banquette-type seating, glass top tables and drinks service. The stepped and main seating is augmented by balconies along the two side walls to give an overall capacity in excess of 800. A two-deck volume is allowed for the auditorium.

Entertainment system planning and project management were carried out by Celebrity's senior electrical engineer, Andreas Angelidakis, who was based at the Papenburg shipyard throughout the construction period. Also participating in the briefing, design and specification process was Celebrity's director of entertainment, Bret Bullock, along with US-based producers Batwin & Robin and theatre consultants Auerbach Associates.

Three production shows are included in

Celebrity's repertoire. Typical of these is *Hollywood* - a Broadway-style musical tribute tracing the ups and downs of hopeful would-be performers from audition to opening night. The storyline may not be the strongest, but the show is fast moving and has energy, with lasers, pyrotechnics and other effects being skilfully used. The show producer is Robin Silvestri with lighting design by Rick Belzer and sound by Martin Lilly.

Celebrity chose to appoint multiple entertainment contractors, with Funa GmbH of Emden, Germany, responsible for lighting and sound, but with stage lighting sub-contracted by them to Glantre Engineering. A separate contract with Lobo of Germany covered the sophisticated laser system and rigging and stage equipment was provided by Krupp, while Sony provided video and projection systems for the public rooms, as well as an advanced video and audio in-cabin entertainment system, guest's interactive network and shipwide displays.

In the Celebrity Theatre, stage lighting employs an ETC Obsession console and 480 L86 digital dimmers. A total of 33 Cyberlights are controlled from a Compulite Animator, and there are over 200 ETC Source Four ellipsoidals and various Thomas luminaires. Funa's sophisticated audio system, which incorporates surround-sound and sub bass, includes Altec loudspeakers and processors, Crown amplifiers and a DDA QII series mixing console.

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Sun Princess's 550-seat Vista Lounge is a multi-purpose show lounge running two shows every evening.

The German-manufactured rigging and stage equipment in the three-deck fly tower includes a dozen lineshaft hoists, Triple E traveller tracks, three orchestra lifts, a traplift and a revolving stage with an outer annular ring. These two rotating elements can operate singly, together or in contra-rotation. Upstage is a large Sony videowall with 48 monitors which can be used to spectacular effect during the stage productions.

Like Sun Princess, Century's secondary performance space is located at the stern of the vessel. In this case, the Crystal Room nightclub is an elegant room with signature Art Deco motif and advanced technical installations. Many other public rooms incorporate audio and video facilities to support a wide range of

entertainment, functions and special events.

Coincidentally, both Sun Princess and Century are base-ported for their first winter season at Fort Lauderdale, Florida and both are offering seven-day cruises. Century departs every Saturday, alternating eastern and western Caribbean itineraries, while Sun Princess sails 30 minutes later with a route that takes in the company's own Bahamian island (Princess Cays), together with Montego Bay (Jamaica), Grand Cayman and Cozumel (Mexico).

For the summer season, Sun Princess will make a positioning cruise through the Panama Canal to Vancouver, from where she will operate seven-day Alaskan cruises, while Century is scheduled to remain in the Caribbean all year round.

So two more magnificent cruise ships join the world's fleet, each with a host of unique aspects, and each including a well-designed theatre with state-of-the-art entertainment technology including a major contribution from Glantre and some of the leading international lighting, sound and AV specialists in the field.

The story doesn't end there, as 1996 will see the introduction of a record number of eight new-build cruise ships for operators Carnival, Royal Caribbean, Holland America, Celebrity, Costa and Duetsche Seetouristik. From this collection will spring the world's first 100,000 ton cruise ship, the Carnival Destiny, which sets sail from Fincantieri's shipyard at Monfalcone, Italy in October on her delivery voyage to Miami.

Glantre - world leader in on board entertainment technology

Glantre has provided elaborate motorised platforms, tracks and overstage rigging for the Princess Theatre and aft Vista Lounge on the **Sun Princess**, and the sub-contract includes audio-visual and games equipment for Cyberspace, the teen centre.

On Celebrity Cruises' MV **Century** Glantre has supplied stage and effects lighting for the 800 seat Celebrity Theatre and Crystal Room nightclub.

Both ships had their inaugural cruises in December 1995 but Glantre's work continues with several other cruise ship projects over the next two years.

Glantre specialises in supplying technical installations for the performance and leisure industry, particularly cruise ship entertainment systems.

For more information, please contact Carolyn Cerrino at the address below.



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INSIDE THE WHITE ROOM

Steve Moles looks behind the scenes of the new TV music show that the stars are queuing up to appear on

The White Room has just embarked upon its second series and is becoming recognised as a leader in the music TV genre. What seems to underpin its success is the nature of its presentation. True to its name, the TV environment is stark white, exposing the artiste to the camera's close scrutiny and prying eye. Curiously, the bands seem to love it and are now queuing up to appear on the show. Producer Chris Cowie has a simple ethos for his show that seems to explain its popularity with both viewers and performers. As ever, success comes from simple ideas.

His first consideration is how the lighting and sound is involved: "As music

programmes go," he explains, "there are too many people making shows of this type that go down a TV or a rock and roll path. That is, they either give scant consideration to the music - devoting themselves to the visual content entirely, leading to something like *The Word* which had nothing to do with music - or treating it purely as a concert show and adding nothing in to enhance the visual aspect. With *The White Room* we have blended the two. The service and quality of equipment and people is second to none. When bands come in, it looks amazing and sounds superb. They tell me it's not like a TV show."

The studio and lighting design is ostensibly a visual medium - although sound is an integral part - with the lighting and all white set dominating the visual interpretation placed on the screen. Eugene O'Connor is lighting director for the show and he explained how this concept came about: "The original idea came from Chris Cowie before I was involved. He wanted a white set, white cyc, white everything, and for it to be lit all in white. When he called me in I didn't think this gave me a lot to play with and persuaded him to let me use some colour."

The studio contains four purpose-built stages, one in each corner, with a fifth playing area allocated on the floor between the four. With all five areas being uniformly white, ensuring that each looked different and avoiding a one-dimensional show was O'Connor's first problem: "Working round the room the first stage is what we call the rock and roll stage. Here, I have a high concentration of Icons, as well as the wash, cyc and key lights. There's no set, and occasionally a backdrop logo. Number two is more a dance stage, and we have two dance boxes at the rear (cubicles large enough to accommodate one gyrating dancer, covered on the stage side by diffusion to give back-lit silhouetted images).

The bands tend to be more lively, with plenty of movement, so there's less need for it to come from the lights. I'll put a 5kW with scroller on the floor to one side and shine it through them to create strong shadows. The third stage tends to be for Indie-style bands for which I'll use a totally different selection of colours to change the flavour. Perhaps some gobos on the cyc and

a Par down in the monitor trough to generate uplighting. The fourth stage is wider, but shallower than the other three; the rear is filled with a line of dance boxes and there's no one specific style of music for this stage, so both the lighting

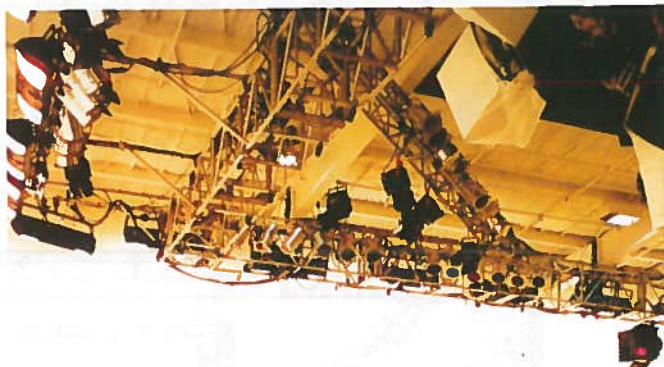
"The studio and lighting design is ostensibly a visual medium - although sound is an integral part - with the lighting and all white set dominating the visual interpretation placed on the screen."

and the boxes are regularly altered."

The whole studio, a modern industrial unit in West London, is filled with truss and lights. The perimeter is lined by 56 top-mounted four-cell cyc lights and a criss-cross of trussing (400ft plus) above the five playing areas holds 24 Icons, 18 Washlights, three Cyberlights, over 200 Pars and a large selection of 1, 2, and 5kW Fresnels, plus assorted Sils. Everything is controlled from the Icon board. Surprisingly, two circuits on the cyc lights are white, but it is the colour circuits and the effect they can produce that O'Connor is most proud of: "On the Indie stage, I've put a circuit of deep dark golden amber and one of medium blue. Both colours work well on their own, but when run in combination, produce a real lavender on camera. This is useful as a proper lavender gel tends to read more as a blue. Because the change from amber to lavender is an addition not a cross-fade, the transition looks really good on screen because there's no noticeable dimming."

There are, to greater and lesser degrees, Icons above all four stages which are all so close that they can be used across to neighbouring stages, but the roof is low (barely five metres to the truss) and the resultant angle makes this largely impractical. However, the fifth area on the floor, being surrounded, is easily reached by all of them but has its own dedicated grid of key and wash instruments directly above.

The entire ceiling is covered in a white filled cloth, so no matter where the camera is pointed it always sees white. At the behest of director Geoff Wanfor, lamps in shot are avoided as much as possible, so low level camera work is highly limited by the sheer number of lamps in the grid and careful planning has to be made for camera positions. With the floor painted white as well, the amount of ambient light around makes for O'Connor's other main problem.



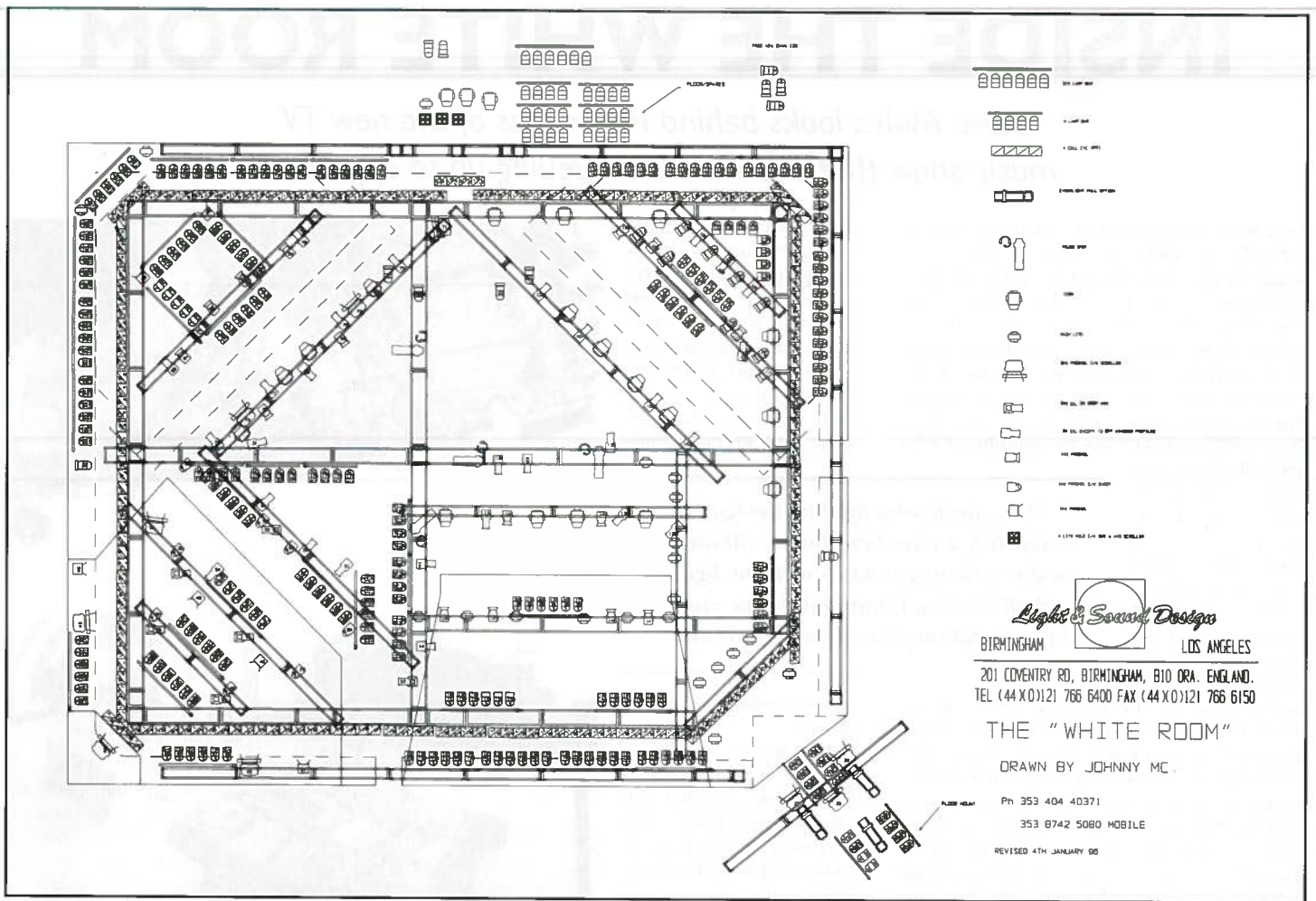
Part of the main studio, with LSD's Icon desk in the foreground.

"The amount of bounced light means it's hard to keep the level down, especially if you're trying to light a moody number." To help give this open floor area some dimension, there is also one break in the studio's encircling cyclorama.

Tucked in one corner at the stage right end of the fourth stage is a floor to ceiling letter 'W'. Cut through the studio wall, the W has Cyberlights, ACLs and three 5kW's behind it to give a variety of beams shining through it that are big and chunky enough to make a backdrop for the centre area. The chamber behind this is the only place in the studio that is blacked out and is thus the only opportunity for O'Connor to get strong shafts of light on camera.

THE RECORDING WEEK

O'Connor normally receives tapes of the week's bands on Monday and Tuesday. By Tuesday night, he will have decided which stage each band will play and what changes he will need to make to specific lamp positions. "I tend to leave the Sils and Windsor 1.2kW's dedicated for key light, so their positions are important. I have also got an underhung Lycian for each stage, but with a camera track all around the floor and a Jimmy Jib swinging around, there's a lot of interference and their use is limited. (On a technical note, O'Connor has come to rely most heavily on the Windsors



Above, Johnnie McCulloch's lighting plot for 'The White Room', with the set-up for Robert Palmer being rigged below.

which he finds are "more consistent and tend to be brighter than the Sil 2kWs". The Windsors are a legacy of LSD's former association with Lumo; the lamps seem to have benefited from good maintenance and light use whereas, as O'Connor explained, "the Sils tend to have come from all different eras, have different generations of reflector in varying conditions, and are wildly different in output." In setting the lamps, O'Connor will also have taken into consideration where the camera placements will be.



His background includes much work as a lighting cameraman and as a director in his own right, so an integrated approach to both camera and lighting is well founded. In fact, the whole White Room team comprises a 'who's who' of music TV ability: producer Chris Cowie cut his teeth on the Tube: stage manager Clive Taylor previously worked on *Wired* (and coincidentally worked with a certain Dave Smith who was lighting crew chief on that show. Dave now manages the White Room contract for LSD, the show's lighting suppliers). Both director Geoff Wanfor and O'Connor worked together on the recent Beatles anthology.

On Wednesday, there is a full crew call for sound and lighting when all necessary hardware will be prepared and stage manager Clive Taylor will come in to assimilate the intended changes. During the day, O'Connor

and his assistant Johnnie McCulloch will run through cue structures and Johnnie will reprogramme the Icon desk which runs the entire lighting system. That evening Chris Cowie will come in and give a full team briefing. McCulloch and O'Connor met whilst doing a double header of Kiri Te Kanawa (for whom the former is LD) and Jose Carreras at the Royal Albert Hall. They have since formed a lasting relationship: "We really hit it off," said O'Connor and then admitted a certain partisan indulgence, "and Johnnie is also Irish which may have something to do with it."

That said, it's been a lasting partnership: they've lit the Virgin 21st Birthday concert at The Manor together and the first series of the White Room. Lighting programming starts on the Wednesday and has to be completed by Thursday night. Rehearsals of the bands also starts on Thursday, and Clive Taylor plans to have at least four of the five acts rehearsed in

the day, leaving Friday morning for the fifth act and any other business.

Part of the pressure on lighting programming stems from the fact that there is no control room with a window on the studio. McCulloch wheels the desk in on Wednesday morning and has to be back out in what is effectively the corridor formed between the cyc and the building wall by Thursday night. Although they naturally have TV monitors out there, the missing third dimension on screen makes plotting moving light cues out of the question. A couple of features of the system control have eased this time shortage - one is the desk itself, and the team have had a second matrix panel added to the Icon console. "I can reconfigure the desk for each of the playing areas," explained McCulloch.

"Although there's no extensive busking in this type of show, the bands do frequently play extra songs and we record everything, so they have to be lit. If we were tightly structured with only definite songs being performed, I could use any desk and just step my way through the cues from one stage to the next. That's not an option when David Bowie adds five songs to his set. By having a dedicated format to the desk for each stage I've got ready access to all the cues and lights specific to that stage. The extra matrix panel expands that facility further and I usually devote all the key-light to one panel with the rest of the system on the other."

Eugene O'Connor has also added Washlights to his rig for this second series which has, in turn, allowed him to drop a fair number of Pars out of the grid - a double bonus. Not only is it fast and easy to tease in a bit of soft colour behind an artiste's head for a close up, but he's also gained more control over the notorious bounce light.

Thursday and Friday are the days when stage manager Clive Taylor earns his spurs. "Thursday we rehearse without cameras, Friday sees the arrival of the Initial TV camera team (Initial produce the show for Channel 4) and the BBC sound mobile." (It is slightly ironic that the 'commercial' BBC have proved most competitive in this area). "Time is your worst enemy," said Clive. "It's really important to have the right people to solve problems. The sound and lighting crews are excellent. Both LSD and SSE know how to provide a service on a budget," a note of mutual flattery that seems to infect all the senior members of the production team and gives an insight to the commitment and enthusiasm they all have for the show.

"Camera rehearsals run from around 2.00pm to about 6.00pm and are followed by the arrival of the 150-or-so rent a crowd who are greeted at 7.00pm in the on-site bar and then enter the studio for warm-up around 7.30pm. Shooting should take from 8.00pm until about 10.00pm, but the enthusiasm of the bands often carries things through to midnight."

For any who think that producers and directors have a cushy life Clive Taylor went on to explain how the recordings are taken away directly after the show, cut to length overnight, edited and mixed, then sound mixed during Saturday morning. The team stay on until the transmission has gone out that night and then eventually fall over after what is, on average, a 40-hour day.

SOUND

SSE have provided all the live sound equipment, a very heavy investment on their part, as Chris Beale explained: "Effectively, we've put in four complete top-line monitor set ups. There is a Midas XL3 appointed to each stage (all 40 into 16s) which will be specific to just the one artiste. To minimise off-board effects we put in 16 channels of TC1128s, the recallable graphics system.

They work really well, are fool-proof, and most visiting monitor men are familiar with them." It's a high dollar approach that underlines why the show has become so popular with bands. What the band hears on stage is really of little consequence to the broadcast sound, but by investing heavily in it,



Dave Smith of LSD cuddles a Washlight.

Chris Cowie has ensured that his artistes are happy, secure and contented in familiar surroundings.

This is certainly reflected in the output. What other music show regularly provokes unrehearsed extra songs from artistes of David Bowie's calibre? Eight 32-channel stage boxes take feed from the playing areas, with further break-out through 24 12-channel remotes. A selection of 160 microphones, plus assorted DI boxes, ensure a full concert-style set up for every band, even if Oasis do turn up with an orchestra. The signals pass through a 32-channel BSS splitter to the BBC sound truck where recording is overseen by Andy Rose an independent engineer contracted directly by Initial TV.

Another independent sound man, Chris Trimby, supervises the floor sound. Like the lighting set-up, all the Midas consoles are tucked away out of sight behind the cyc so visiting monitor engineers are heavily dependent on Chris relaying information to them from the studio floor. He co-ordinates the studio sound, preparing mic' lists and drawing stage plans. Although most bands bring in their own monitor men, he is there to assist and many defer to him.

He is aided by Simon Hodge who liaises with the artistes during sound check. Simon and

Chris use a tool they consider to be essential, a full band PRS radio system with Sony headset to communicate between studio floor, monitor mix position and the relevant engineer behind the cyc. Communications are a heavy part of SSE's responsibilities with feeds to the show director, sound truck, lighting director and Geoff Wanfor. Monitor cabinets, like desks, are in abundance, with 38 Betamax cabinets and 18 MB3 wedges. There is a relatively modest 'house' PA for the studio audience with just three MT4 and MT2s respectively, mixed from a 10-channel TAC board.

The finance and production manager is Lesley Davies, who is responsible for all budgetary aspects of the show from start to finish once Channel 4 have decided what they will spend on the complete series. "I put everything out to tender," she explained. "I'll get three competitive quotes, but it's not just the price that determines the choice. Dave Smith for example, is particularly good at client liaison and he is aware of the budgetary restrictions. In fact, both he and Chris Beale, as well as being charming, have been most accommodating and willing to agree a good price for the service we need.

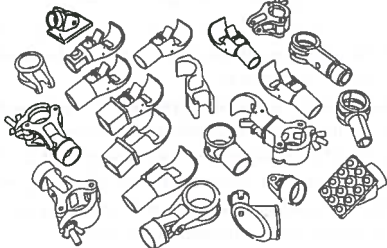
"Providing the same crew each week for the duration of the series is a good example, not spooking people away because some big tour has come up is important to the show. That continuity really helps." Although she wasn't prepared to divulge the overall spend by category, the budget for the series exceeds a million pounds.

The White Room recently won the Live Award for best TV music show. As Jools Holland presented the award to a clearly chuffed Chris Cowie he alluded to the idea that people might imagine he would be a bit jealous because his show 'Later' didn't get it. "People might be expecting a bloodbath over this award," he said. Nothing could have been further from the truth, Chris and Jules are, in fact, good friends having worked together for years on The Tube.

More pertinent is the fact that Chris Cowie believes "competition for programmes like the White Room doesn't come from 'Later' or 'Top of the Pops', it comes from either 'The Antiques Roadshow' or some sad gardening programme." Success, as they say in military circles, comes from knowing your enemy.

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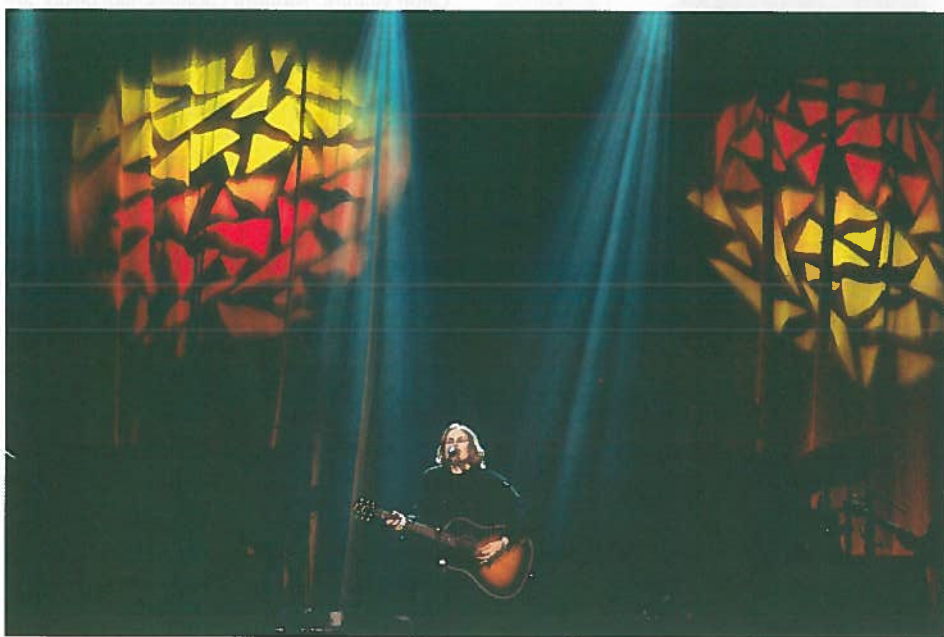


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ON TOUR

by STEVE MOLES

AND PRODUCTION NEWS



Alison Moyet at Sheffield City Hall.

Alison Moyet

Sheffield City Hall

LD: Robyn Jellef

SD: Stuart Kerrison

If imitation is the sincerest form of flattery, then Sheffield is Sincerity Central. Never before have I seen such a concentration of statuesque women with short hairstyles, wearing tented robes and sporting huge brown eyes like Jersey cows. That aside, this sell-out crowd was decidedly of the more mature variety - no young boppers here.

Without a deluge of appearances on daytime TV or trendy pop shows, Alison Moyet has quietly slipped her moorings and comfortably managed a sell-out cruise of the UK (the worst gate was 93%), and this despite a two month hiatus mid-tour to recover from a sore throat. Like Heather Small in M People, Moyet is very much 'a voice'. The difference is in her presentation - that is, Moyet is unashamedly in the spotlight, whilst her band take a back seat.

SOUND

For front-of-house engineer Stuart Kerrison, this is the first tour with Moyet. He has featured in this publication before at the helm of OMD, a band he's mixed for over 10 years now, and he is also a regular for Jesus Jones and Erasure. This tour is musically quite different from his previous clients. "This is more a family show," he said, "and does require a different approach. Especially in the first half, when sometimes it's so quiet you can hear a pin drop."

This gives the first clue to Moyet's presentation, and, incidentally, her range. The two-part show consists of a largely acoustic opening half (though mercifully not quite the voguish Unplugged style. Some electric instruments like Stick Bass are allowed to gently muscle in). The second set is more robust; 'rocky' is not exactly the word, but it is exciting *up tempo* stuff that gets the punters

out of their seats and rushing to the front. Stuart is using an EAW KF850 system supplied by Concert Sound, a rig he is obliged to keep scrupulously clean, and we're not talking about washing the front grill cloths here.

"The system has to be quiet and free of any noise. The first set is so low-level that it puts everything under the microscope. You can't get away with doing anything wrong," he admitted ruefully. "I have a standard set-up for everything; I'm using a Midas XL3 - a board I've used since they first came out - it gives the sound I like and want. For her vocals, I run through a set of gear I find works well for most eventualities. I use a

"Alison Moyet has quietly slipped her moorings and managed a sell-out tour of the UK"

BSS901 into half of a 1/3rd octave graphic and finally into a 402. The 901 gives me selective compression, the EQ I set for that 'in your face' sound, and finally the 402 is for those moments when they give it some serious 'welly'. With her voice I try to make it sound as natural as I can and then ride the fader around a 7dB range."

Moyet sings to a Beta 58; unusually for this class of act it's wired, not radio, just a personal preference on her part. For the first half Stuart was fastidious in making sure every instrument was captured by a mic - jingle poles, maracas, even tiny finger cymbals. This made for a very engaging sound - he put the band right in the audience's laps, and Moyet could have been performing in a smoky little 200-capacity jazz club. The interesting contrast in the second half came not so much from the change in musical style (though as intended it was much 'ballsier'), but in how she altered her delivery. Her voice would swell from its rich, sonorous natural pitch and suddenly crack to a nasal high. The emphasis was all hers and all the better as Stuart resisted the temptation to rein it in, even on the odd occasion when she strayed into sibilance.

LIGHTING

The two styles put similar demands upon lighting designer Robyn Jellef who was wearing two hats on this tour as she is also tour production manager (Robyn and her husband Kim McCarthy run a production service - True North - out of Millennium Studios and no, it has nothing to do with a demented Mountie who thinks his pet husky is a wolf). There were no production rehearsals for the tour, a personal thorn in Robyn's side as she so accurately observed: "What's the point in hiring the best technology and not allowing the time to get the best out of it?"

She did, however, manage to squeeze one day in LSD's shop to programme her show, but to further complicate the situation, she travels with the band and doesn't arrive until mid-afternoon, leaving little time to build her show, especially crucial on those first few dates. Fortunately, she has worked with Moyet for 18 months now and knows the songs well. She is also well supported by her crew - Simon Harraghy and Frank Shields especially - who have focused and plotted her base cues for her on respective legs of the tour. The rig is a simple trapezoid grid, short side upstage, with a curved pipe out-rigged to give a semi-circle of drapes around the back and sides. Drapes and borders are all black velvet with four eight feet wide gold velvet legs overlaying the back cloth, making uniform stripes.

The major lighting emphasis is on backlight: there are just two Icons, two Washlights and four ellipsoidals on the downstage truss of the grid. Upstage and sides hold a further eight Icons, eight W shlights and two more ellipsoidals focused wide and soft on the central vocal position. On a historical note, the Washlights are the first of these lamps seen on tour in their full production version (the ones featured last summer on Bon Jovi were prototypes). Robyn's stated design intention was for "lots of shadow and intimacy. Moyet's always extremely visible, but the band have to be lit more indirectly."

The show is very theatrical - that is, there's plenty of drama conveyed by the lighting. The gold velvets take colour wonderfully, and what a pleasure to see a different fabric on a concert stage for a change. The groundrows at the foot of each leg worked especially well, bringing not only changes in colour, but also highlighting the drape's luscious texture. To be honest, I forgot the Washlights were there until the twelfth song, when Robyn finally moved them for effect, restricting them to a mainly functional role on the band most of the time, though she did alter focus between songs once or twice. Icons were her main workhorse: "They have the scope and flexibility to be as subtle, or as rocky, as I want for this show," she added.

And, true to form, the opening acoustic song, 'First Time', saw just a pair of rotating gobos in magenta playing across Moyet's head, but by the time we were into 'Chain of Fools', the full gamut of expanding beam size, colour change and plenty of movement were all brought to bear.

This was a show that caught you unawares: variety in depth, strong performances and well-matched presentation. Whatever this slightly nery yet engaging woman from Essex may lack in media exposure, there is decidedly no lacking in the devotion of her fans or the quality of her musical output.

M People

Sheffield Arena

LD: Patrick Woodroffe

SD: Ray Furze

There's no doubt about it, Heather Small, lead singer of M People, has the most astonishing voice. Coupled with her undoubted good looks and vivacious stage persona, it's not surprising that fans tend to view the band through her. With such talent in abundance it is arguable that she will, following in the footsteps of such as Aretha Franklin, be around for many years to come. Whether the band will sustain their position alongside her is another matter.

LIGHTING

The lighting and set design is a collaboration between Patrick Woodroffe and Jonathan Park, this prestige team having been brought in by Park Rock Management, who had sampled their prowess on AC/DC - another of their acts. The integration of the two elements, set and lighting, is barely apparent on first examination.

The stage is dominated by four vertical, curved and dagger-thin fins, which define an imaginary dome above and behind the playing area. Each fin has three VL5s and VL6s, a Dataflash and two Pars with Colormags as toners. The most striking element of the set is its absence; there is little in the way of stylised risers or embellished and themed posturing platforms to clutter the playing area (a not inconsiderable achievement when you count the 11 musicians on stage). There is a modest raised rear area of three levels that covers the full width of the stage. Nicely understated, it accommodates seven of the musicians comfortably, leaving the fore-stage to Heather and 'Mr M' Mike Pickering, plus the two guitarists - Dave Lytle (lead) and John Fortis (bass).

Lighting for the stage comes from eight VL2Cs and six VL5s on a front truss, with a curved truss holding 10 VL2Cs and 12 VL5s in the mid-stage position. A further six 2Cs and 48 ACLs hang from a house truss above the console position. The truss is the key to the delivery of this show; from the moment the doors are opened, the house lights are at half, and the 2Cs are panning around the hall. At the console position is a DJ with full turntable system (and four Pars on himself) who works continuously, both pre-show and between support and main act. The concept is dance hall and it works - by the time M People hit the stage everyone in the place is jiggling about.

John Sinden runs the show from an Artisan,



The Woodroffe/Park collaboration for the set of M People.

although he does run both scroller and Dataflash control separately. He had been working for the band for well over a year when Patrick and Jonathan were brought in. Patrick opted for continuity in keeping John, who not only knew the material well, but has a strong reputation of his own for design work. John explained the relationship as straightforward and fertile: "Patrick concentrated on the set and lighting concept, I chose the lamp positions. The rig offers a lot of options: on the world tour last year, we had a basic 196 cues, but for this show, Patrick and I made the big looks and then I filled in the detail. We now have 391 cues."

John has found the inclusion of nine Vari*Lite rotating mirrors (VLMs) in the rig amusing: "They are one of my favourite new toys. If you want completely unpredictable beams all over the place, then they're the thing." He also finds the dance hall concept advantageous in a couple of ways. "The pre-show semi-darkness softens the austere surroundings of the average arena, making for a cosier atmosphere. It also makes the pupils of the audience's eyes dilate. When the band come on and I put up the first big look it really hits them."

Lighting style is determined by musical content - the set list is compulsively danceable, and lit accordingly. 'Renaissance', the third song of the set and a typical example, saw the band lit in rich mauves and magentas, while distinctly separate beams of open white and yellow played across the fore-stage. The lighting is restless, with only the occasional instrumental passages giving pause to the constant changes in colour and position. Much use is made of the lights on the house truss, not for every song, but on occasions, along with sweeps from the stage rig, out into the audience.

The lights were not essential as a visual entertainment, as this is not a show you watch, but one you essentially take part in. Every last one of the audience at Sheffield, right up into the

debenture boxes in the Gods, danced the whole night away in what was obviously a joyous musical celebration. The lighting was in no small way responsible for setting and sustaining the tone without being so striking as to stop them from their gyrations.

SOUND

Changes, though less radical, have also taken place in the sound department for this tour. Ray Furze, the band's long-time sound man is still in place, but an unexpectedly busy autumn for Wigwam has meant they have had to hand on the PA honours to a Turbosound system from Britannia Row. Heather's voice is obviously a big consideration for Ray, not just for its unique quality, but because she is venturing down the path of in-ear monitors for the very first time, and this is affecting the way she projects her voice.

"It's taking her a while to get used to them," he explained. "Because the system compresses the sound she listens to, she does have a tendency to 'over-sing' and her voice is already very powerful. We also tried using a Beta 58 mic (all vocal mics on the tour are on the Shure radio system), but the compressor in the cap seemed to be clipping. I haven't been able to isolate exactly what the problem was, so I've reverted to the standard 58 and the problem has disappeared."

Ray uses every channel on his Yamaha PM4000 and has to resort to a small rack-mounted Yamaha extension board for the occasional gig where a choir is brought in to augment a couple of songs and consequently the channel count rises to 64. His favourite effect is currently the TC Electronics M5000 reverb: "It's a great sound and you can programme it to do virtually anything. It has a Lexicon 480 sound that's as good as the original".

Every show is being recorded on a set of the increasingly popular Tascam D88s. The 40 track mix has already been used on five of the tracks on the new 'Bizarre Fruit II' album. The discipline of recording live from the house mix desk may have given added stimulus to the attention Ray paid to his mix. Despite the large number of musicians and sources on the stage, separation was excellent.

At the risk of sounding ungrateful, this clarity of mix did accentuate how thin the more mediocre numbers seem, but, as their list of hits gets longer and longer, this will cease to be a problem. And therein sits the key that brings the lie to M People being just a vehicle for Heather Small. Quite apart from her extraordinary voice, Mike Pickering does write some excellent dance songs - not bad for a former stage hand at the Manchester Apollo!

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AGOG IN THE STALLS

What is it about the circus that turns us all so easily into small children? The main reason must be the quality of sheer amazement that good circus provokes. ("How long does it take to write 'Ooh, aah?'" wondered one critic aloud, as a more harassed colleague dashed out early from the first night of *Saltimbanco*.) Another big factor is the involvement of the audience, a task which is usually helped by the chivvying of clowns in various forms. A more hidden cause, but to my mind almost as important as these other two, is the nature of the space.

True circus, as its name tells us, took place in the round, yet it must always have had something of a frontal focus. Even if the lions didn't particularly care whereabouts in the arena they got to chew on their joint of Christian, the Roman gladiators would have made sure they did their best fighting in front of the Emperor's box. Hence the beginnings of the thrust stage, and the feeling of the wrap-around audience so beloved of popular theatre practitioners.

These musings spring from a few recent outings to thrust-stage shows, two of them in fact circuses. I was struck as much by the technical skills on show as by the spaces themselves, all of which added to audience satisfaction by their almost subliminal historical associations. Up in Camden, for instance, the Round House was home at Christmas to the *Chinese State Circus*, more specifically the Changchun Acrobatic Troupe. This was practically the last show to be presented in a building which, in a relatively short time, has built up a very special image as a performing space. In the sixties and seventies it housed radical and hippy shows, from Ariane Mnouchkine's 1789 to Ken Tynan's *Oh Calcutta*, and its capacity for thrust or in-the-round staging made it specially suitable for that great forerunner of today's animal-free circuses, Jerome Savary's *Grand Magic Circus*.

Now here were the Chinese, their unassuming traditional ring fitted up in a building soon to be lost to theatre as an architectural library. There wasn't much sign of the millions spent in the last abortive attempt to make the Round House an arts centre, but at least the red-brick shell looked a lot cleaner than before. Most of the audience sat on tiered temporary seating in a near circle, say 300 degrees, behind the columns which had usually marked the auditorium boundary for the Royal Exchange and other former visitors. This left a big airy space for the banner-balancers, bungee-jumpers and trapeze artists of the Changchun troupe, and made you realise just what a great circus space is about to be lost.

Production values in this Chinese take-away of a fit-up were not the strongest point. A single lighting and sound operator controlled a rig which consisted mostly of batches of five primary-gelled spots hung round the outer wall at intervals. A few specials in the ring itself pointed up the roof for the aerial acts, and the plotting highlight was the use of four UV floods to lend the atmosphere of a cheesy night-club to a very historic and beautiful dragon dance.

Much of the best work was done by two intelligent followspot operators. As for the costumes, the advent of lycra has not brought out the best in Chinese costume designers - I'll say no more than that. Yet it didn't really matter, because the quite breathtaking skills of this highly talented troupe carried the patchy audience all before them. The sizeable band, playing unamplified Chinese instruments and always ready with a traditional drum roll, lent constant support.

It was a fascinating contrast to turn up a week later at the Albert Hall for the technical wizardry of *Saltimbanco*. As Rob Halliday explained so well in the last issue, Cirque du Soleil shows are stunners, and this version,

in a rather more formal setting than usual, proved his point. It was like seeing the Changchun troupe writ large - westernised, prettied up and overpainted with every conceivable electronic and visual aid. The



The visually and artistically stunning *Saltimbanco*.

"How long does it take to write 'Ooh, aah?'" wondered one critic aloud, as a more harassed colleague dashed out early from the first night of Saltimbanco."

semi-pro Chinese band was replaced by a superbly competent rock group, its synthesisers and guitars backing raunchy saxophones to deliver a proper score that gave far more sophisticated bite to the still-essential but cleverly disguised drum rolls. Add to this well-mic'd vocalists reaching (as far as one could tell) every corner of the notoriously difficult Albert Hall space with clarity and ease (though since the words of the songs were written in an evocative, but completely made-up, nonsense language this wasn't essential). The Round House's ring of primary gels was echoed, but upgraded a thousandfold, and the followspots were still the most important part of a lighting plot that could play with 144 touring ways. A laser-like feel came from the sweeps, with wonderfully effective beam and colour control, of what I take to be a handful of Superscans mounted behind the band. Superb costumes converted the dreaded lycra from the tired athletic support of the Round House to a new and glorious way of painting the body.

Yet when it comes to the crunch, when the twittering clowns are still, perhaps the greatest moment of the evening comes when a solitary girl on a high wire, who has walked to work like most of us, except that she has done so up a 45 degree rope, gets out her unicycle to ride across the ring, 50 feet up. She's small, alone in her spotlight, surrounded by a rapt audience in a

wraparound space, and everyone's concentration is beamed to her. By something more than coincidence, this key member of the multi-national Cirque du Soleil is Changchun trained.

A week later there were further contrasts in another fascinating found space. The old swimming pool of the Bridewell Institute off Fleet Street has been covered over to make a decidedly flexible Fringe space. For her production of the Broadway musical *Damn Yankees*, Carole Metcalfe was able to open up enough of the pool to tuck a (musically and physically) very well arranged four-piece band and director into the shallow end. There was also room to put in a mini-scissor lift just big enough to allow the show's Mephistopheles figure to pop out of the stage. No thrust stage this time, just a big green acting area as large as the block of tiered seating that faced it. Its depth gave great space for a large cast to engage in ambitious dance routines, yet its overall intimacy - plus very clever use of the band - meant that not a single mic was necessary. A big downstage area, plus plenty of action on its surrounding balconies, presented no problems to Andrew Howick, who produced some very varied and well-established lighting states with what I counted as less than 40 lanterns.

I wanted to see more circus last weekend in Paris. The talk of the town is Bartabas's Zingaro troupe in *Mystère*, a gypsy horse spectacular with authentic Rajastani musicians adding atmosphere. However, when I turned up two hours early at the abandoned film set on the edge of town where the company is encamped, there was no sign of life nor box-office; 90 minutes later there was a full house, a returns queue round the block and one of the most unhelpful, unflappable company managers I've ever met.

Better luck, with tickets at least, came with Peter Brook's *Bouffes du Nord*, another very atmospheric reclaimed space in an odd part of town. The French do this rather well: Ariane Mnouchkine has come a long way from touring to the Round House, and now she has a huge performing space in the converted Cartoucherie out in the Bois de Vincennes, which is home to three or four other companies each with their own fine hall. The authorities spent millions on the conversion, and Mnouchkine's

Theatre du Soleil gets the kind of subsidy that would make an English company drool. So does Peter Brook, and it's amusing to see how the Bouffes du Nord, an old comic opera theatre with faint echoes of Stratford East in both its location and its ambience, maintains its elegant air of studied poverty.

In *Qui Est La?*, Brook's game-playing with Hamlet, we have only a square platform, set in what were the theatre's stalls, with the whole stripped-down pros arch and back wall clearly visible. The carefully distressed coats of paint from former times are a design feature - one can imagine them being touched up regularly. Like so many Brook shows in this theatre, a lot of his work is done by the space. The audience sits on comfortable benches around what has become a thrust stage in the pit, and the feeling of collusion with other audience members, as well as with the actors is, as Iain Mackintosh will tell you, very effective.

The evening was, like the theatre itself, a piece of careful artifice pretending to be very simple. From full, innocent stage lighting - almost worklights - in which the actors assemble and start the piece, Jean Kalman takes us subtly into prepared states for the potted version (all the big speeches) of Hamlet which is the meat of the evening, garnished with little lecturettes drawn from some



Daniel Brown as Young Joe and Jill Martin as Meg Boyd in *Damn Yankees* at the Bridewell Theatre.

great 20th century dramatic theorists, which offer the actors a chance to show off their favourite pieces of schtick - real tears and so on. A discreet musician at the side of the stage is just as important as Changchun's band or Cirque du Soleil's rock group in supplying the dramatic equivalent of drum rolls: look at this word-juggling, look at this high-wire movement technique, look at this emotional bungee-jump.

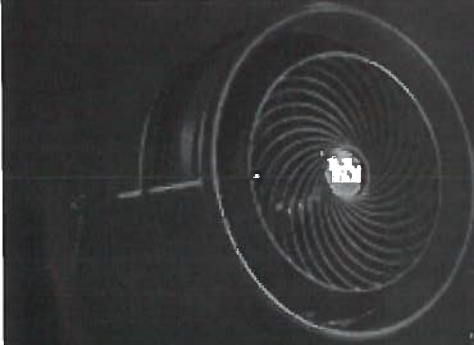
Technically, it all works a treat, but overall it's a thin show, not much more than a drama-in-education tour of *Elsinore*, in which the Act V pile-up of bodies is genteelly skipped. If you really want to know about rehearsal approaches to *Hamlet*, and get some deeper insights into how an actor prepares and what makes a show go on, you'd be better off at the movies seeing Kenneth Branagh's lovable luvvies in his *In the Bleak Midwinter*. Techies who've done shows in abandoned churches will enjoy the memories it evokes of eight dimmers and a rogue smoke machine, though they may feel cheated by the miraculous intervention of two, if not three, followspot operators to give lift to the triumphant performance which climaxes the film. Were there drum rolls too? You bet there were.

Ian Herbert

Ian Herbert is the editor and publisher of the critical journal, *Theatre Record*.

Come - See The Light!

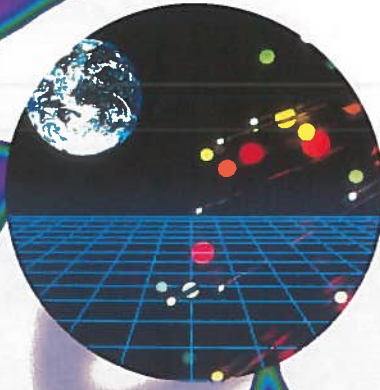
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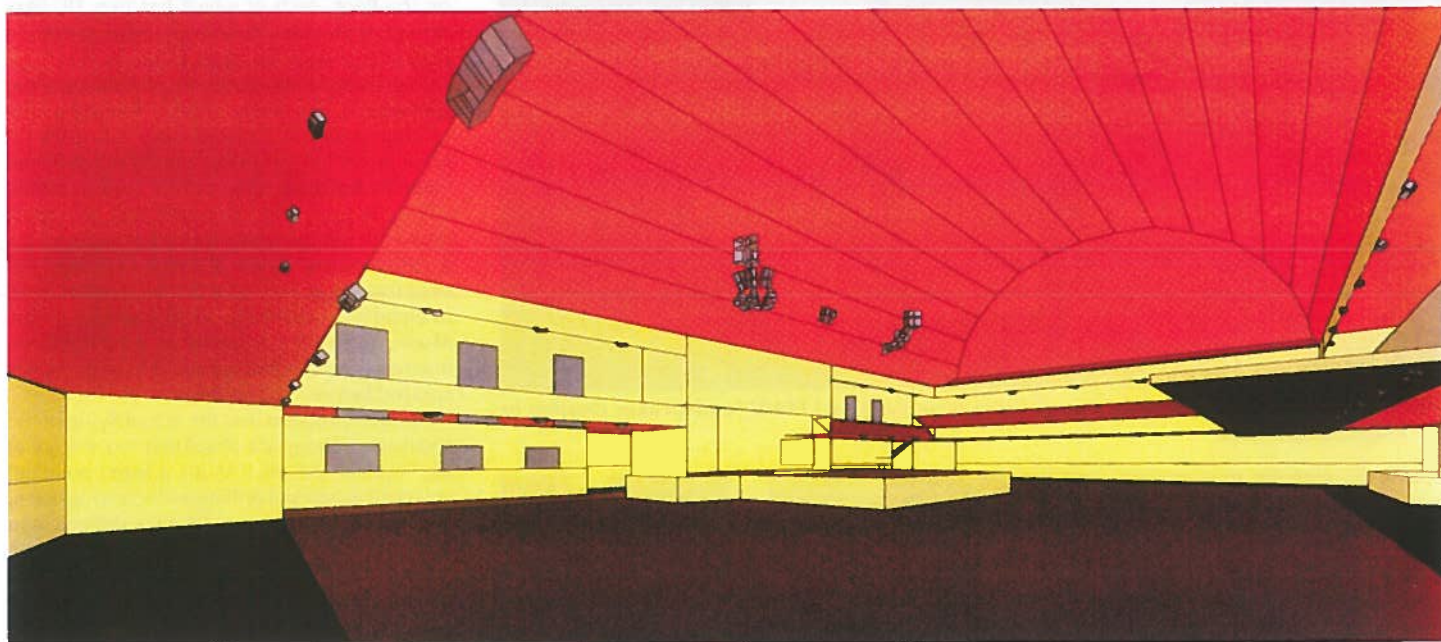
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MAJOR LEAGUE SOUND

Mark Cunningham visits the Winter Gardens in Blackpool to discover how its owners safeguarded its audio system investment before the first loudspeaker was installed



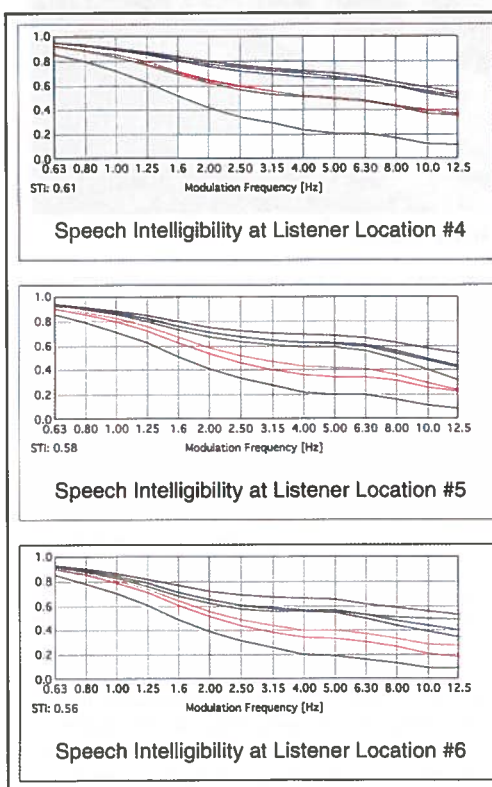
The Bose sound system design for the Conservative Party conference at the Winter Gardens (above) and speech intelligibility tests (below).

How does one know how a sound system is going to perform in a large hall before an investment is made and the equipment is installed? It is a question which must have crossed the minds of thousands of venue owners as they opened their cheque books. It was certainly an issue high on the First Leisure Corporation's agenda when it came to replacing the audio facilities at the Winter Gardens in Blackpool, the multi-purpose conference and entertainment venue it has operated since the mid-1980s. The answer lay in virtual sound demonstration technology.

Being invited to install a new sound system in a large, acoustically-unfriendly building will always present a few headaches to even the most experienced design team. When the building in question is the 100-year old Blackpool Winter Gardens - the traditional Lancashire home of seaside music hall and wartime ukulele legend, George Formby - it can trigger an acute migraine. But the interaction between loudspeaker manufacturer, Bose, installation team, The Music Company and the First Leisure Corporation, transformed this acoustic nightmare into a showcase of audio excellence - if not fit for a king, then certainly a Prime Minister.

By 1994, First Leisure had decided to replace its ageing sound system and a routine demonstration by Bose of its new Panaray LT (long throw) loudspeaker range at the venue's Empress Ballroom prompted the owners to make an overall audio system installation investment of £300,000 much earlier than they expected. Bose's business development manager, John Sabell explains: "The Empress Ballroom is a notoriously bad reverberant space and anyone in the audio business is immediately faced with an enormous challenge.

"We brought over our LT demonstration equipment from Holland, along with a couple of engineers, and set up one system using the 3202 LTs down the length of the room to



simulate a speech reinforcement scenario, and at another end of the room we simulated a small discotheque environment where we used a mixture of our basic 4402 and 1802B bass modules. By chance, one of the First Leisure executives walked in on the demo and was so impressed, particularly with the quality of the bass sound, that we were asked to put together a design proposal for the venue."

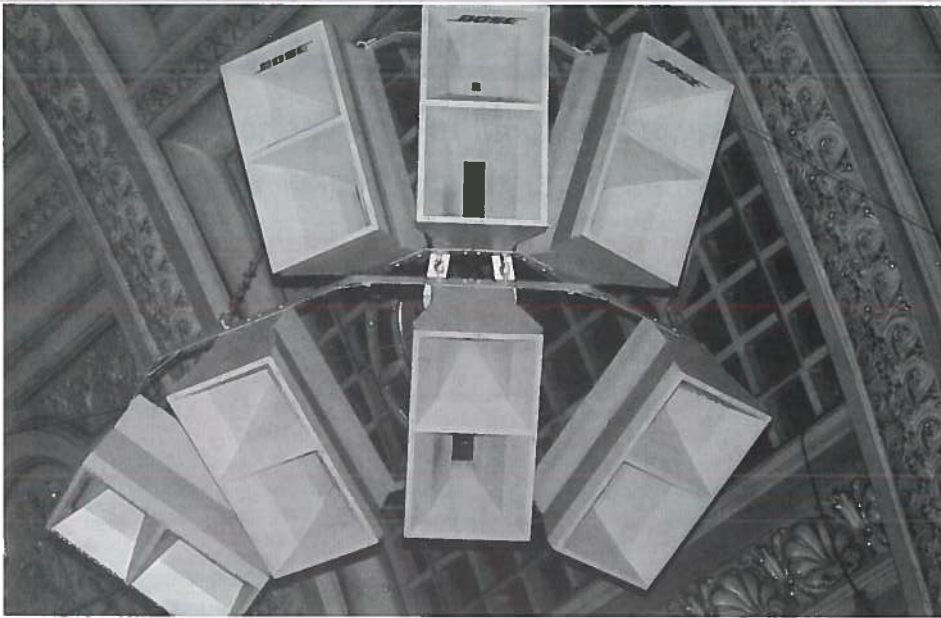
PASSING THE AUDITION

In such a large live venue it's not practical to perform a full, physical demonstration with flown speakers, and this is where the 'virtual

sound' characteristics of Bose's new Auditorer demonstration software came in. Sabell comments: "Javier Flores, the designer from Bose Europe, came over and was able to plot very accurate reverberation times within the listening space itself. This information was allied to us having access to the original construction drawings and a full list of finishes within the room, such as timber floors, seating and wall finishes, and we transferred all of that data into our computer design system, Modeler. This system enables us to plot many of the characteristics of a speaker's performance, but does it in a second dimension to allow a non-technical person to assess various coverage parts and show intelligibility, but it isn't always the best method of presenting this information. Fortunately, last spring we introduced Auditorer, an Apple Macintosh-based system, which is a significant progression from Modeler."

The actual demonstration witnessed by First Leisure's executives involved a desk-mounted audio playback system and a computer monitor which displayed a model of the Empress Ballroom and its various listening points. Despite being completely static, the listener can choose which listening points he wishes to 'experience', and an accurate simulation is demonstrated through the playback system. It all seems a little far-fetched, doesn't it? But hearing is believing, as they say.

"They were able to actually listen to the sound system in this space before a single box was even installed," says Sabell. "We picked out several positions in the room - balconies, under balconies, centre of the floor, edge of the floor - and programmed that information into Auditorer. A request was made by one of the executives that he would like to change some listening positions to areas of the room which we had not programmed in. With a little number crunching on our part, he was able to listen to those sounds. By now, the executives were completely aware of what they were



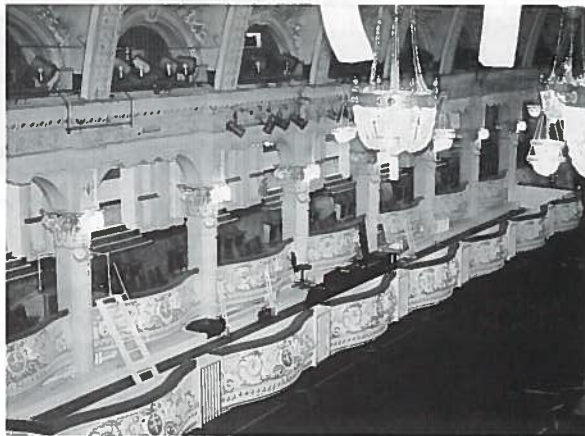
The Winter Gardens, Blackpool - one of three Bose Panaray LT4402 loudspeaker clusters in the Empress Ballroom.

potentially entering into and we were asked to proceed to the next stage."

But exactly how confident can a potential client be of the similarity between the virtual and actual sound? "We do guarantee that once you have heard Auditorier it will be representative of what you will hear in your space as and when the project gets the go ahead. That is the basis of the Bose performance guarantee - one which has been checked and validated from a legal standpoint in 35 countries. A company of our standing cannot afford to make sweeping claims without fully substantiating them."

First Leisure's technical services manager, Martin Tasker, was mildly sceptical about the authenticity of the Auditorier demo, but now admits that his fears were unwarranted. "You really do get what was heard in the demo, it's quite awe-inspiring!" he says. Sabell adds: "In August '94, Shaun Doyle, the technical services director of First Leisure, and I attended a pre-launch of Auditorier in Minneapolis and he was completely sold on the concept. He told me that once his organisation had a project where the technology could be verified, then Bose would be given the opportunity to do so. He was aware that it would be extremely valuable in convincing the other executives that what we had presented to them on that particular day in terms of a scheme and solution for the Winter Gardens was real. I know that a number of other manufacturers are attempting to go down a similar avenue to present their products, because it is a very convincing sales tool."

Sabell is eager to point out that Auditorier does not create a phantom picture. It is the real deal. "It's a realistic representation of the room in terms of its design, its physical structure and the volume of the space itself, so you are entering into your design when you are creating the room within the Modeler file. You are putting in all the dimensions that are known, such as the height, floor variations, finishes, and these are the critical things. If the floor is supposed to have 3,000 bodies on it, we can put them in there to give an impression of sound absorption. It really does allow us to



The ornate Media Balcony.

design some of the best sound systems in the world."

Vital to the project and Bose's communications with First Leisure was The Music Company, which has worked with the Winter Gardens' owners on audio installation projects since its formation in 1986. Director Miles Marsden explains his company's role: "We have used a lot of Bose equipment over the years and the name was an immediate consideration, along with one other large loudspeaker manufacturer, when we first discussed a replacement sound system. We initially put our ideas together around Martin Tasker's wishes and specification requests, after which it was in Bose's hands to design a system which would meet all the requirements. We designed the remaining satellite systems, the switching, patching controls, and did all of the on-site engineering and flying of speakers. So it was up to The Music Company to make the project work on a physical level."

LOUDSPEAKER CONFIGURATION

The three main clusters in the Empress Ballroom consist of 18 Bose Panaray LT4402s - a 40 x 40 dispersion, mid-high, long throw box - first used in Europe at Tottenham Hotspur FC and the Heysel Stadium in Brussels. The two outside clusters are identical with four boxes on the bottom row and three on the top row, and the centre cluster has a 2+2 LT4402. This takes care of the mid-high frequencies for coverage over the main dance floor, and it is supplemented with four Acoustimass 502B

portable bass modules situated in the organ loft for the majority of speech applications within that main listening space. For peripheral sound around the room there are 62 Panaray 502A boxes which is a very wide dispersion product (120 x 70 beamwidth) for speech reinforcement when it is used in an array. The other elements are four LT1802 bass modules on the floor, each of which has two 18" bass drivers to provide a full-range music system in conjunction with the other LT boxes.

In this very ornate ballroom, the colour of the speakers is absolutely critical. Normally, the LT4402 comes in a black finish, but to fly 18 black boxes in here would not be suitable, and certainly not acceptable to First Leisure. Sabell adds: "It was very important that the black boxes did not dominate the ceiling because it's a 100-year-old, Grade II listed building, and even though sound is critical, the speakers need to blend in aesthetically. Miles Marsden of The Music Company sourced a less intrusive magnolia paint so that we could have the boxes sprayed before installation."

Another problem was the actual flying of the speakers. "There are absolutely no fixings at all," explains Sabell. "As it's a listed building, you can't go around drilling and screwing holes, and that made the flying a lot more difficult than it needed to be." Miles Marsden adds: "Bose specified the exact position of each loudspeaker within the cluster and the positions of the clusters, and we were 500cm out on height. But to go from a computer screen to physically installing it in a three-dimensional space and be only 500cm adrift is a pretty amazing achievement!"

Sabell stresses the importance of the peripheral system. "Although one can be over-awed by the extent of LT boxes in the three clusters, as far as carrying the intelligibility without raising their SPL, a good quality distributed system was going to be paramount to the operation. So the 502A became very important, and whilst we recommend vertical mounting to provide a 120° x 70° beamwidth, we had to mount it horizontally for aesthetic reasons, giving us a 70° x 120° beamwidth. We are getting some reflection from the ceiling, but that is counteracted by good front to back coverage in the deep balcony areas where the seating is slightly tiered."

CONTROL ZONE

Apart from the Empress Ballroom, the Winter Gardens also has a large number of satellite conference and meeting rooms, all of which are linked to a central audio-visual control room. When a Conservative Party Conference is in progress, for example, the Prime Minister's address can be routed to the satellite areas via an Allen & Heath monitor board. Alternatively, a small fringe meeting can be broadcast to the main auditorium.

"At the end of the day, we are using just a big matrix board," Martin Tasker explains. "Everything goes through a massive patchbay to give us access to everything in and out, and we have a bank of cassette machines to record any of the meetings, whether they are in the auditorium or in the smaller rooms. The recording console we use is a Midas Pro 4, which for many years was our front-of-house board. We can use the sub groups and get one input, then distribute eight or 10 outputs to 10 different machines if required."

A number of BSS active signal splitter units are in use in the control room, at the front-of-house mixing position and backstage. Tasker continues: "Adjacent to the control room is the main BBC radio broadcast room, and we

often send or receive feeds from each other, so we use the active split to give us the separation between the two sets of signal lines. They use a generator, on a completely different phase to us, so we alleviate any hum problems by using the BSS active split."

Also controlled from here is background music from the DMX system. A total of 90 different channels of continuous, segued music is available via the Astra satellite and fed to the various rooms and areas of the Winter Gardens.

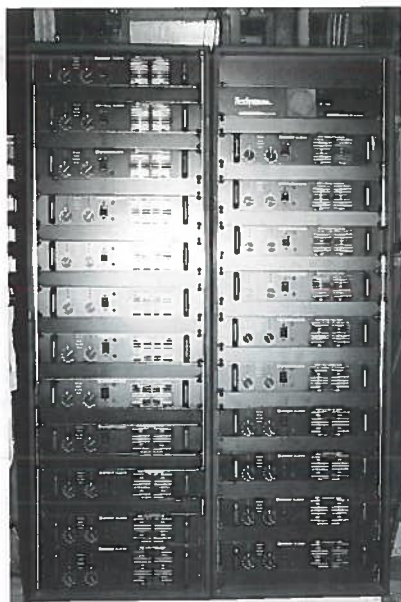
MIXING ON THE MEDIA BALCONY

Situated in the Empress Ballroom's Media Balcony, the mixing console and associated control systems are on castors to allow free movement around TV camera crews who may require access to the centre of the balcony. After considering a number of console options, a 24-channel Midas XL200 was chosen for its reliability, quiet operation and engineer-friendly layout.

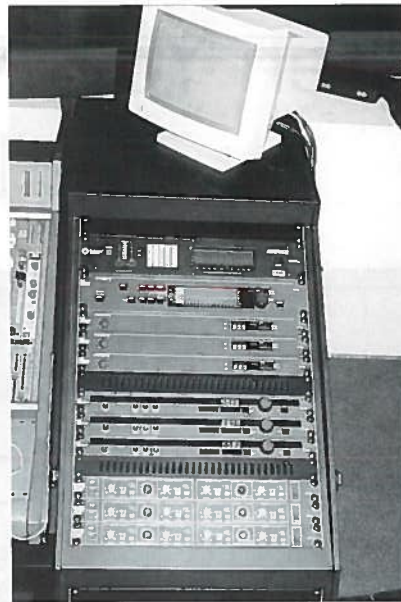
To the right of the XL200 is a Sabine anti-feedback device which, Tasker explains, has an effective application in the ballroom. "If there are 3,000 people in the auditorium listening to John Major's speech and two-thirds of them leave when he has finished, the room acoustics will have changed dramatically within seconds. But the Sabine will look at the frequency bands and maintain that vocal quality within the auditorium, even though 2,000 people have just walked out."

There are eight separate delay zones and the entire outboard processing is driven by Crest Audio's NexSys, which communicates with the amplifiers, delays and BSS Varicurve via MIDI. Contract co-ordinator, Shaun Hardcastle of The Music Company, says: "NexSys is used in this environment for adjusting the levels and amounts of speakers which are running at any one time. It considers the peripheral sound as two large zones and splits them into smaller zones, adjustable either individually or as a group. The same applies to the clusters which are zoned into three blocks. Being a multi-purpose hall, we have to configure it in a number of different ways to deal with its various applications."

One particular time-saving feature of NexSys is its ability to instantly recall previously approved speaker configuration settings at repeat events. These configurations are generally specified as: a) conference speech reinforcement (three clusters, the 502A peripheral system and 502B bins in the organ loft to add vocal bass); b) ballroom dancing with live music (three clusters with the peripheral system as required, plus the LT bass modules positioned at the sides of the stage); c) exhibitions with background music and announcements played over the clusters and peripheral system.



Above left, the backstage amplifier racks consist of 22 Crest Audio 4801, 7001, 3301, 6001 and 8001 amplifiers. The NexSys Supervisor controls the amplifiers by connection of a simple D-lead ribbon cable. Above right, the right-hand rack, complete with Sabine anti-feedback device and BSS Varicurve and delays.



To the left of the Midas console, to aid flexibility, is a large patchbay carrying microphone lines from the stage, lines back to amplifier racks and the stage, and more than 20 lines going to and from the main control room. Tasker comments: "If we were to lose the Midas, we could operate it from the control room and keep a show running just by cross-patching the tie lines in the time it would take for a conference tea break." The outboard racks include a Drawmer compressor/limiter, used on inserts. This functions as a convenient device for safeguarding the system, as Tasker explains: "If a DJ comes in with his system, but doesn't want to bring his loudspeakers, we will allow him to patch into our system, but only through the Drawmer to ensure he doesn't damage anything by overdriving."

THE FUTURE WITH AUDITIONER

With Auditioner as a veritable marketing weapon, Bose has the ability to design and put forward a proposal for any large space that requires sound with even coverage, the appropriate SPL and good intelligibility. Sabell says: "Providing we have sufficient information regarding acoustically reflective and absorbing finishes, a developer can hear precisely how the sound system in his shopping mall, theatre, arena or stadium will sound before he commits himself or his client to the next stage."



The Midas XL200 mixing console.

When competing in a tender situation against rival loudspeaker manufacturers, Sabell regards Auditioner as the ultimate tie breaker. "At the outset of the project, First Leisure clearly made us aware that we were in competition. Without doubt, it was Auditioner and the allied performance guarantee which cleared the path for us."

Bose also gave a recent Auditioner presentation to London Underground, which is currently considering an audio installation for its Jubilee Line extension. "From an audio point of view," explained Phill Coe, manager of Bose's Professional Sound Division, "one is fighting against the odds to achieve a high level of intelligibility in a tube station. London Underground were taken aback by the opportunity to listen to a sound system before it is

installed, particularly as safety and intelligible voice evacuation are now of paramount importance."

A forthcoming Auditioner presentation will be at the £50 million Royal Armouries Exhibition Hall in Leeds where, despite its relevance, very little architectural consideration has been given to acoustics. Sabell says: "It is a self-financing enterprise, and because of the enormity of the investment, the space will also need to be used for revenue-generating conferences and functions."

"We have already produced a model which proves that, because of the hard floors and other highly reflective finishes, no matter which products they install they will experience problems. We have now made some acoustical treatment suggestions and involved The Music Company to assist with acoustic banner placements. Once that is done, we can go about giving an Auditioner demo based on those treatments."

Outside Europe, in the United States, Auditioner has played a major role in many key venues, one of which was the United Centre in Chicago, where the acoustics were so acutely poor that a certain major artiste refused to perform and the venue was closed down so that owners could attend to the problem immediately.

"We were called in to try and solve the problem, which we have done with Auditioner," confirms Sabell. "I think this technology is creating an opportunity for Bose products in markets where we did not have a previous track record, certainly within the UK and Europe, but it's a whole different ball game now."

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SECOND TAKE

John Watt's View from Beside the Camera



A good friend of mine, the talented lighting director Bob Hyde, wrote an article for the *STLD* magazine a year or two back, which discussed how you arrive at the rate for the job - a vexing question which exercises the minds of the freelance ranks more than somewhat.

Those few pages have become almost the standard work on the subject, but they don't tell you how to get the work - even the candid Bob isn't going to share that secret. Occasionally, a job gets passed on - a mark of true friendship, rather like sucking the snake-bite venom out of someone's bum or giving away your last drop of WD40. Otherwise, you're on your own, and if you're not flavour of the month you must rely on photocopies of hotel registers or giving £10 notes to production managers.

But why has my mind turned to sleeze? I think it was the appointment of Christopher Bland to head up the BBC, which made me wonder if a few hundred more production people would bite the dust in yet more cost-saving measures to provide even more outrageous golden handshakes to executives as they ride the management merry-go-rounds.

Among them there will surely be the odd lighting man brought up in the BBC tradition; monthly pay chit, Evesham, free Radio Times and pride in the job. Welcome to freelancing: the word you are now looking for is 'versatility', wherever you've appeared from.

A job I did a few years back says it all. I was asked to light a series of half-hour interviews with outstanding women - simple talking heads against a cyc, and three cameras in a small fit-up studio in the North of England. The engagement was as lighting director, but there were to be no sparks, just me. So far, so good: the studio boasted a few fixed lighting bars in the wrong places and too high, so the first few hours were spent in scaffolding mode, putting standards down from the existing rig, and then some cross barrels. Another pair of hands would have been useful, but after a few hours my grid was up.

Sammys delivered the lamps and a small dimmer and distribution system. By late afternoon I was able to focus, though eyeballing the lamps and doors, then nipping back up the ladder to adjust, had me wondering if the budget couldn't have afforded just one spark.

But never mind - the girl in the office plied me with coffee and pretended that the grimy scruff confronting her was a trendy production type.

By about five o'clock the job was coming together, and the director arrived to eye up his shots and alter a few angles. I am always willing to accommodate these changes (why didn't he give it two minutes of thought at the production meeting?), though teeth have to be gritted when moving a lamp two feet means roping it down, unbolting the scaffold bar (two ladders) hanging another standard, re-bolting the bar, re-hanging the lamp, connecting and focusing.

By six o'clock I was contemplating whether it should be Harry Ramsden's or McDonalds, when the director, resident in the Hyatt International, pointed out that they had just craned a Portacabin into the car park to use as a temporary dressing room, and asked if I could just run some juice into it. Fine. By eightish I've plugged the screwhooks into the wall and run the catenary across the car park, found a route into the dis' board through the Vent Axia in the ladies' loo, and seen the fluorescents alight in the portacabin.

Next day, I was in at nine o'clock (the digs were old fashioned and I had a hot water bottle and a cholesterol breakfast: heaven), and there was time to tidy up the cables before a look round on camera at half-past ten. The director says: "Watty, that Portacabin is a bit cold and unwelcoming. Could you nip into Habitat and get a couple of cheap chairs and a coffee table? Oh, and a fan heater."

So off I went. Multiskilling is the word: who needs prop buyers? On my return, I unloaded the furniture - good job I had an estate car. Even with artistic placing, there are limits to the impact you can make with two pine and hessian chairs and a two feet square table, even with a copy of *Lighting+Sound International*.

I was back in the car before the director finished saying: "A vase and some flowers and a couple of pictures would cheer it up." Half an hour later, with pocket stuffed with illegible receipts and a parking ticket, the 'dressing' was done and the place was starting to look like

home - well, maybe not; more like the average out-of-town production company's reception.

The cables were still in a mess, but I was in the truck next to the racks guy, looking at pictures. It was Book One stuff: key, back and fill and some rubbish on the background, but the director was happy, the presenter could just about read the autocue and the camera crew were coasting along, one eye in the viewfinder and one on the mobile phone fixing the next gig: nothing left to do but knock off six half-hours over the next two days. Wrong.

"Watty, can you bob down to the station and collect the first interviewee?" There is already rubber on the road outside as I am not sure if I can cover two miles in two minutes in traffic, and once 500 people have filed off the Intercity I stand even less chance of finding the solo woman (anybody know what she looks like? 'No' - they're all on their phones). Have you tried accosting solo women on a station concourse lately? It's character building I suppose, and anyway, I don't actually fancy most of them, but even so, I don't like the way that policemen tend to watch me. Anyhow, my woman at last sees my 'Bullshit Productions' clipboard and we are off with a short lead on the traffic warden. No one knew she was bringing her five month old baby. *C'est la vie*.

After I had delivered the interviewee and slumped into my chair in racks, the director comes on the talkback: "Happy with the pictures, Watty?"

"Yes, they look OK, thanks."

He is suddenly struck with that creative inspiration that got him where he is today. "Could we finish in silhouette - you know, fade out the front lighting and just leave the cyc up as I pull back?"

"Oh, that's a good idea," I say (useful freelance phrase number 17). "OK, if you're happy, Watty, could you look after the baby while we shoot it?"

Well LDs are used to being left holding the baby, so I readily agreed. The Portacabin was quite cosy, and we found one of those brightly coloured cups with a spouted lid made specially for babies, and shared a large Bells. Nice baby.

Then it's just a case of a quick run back to the station to sweep up the set, get rid of the camera crew's coffee cups and say "terrific darling!" to the director (useful freelance phrase number 15). Shall I go to Harry Ramsden's or McDonalds? I'll ring home first - LWT may have called about the big one - well L'Escargot might have been struck by lightning while the cartel were at a bribe-fixing meeting.



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EQUIPMENT NEWS

Garwood IDS

Garwood have launched the Radio Station IDS, which utilises frequency synthesis to improve performance and flexibility. This approach to frequency programming addresses the key requirements of the international tour, while its audio quality makes it suitable for permanent installations.

The Radio Station IDS is a UHF stereo wireless system which uses frequency synthesis to provide international frequency management. The unit comprises three elements: a 1U rack-mounted processor, an active antenna and a stereo receiver to be worn on the belt-pack. The system requires in-ear monitors to deliver a stereo monitor mix direct to the user's ear.

The processor is pre-programmed to operate in the UHF band on frequencies between 510-900MHz. Using just two buttons, the user can select the frequency settings which correspond to the country in which the unit is to be used. The system automatically pre-selects a set of frequency options suitable for that territory. From this list, the user can then choose the desired operating frequency.

The frequencies pre-selected by the unit are intermodulation-free, allowing the user to handle multi-channel systems more easily. The system's receiver and processor automatically lock to the last frequency used, providing instant recall.

The active antenna solves the problem of cable length limitations by removing the RF from the transmitter unit and making it integral to the antenna. The cable connecting the IDS processor to the active antenna contains only the multiplex audio signal, along with the voltage required to power the aerial.

For further information, contact Garwood in London, telephone 0181-452 4635.

Denon Instants



Denon have introduced two new 'Instant Intro' MiniDisc machines. Both feature extended buffer memories that allow any 10 tracks on a commercial or custom MD to be allocated for instant replay. First samples have been bought by Radio One Newsbeat and by BBC TV for 'Noel's House Party' and 'Live & Kicking'.

The DN-981F is a 'cart' format compact desktop MD player, intended for radio, TV, studio and theatre. All functions are addressable via PC or optional remote. The DN-1100R is a 19 inch rack-mount MD recorder, with integral 'hot buttons', intended for smaller budget theatres, shows and live sound areas.

For further information contact Denon in Gerrards Cross, telephone (01753) 888447.

EV RE2000 Mic



Shuttlesound have announced the availability of the ElectroVoice RE2000 supercardioid studio condenser microphone.

According to the company, the RE2000 provides a flat frequency response from 70-18,000Hz, low self-noise and high sensitivity, plus a stable heated transducer. An internal three stage pop filter reduces explosive breath blasts and wind noise, whilst a removable external pop filter for greater protection comes as standard. A shock-mount system to combat situations with excessive mechanical noise is also included.

For more information contact Shuttlesound in Mitcham, telephone 0181-640 9600.

Micro Mark 2

AKG has announced the arrival of a new, second generation Micro-Mic Mk2 series offering revised clamping and shock mount designs, new angle joint configurations for more efficient connection to instruments, and upgraded transducers for improved sonic performance. All Micro-Mics in the range have three powering options: phantom power, battery power (via AKG's B29 battery powered phantom supply) or radio-mic (via AKG wireless portable transmitters).

For further information contact Harman Audio in Borehamwood, telephone 0181-207 5050.

Wharfedale Whites

With the commercial market in mind, Wharfedale are manufacturing both Force 1 and Force 2 in white enclosures.

The single cube size Wharfedale Force 1 is moulded in self-coloured, heavily damped, mineral loaded polypropylene. Containing a single high powered 100mm full range drive unit, the enclosure is equalised for optimum performance in background music applications. Also available in black, both F1 and F2 models are supplied with wall fixings.

For further information contact Adam Hall in Southend-on-Sea, telephone (01702) 613922.

Compulite Trio

Compulite have launched three new products which are aimed specifically at the smaller amateur, professional or school theatre and rental companies. The Photon compact lighting control desk was initially launched in prototype form at the PLASA show last September, but has only just been released onto the market. It is a budget console with easy-to-use functions, capable of controlling up to 120 channels, plus 48 colour scrollers, via dedicated software, and is supplied complete with colour monitor.

Spark is a new console offering an integrated approach to lighting. In addition to Photon's comprehensive range of features, it also has three parameter wheels with LED displays and a trackball for dedicated control of moving lights, either from DMX or via their own protocol. Spark is capable of controlling up to 144 channels, 48 colour scrollers and 24 moving lights, each with up to 22 parameters.

The final product, the Whisper Type E colour scroller, combines high speed scrolling of up to 16 frames, low noise operation and enhanced fan control. Loading of the gel strings is fully automated with no requirement for the user to tension springs.

For further information contact Stageteq in Slough, telephone (01753) 567500.

Sennheiser Options



The familiar form of Sennheiser's long serving EM2003 single channel RF receiver unit is now replaced by the new switchable frequency EM2004.

First shown at last year's Audio Technology show, these high end units are distinguished from their predecessors by the channel selection switch on the left hand of the unit's front panel. The new receiver is now available from Sennheiser UK in both UHF and VHF models, offering high standards of performance across the RF spectrum.

This switchable frequency variant of Sennheiser's EM2003 true diversity receiver unit features the same performance specifications, but with 16 selectable channels - on the UHF model - within a 24 MHz window (adaptable over the whole UHF frequency spectrum).

Sennheiser has also introduced a new switchable channel VHF belt pack RF transmitter. The SK2032 partners the Sennheiser SKM1032 handheld VHF transmitter, launched at the end of last year, in offering high standards of RF and audio performance on VHF bandwidths. The company is the only radio microphone manufacturer to offer channel switchable operation on VHF frequencies.

For further information, contact Sennheiser UK in High Wycombe, telephone (01494) 551551.

Stardraw 2D

Starlite Systems Technology has launched Stardraw 2D for professional lighting plots. Building on the success of Stardraw 3D - a CAD package which provides a virtual world where objects such as lights, stage equipment and trusses can be positioned in 3D space - Stardraw 2D incorporates findings from extensive research amongst lighting designers.

The result is a 32-bit Windows programme which comes with symbols of all the popular truss and lighting fixtures and Rosco and Lee gels as standard. In addition, further gels and libraries can be quickly and simply created and upgrades for new libraries are available free of charge to existing users. Each symbol has unlimited attributes so that at the press of a button, Stardraw 2D displays the total weight of the rig, power consumption and channel assignments of all the lights. The system also enables the user to cost all materials and report on any attribute, including user-defined ones.

For further details contact Starlite Systems in London, telephone 0171-511 4400.

UV Technology

Wildfire have introduced a new 400W blacklight flood fixture. The 401 UV flood comes complete with integral ballast, mounting bracket, safety cable and clamp, as well as a built-in digital lamp life meter to assure maximum effect quality.

As with all other Wildfire UV fixtures, the 401 is protected by Wildfire's one year warranty and features a precision quality black glass filter which cannot fade or scratch, ensuring complete safety and preventing the passage of any harmful UV-B energy.

For more information contact Wildfire in Culver City, telephone +1 (310) 398 3831.

Colt's PA Tools

Colt Technology have recently released a package of software for the Psion 3A palm computer specifically aimed at public address systems and commissioning engineers. Called PA Tools V1.01 the package offers a Sound Pressure Level calculator with an updateable speaker database, Cable Line Loss calculator, conversions and lookup tables. The package is fully supported with handbook and built-in help.

For the SPL calculations, three databases are provided (horns and projectors, cabinets, columns and ceiling and suspension) each containing speaker tapping and sensitivity information. The user simply calls up a speaker from the database which is used to determine tapping's, theoretical and actual sound pressure levels, varying distances and offset angles.

The Line Loss Calculator works out the loss at each speaker on a speaker circuit. It bases the calculation on cable attenuation, average speaker tapping and spacing. The user has the option to use two cable types, one for the long run out to the first speaker and another for between the speakers. For both applications the results can be exported to a text file ready for building into a document.

For further details, contact Colt Technology in Bishops Stortford, tel: (01279) 655259.

Futurescan II



Abstract have introduced the Futurescan II CE and CED models. New features include the use of micro-stepping motors for pan and tilt movement and colour change.

Both the CE and CED versions offer eight micro-stepped dichroic colours (seven, plus white) and eight gobo patterns. Where the units differ is in the CE's use of a highly effective 150W/15V A1-232 lamp, whilst the CED uses a GE 150W 4000K arc discharge lamp to give 6000 hours of lamp life. Both are controllable via full DMX 512 channels. Dip switches can be set electronically or manually, as required.

For further information contact Abstract in Blaby, Leicester, telephone 0116-278 8078.

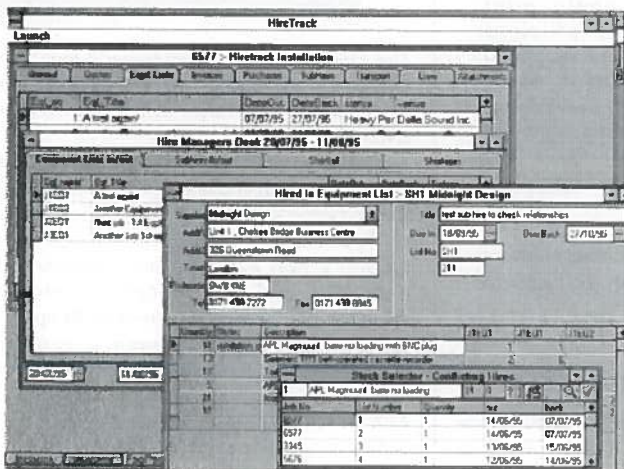
SoundField Studio Mic

SoundField has introduced the new SPS422 Studio Microphone System. Developed for 'main microphone' studio applications, the SPS422 can be used to create both mono and 'wide image' stereo recordings. The system allows the engineer to adjust microphone parameters from a listening position in the studio control room.

For further information contact SoundField in Wakefield, telephone (01924) 201089.

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We have a growing team of contributors whose work is exclusive to S+CSI in this sector of the industry, and as S+CSI is owned by PLASA, we have access to resources within the industry which give us a head-start on industry initiatives and trends.

During 1996 we will continue to develop the look and content of the magazine and have plans to broaden the outlook of the magazine across the audio and multi-media disciplines. We also intend to give the magazine a higher profile at trade shows and throughout the industry in general, so there is good reason to want to be a part of S+CSI.

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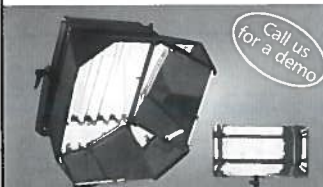
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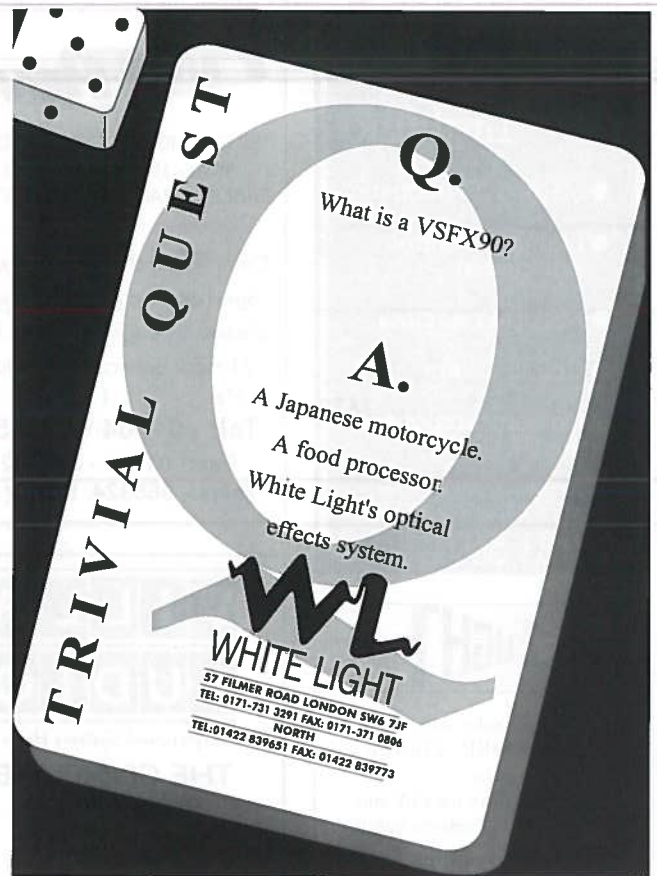
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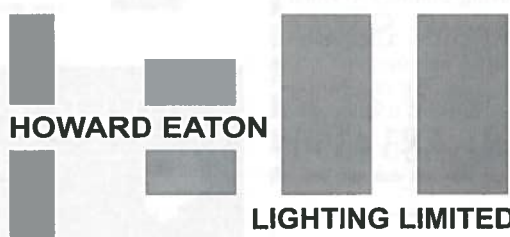
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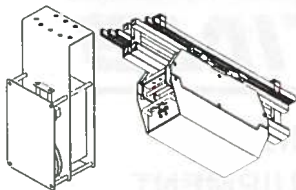
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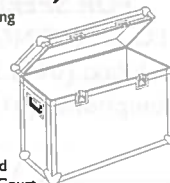
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Steve Moles interviews

Lighting designer Durham Marengi

At the age of 14, having been 'thrust on stage by a mother with a keen interest in amateur dramatics', Oberon, King of the Faeries, saw to the side of stage two men seated in a wire mesh cage surrounded by electronics. They were quite relaxed, detached from the goings on of the stage, drinking lager, and laughing hysterically at him. In that instant, young Durham Marengi saw his vocation in life, and immediately set about achieving his goal by starting work at the Preston Playhouse amateur theatre in his native Lancashire.

While still at school he lit his first show, and was reviewed in the local paper: "Atrociously lit by Durham Marengi," it said. Not an auspicious start, but it only made him more determined: "It was a challenge to me. I wanted to do lighting design and after that review it became the only thing on my mind."

His parents had other ideas, but were supportive of his intentions. "Go to university and get a degree first," they said, "then when you decide to go and get a proper job you've something to fall back on." A 'proper job' was not to be. By the end of his first year at Coventry University (reading Electronic Engineering), he had lit both a Sex Pistols show and a Northern Soul Disco, and most importantly formed a working relationship with the local Belgrave Theatre. Durham studied little, if at all, in his first year. Going in to sit his end of year exams with a bottle of wine might not have helped, and not surprisingly, he failed. Not to be outdone, his mother took him to the Bolton Octagon for a show. It was a ruse. She had arranged to meet the chief electrician, whom, she hoped, would prove to Durham that the only sure way into the theatre was the degree route. Contrarily, he advised: "Join the theatre and forget about degrees."

Without need for further encouragement, Durham moved to the Yvonne Arnaud Theatre in Guildford, where he first met and formed a lasting relationship with Andy Bridge (at the time a designer whose star was in the ascendancy) and then he moved on quickly to The Young Vic, working under Michael Bogdanov. In 1976, Durham lit *The Ancient Mariner* and received his first mention in the Times: "We have seen the first of The Durham Marengi apocalyptic light changes." Compared to 'atrociously lit' it was a remarkable acclamation.

By most people's standards the next couple of years - moving on to deputy chief electrician at the Adelphi and then freelancing on West End shows and provincial tours - would be viewed as progress, but for Durham it was a period of



Durham Marengi.

disillusionment and stagnation.

"Doing the same show every evening was just not getting me anywhere. Then Gary Withers started up Imagination and Andy Bridge, who was working there, asked me to be production electrician on a job for him. I decided to give up designing completely for five years and devote myself to building up a reputation as a production electrician."

A bold, and some might say rash move, it proved a shrewd one. Durham gained immeasurable experience in a range of skills, worked on a whole variety of shows, and gained a thorough knowledge of a completely different discipline. Working on trade shows, conferences, and the then burgeoning product launch industry, gave him access to six figure production budgets and to the enormous lighting inventories of a company like Theatre Projects. The kind of technology and presentation concepts used to herald the arrival of a new car model were, at the time, revolutionary. He'd also had the undoubted benefit of many other designers' ideas.

At the end of five years he stopped, accepting only lighting design work, and for the first six months didn't work at all. But slowly the commissions came: "The key was that the earnings from trade show designs were enough to allow me to freelance in the theatre. I could also try out new ideas for the theatre on trade shows where there was a bit more money about. If they didn't work out, it wasn't so much of a problem."

Durham's new ideas led him eventually to a most bizarre show for avant-garde musician Isao Tomita in Battery Park, New York: "The show was so spread out I had to use 42 separate lighting control operators. There was an

octaphonic sound system - four sets of speakers on barges anchored in the river and four sets on land. The Staten Island Ferry appeared at one point with a 400-strong choir on board, and a helicopter flew down the river with an automated Vari*Lite system hung beneath it. It was just immense."

The expertise gained on such events is unquantifiable, and it was natural that a few years later Durham should find himself in Berlin working with notorious set designer Jonathan Park on Roger Waters' *The Wall*. Durham's role was to light the Wall, the audience and the orchestra, not just for those at the show, but for the huge television audience around the world.

His five years with Imagination had taught him the scientific approach to TV lighting: the big trade shows often demanded video recordings, not for broadcast, but for the MD to view. Lighting for *The Wall* was again supplied by Theatre Projects, and the familiarity between designer and supply company made for a successful event. Since *The Wall* he has been in demand for his talent in being able to combine the vastly different demands of the big live spectacular and TV broadcast.

Durham ought to be one of the best-known lighting designers in the UK, not just for the one-off events and stage shows he does, but for his continuing success in lighting the Classical Spectaculars that have been touring the UK for some six years now. He finds these particularly rewarding: "It's the only medium I've worked in where the audience isn't blasé about the lighting and is in a position to give real feedback about what we do."

The recent series of Classical Spectaculars at the Royal Albert Hall (see L+SI Dec 95) embraces all the various disciplines Durham has engaged over the years - lights, set, lasers and many automated lights. It is the latter that gives him most problems: "There has been a huge expansion in lighting technology over the past decade or so. There is now a plethora of intelligent lamps, but we don't have a commensurate diversity of control systems. The industry needs to slow down, to listen to the people who use and manage this equipment. We get invited along for a pre-launch trial when the thing is already developed. It would be better for all if we were consulted beforehand."

To evoke the emotions inherent in the music is a precarious task for any designer. Durham's breadth of experience seems to have given him both the ability and imagination to pull that off, plus he has retained his humility. "For us, as technicians," he said, "we are only there to technically assist the artiste, and at the end of the day that's what your ego must decree you do, whether it's for a new car, a singer or a musical."

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