

Lighting & Sound INTERNATIONAL

November 2001

The Entertainment Technology Monthly

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Ms Jackson

- Janet Jackson in Las Vegas

Barbican Restyle

- A £7million technical makeover

Ice Queen

- Björk leaves behind the cold Icelandic nights

Club Campus

- Stylus, Leeds

Going Dutch

- Profile of Stage Accompany





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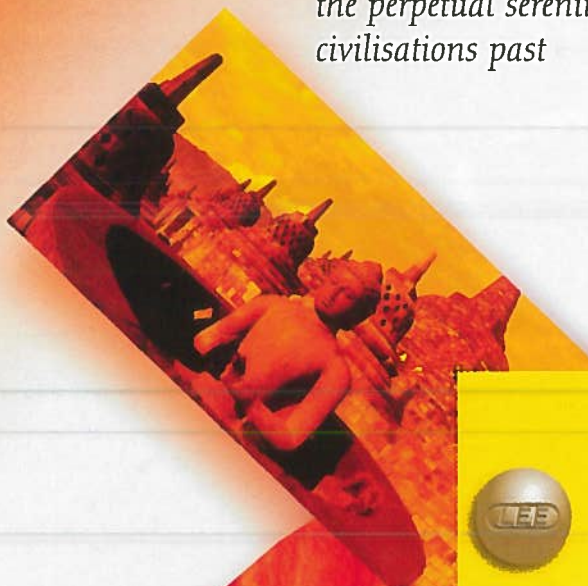
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Steve Moles reviews Janet Jackson at the MGM Garden Arena, Las Vegas

Barbican Restyle 61-63

The renowned Barbican Hall, the concert and conference space at the hub of the Barbican has re-opened after four months and a £7 million technical makeover. L&SI grabbed itself a front row seat . . .

Ice Queen..... 67-69

The nights are long and the days cold in Iceland during the autumn - which is why it makes sense to be somewhere else. Taking this advice to heart, Reykjavik's only major chart artist, Björk, took to the road in September for a series of unusual dates. Mike Mann followed . . .

Club Campus 73-74

A new four-storey building on the Leeds University Campus has opened in time for the new academic year - revealing two bars and a 1,250-capacity dance venue. L&SI takes a look . . .

Going Dutch 79-80

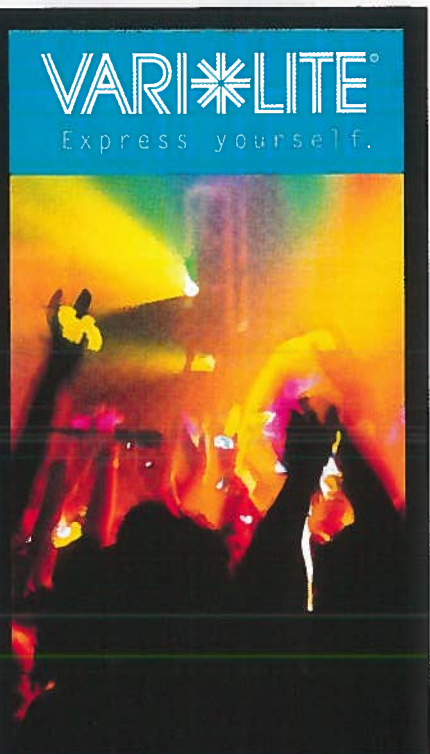
Stage Accompany: it's a quaintly not-quite-English name for a hugely successful Dutch company, one of an élite few now making a lot of noise on the international scene. Phil Ward traces its roots . . .

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International News Round-Up

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L&SI's Tried & Tested Products of 2001

In the December issue of L&SI, we'll be running a special feature on the products voted by you as being the most outstanding, reliable and plain wonderful bits of kit you've been using out there in the real world during the past year.

'Tried & Tested' will take a simple approach: we're not asking for your views on hundreds of different product categories, we're just after your gut reactions to a series of broad-based questions on the equipment you're using.

The aim of this is simply to sniff out what's impressed you, what's made a difference to your working life. There are no awards and no ceremonies - we're just going to stir the pot and see what, if anything, floats to the top. The products you vote for can be new or old, high-tech or low-tech - all are valid.

The products which have the highest profile from among the votes will be featured in the December issue of L&SI, and one lucky entry, picked at random, will receive £100 worth of Technical Book vouchers to spend at the PLASA Technical Bookshop. And if your entry stands out as being particularly noteworthy,

and the randomiser hasn't selected you, then we might think of an additional something for you too.

Products can be nominated in the following five categories - **Audio, Lighting, Audio-Visual, Rigging/Staging and Effects** - all we ask is that you tell us which piece of kit in any or all of the above categories has been in your opinion, the most outstanding, and why?

You can fax or e-mail your votes through or you can vote in the virtual world on our website. If faxing or e-mailing, simply tell us your name and company and then list the category(ies) you are voting in, the name of the product and its manufacturer and the reasons why. Even though we only launched the online vote to coincide with this issue going to press, we've already received a large number of votes and one audio product in particular has already identified itself as a contender. Voting closes on 20 November 2001.

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Yearplanner

Included free with this issue is the L&SI Yearplanner 2002 - an indispensable guide to all the days and months of the forthcoming year, in order of appearance.

We've also redesigned the layout (slightly), listed details of all the major industry trade shows for 2002 (so you can plan ahead) and even managed to squeeze in an extra bank holiday on 3rd June! So the only task that remains is for you to pin it to your wall.

If you do intend to visit any trade shows next year, you can always find more information at www.plasa.org/events, including hotlinks to the shows' own websites. To make things easier for you we've also been busy putting together comprehensive Fact Sheets on the major trade shows, including dates & times, contact information, show and visitor profiles, an accommodation and travel guide, a host city focus and travel tips.

If you'd like additional copies of the Yearplanner, e-mail sheila@plasa.org. First come, first served.

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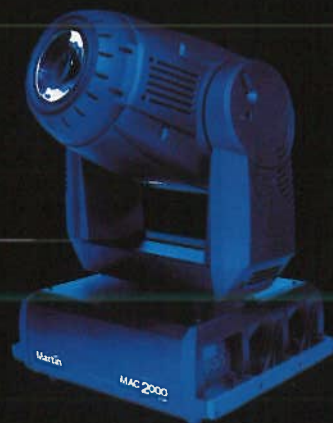
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Manchester's Legendary Boardwalk Club to be Sold

The Boardwalk nightclub, where Oasis began their career, has been put up for sale. Built in 1876 as St Peter's School, it opened as The Boardwalk club in 1986 and ran successfully for 13 years until August 1999.

The Boardwalk has witnessed the UK debuts of Primal Scream, Sonic Youth and Courtney Love's band Hole. Big names such as Oasis, M People, Pulp, The Verve, Suede, Blur and the Stranglers have also appeared, along with DJs such as Paul Oakenfold, Todd Terry and Pete Tong and comics Steve Coogan and Peter Kay.

The basement rehearsal studios were as famous as the club. Acts who rehearsed at The Boardwalk included Terry Hall & Colourfield, Nico from the Velvet Underground, Simply Red, The Fall, James, The Railway Children, Manic Street Preachers, ACR and Happy Mondays. The Happy Mondays' residence is immortalized in the new film about Factory and The Hacienda - 24 Hour Party People. Shortly to be released, scenes for the film were shot inside the then-empty Boardwalk building.

According to the joint agents Chesterton, Manchester and DTZ Residential, the site is likely to attract residential redevelopment as well as new leisure developments, to complement Deansgate Locks. And if you're interested, then you need in the region of £850,000 to stake a claim. Manchester has not seen the significant sale of a famous Manchester nightclub since that of the Hacienda in 1999.



The White Light Group has completed its move to new premises. Between the close of business on Friday 19 and the reopening on Monday 22, the White Light Group's staff moved seven companies - White Light, The Moving Light Company, The Service Company, Colourhouse, Modelbox, Enliten and Technical Insight - and an enormous collection of lighting equipment out of their long-standing bases in Fulham and down to Wimbledon. Aiding and abetting them were theatrical transportation specialists Paul Matthews Transport. All of the Group members are now open for business at 20 Merton Industrial Park, Jubilee Way, London SW19 3WL. They can be contacted by telephone on 020 8254 4800.

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People News

ETC has announced that marketing director **Peter Ed** is leaving the company. His departure follows a restructuring which places the responsibility for marketing in Europe on the shoulders of Tera Johnson, vice-president of marketing, ETC Inc. The position of marketing director within ETC Europe will no longer exist, but direct marketing support for Europe's dealer and distributor network will continue to be located in Europe. In a separate move, ETC has promoted **Lotte Clausen Rhodes** to sales office manager, a position she's taking over from Sharon Todd.

For the many who worked in the blunt end of Concert Lighting during its explosive growth in the seventies and eighties, the name **Paul Ollett** is synonymous with well-designed, dependable dimming and control systems. Acutek has been delighted to welcome this talented man, absent for many years, back into the heart of the developmental world. Ollett's influence is already being felt: the company launched a brand new 36-channel touring dimmer at PLASA in September and he is presently working on the development of a motion control system.

Quite a number of changes at Martin Professional this month. The company's UK stage lighting account manager **Mark Ravenhill** will be moving to the Martin head office in Aarhus, Denmark, to take over as international product manager for touring, theatre and television. Mark will be taking over from long-time touring product manager **Gerald Heise**, who will now become the international education manager. This new position will keep current users up-to-date on the latest Martin products, as well as serve as an educational resource for the lighting industry. As we reported in our online news service, **Phillip Norfolk** will be replacing Mark Ravenhill at the Martin UK office as the new stage and studio product sales manager.



Martin Professional's Mark Ravenhill, Gerald Heise and Phillip Norfolk

Norfolk comes from a position as national sales training manager at Tech Lighting in Chicago, USA. Prior to this he was with Lighting Technology in London, and has extensive experience in the lighting industry.

Samantha Forrester, previously marketing coordinator at Martin Professional UK, has been appointed by Richard Martin Lighting (RML) to take up the newly-created position of marketing manager. RML is a specialist rental supplier of intelligent lighting and control systems to the film and television industry.

QSC Audio Products has appointed **Jeremy Johnston** to the position of systems specialist for the company's Portable Live Sound division. Johnston's responsibilities include product training and demonstration, along with technical support. He will also be instrumental in the launch of QSC's new speaker products.

Artec Consultants Inc has added **Tateo Nakajima** to its New York team, as senior advisor on opera and concert production. Nakajima brings with him a broad range of experience ranging from his professional conducting career in Europe, to management experience in the performing arts and the non-profit sector. He also has experience in the technical aspects of opera productions and the presentation of symphonic concerts, fund raising, project development and management.

John McBryde has joined AVW Controls as a project manager. McBryde was the chief electrician at Her Majesty's Theatre in London's Haymarket for many years and, coincidentally, also used to work for Stage Drives & Controls, where both AVW's MD Anton Woodward and recently-promoted director Mark Brown were once employed.

iLight Ltd has achieved a 'double whammy' by significantly increasing both its factory output and number of staff in just six months. Output at the purpose-built facility in Cwmbran has almost doubled since the company's launch in March 2001, whilst the factory team has 14 new operators and three test engineers to handle the increased workload. At iLight Ltd's head office in Kent, eight new staff have been appointed, including three field sales and one internal sales support, and project engineers to service new and existing customers.

Cork-based lighting, technical design and production specialists LDPS has further expanded its team with the addition of two new project consultants - **Joe Stockdale** and **Michael Hurley**. Stockdale's role will include venue technical design, specializing in stage systems, special projects and client liaison, whilst Hurley will be LDPS' multi-media project consultant, and his work on venue technical design, specification and installations will include the exacting areas of sound/AV systems and acoustics.

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Association NEWS

Planning for the Future

PLASA Members can gain a competitive edge if they take advantage of PLASA's pioneering industry research. The findings into the entertainment technology industry were launched by the Association at the recent PLASA Show, providing Members with the first available opportunity to gain in-depth market knowledge. At a time when the industry is facing an uncertain future, the research could prove vital to any company's strategic planning.



The UK's exports also look healthy with over a third of revenue derived from overseas.

Among the issues raised by the report is a widespread concern over skills shortages in key areas, specifically technical and business skills. As part of its ongoing effort

to reverse this skills shortage, PLASA has recently sponsored various initiatives, including subsidizing half of the course fee for the first 20 students taking the BTEC Theatre Technician module beginning at PLASA 2001, and providing a 20% discount on over 750 business-related courses for its members through Hawksmere Training. Over the next year, the Association plans to continue with its emphasis on training initiatives in order to meet the predicted 9% increase in demand for qualified personnel.

What Does it Cost?

Product Sector Reports: £125 each

Market Sector Reports: £250 each

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The offer applies to all PLASA Members even if they didn't contribute the first time round (but they must agree to complete the existing research and commit to the follow-up survey). To order a report or simply to find out more, telephone +44 (0)1323 410335 or e-mail research@plasa.org

The first report, entitled 'Establishing a Baseline' is only available to PLASA Members and provides long-awaited reference material. The 147-page research report includes an overview of the global and UK markets and market-specific sections for the AV, lighting, pro audio and stage engineering markets. Each market is broken down into identifiable sectors with a definition of products and services within that area.

PLASA Members who contributed to the research have already received a 22-page overview. In addition, each sector within the report can be purchased separately to ensure that only relevant information is obtained. Globally, the report values the industry's international market at £11 billion with the UK representing a strong share of just under 13%, at £1.4 billion.

PLASA Elections

The nominations for this year's PLASA Executive Committee Elections are currently being collected, and voting forms will be distributed to PLASA members in mid-November.

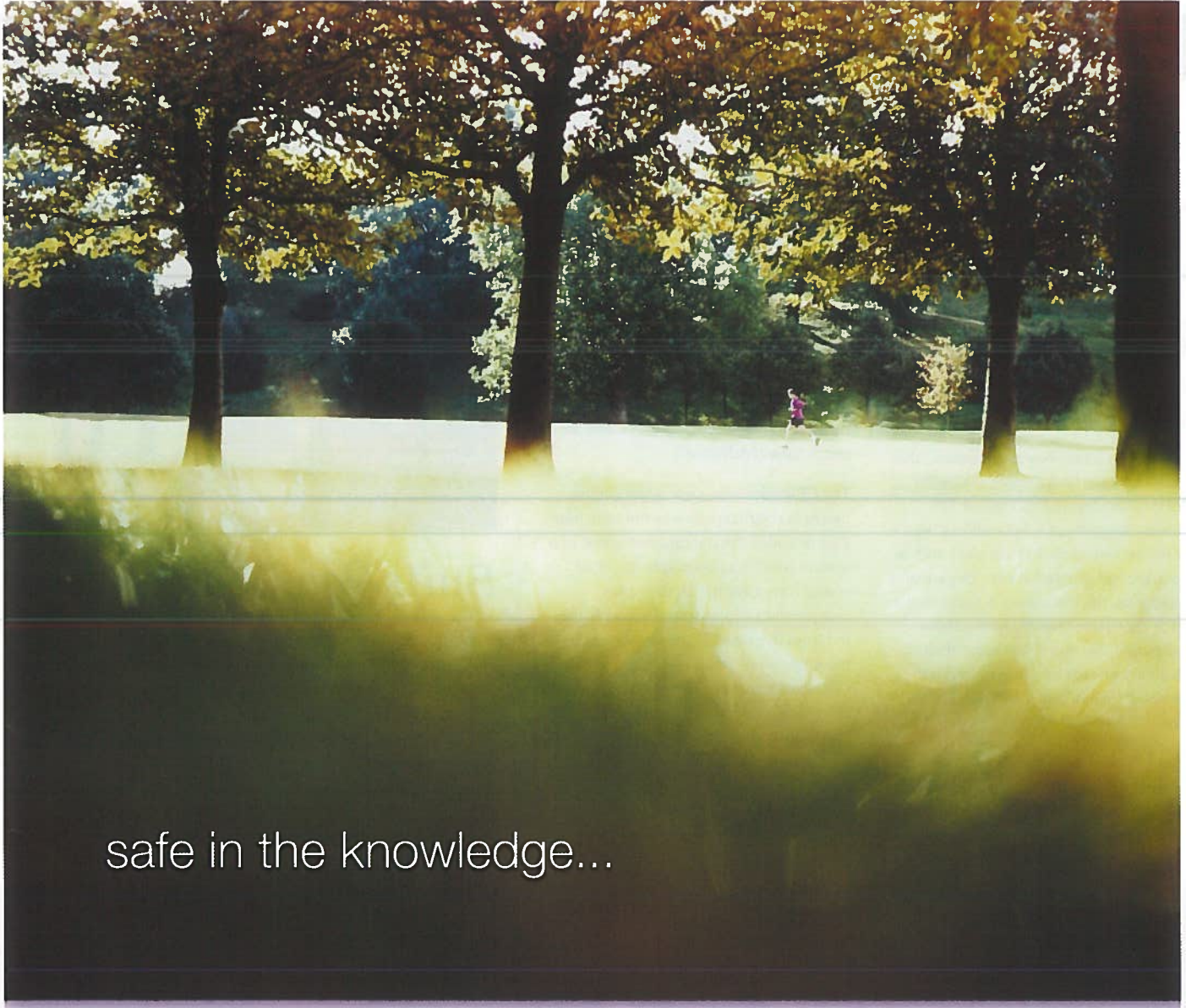
PLASA Members were informed of the start of the nomination process in mid-October. Following the cut-off date for nominations on 15 November, members will have two weeks to submit their votes to PLASA. This year there are three vacancies for three-year seats, due to Diane Grant (DHA Lighting), Paul Hinkly (LMC Audio) and David Hopkins OBE (Audio Design Services) all reaching the end of their elected terms. There is also an additional one-year vacancy due to Paul Adams' decision to stand down at the end of 2001. The final results will be announced on 3 December.

SIB 2002

PLASA will be sponsoring a UK exhibitor group to the SIB 2002 exhibition, which will run from 24-27 March in Rimini, Italy.

The DTI's SESA (Support for Exhibitions and Seminars Abroad) funding programme will cover 60% of proven stand and construction costs, up to a ceiling of £2,300. In addition, PLASA will provide shared telephone and fax facilities and full on-site support for members of the Exhibitor Group. PLASA Members benefit from a reduced management fee for this service.

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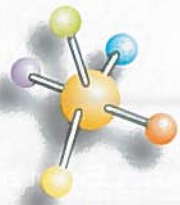
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Mean Fiddler's New Venture

Continuing their long relationship with the Mean Fiddler Group, sound specialist Encore was asked to specify an audio playback system for the leisure group's latest Central London development, eponymously dedicated to the Irish celebrity chef, Conrad Gallagher.

Owned by Vince Power's company, the luxurious 170-seat Conrad Gallagher restaurant opened recently at 179 Shaftesbury Avenue in London's West End, serving modern Irish food, with a bar/lounge situated above. Elegant and spacious, the restaurant is decorated in rich chocolate browns, with a sepia photographic mural featuring abstract culinary images on panels around the walls, stylish brown leather chairs and imaginative lighting.

Some 30 Sound Advance CT10 recessed ceiling speakers, purchased from Sound Department, have been fitted on each floor, including the toilets and the

private dining room. Encore's Mick Martin explained: "We have worked extensively for the Mean Fiddler Group over the years - and we have also fitted CT10s into a number of other high profile restaurants, including Oliver Peyton's Mash. The requirements at Conrad Gallagher were to deliver an evenly-distributed sound system across the entire restaurant and that's why we chose Sound Advance."

The CT10s are also ideal when ceiling height is restricted, as was the case here. This provides the reinforcement end of a system which has been split into four sound zones, each with their own independent sound sources, which are fed from five-disk CD players racked in the amp room. These are linked to Cloud CX6 six-channel amplifiers (two speakers per channel) so that each area can be tuned and volume controlled independently. Source select is controlled from the amp room and routed to the four zones via a Cloud Z8 zoning mixer.



Suits You Selfridges

You don't get to see too many of these in your average shopping day. These illuminated mannequins are the latest thing in High Street retailery (we made that word up, but it'll do) currently striking a pose at Selfridges in London. Rare Basic Ltd are the company behind these rather unique mannequins, which are crafted by former Madame Tussaud's sculptors. Manufactured in a translucent wax effect finish, the material lends itself to a colour changing facility developed for Rare Basics by AVR Colourmaster.

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L&SI Book Reviews - lots more books on pages 77-78

Performance Design in Australia

by Kristen Anderson & Imogen Ross

"No one I've ever come across in Europe has a clear picture of an Australian style, or probably has not had an exposure to it," asserts the prominent lighting and set designer Nick Schlieper in the key chapter of his book *Design down under: the Australian theatre climate*. Now this sumptuous, 220 picture tome would have value if it illuminated that lacuna. But all too often it reads like an undigested student thesis - which is where the authors came in. Anderson and Ross are recent graduates from the design course at the West Australian Academy of the Performing Arts, where they set out to remedy the lack of a history of local stage design.



Four-and-a-half years of research and interviews with 62 designers later, they've failed to tackle the history. They've set the parameters as the past 20 years and concentrated on post 1985 - when, arguably, Australia's stage history peaked in the 1970s during its charge to ockerism and back. They've excluded sound because "it tends to operate independently of other design elements" - which is surely worth at least an argument with the likes of aural designer, Paul Hely.

There's parallel too in the harshly specific sound of Australia and the unsparing brilliance of its light. Another top lighting designer, John Rayment, observes that his "bold use and intensity of colour" is both unique wherever he works in the world and "endemic to Australian designers in general". But amongst set and costume designers there seems to be a

consensus that they keep failing to put the Outback on stage without "falling back on sand - an old joke and a comprehensive yawn" in the eyes of that master of Australia's "frayed suburban edges", Peter Corrigan.

Such a man has much to offer as an individual, but his designs mean little outside the context of their staging. So Corrigan and Barrie Kosky (the director, now in Vienna), Baz Luhrmann and the design team headed by Catherine Martin, including (as the book fails to) Rayment on lights, Jim Sharman and Brian Thomston, who brought the world Jesus Christ Superstar and Rocky Horror - these, it seems to me are the director/designer pairings that matter. Yet the book offers such passing analysis of relationships which, time after time come up with settings that clarify the "essence" or "metaphor" of a play, it can only be judged a failure in this non-specialist's eyes.

Jeremy Eccles

(For Orders please contact John Rule email: johnrule@johnrule.co.uk)

Lighting Modern Buildings

by Derek Phillips

Lighting Modern Buildings is a guide to the implementation of natural and artificial light both for the interior and exterior of buildings of all ages, aimed at architects and architectural lighting designers or building services engineers.



Phillips' book can be considered as the sequel to his *Lighting in Architectural Design* published 37 years ago. Of course, much has changed in the intervening years with the rapid progression of technology, and the book reflects this - both in terms of fixtures and fittings and the use of light. The modern philosophy of maximizing daylight is a recurring theme in this book - a significant change in ethos compared to that in the 1960s when artificial lighting was the way forward.

The book is split in to two sections. The first deals with the nature of light and its effects, both natural and artificial. Great detail is given to the psychological effects of light; how light changes emotions, sick building syndrome, lighting requirements depending on age and health. The book progresses through the different types of hardware available to the designer discussing the merits of different artificial light sources and their control.

The second section is devoted to case studies of most building types encountered, from the functional lighting of offices and hospitals to the more elegant and artistic requirements of buildings such as churches or galleries. There are some fascinating case studies to be found as well as good photography, but owing to the number of buildings covered (59 in total) the descriptions are, unfortunately, rather brief, which is a little disappointing.

Most of the studies are accompanied by architectural drawings of the buildings. Phillips, whilst a renowned lighting designer in his field, has his roots as an architect and it shows. A lot of the discussion considers the initial design of buildings and the requirements to introduce natural light in the most effective manner. Similarly, there is a noticeable lack of 'artistic' effect lighting that is becoming common. The feel of the book is for lighting open spaces and functional lighting, ensuring buildings have the required amount of light for the intended purpose: however Phillips does do a good and sympathetic job in this area.

Phillips does acknowledge that some of the best architectural lighting designs have been the work of theatre-trained designers, but the content in this area is sparse. In all, a thorough and comprehensive book for those interested in the design and integration of functional lighting in buildings, as all aspects of the design process are covered well. If you are an experienced stage lighting designer looking for a career change though, it would be better described as 'background reading'!

James Eade

You can order this book through PLASA's Technical Book Service. Call +44 1323 418400 or use the form on page 78 to order.

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Life in a Day

Fraser Elisha is one of those rare creatures in the world of rock and roll, a man who took the formal route to lighting and ended up in Rock in spite of himself. Attending a course in Lighting and Design at the London Academy of Music and Dramatic Art might have led directly into theatre, were it not for a holiday job at Samuelsons Concert Productions. "I needed to earn some money during the holidays, but I didn't expect I would enjoy it so much."

It was but a short step from there to training with Vari*Lite in 1987 and Elisha has sat at the

console pretty much ever since. Now working full-time for Paul Normandale at Lite Alternative, Elisha is currently show director for the Depeche Mode world tour . . .

How did you wind up doing this?

"I entered the business straight from school. Not directly into rock and roll. I'd always had an interest in theatre, but ended up in music through LAMDA."



What do you enjoy most about your job?

"That you never know what's coming next. It's never routine. That said, what I hate most is getting up in the morning."

Is technology a friend or a foe?

"Technology has given us many things, there's lots of great lighting stuff these days, but the technology I cherish the most is the answer-

phone. As for technology that works against me - that's far too dangerous to put in print. If there were anything I'd like in the future, it would be to see the continued development of projection, particularly from moving lights."

What was your worst moment?

"Worst moment? I remember a school play once."

Best piece of advice?

"My father once said to me, 'I don't care what you do, just don't let me find out.' That's advice that's stood me in pretty good stead. I don't think I've ever had bad advice, not that I've taken anyway."

What did you learn today?

"Today was an interesting day. The Sapphire 2000, I was having a problem with it and the recommendation from Avolites was to wipe it and start again. I'd only been making some changes when this happened, and although I had saved to disk I was nervous of whether the right information would come back. It reloaded perfectly, totally recovered, and the lesson is 'Have faith in floppies.'"

What's your most memorable gig?

"I once did a gig for Shirley Bassey at the foot of the Pyramids in Egypt. It was a great show, but the organisation was totally chaotic from start to finish."

What would you be doing if you weren't a lighting designer?

"If I wasn't in this business I'd like to get into something environmental . . . in fact, something like forestry would suit me fine. Before that comes around I'd like to light Kate Bush - in fact, I hear she has a new album on the way, so you never know."

Who have you most enjoyed working for?

I have a couple of personal favourites that I've operated on, Chris Rea's Road to Hell tour, and the Cocteau Twins with Ian Cameron. They were both completely different, but both special in their own way."

What are the best attributes in a client?

"Top of the list is paying on time, and because I like to do things that are interesting, any client that gives me that opportunity."

A longer version of this interview can be found at www.plasa.org/media/lifers

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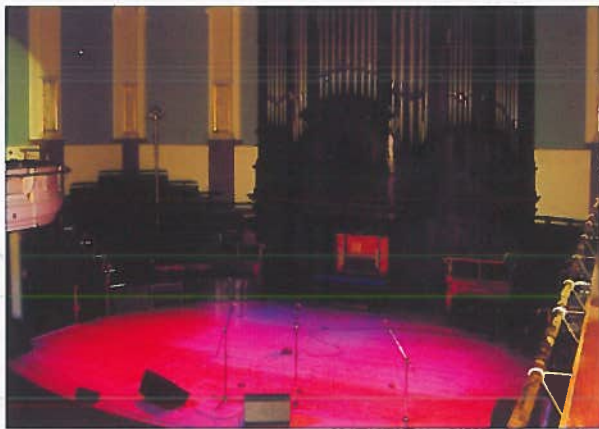
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Reading Revitalized



The final phase of the restoration of Reading Town Hall's concert venue - with the renovated Father Willis organ providing a magisterial backdrop - has been completed this month under the guidance of English Heritage.

Marquee Audio was responsible for supplying and fitting all the audio, working to a specification from audio consultant Peter Mapp, who had been introduced to the project by former technical manager, Paul Kennedy. By completion, the whole project will have cost around £5 million. Given the constraints of the protected architecture the installation had been no easy feat, as the venue's chief electrician Tim Liddle emphasized. "We got a grant from English Heritage who wanted the hall restored to its original 120-year-old grandeur. The Borough Council have been restoring the building over a 15-year period and when I came here 10 years ago, there were pigeons living in the concert hall."

Sound is based around a d&b system of four C 1-6s and a pair of C1-7 tops, reinforced by a left/right C7 ground-stacked system and powered by d&b E-PACs. This fulfils the venue's multi-purpose requirement for staging conference work, as well as drama, comedy and concerts. Visiting productions can bring a mono or stereo multicore feed and plug straight into the BSS 9088 Soundweb, through which the whole system is digitally controlled. d&b E3s provide the musicians' stage fills and Martin Audio LE400Cs the floor wedge foldback, with amplification from QSC PLX 1602s.

Up on the balcony, a 32U effects processing rack is resident at the FOH mixing position alongside a Soundcraft Pro K3 32/8/2 theatre desk. The rack includes Klark Teknik DN360 graphics and DN4000 parametric, BSS DPR-402 dual comp/limiter, a pair of Drawmer DS404 noise gates, Yamaha SPX990 digital multi-effects and Sabine FBX2020PLUS feedback exterminator.

The component parts of the PA (left, right, centre, cluster, etc) are assigned to the Soundweb inputs along with a sub mono aux and two stereo auxes (for visiting PA companies to plug into). Also in the stage manager's location is the 9010 Soundweb 'jellyfish' remote panel, which allows switching to a number of sources, as well as offering different levels of compression, zone volume control, voice evacuation mic and so on. As chief electrician Tim Liddle pointed out, this is a difficult venue to work - and with only six fixing points, a temporary lighting grid had to be suspended for the DMX-controlled moving lights, scrollers and generics. These fixtures included Martin Professional's MAC 500 and 600 moving heads, supplied by Stage Electrics. Lighting control is from a Strand 520i desk.

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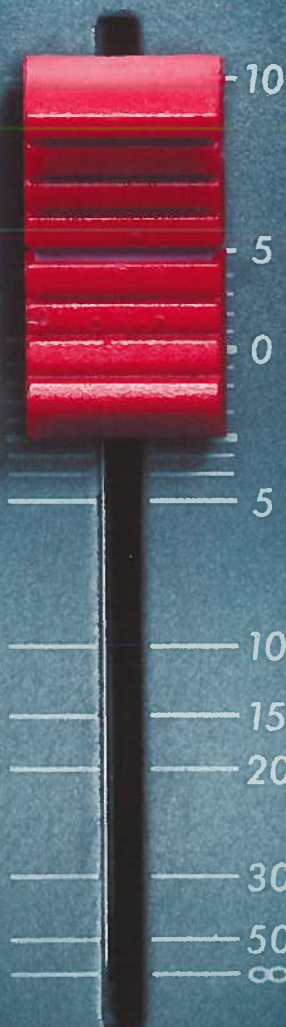
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ESS Installs Grid for Earls Court One



Earls Court has introduced an innovative new grid ceiling feature and dividing wall which enables the venue to create two smaller exhibition spaces within the existing Earls Court One hall.

International staging and structure specialist, Edwin Shirley Staging (ESS), was appointed to develop the overall solution and installation of the grid as part of an ongoing investment programme in the venue. The bespoke system increases the adaptability of Earls Court One, allowing clients the opportunity to adapt the hall space to a preferred scale. ESS, together with Earls Court, developed the solution and managed the installation of the grid, which will also carry a new general lighting system for the hall. The grid system is already in demand and Earls Court expect the first show using the system to take place in May 2002.

Unique Audio for Rigoletto

A unique production of 'Rigoletto' has been staged by Dutch opera specialists, the Companions production company, on a specially-built stage on the waters of Rotterdam harbour.

The elaborate production involved a 56-strong chorus and 11 principals performing on two large pontoons and a boat moored in the water beside Rotterdam's Wilhelmina Pier. A 70-piece orchestra was housed on a third pontoon, playing to an audience of 7,000. But, for sound engineers struggling to contend with open-air environmental extremes that included winds of Gale Force 4, the key to success was a tiny miniature microphone from DPA Microphones.

Sound designer and front-of-house engineer Cees Wagenaar from BV Oorzaak, supervised the critical matter of miking the artists. Wagenaar specified 114 of them in all, making it one of the biggest shows to standardise on a DPA type. All three models (4060, 4061 and 4065) were used with Sennheiser radio electronics, and, in order to meet such an unusually large specification, the production drew on two PA suppliers: Wim de Gelder at WG Theatertechniek purchased 50 DPA 4061s, bringing his rental stock of DPA miniatures to more than 80; Stage Pro, the principal rental company for the production, also topped up their inventory of DPA 4061s. Both sound companies had to make a substantial investment in windscreens and windjammers.

The worst effects of the gales were beaten by a customised windjammer developed by recording expert Onno Scholze and Tom van der Hoff of Transtec, distributor of DPA Microphones in the Netherlands. Rigoletto's front-of-house position included a pair of InnovaSon digital desks to pre-mix the orchestra, with a Yamaha PM4000 console pre-mixing the chorus and routing the radio mics. The orchestra pre-mixes were then grouped on a Yamaha 02R before being sent to Wagenaar at another 02R. In total, 200 channels were routed to this one desk.

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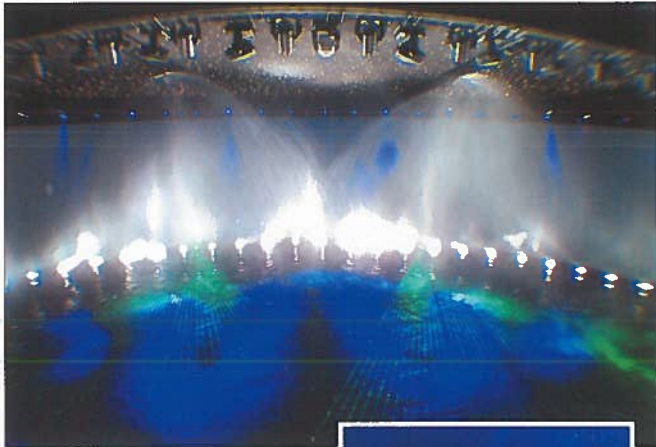


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Volkswagen's Big Box



The 2001 Volkswagen Stand claimed the entire ground floor of Hall 3 at the Frankfurt Motor Show and featured an innovative multimedia experience 'The Big Box' which was produced by HP:ICM of London. The exhibition environment was designed by German architects Cebra who worked closely with HP:ICM to create the perfect environment for the 'Big Box' theatre, a circular room containing a 170 degree video projection screen.

The 50 metre wide, seven metre high screen was used to show a specially commissioned film directed by Robert Butcher and Liam Lyons with a score by Jonathan Goldstein and produced by HP:ICM, in front of this screen was a huge water 'lake' which concealed submerged water and pyrotechnic effects which accompanied dynamic moments in the film; the roof supported a comprehensive lighting system and was covered by a 35 metre diameter fibre optic star cloth.

The audience viewed the spectacle either from a half crescent 'beach' which overlooked the lake or from a five metre high bridge that spanned the Big Box at first floor level, the rear wall was a huge semi-circular gauze lit to reflect the various colour themes contained within the storyline. The film, which celebrated Volkswagen cars and company identity, lasted for seven minutes with interspersed mist, rain, fountains, water curtain, gas flame and lighting effects and ended with a one-minute light and laser show.

Lighting Designer for the 'Big Box' theatre was Durham Marengi who was employed by HP:ICM to light the experience and to co-ordinate the lasers and the various elemental effects. Marengi used over 100 Martin MAC 2000, 600, 500 and 300s for the design with Vari*Lites providing zoom wash lighting with the VL2416, the lasers were supplied by Tarm and programmed by Kai Kasprzyk. No smoke or haze was used, to keep the projector beams transparent, but the lighting and laser beams were made visible by the innovative use of an 'on demand' real water atmosphere.

The lighting and rigging equipment was sourced from Rock Service in Germany with Alex de Ney as site co-coordinator, Nick Jones was the HP:ICM production electrician with the Wholehog II programmed by John Sinden. The show was modelled by Durham in WYSIWYG and rendered: lit images of the virtual 'Big Box' were incorporated into the film storyboard to illustrate the proposed environmental effects to the client.



Value



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grandMA ultra-light Lighting Control Console

The grandMA ultra-light is the most compact member of the grandMA family yet still retains full compatibility with show-files from all consoles in the range. It offers all of the functionality of the powerful grandMA software but at a price that suits even the tightest budget.

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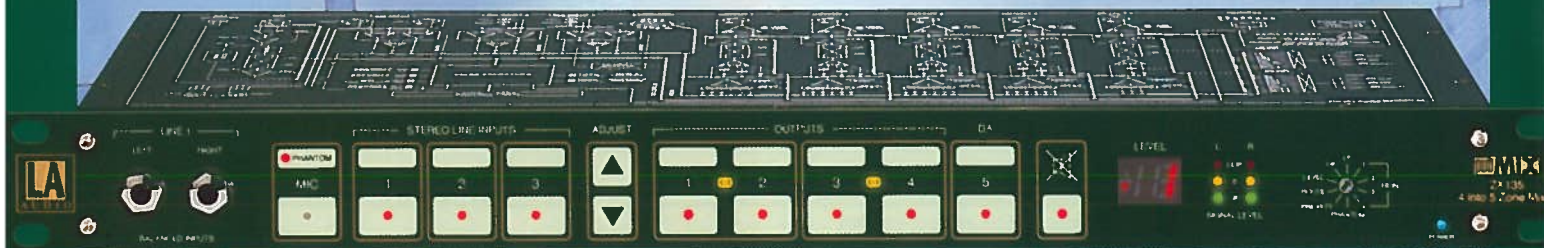
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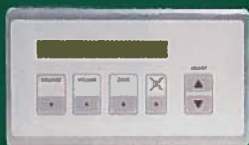
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Paging Unit



The desktop paging unit allows priority paging to 6 zones or groups of zones. Two paging units may be operated on the system network. The back illuminated zone designation strip is sealed beneath a wipe clean surface.



British Originals



Smart Move for Universal



Universal Events was called in by Mark Borkowski PR to provide full technical infrastructure for the world launch of the revolutionary smart car - right hand drive versions - from Daimler Chrysler UK. The event took place in the car park at Wembley Stadium, and revealed the vehicle for the first time to UK smart dealers and users, plus the national and motoring press.

Universal supplied everything - from the lighting, sound, video and staging - to the dome-shaped marquee and seating rostra. The company's brief was to provide a clean, slick, streamlined environment in which to launch one of the most ecologically sound vehicles on the planet.

Universal's Steve Butcher designed the show's production elements. The space was circular with seating blocks all around. A flat, empty centre stage at the start of the show was soon filled with the demo smart, revealed by elevator, clouds of smoke and flashing lights, early on in the proceedings. This was followed by presentations from different members of the UK's Daimler Chrysler smart team - and lunch. All then moved out into the car park for a smart formation performance by the Phat Reds display team and individual test drives.

Lighting was designed by Chris Doy. Rigging points were provided by two circular Penn trusses - a 4 metre diameter section over the stage, suspended from the nodes of the dome, and a 15 metre diameter curving elegantly around the perimeter of the entire space. Doy used 22 Futurelight MH 640s spaced equidistantly around the outside ring, plus two under the stage, and six Futurelight MH 660s on the central truss for gobo work and for 'whizzing about' - all from Universal's moving head stock. These lit the car's entrance, and were then used to fill the presentation area with a nice even, natural light. Doy operated using a Celco Ventura console, located in the very handy circular production area, created between the inner and outer skins of the tent.

The audio, the sources for which included pre-show live saxophone, pre-recorded music and live vocals for the presenters, was designed by Universal's Mike Day. He utilized an Allen & Heath G3 desk, QSC amps and EV S200 MS speakers. The eight EV speakers were secreted under the stage, augmented with two RCF 1018 subs, plus four EAW TF200s on stands, pointing inwards around the periphery of the presentation area.

The presenters' mics were all lavalier tie-clip types. These proved a challenge to control as the presenters were all performing on stage - on top of 10 speakers and a void that acted like a large boom box! Pre-recorded sources were played back on mini-disk or CD.

Universal also provided a three-camera live video system, relayed onto 12 plasma screens circling the walls of the presentation area. These, together with graphics and playback video from four DVD sources was mixed by Mark Kimber, using a Panasonic MX50 desk.

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Unconventional Creation

Accessibility is high on the agenda for the Oxford-based Creation Theatre Company. Its aim is to encourage people who'd not normally set foot in a theatre, to participate in and enjoy their innovative work.

The company doesn't dumb down Shakespeare in an attempt to make it popular or trivial, rather it reworks his canny psychological takes on human behaviour and intense storylines into a relevant and contemporary context. To add further appeal, the company also chooses to perform in non-conventional spaces.

Since 1996, Creation has performed its summer season in the grounds of Magdalen College School, Oxford. The stage area backs onto the natural fork between two arteries of the River Cherwell, and this constantly in-motion backdrop can include anything from screeching wildfowl to walkers, cyclists and inebriated students on evening punting trips! Creation's first summer season, in 1996 attracted 3,400; their recent summer season, which featured *Romeo & Juliet* and *As You Like It*, has taken that figure nearer 20,000.

Obviously the challenge of site-specific work has its own production consequences. Production manager/LD Paul Batten and assistant production manager and technical stage manger Mike Borgia, are both experts in the genre. The production schedule is hectic - with an entire theatre to construct from scratch, two shows to go up in close proximity, two casts to rehearse, etc. The most difficult aspect of the Magdalen College School site is access - which involves traversing two narrow bridges and a good half mile run past the cricket pitches and sports fields to the riverside. The whole infrastructure has to



be imported onto site - from the seating to the portaloos to the equipment, set and everything in between.

The weather is another major factor. This year, the season started with two weeks of scorching sunshine, followed by an unpredictable week with frequent downpours, although this can sometimes provide a dramatic advantage: the night I saw *Romeo & Juliet*, for example, the skies opened for a sustained and very loud torrent just as Romeo had swallowed the deadly vial of poison and slumped over Juliet's sleeping body!

Lighting was simple, although this year Creation upgraded its system to include some robust Thomas Par 64 outdoor lanterns. These were strewn around the space - chained to the trees for security - and used for general wash coverage according to the overall lighting conditions at the time. Upstage, small 'Sun' floods were utilized for up-lighting the set jetties that are built backing on to the water, and to light the large wooden crucifix. Lighting was operated from the DSM's shed secreted behind a large tree trunk stage left.

Creation Theatre's production of *Romeo & Juliet* featured Danny Nutt as Romeo, Anthony Washington as Friar Lawrence and Lisa Ellis as Juliet.

It was a simple two-preset manual board - totally appropriate to the show. At the end of *Romeo & Juliet*, the incandescence of the Pars was replaced by the fluctuating lightsource of flaming torches. *As You Like It* was more extreme, featuring Bengal Strobing Flare pyros that looked stunning and created layers of smoke on the river.

Shows on the site are usually performed without reinforced sound. The natural acoustic of the space is incredibly clear and lively, and the roof of leaves and branches proves a great baffle for containing sound within the performance area. However, in strong wind or rain, the actors have to battle to project.

For *As You Like It*, director Charlotte Conquest commissioned composer Pete King to produce three songs for the show, so sound production was required for playback. The 1kW PA system consisted of RCF speakers, Crest amps and a Sony 350 mini disc supplied by Stage Electrics. The speakers, like the Par cans, were also rigged in the trees, custom weatherised with stylish black bin-liners! Mike Borgia devised baffles for the front of these - bass reflex speakers - to prevent the bin-liners being vibrated - drum skin style - by the low frequencies.

Set and costumes for both shows were designed by Soutra Gilmour. As the two shows are performed in the one space, she wanted to give them different identities - but also retain the unifying elements between the two. Gilmour chose wood as a core material and most of the set is based on wooden planks - including a wooden deck floor, the jetties backing on to the river, and the large wooden crucifix.

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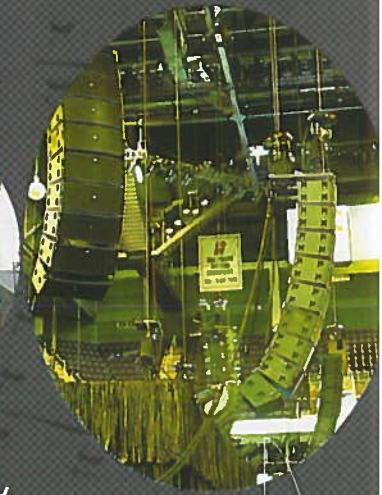
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L&S Eye

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The amount registered on the audio richter scale when fans of Hear'Say recently screamed their way to a new Guinness World Record during a performance at Wembley Arena. The gauntlet has now been laid down to the fans of both S Club 7 and Bob the Builder(!) to beat them.

Shower Curtain?

According to a recent edition of The Sun (it was sent to us, honest!) Liam Gallagher couldn't be bothered to find the toilets backstage whilst at one of the U2 concerts so he chose to pee against a curtain in the VIP area instead. Blackout Triple E will no doubt be delighted with this celebrity endorsement.

£100million

The amount earmarked by The Royal Shakespeare Company for a new theatre in Stratford-upon-Avon, to replace its existing 1,500-seat building.

Blitz Opens NEC Office

Blitz Communications has recently opened a new office near to the NEC as part of its ongoing expansion programme.

The move, a major investment for Blitz, is aimed at giving the company access to the £7million Midlands market. Blitz MD Michael Breen told L&S: "We have invested £500,000 to ensure that we are offering our customers the high quality, professional service that is expected . . . namely, specialist skills in AV, video imaging, interactive media and graphics for business presentations."

The office will be run by branch manager Martin Green and operations manager Martin Clowes, with Ian Riley overseeing the operation.

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MTFX Moves to New Offices

The MTFX Group has invested over £500,000 in new premises just north of Bristol, including five acres of testing grounds and 4,000sq.ft of storage, manufacture and administration offices.

The investment will allow the company to combine all its disciplines under one roof. The first phase is now complete, with the administration and offices having moved over to the new location. The second phase will be completed by Christmas and will include the transfer of all manufacturing processes, hire equipment, storage and sales stock. MTFX's managing director Mark Turner told L&S: "These are exciting times for us and for the first time in our nine-year history we will all be under one roof. This will allow all departments to work in unison and should make collections and deliveries much easier."

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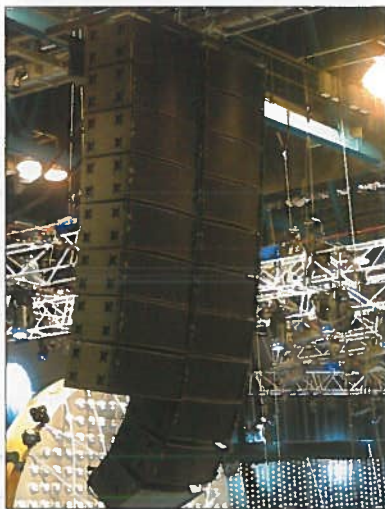


Mobos - Rising Star

The MOBO (Music of Black Origin) Awards is the fastest-rising star of the international music awards circuit. In just four years the event has grown from its niche origins, through last year's production at Alexandra Palace, to the London Arena in 2001. The star-studded event included performances from R. Kelly, Mis-Teeq and Usher, plus Beverly Knight and the legendary Dionne Warwick, amongst others.

Production managing the event was Mick Kluczynski of MJK Productions. "It was definitely the best MOBO Awards ever - the show has finally grown up, and I really enjoy working with the team. This year we had a new director, Nicky Parsons, and new producer, Lisa Chapman, with a 3,500 live audience. In spite of the events in America, we managed to retain most of the artists - only Luther Vandross pulled out."

Sound contractor Britannia Row decided to take the unusual step of trialling a new system at the event. With the help of Telex/EVI's Bob Doyle and Paul Barretta from UK EV distributor Shuttlesound, Brit Row was able to put Electro-Voice's new line array system, X-Line, through its paces on its very first major UK gig. Sound designer and FOH engineer, Derrick Zieba, who has vast experience of such events, confesses to an initial reticence about using the X-Line, as he had previously found line arrays to lack the bottom end required for rock and roll. However,



he was persuaded by Brit Row's Bryan Grant, who had been running X-Line on a number of large Radio One events over the summer. "We plugged it in, selected the pre-sets on the controllers and fired it up, and I have to say, we were all impressed," added Zieba. "The coverage and level was virtually even from front to back, and the bass, despite my reservations, was as good as anything I've heard, which is amazing when you consider all the subs were in the air."

Two Midas Heritage 3000 desks were used for each of FOH and monitors. System processing came from Klark Teknik with the new DN9848, which, according to second FOH engineer Snake Newton, "is far more intuitive and straightforward to use than anything KT have ever produced. I confess I found their previous system processors completely impenetrable, although once set up they worked beautifully."

Once again, Vari-Lite Europe supplied the event's sizeable lighting rig, specified by LD

Eugene O'Connor. "Although we had a reasonable budget, we needed to spec a lot of lighting for the stage and set, which then entailed using a degree of imagination to get the equally large spread of audience lighting needed for TV." His solution for audience lighting was 10 Megalites fitted with Wybron Mega Scrollers, all controlled from an Avolites Pearl desk. "We supplemented those with a wash of VL2C luminaires and bars of ACLs focused onto the tables. It was a cool solution, which gave us a very different audience look."

On stage, a high set was backed by bead curtain walls and set off by three 20ft-high towers, with drape and track specialist Blackout Triple E providing much of the draping and kabuki-style drops. "I like to have as many different levels as possible," comments O'Connor, "and I had the lighting wrapping around the sides as well. So the three 20ft towers carried VL2416 wash lights, along with three VL2202 luminaires, Encapsulite dimmable fluorescents and six 2-light Molefays - quite a lot of lights on the towers." Completing the picture were 35 Thomas Duettes, 40 Molefay 4-Lites, 26 with scrollers, used to create an overhead dancefloor effect in the roof for the handheld TV cameras in the pit.

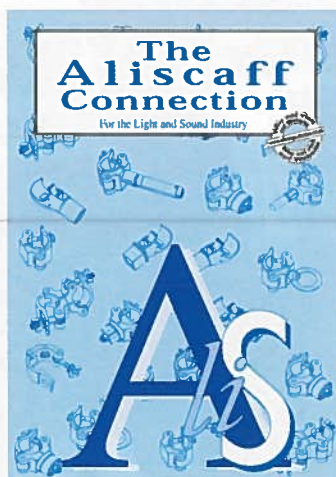
The uprights supporting the circular truss carried VL5Arc wash luminaires, with a further 12 within the circle. The 12 followspots comprised eight Pani HMI1200 and four Super Troupers - the latter on a spot bridge. Also on stage were 128 assorted Vari-Lites, 24 Par 64s, 320 metres of truss, a quartet of single-head Sky-Art searchlights, Molefays with scrollers and 60 Pars. Rounding out the lighting were four-headed Sky Trackers outside the venue.

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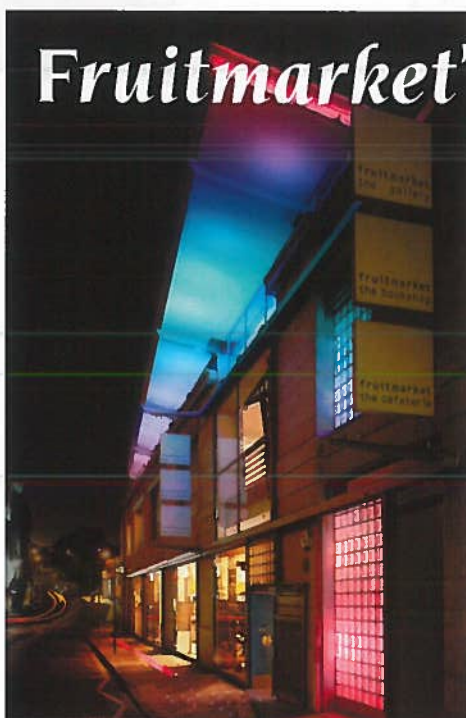
PSA: Collection for WTC Widow

The Production Services Association has opened a collection for the widow of Danny Lee, who had been working as a set carpenter on the Back Street Boys' tour.

Danny was killed aboard American Airlines flight 11 which hit the World Trade Centre's South Tower on 11th September. He was returning home from Boston to Los Angeles to be with his wife Kellie for the birth of their second daughter. Two days later she gave birth to a healthy baby girl named Allison Danielle.

Danny had been on Patrick Stansfield's staff for some years. More recently he had toured with N'Sync, Yanni, Bette Midler, Neil Diamond and Barbra Streisand. A fund has been set up in Los Angeles for the benefit of Danny's widow and, at the request of the trustees of the PSA Welfare & Benevolent Fund, a bank account has been set up to collect and consolidate UK and European donations.

The aim is to give the entertainment industry fraternity in Europe the opportunity to express its sympathy in a very practical way and to minimize the effect of foreign exchange and bank transfer charges. The Backstreet Boys have given generous help to Kellie, and last week Stansfield put together a crew to help Kellie and her family move to her parents' home in Pennsylvania. Cheques should be made out and sent to: PSA Danny Lee Collection, Centre Court, 1301 Stratford Road, Hall Green, Birmingham, B28 9HH.



Fruitmarket's Facelift

Our picture shows the new lighting scheme for the Fruitmarket Gallery in Edinburgh. The project was launched in November 1995 when the Fruitmarket announced an international contest to design a new and permanent lightwork to highlight the position of the gallery in central Edinburgh. The winning design, which came from artist Peter Fink, features a 'roof fin' light triangle, light detailing on the east and west roof and a light pavement. As far as we know, the project is unique in Britain and uses Color Kinetic LED systems installed and programmed by Lighting Technology Projects.

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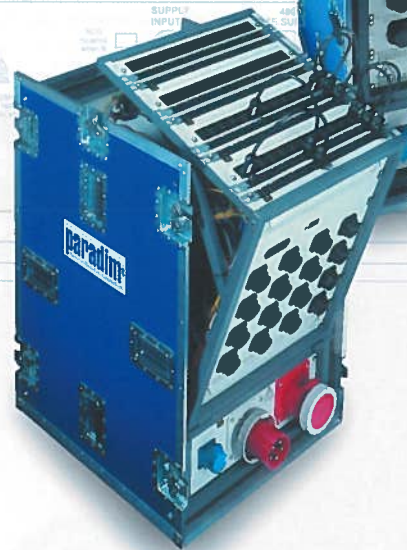
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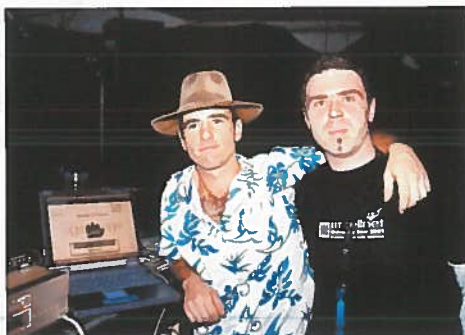
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The Ministry Makes History

The Ministry of Sound has unveiled the only DTS Digital Surround DJ station and multi-channel sound system in the world. The booth - relocated to the far end of the main room - is the first to incorporate eight decks, along with seven sound mixers and seven other input sources in a DTS Surround Sound environment. ProMedia Systems were called in to specify the system, working closely with the venue's technical consultant, Keith Hardy.

MoS selected a Martin Audio Blackline monitoring system to meet the high-system specification of its newly-commissioned DTS 5.1 Digital Surround DJ station and multi-channel sound system - the first in the world. Aware that other superclubs had adopted the Blackline F12 for their house booths, the Ministry of Sound decided to go one better, and on the recommendation of ProMedia's Matt Bate, Hardy asked to demo a pair of Blackline F15s at the club over a busy weekend.



Above, ProMedia's Matt Bate with sound engineer Mauro Tarable. Facing page, the new booth

As a result, house engineer Mauro Tarable and resident DJ Sandy Rivera, gave an unqualified thumbs up - and Hardy extended his order to five of the F15s, to be run in conjunction with an S218 - creating the highest-impact combination in the Backline series. The F15s are arranged in the traditional 5.1 configuration, with the centre speaker mounted horizontally, horn down. The sub is recessed in an enclosure at the centre

rear. Martin Audio sales manager Simon Bull commented: "The requirement at the Ministry is far more comprehensive than normal, owing to the 5.1 digital surround sound design. Using the F15s makes this one serious system, which underlines the importance now given to DJ monitoring."

For maximum slam, the Blackline F15 delivers dynamic full-frequency sound. Powerful 15"/3" voice coil bass drivers and 1.4" exit compression drivers with rotatable horns are housed in a versatile multi-angle enclosure configurable for vertical or horizontal use, allowing the large format HF driver of the F15 to really cut through. The most powerful sub in the range, the Blackline S218 is designed for maximum impact. Its two rugged 18"/4" coil LF drivers are built to withstand the large excursions typical of such high level sub-bass reproduction, whilst large ports ensure optimum tuning and reduce air noise.

The Ministry followed its long tradition of using BSS processing equipment by upgrading to 9088 Soundweb devices. Two networked 9088

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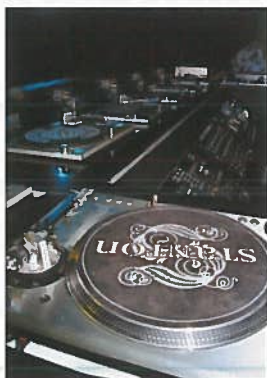
News Round-Up



Soundwebs - essential with so many input sources - provide a digital matrix. The network thus mixes the house and monitor signals from the seven DJ mixers and accepts 5.1 signals from a surround sound source, before mixing them in the house and monitor outputs.

Used with permanently-installed fully-online desktop PC, the Soundwebs provide subs, mains and house, and the three stereo pairs are controlled by a specially-commissioned, custom-built ProMedia Systems Isolator - a control interface allowing the Ministry's DJs to drive the crossovers in Soundweb.

The Ministry's operations director Nodd McDonagh had requested the interface for the new console, and ProMedia's Matt Bate explained that it very much followed the American style. With a system installed and maintained by GSA-New York - following the legacy of the late Richard Long's epochal system at Paradise Garage in the late 1970s - Matt explained that this device was in essence typical of those employed by Long's disciples, Steve Dash and Gary Stewart, although it embraces the new age of digital audio processing technology.



Bearing the fascia legend 'Designed for Soundweb', the system was first beta-tested at Plastic People in Shoreditch and also fitted at The Player in Northampton. Mixing 5.1 signals into conventional stereo audio from the latest 4-channel/8 input Rane MP44 DJ mixers (supplied by Hayden Laboratories) was to prove the challenging element of the scheme.

Bate explains: "When Nodd asked me to make this happen I knew I would need to come up with something a little special and left of field to achieve what everyone wanted from the system."

A custom control interface was designed to complement the PMS 3-way installed to drive the house system. The interface will allow the DJ to creative his own 5.1 programme and play it back, with all functionality achieved directly from the Soundweb network. Keith Hardy summarised: "Soundweb is at the heart of the digital matrix, which will enable us to use DTS as a highly

creative force in two to three years' time, allowing DJs to programme their own 5.1 sound images."

As part of the booth upgrade, the club has specified a pair of Stanton STR8-100 turntables, fitted with Stanton 680HP cartridges. The turntables caught the eye of McDonagh, who was keen to take advantage of their 78rpm facility and the digital outputs direct from the back of the turntable, within the new monitoring environment at the venue.

The STR8-100 includes the best features of both the analogue and digital worlds. It will allow DJs to play forward and reverse with the same amount of torque - even at speeds up to 45 and 78rpm. It will also allow them to plug directly into any mixer without a phono in or ground cable, as well as connect directly to a computer or other digital sampler. DJs can even use the MP3/line input on the turntable to send audio through the sound system - without having to touch the mixer. Stanton distributors, Lamba plc, have used the opportunity to secure a long-term endorsement deal with the club on their industry-standard cartridges. They will keep the famous venue supplied with Stanton's classic 680HP cartridges in exchange for the rights to use the Ministry logo in their marketing.

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Regeneration for Broadway

Peter Boizot MBE, the man who made his fortune from Pizza Express, has unveiled his opulent new leisure extravaganza - a £15 million restoration of Peterborough's Odeon cinema, as part of a larger, fully-featured leisure complex.

Architect Tim Foster set about fulfilling Boizot's dream of recapturing the splendour of traditional cinema in a state-of-the-art modern facility.

Strand luminaires, control and networking components form the lighting backbone in the 1,200-capacity art deco auditorium - specified by Northern Light, who won a competitive tender issued by Theatre Projects Consultants. Northern Light also undertook all the house electrical contracting, working with builder Marriot Construction, while for the specialist lighting they reported directly to Peter Boizot's company, Mistvalley Ltd over the duration of the 10-month contract. The lighting designer on the project was Jim Morse, of Light & Design Associates. This was no small project for the overall budget for electrics (including alarms and security), production lighting, sound and projection equipment ran to £1.3million with Strand equipment alone accounting for up to £75,000 of this.

Northern Light project manager Nigel Love explained that the imperative had been to upgrade the venue to multi-purpose usage. He decided to base the lighting closely on his experience at the Lowry in Salford - particularly the Quays Theatre - and thus specified the Strand 530i with LCD monitors, keyboard and rigger's remote. Running Tracker moving light software, the desk outputs on the ShowNet ethernet network between the 72 channels of



Broadway technical manager Jason Williams with the Strand 530i desk in the venue's projection room, and below, the striking art deco interior.

Pirouette moving yoke heads with Chroma Q colour scrollers, 80 Thomas Par 64 cans, a pair of Clay Paky VIP projectors (providing the 'Broadway' gobo patterns) and two Selecon MSR 1200 followspots.

In cinema mode, the venue boasts a 15m wide

7.5m high cinema screen which can be moved on tracks from its 'play' position in the proscenium to a 'home' position far upstage, enabling the space to be quickly reconfigured. For a live performance, the Broadway offers a 15m wide 9.6m deep thrust stage with adjustable house border, two full sets

Strand LD90 dimmers, which drive the house, work and architectural lighting, and 132 circuits of EC90 which handle the production lighting. Two SNI03 network nodes, which extract or input DMX signals, extend the control and protocol options.



Two Howard Eaton DMX distribution plug-ins (including one in the stalls production area) stream DMX to two independent rings from the dimmer room control rack to and from all the lighting positions. The distribution system is also patchable, enabling touring companies to connect multicores straight through Broadway's DMX circuits without the need to run any awkward control cable.

As for the stage lighting, the theatre has been equipped with a total of 178 circuits. The two lighting bridges each contain 18 circuits while the circle front lighting position offers a further eight. Luminaires include 10 each of Strand's 23°-50° and 15°-30° beam angle SL zoom profiles, 10 1.2kW Cantata fresnels, four

of drapery (black and silver) and a set of electrically-operated house tabs. There is no fly tower, but three line shaft winches have been installed for flying lighting bars and lightweight scenery. Various hanging points and manual and electric chain hoists enable incoming companies to fly their own trussing, etc.

At the front of the forestage, a lift has been included which has been designed for raising a cinema organ although it does offer the facility for moving equipment in to storage under the stage. Telestage Associates was responsible for the venue's stage engineering.

The Broadway has two individual sound systems - a Tannoy system for productions and an EAW cinema system. Production sound uses Tannoy T300 cabinets fixed on the lighting booms on either side of the proscenium and from a flown central cluster, which can be hoisted up in to the ceiling void when in cinema mode. The Tannoy speakers are powered by Lab Gruppen amplification and all equalisation and delays are set using BSS Soundweb units.

The cinema sound system is made up of five EAW CB2591x Screen loudspeakers, four SB184C subwoofers (shared between the cinema and production systems) and 28 CR72 surround loudspeakers. The CR72s had to be specially painted to match in with the Broadway's sumptuous interior. All are driven by QSC amplification. A Soundcraft K4 mixing console with a pair of Tannoy studio monitors is located in the projection room, and for live mixing purposes it can be moved to the rear of the stalls and patched in to a dedicated sound box.

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Cauldron of Flame

On September 15, 2001, exactly a year since the start of the Sydney 2000 Olympic Games, Sydney's Olympic Cauldron was re-kindled in its new, permanent home at Homebush Bay.

The cauldron was re-lit to beating drums and resounding cheers in The Overflow Park on Olympic Boulevard. The stainless steel bowl will stand as a permanent reminder of the success of the Games. The project was conceived and designed by Barry Webb, Iain Clark and Fiona McVicar of Barry Webb & Associates, with Show Technology's architectural products manager Jonathan Ciddor assisting with the configuration, control and integration. Installer Beyond AV was responsible for the co-ordination, installation and programming of the lighting system.

The cauldron sits upon a concrete slab at ground level and beneath it is a large chamber, 5 metres deep, housing the lighting equipment, pumping and gas controls, and a large water tank. On the ceiling of the pit are 22 Clay Paky Golden Scan 3s arranged in two rings - 16 on the outer and six on the inner. The scans project light up through 220mm round glass portholes. As well as their excellent positional capabilities, the Golden Scans were chosen for the HMI 1200W lamp, which can effectively cover the distance to the cauldron and its support structure, and the water flowing down from above. The beams remain static and usually



white in colour, with the colour-changing option reserved for special occasions. "Because the beam angle is quite wide and the porthole quite narrow in diameter, it was very difficult to get the beams to line up properly," explained Beyond AV's Con Andrews. "Consequently, movement of the beam is virtually impossible."

Fiona McVicar spent some considerable time ray tracing the beams to ensure that they would achieve an even light distribution across the whole of the cauldron and water flow. To accommodate the requirements, Show Technology and Clay Paky provided a special wide-angle lens combination to increase the beam angle from the standard 16° beam angle out to 23°, enabling more uniform coverage of the cauldron.



The control system is based around Martin Pro's LightJockey PC-based system, which now has real-time scheduling thanks to a software upgrade. The whole Olympic precinct's exterior lighting was controlled by a conventional Clipsal CBus control system, including the Overflow Park, so it was essential that a simple interface allow the pre-programmed cauldron shows to run reliably and in co-ordination with the park lighting. The Martin AD-DA interface for LightJockey allows multiple external triggers to activate whole cue sequences. This way CBus provides a contact closure and initiates the show.

Andrews described the significant components of the system: "With 22 luminaires operating in an industrial environment, five metres off the deck, and below ground, with high pressure water and gas piping running all over the pit, the DMX is via individual opto-isolated runs through LSC splitters. This way, if there is a cabling fault it is very fast and easy to locate. We also had to co-ordinate the power-up of the scans. Striking 22 1200W HMI lamps pull a significant current that would have required excessive power engineering. Using DMX to drive standard mains electrical contactors, the scans are turned on and off in a sequence and are ready for each show."

Jonathan Ciddor confirmed that these were significant issues identified during the design stage and were easily solved by Show Technology and Clay Paky recommending the GS3s for the project.

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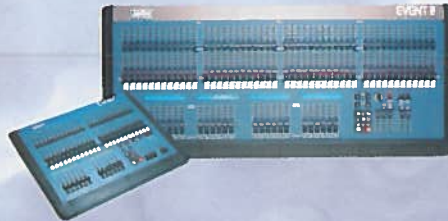
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If you're looking for a compact, full-featured lighting console - one especially designed to control both conventional and automated lighting fixtures, then don't look past the Event 4.

The Event 4 is a hybrid console, featuring all the familiar characteristics of a 2 preset memory board along with an Effects Processor and Fan Function. This easy to use and highly flexible console now comes with version 4.2 software

Event 3

Event and Event Plus offer all the simplicity and features of the ESP II with additional programming and playback options. Event is a hybrid, designed to give maximum hands-on flexibility, but with sufficient features to control moving lights and colour changers with all the sophistication of most dedicated moving light consoles.



ESP II

The ESP II successfully combines power with simplicity. One button recording and editing of scenes, chases, stacks and crossfades make the ESP II an ideal choice for the demanding requirements of live shows.

Stage 12/24

Stage is a range of DMX consoles with 2 preset and flash manual operation, which can also be used in Wide-Mode to double the number of available channels. In addition Stage has 2 Hold memories and a chase facility.



4PAK II

The 4PAK II integrates the functions of both a control desk and four dimmers into a single economical unit. The 4PAK II is suitable for stage lighting in schools, for bands, theatre groups and for effects switching in mobile applications. The 4PAK II is rated for a maximum total load of 2400W which can be spread across the four channels or contained on a single channel.

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Ambient at Amsterdam's Villa Arena



One of Amsterdam's latest landmarks is its futuristic stadium, the Amsterdam Arena. Home to Holland's most famous football club, Ajax, the Arena has also created a number of opportunities for developers. Since its completion in 1996, the surrounding area has fast become a hotspot of urban renewal, with an ever-widening range of restaurants, cafes and hotels, malls, cinemas and business centres.

One such development is Amsterdam's new design emporium, Villa Arena. Conceived as a stylish home furnishings center, the building includes over 70 designer stores, and is intended to address the growing reluctance of shoppers to spend time browsing in stores, and to counter the allure of the cyber mall by offering a degree of entertainment, and a range of ancillary, non-retail facilities. With this multi-functionality in mind, Villa Arena required a lighting design that could match the modern demands for versatility. Lighting designers Hans Wolff & Partners asked local lighting supplier Fairlight to help find a creative solution, particularly to enhance the interior at night. Having previously had success with the Martin RoboColor Pro 400 on another shopping mall project, the choice was made to use the Pro 400 with a 33-degree lens.

Key to the Villa Arena experience is its light, spacious interior. Its four upper floors are arranged around a central atrium and dominated by a transparent air-cushion ceiling. The roof is formed by two transparent, air-injected membranes and supported by a light steel structure, an attractive feature but unable to support the originally specified downlights. Wolff's solution was to use 74 RoboColor Pro 400s instead, arranged in two rows on the sidewall. The top row projects light on the ceiling in the evening. "The ceiling in shopping malls is often neglected. Not in this case," observed Wolff. "With this lighting concept we didn't need the roof to support any fixtures, which freed us to use the giant roof construction as a decorative element instead."

A bottom row of fixtures projects downwards to the shops and restaurants below. Using the Martin ProScenium software package, the colour-changers are programmed to create several subtle moods adapting to the time of day. In addition, light sensors allow the ProScenium software to make constant adjustments to ensure that Wolff's lighting scheme is always in tune with the level of ambient lighting and does not draw focus away from the shops. Intensive use has also been made of the calendar function of the ProScenium software. Special colour schemes have been created for Christmas and Easter. The results have been very well received, particularly by the project's financial backers, who aim to use intelligent lighting on similar projects in the future.

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Broadway Masterclasses Cancelled

Entertainment Design magazine has announced that the 2001 Broadway Lighting and Sound Masterclasses, scheduled for 5-9 December in New York City, have been cancelled.

In a statement issued on the magazine's website, the organizers said: "Due to a variety of circumstances, not the least of which is the attack on the World Trade Center in New York City on September 11, publisher Jacqueline Tien, editorial director David Barbour, and editor David Johnson have decided that the classes could not be presented with the kind of quality the industry has come to expect from this annual event."

Jacqueline Tien further commented: "We will now re-channel our energies toward celebrating and supporting our industry and friends at this year's EDDY Awards, in Entertainment Design and Lighting Dimensions magazines and at our LDI show, this November in Orlando." The annual Entertainment Design EDDY Awards, scheduled for Friday, December 7 at John Jay Theatre, will continue as planned.



Maltbury Ltd has taken the decision to sell off the hire part of its business to a newly-established company, LEL Hires Ltd. Run by Jason Tucker, proprietor and managing director of LEL Enterprises Ltd, the new venture will operate from Rochester, Kent, whilst managing director Philip Sparkes (pictured) and Maltbury sales will remain based in London.

New Set-Up for Maltbury

Since 1995, the sales and hire divisions of Maltbury have been managed under one roof by Philip and his team. "We are delighted to have Jason taking over responsibility for the hiring out of Maltbury's staging systems," said Sparkes, who will now be able to give his undivided attention to the sales side of the business. He added: "This streamlining of the business allows us to continue to provide our clients with an efficient and professional service while at the same time planning for future expansion."

Having previously worked for Maltbury running the hire team and later co-operating with the company on a number of projects, Jason has a thorough understanding of the product and market. LEL Hires will stock Maltbury's established range of modular staging systems - Steeldeck 7.5, Metrodeck and Ambideck - as well as a wide range of accessories.

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The Future Shape of Sound?

Anybody logging in to the website of *New Scientist* would have come across an interesting story this month which might well change the face of touring as we know it.

The story, posted on October 10, concerns the development of a new style of inflatable loudspeaker developed by US manufacturer SoundTube Entertainment. The idea behind the new system is that the speaker is transported flat to the venue and simply inflated on arrival. Although *New Scientist* couldn't extract full details from SoundTube, and when we contacted them they advised that these would be available in late November, the article suggests that the speaker driver would be mounted in a flat, rigid board bonded to a large bladder. "When the bladder is inflated, it expands to form a box shape resembling a speaker cabinet. The bladder has several chambers so that the whole thing won't collapse if one is punctured. At the end of each gig, a vacuum pump sucks out the air."

The article also touches on the work of UK company Ellula Sounds. Whilst aimed at the home market, Ellula's inflatable speakers are no less interesting. The company, Loughborough University's only student spin-out, became a registered operation just six months ago, and its product range looks directly into the face of markets worth billions of pounds. Thanks to an exclusive licence and patent with NXT, creators of the flat panel speaker technology, Ellula is currently the only sound system in the world that uses an inflatable form to produce sound. It has just secured an exclusive global licence to go into partnership with Budweiser to use the inflatable speaker system to promote Budweiser worldwide. Watch this inflatable space!

JBL Subwoofer Powered by Crown

The new MPro Series MP418SP (pictured right) from JBL Professional is an 18" subwoofer with its own Crown two-channel integrated power amplifier.

Designed for use with other MPro Speakers or powered speakers such as EON G2 models, the MPro 418SP is a versatile solution for low frequencies for live music and DJ applications.

The MP418SP is a powerful, single 18" (457mm) subwoofer in a compact bass reflex enclosure with a frequency range of 30-150 Hz. It features an integral dual channel amplifier/signal processing module specifically designed and built by Crown Audio. This provides two channels of power with 660W at 4 ohms. The second amplifier channel can be used to power a full-range speaker or a second subwoofer. The amplifier module also passes through line level signals for powered satellite speakers.

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PNX Series from Renkus-Heinz

Renkus Heinz's new PNX Series loudspeakers offer the same high level of system integration and performance as the active powered PN Series, with external System Specific Electronics.

The PNX Series consists of 10 compact full-range two-way loudspeaker systems and five Reference Point Arrays (RPAs). They incorporate design features such as rotatable Complex Conic horns,

TRue Array Principle (TRAP) design and RPA systems integration. The ultra-compact PNX61s, PNX81s and PNX82s provide the studio monitor quality required in many of today's high-end applications. Multi-angle enclosures with 6" or 8" woofers and rotatable Complex Conic horns make it easy to deliver transparent source reproduction from floor monitor positions as well as stand-, wall- or ceiling-mounted locations.

The PNX121 and PNX151 provide the solution when more output or tighter directional control is necessary. The PNX121 features a 12" woofer, 1" high frequency driver and Complex Conic horns. The larger PNX151s have 15" woofers, 2" high frequency drivers and larger Complex Conic horns for even tighter directional control. The PNX Series 'plug and play' Reference Point Arrays make it easy to incorporate fully-integrated, electro-acoustic PNX loudspeaker clusters into audio system designs for venues where array coverage is required.

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Court's Speaker Check

A complete loudspeaker and audio test system is now available from Stephen Court - creator of Sound Check - one of the world's best selling test CDs. In the form of plug-in hardware, a CD-ROM for Windows and calibrated measurement mic, Speaker Check uses CLIO MLS technology which allows accurate measurements in ordinary room acoustics. The system converts a PC into a Pen Recorder and printer, Real Time Spectrum Analyser, Dual Channel oscilloscope and millivolt meter. It allows the measurement of frequency response, impedance curves, distortion v frequency, impulse response, phase response and a host of other useful speaker and audio system measurements.


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colour to dramatise

A strong Rose Purple sidelight (supergel #48) mixed with white pars isolate the stage from the romantic Deep Orange (e-colour+ #158).



Pictures of the a-ha "minor earth major" tour courtesy of a-ha

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Jojo Tillmann is a new international lighting designer. His recent credits as lighting and stage designer include a-ha's world tour as well as tours with Vonda Shepard and Chris Rea.

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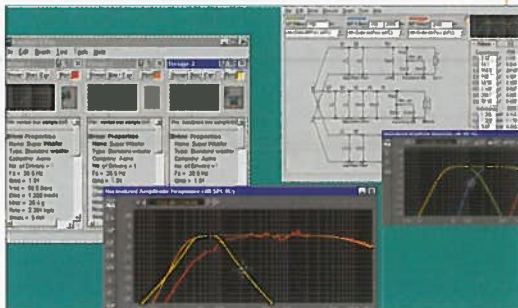


BassBox Pro/X.Over Pro

BassBox Pro and X.Over Pro are a suite of programs designed to give the constructor a hassle-free method of constructing their own speaker cabinets.

BassBox Pro has a selection of seven cabinet styles with user-customizable parameters including dimensions, driver choice and vented or enclosed styles. A wide variety of drivers are available from including single, dual and three-way cone drivers and flat radiators. The BassBox software is aimed at the home/semi-professional constructor looking to build cabinets for the home hi-fi, small venue or car.

To this end the software has a section depicting typical home and car acoustics to help the constructor choose their design. X.Over Pro is a standalone crossover design program that is quite comprehensive and allows the user to design their own crossovers or modify examples. All parameters are calculated and response graphs updated as values are changed. Graphs are generated for common requirements such as 3dB crossover points, as well as showing phase lead/lag of the wave-fronts of each driver in the



design. X.Over Pro would be useful for professionals, as well as home constructors, as the maths involved in the crossover design is all taken care of, with excellent graphical representations. In both cases the Windows-based software is easy to use with excellent manuals explaining from first principles the nature of speaker operation and the parameters involved in speaker design. If you fancy having a go at building your own cabinets for the home or small venue, but are too lazy to reach for the calculator and a textbook, then this software is for you.

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High Power PAM Amplifiers

CIE-Audio, exclusive UK representative for the Inter-M commercial and pro audio range, has announced the launch of the latest addition to the 'PAM' Series of modular amplifiers.

With a successful track record gained from the smaller 60W and 120W versions, the new PAM-240 and PAM-360 benefit from many of the features which have made this product so popular. In particular, the PAM's unique modular ability to 'slot-in' two music modules from the choice of tuner (PAM-T), CD (PAM-CDA) or cassette player (PAM-D).

These new 240W and 360W 100v line amplifiers also feature selectable priority outputs and six mic-line inputs with selectable phantom power. These desktop units also come supplied with an optional rackmount kit.

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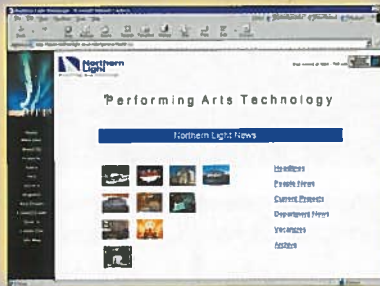
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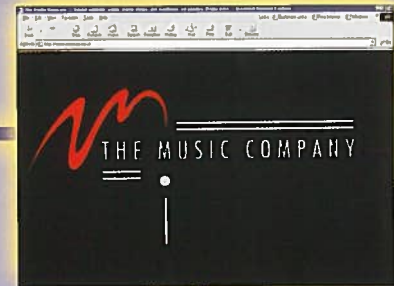
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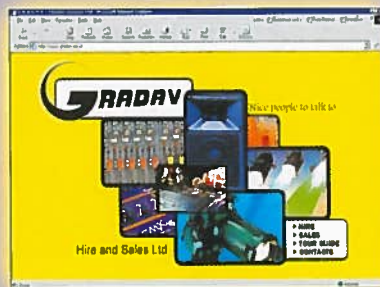
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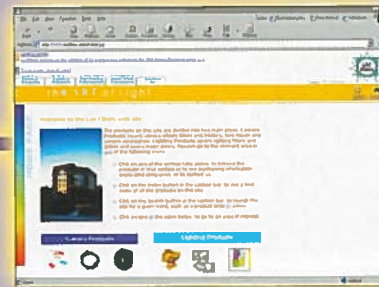
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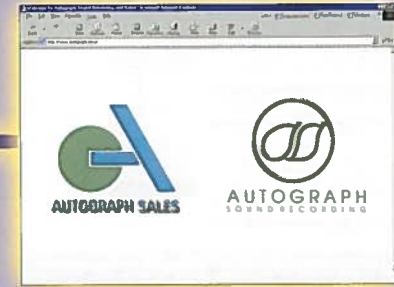
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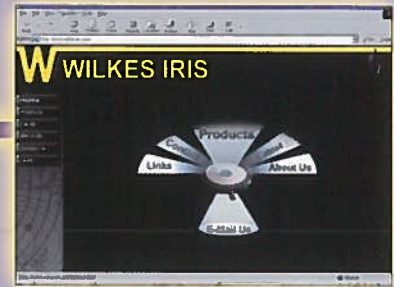
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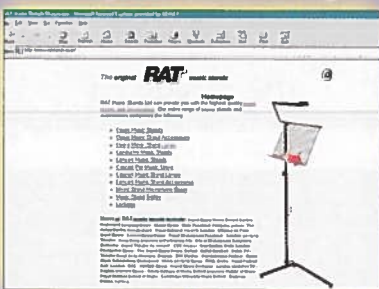
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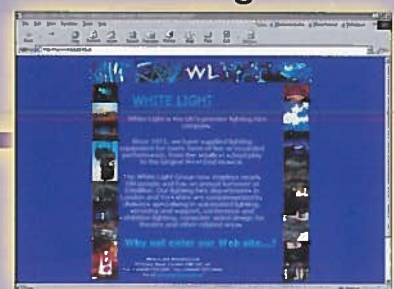
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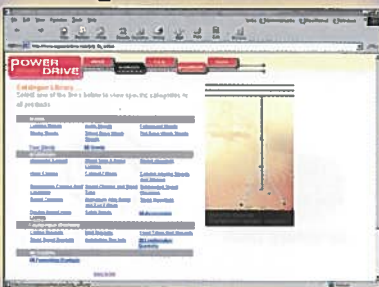
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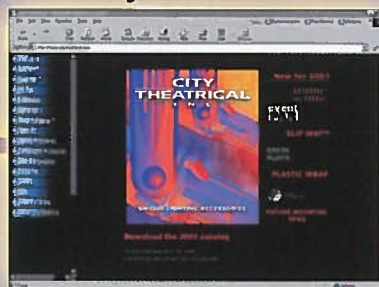
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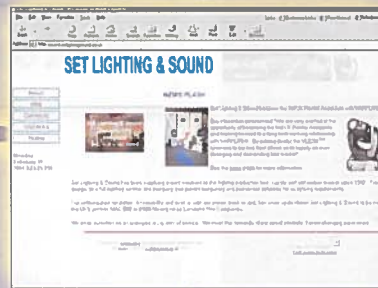
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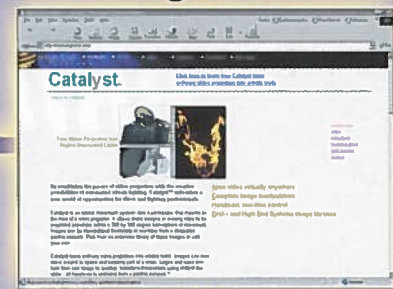
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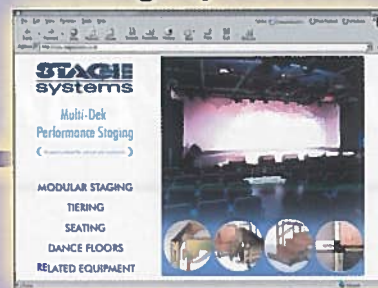
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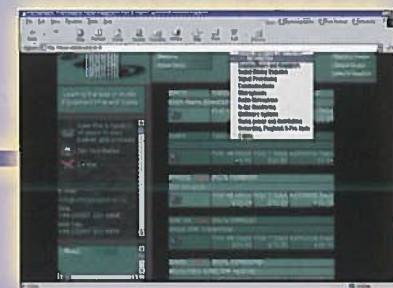
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TOMCAT GLOBAL

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Steve Moles on Janet Jackson at the MGM Garden Arena, Las Vegas

These are strange times in the USA. I've been here more times than I care to remember over the past 30-odd years and spent in excess of three years living and working here, yet I've never encountered a time when the vast majority of the American populace can name the Prime Minister of Britain, let alone find our country on a map.

What has this to do with Janet Jackson? Well, even at a superficial level, the reason for the USA's new-found knowledge of international politicians is the same as that which has led to Ms Jackson deciding to cancel her planned tour of Europe this winter. It's not a subject to be ignored, even in the context of a journal such as this. Everywhere you go the US flag is flying; amongst Ms Jackson's audience maybe 15% sport T-shirts bedecked with the ole red, white and blue, and all around the auditorium is the very noticeable presence of heavily-armed policemen. It's three weeks since the world watched its most powerful nation being savagely raped live on TV. The shock here is now passing and some Americans are slowly picking up their lives and learning that it's still OK to go out and enjoy yourself - two sold-out shows at the MGM Grand pay testament to that.

AUDIO

This is the story of a frustrated man - Raoul 'Loadbar' Trent (for political reasons he's travelling under an assumed name) is one of the most taciturn sound engineers I've ever met: "I don't really want to talk about this tour," he said. He's been that way since we first worked together in '86, but having now heard the show I can concur with his sentiment, for this is an act that is plagued musically by its need to lean on what took place in the recording studio. Thankfully, that does not stop it being truly spectacular, or in some ways gratifying, but in essence audio is relegated to a secondary role, required only to fulfil the job of momentum through incessant driving drum and bass beats.

Thus Trent is reduced to the dismissive: "This is the accountant's system," referring to the Clair Brothers I4 system. "It's about truck space, not audio." But when drawn about the subsequent arrival of

the extra bass cabinet, the I4b, produced sometime after the I4 finally made the old S4 redundant, he noticeably warms. "Well, it was the accountant's system, but OK, now with the '4b, and the fact that that means taking more truck space, it's turning into a system for sound engineers." And then he added, in his by now familiar sardonic but ultimately acutely accurate way: "Of course, what it really is now, is the production manager's system."



And how does the PM's system sound? Well the coverage is complete, the vocals especially retaining a dominant position in the mix throughout the building, but like all these line arrays and their 'accountant's' solution, as well as the subs there now hang another six cabinets each side, off axis, for the thousand or so who sit behind the coverage of the main system. "Something like this hung right in the middle would be good," rues Trent. Strange how I heard the echo of 50 sound engineers when he said that.

In fairness, the system potential is good, but as said, the content is compromised, a telling feature for Trent. Maybe that's what has worn him down, all this potential, and for what? A weak voice that spends huge sections of the two hours concealed by 'sounds' and in an over-harmonized wrapper.

"Whatever you can get, I get it, it's all Pads." But her voice always sounds treated? "Well, it's lightly harmonized, I use two types of harmoniser," uh huh, "and a doubler, but not on the ballads." Fair cop, the ballads do sound natural, but they emphasize the thin, childlike character of her voice. "Sometimes she can sound like a submarine broaching the surface," a reasonable simile when you watch her dancing and try to imagine when and where she catches breath. "I use a Crown mic in her headset: I use the Countryman for Madonna, and frankly Janet treats it better, if it drops she'll gently reposition it, so I can't complain."

But the essential problem is music signal: the band is sub-summed to the foundation of an overbearing, studio produced, hard disk which delivers excessive layers of



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weirdly EQ'd and/or tightly compressed sounds and other similarly strangled voices. There are two guitarists, a bass, and drums in the band, yet with the exception of cameo licks and chops from any of them, you hardly heard them. The drummer had his moments, but even this tended towards the triggered sample, ultimately buggered as it passed through the tight noose of an electronic sphincter.

"I could do with a digital desk out here, but there isn't the budget," adds Trent who is working with a Midas XL4. "All I can do is take what's there and work on the levels." There's surely a strong argument for an artist such as this, who relies heavily on studio production for her distinctive sound, to produce a hard disk recording split off the input side of the studio desk, so a live engineer can use the source signal, and modify to his environment?

Pete Buess on monitors has an altogether more pleasant time. Even his place of work is comfortable; a roomy aluminium stage module resembling the control room of a warship built by Tait Towers. Buess, and the back-line tech on the opposite side of stage, can quietly assemble their work-zones out of harm's way on the arena floor each day, and then deftly slot them into the main stage when all the construction hubbub is over. Buess's biggest problem is sweat: "Janet's drenched in it by the end of the first number and her ear moulds just slide out." Buess uses toupée tape to hold them in, but even this needs replacement whenever she comes off for a costume change.

"I've got the whole band on in-ears, the Shure 700 system, with a mix of Futuresonics and UE5 moulds; to make the EQ on both types about the same I set the UE5s flat and boost the Future's. Everyone has a full left/right mix, and there's a row of AM12s across the front of stage for the dancers." Buess confirms: "She's a light singer," but he's luckier in getting what he needs than Trent, "she's been on in-ears for a long time and knows what it's going to be like. She's so sweet, always please and always thank you. So when she loses breath she knows what to expect. I'll ride her fader 15 to 20dB between lines in the song - I'll sometimes even pull the downstage wedges maybe 8dB just to get her voice back up there relative to what's around." This latter manoeuvre is no doubt a great aid to Trent out front.

One neat trick Buess uses is on the limiting side; rather than use limits directly on the in-ears he has a huge rack of dbx 903s. "I have limiting for every instrument. Why squash the whole programme when it's only a single instrument that's jumping out at any one time?" Which seems sound logic, if you'll pardon the pun, and certainly makes for a happy band. Are 903s expensive?

SET AND LIGHTING

For once the distinction between lighting and set is more firmly drawn: although the two media are inextricably entwined, both stand distinctly enough to warrant mentioning this fact in opening. Not incongruous, nor overtly at odds, it's just that both are strong and distinct. Yes, the set does demand to be lit



in a certain way, but the stage is curiously open, a tableau upon which many things are possible and lighting may, in many instances, do as it pleases.

Mark Fisher, the man charged with developing and rendering his ideas and those spawned from within the Jackson mind, has realised a stage set that in some ways dwarfs his subject, yet

in others manages to project her stardom out to the furthest seats. If you saw Velvet Rope two years ago, prepare to be surprised: where that was opulent, velveteen and lush, this is stark, almost harsh on occasions.

"I started working with Janet last summer [2000]," says Fisher. "What she wanted was to do something without reinforcement, to demonstrate she could perform without anything for support." The show opens with Jackson 20ft up atop a Zip lift. (Zip: the impossible self-rigidizing vertical tower device produced by Tait Towers, where three bands of coiled tin sheet bind themselves into a tumescent Toblerone.) "There she is, right in front of a bare empty stage, completely in control, the focus of everyone's attention," explains Fisher. If she needed confirmation then the cheers of the crowd are her support.

Behind her, far behind her, stands a vertical grey wall rising some 40ft and covering a full 70ft of width - no band, no set (per se) and no video. The stage is a massive dance-floor and as the Zip descends, so too do five dancers who've waited, concealed on tiny lamp dollies high up in the rig, that now reveal themselves like open elevators motoring down the escarpment of the back wall. For the first few numbers there's nothing else, just her and the dance troupe. "The show is designed to build," continued Fisher. "It's a deliberate sequence that leads eventually to a huge reveal, a complete opposite to the opening."

This was no simple pathway for Fisher; he proposed seven or eight designs for the opening sequence alone, before Jackson settled for this one. The subsequential developments of the stage set are discreet, understated even, making the finale all the more spectacular.

Left, the now legendary *SBM* sequence . . .

THE LOWDOWN ON THE JJ TOUR

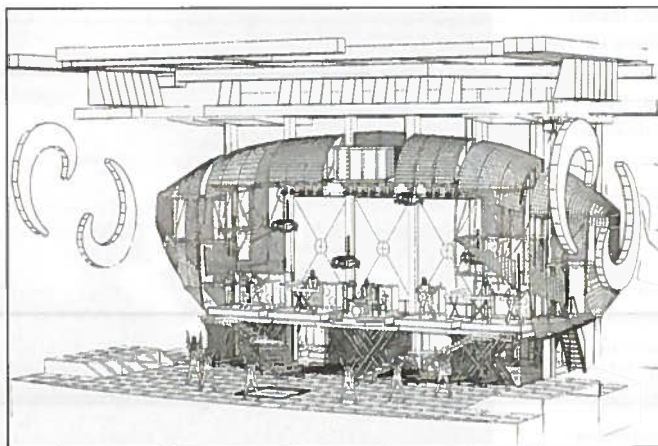
Abby Rosen has set a bit of a record - she's the first lighting designer in quite a while that has lasted the course of a Janet Jackson tour.

Michael Tait, he of Tait Towers, is responsible for giving the world the lightweight Par Can. While Bob See was busy turning New York lighting crew into musclemen with six-lamp bars of Steel Altman Par Cans, Mike Tait was quietly back in Notting Hill cutting the bottoms out of catering tins of Nescafé and fitting the infamous bulbs for his next tour with Yes.

Our man Trent has also made his mark as a sometime columnist; a fair hand with a pen, he has said things about Wembley Councils' licensing authority we mere mortals can only dream about.

Abby Rosen's Mum is a modern dancer, hence her empathy for the art.

The centre panels of the back wall - the first reveal - are affectionately known as 'garage doors' by the eight carpenters out on the tour, and appear to be simple roller shutters. However, I'm reliably informed by head carpenter Seth Goldstein that they are in fact "fiendishly complex electro-mechanical devices devised by those geniuses at Brilliant Stages in the UK." Having taken a close look, and noted that they have yet to jam on what has already been a five-month tour, I yield to Mr Goldstein.



At half height, the shutters reveal the band behind and then go on to frame an LED screen. Later in the show, at full height, they leave in their wake a silvery grid (the vertical trusses that support and guide them) as backdrop. Dave Sowa, by title project manager for Brilliant's sister company Tomcat, explained: "We looked at proprietary shutters to begin with, but at this height they were all too heavy. Instead we found a poly' extrusion that works as an interconnecting slat and built our own."

Brilliant's own ingenuity at solving a simple touring consideration also proved a happy find: the plastic material is dull matt and takes light beautifully, and also being relatively flexible, is not consistently true, so the facing surface is very slightly irregular, like an old shiplap building. It's a feature LD Abby Rosen doesn't fail to exploit, lighting variously from front and side for a flat, featureless cyc-like effect, and then acutely from above, casting thin shadows slat to slat, producing strong horizontal lines that serve to accentuate the width of stage.

For most of the show the set remains firmly in the two-dimensional domain. Although the band risers do motor downstage of the wall and rise to eight feet - a smooth bit of trucking from Tait Towers, blink and you'd miss it - the overwhelming sense is of a flat wall with the dance routines in front. There are two deviations from this - a short 'acoustic' interlude, just her and her guitarist on stools downstage, which through careful lighting alters the focus completely - and the now-infamous S&M chair. (The S&M chair is a comic interlude where Jackson, in spray-on leatherette cat-suit, subjects a male member of the audience to some sexually provocative humiliation while he's strapped to a medical couch, in front of 20,000 people. Interestingly, the young man in Las Vegas was not so pliant, repeatedly duetting on Jackson's more suggestive lyrics, attempting to lick or kiss our Janet's face when in range, and eventually making some muscular pelvic thrusts that visibly discomforted Jackson. Needless to say a new strap was added the following day.)

But it's the climactic appearance of 'Asia City' that is Fisher's grand coup de théâtre. Enormous set pieces high in the air and part-

concealed behind the wall, now gracefully travel forward, presenting a decidedly 3D face to the audience. The engineering of these pieces warrants mention, if not for scale, then certainly for the means by which they move - they could so easily have wobbled out and diminished the effect completely. "Mechanically it's exactly as I designed it," said Fisher. "The huge centrepiece being counter-weighted so it rolls evenly into place."

The even larger pieces to either side do similarly, Brilliant Stages having pulled off another neat and practical piece of engineering simplicity. "What we have," explained Sowa, "is the set pieces each side suspended from four finger trusses, with an identical support grid above. A cogged belt-drive motor integral to each finger pushes the set pieces outwards, working against the support grid above." If that sounds a little odd, imagine the finger truss as the track bogeys of a bulldozer, the support grid being the ground.

Simplicity is typical of all aspects of this set; everything is built to be as quick and easy as possible. "It's all based on ideas I've used for AC/DC and Tina Turner," said Fisher. "You need size to deal with arena venues," but how do you build things that are so big with time and space at a premium for touring productions?

"Here the back wall, elevators, guitar tech' and monitor areas, and the Asia City can all be built simultaneously (hence eight carpenters). Once the PA and lights are up, everything rolls into place." And that's not the only practical consideration: with a world tour in mind, everything fits into standard airfreight palettes - quite hard to believe when you see the size of the end product.

Fisher is used to working with several contractors, the fact that Tomcat, Brilliant Stages and Tait Towers reside thousands of

miles apart made little difference: "From the studio we run a website with a special secure area for the contractors where we maintain a library of the drawings. What that means is that wherever you are, you don't have to download huge 3MB files from e-mail, but just log onto the site and be able to see any modifications made."

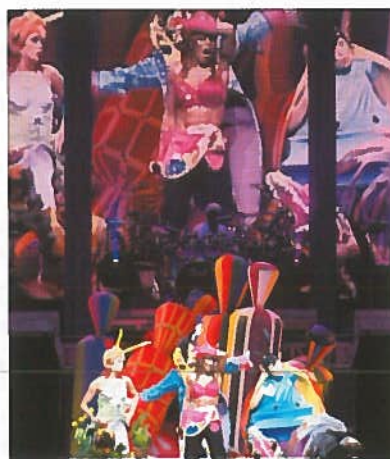
This ability for each contractor to be able to monitor ongoing work

proved especially crucial in this instance, as the tour dates were brought forward a couple of weeks. "You don't have to wait for someone on the other side of the world to wake up," said Tony Bower, head of Brilliant Stages, "you can just pick up the information anytime." Bower also admitted that having the support of Tomcat in the US proved crucial: "Having that depth of field proved a real advantage, especially with telescoped time frames."

The lighting is made distinct by that desire of Jackson's to perform, without support, and by Abby Rosen's ability to take this and conjure with it. That's no easy task for the huge back wall presents not only opportunities, but problems also. "Janet was very involved in the presentation of the show. For example the minimalism of the initial look, and the idea for an all-white start to the show, are directly from her." Rosen, it should be pointed out, was interviewed after we saw the concert, the lighting actually being controlled on the night by her colleague Kille Knobel from an Icon

console with Ethan Weber calling spots.

"She looked at all the aspects of the show in rehearsal," Rosen continued. "The ideas for the scenic elements were in place before I was involved in the project." Not that this was a problem: "Collaboration with Mark is one of the nice things about any project with him."



With such a huge stage set, there's no shortage of places to hang lights, except that bare wall, and everywhere else lights are there in profusion. LSD is the main contractor, there being no less than 79 Icons in the rig, and a truck-load of strobes (more than 300). Lighting for some parts of the set was spoon-fed by their very form, for example the garage doors cried out for them, and there they are, nine DHA Digital Light Curtains strung in a line directly above them. But there are

weirder bits, some curved trusses that look decidedly like pieces from the old Stones set (last tour), which rigged horizontally serve to break the monotony of grid work, and grant Rosen an almost limitless positional option above stage. Paisley shapes to left and right hung vertically do similarly and there are so many location points in fact that it's easy to lose sight of the additional 82 Vari-Lites up there as well (VL2416s and VL2402s).

Her main consideration was to light the whole as a dance show. "What's interesting is how the bodies move in space. You have to light that at an angle, to mould the body with light and shadow." This was something Rosen wasn't always able to achieve, 'bright and clean' being another of the Jackson desires. "The problem was trying to get the performers to stand out against the back wall. Both the wall and floor are very hot, so getting bounce onto the wall was unavoidable. If you just left the reflected light on the wall it looked dingey, dirty almost, so I had to always light it properly."

It's rather like the conundrum of the in-the-round performance, you always need twice as much light as conventional staging to lift the performers, only here it was the sheer dimension that predicated double the light. With lighting on the wall obligatory, the candle-power Rosen needed to separate the dancers and stop it looking consistently flat, was immense. This she achieved, but

Far left and this page, Mark Fisher's renderings of the Asian City sequence. For all those who truly rue the tour's cancellation, the whole thing will be videotaped for posterity.

*photos:
Mark Fisher*



sometimes my eyes longed for less, a bit like visiting one of those modern art galleries, all white walls and effete men in black polo-necks, it could be hard on the eyes.

CONCLUSION

Despite the musical shortcomings, it's a shame that European audiences are unlikely to ever see the show live. It's also sad that one of Fisher's other great elements, and one that addresses the question, 'with such a big open space why not exploit the third dimension a little more often?' was cut, even for America. "I had added a Ferris wheel for the whimsical section," said Fisher. Some 20 feet in diameter and built by Tomcat USA, it was supposed to transport the dancers amidst

the melee of giant inflatable nursery toys, "but they were happiest to work their dancing on the flat. I still think it would have been nice, but when there are differing opinions you have to know when to give way."

Not that Fisher didn't go to extraordinary lengths to persuade them otherwise. When the dancers expressed reluctance to mount the six elevator light-dollies of the opening sequence Fisher, old enough to grandparent some of them, climbed each vertical truss alongside them, cajoling and encouraging them. "But we will re-instate the wheel for the final shows in Hawaii," he added with justifiable satisfaction.



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Phil Ward.

... Audio File

Great sense of humour, my newsagent. Either that, or he's not familiar with the modern type of washing machine. Immediately to the left of 'Loaded', on the top shelf, is 'Front' magazine. The rest of the shelves are full of Soap, too.

"Can we have sound on an equal footing, please? Can we end the snobbery that separates music and sound; live and recorded; virtuoso and sample; electrical and acoustic?"

HE'S WELL-STOCKED with specialist consumer-interest titles, but naturally there are no trade publications. I can't see him shifting more than one copy of L&S! round our way, at least. Which means that we, the industry, belong to a very small club. I guarantee that nobody else in your family, nor among your widest circle of friends, reads this or any other pro audio magazine. To all intents and purposes, we are anoraks.

IN ANY TRADE, there aren't quite enough anoraks to create a circulation capable of sustaining a magazine. Paper is expensive; so is the petrol in Post Office vans. Therefore most trade magazines can only be made if enough powers that be in that trade are happy to advertise in them.

IN LIEU OF ATTENDING New York's beleaguered AES Convention, Mackie, and by extension EAW, have decided on an experiment that is bound to produce interesting results. The group has revived the

idea of an online trade exhibition, and will make much of the product information and demonstrations timed for this show available within its web sites.

BY THE TIME YOU read this, we'll probably know whether the Convention is going ahead or not. As I write, there is still some doubt. But if it does, the response to Mackie's initiative should reveal several clues about the medium of the web, and about the future of virtual exhibiting of this kind. Based around a real event, rather than some souped-up internet auction, this could be a way for some companies to overcome genuine restrictions, get involved and expand the scope of an exhibition all at the same time. But one thing, is Mackie paying a proportion of the saved exhibition stand rent to hang its web pages off the AES?

IT GETS BETTER. After gigs in orbit, and concerts lasting 639 years, something a lot more hazardous for the sound engineer. Thanks to German modernist composer Karlheinz Stockhausen's central role in The Barbican's recent 'Elektronik' season, several of his more recent works have come to light. One of these - sadly not performed at The Barbican, or anywhere near it - is 1995's Helicopter String Quartet.

EACH MEMBER of the quartet climbs into a separate helicopter. The four helicopters then fly around in patterns dictated by the score, while the performance of the elevated musicians is relayed to the audience. I am not making this up. The audience, mercifully, stays on the ground.

NOW, I DON'T KNOW ABOUT YOU, but I can see some signal-to-noise problems here. And I wouldn't fancy entering the fray to adjust the cellist's in-ear monitor, either - rope-ladder or no rope-ladder. But, at least, the rotating blades of the helicopters should keep the amps cool. I wonder if, during the soundcheck, the helicopter

pilots are not quite giving it their all, and fly about in a series of lazy manoeuvres while saving up the real aerobatics for the big night . . .

PUTTING AUTOGYROSCOPIC concerns to one side for the moment, Stockhausen has been a significant figure on the avant-garde scene for some time - not least because of his acknowledgment by pop and rock types from the psychedelic era of the 1960s to the ambient modes of today.

SOME SOUTH BANK-REGISTERED critics dismissed his work last month on the grounds that "music is not mere sound". This is a text-book reactionary standpoint, akin to 'art is not mere image' (for people who insist on a picture having a representational subject) and 'poetry is not mere words' (for people who insist that poems rhyme). My response is that, conversely, sound is not mere music. A little cheeky, I know, but the point I'm trying to make is that the priests of 'music' and 'art' are always jostling for the moral front row - while sending the laymen of sound and picture round the back to the tradesman's entrance.

STOCKHAUSEN is one of those composers from the so-called serious end of the spectrum who depend upon sound design and sound reinforcement techniques to get the message across. Apart from providing work for PA companies - who actually do have to use the tradesman's entrance - the net result of this innovation is to introduce the art of sound into the equation. Of course, if you don't value sound you'll want it ejected from your plush-lined tier. Accordingly, you will not agree that there is any art to it at all. You will regard it as an effect, a function, even a nuisance. The only people for whom this standpoint has any basis are those who can sit and read a score, and enjoy the music in their heads just as much as if they were listening to a performance, or a recording.

MUSIC HAS THIS ABSTRACT, purely intellectual dimension, but simultaneously it is physical. It moves air, like a loudspeaker. The musical notation we have describes only one dimension of it - there is no equivalent system for sound. Stockhausen, in fact, is one of several modernist composers (and I unapologetically include Mike Oldfield among them) who have attempted to devise alternative schematics to represent their music graphically - schematics that incorporate sound on an equal footing with music.

AND THAT'S REALLY ALL I'm on about: can we have sound on an equal footing, please? Can we end the snobbery that separates music and sound; live and recorded; virtuoso and sample; electrical and acoustic? In any case, surely, if you were a real purist wouldn't you rather Stockhausen's aforementioned flight of fancy was called 'Hang-Glider String Quartet'?

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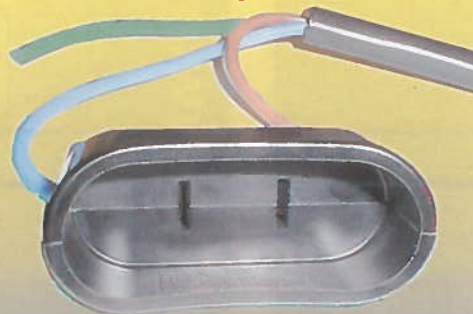
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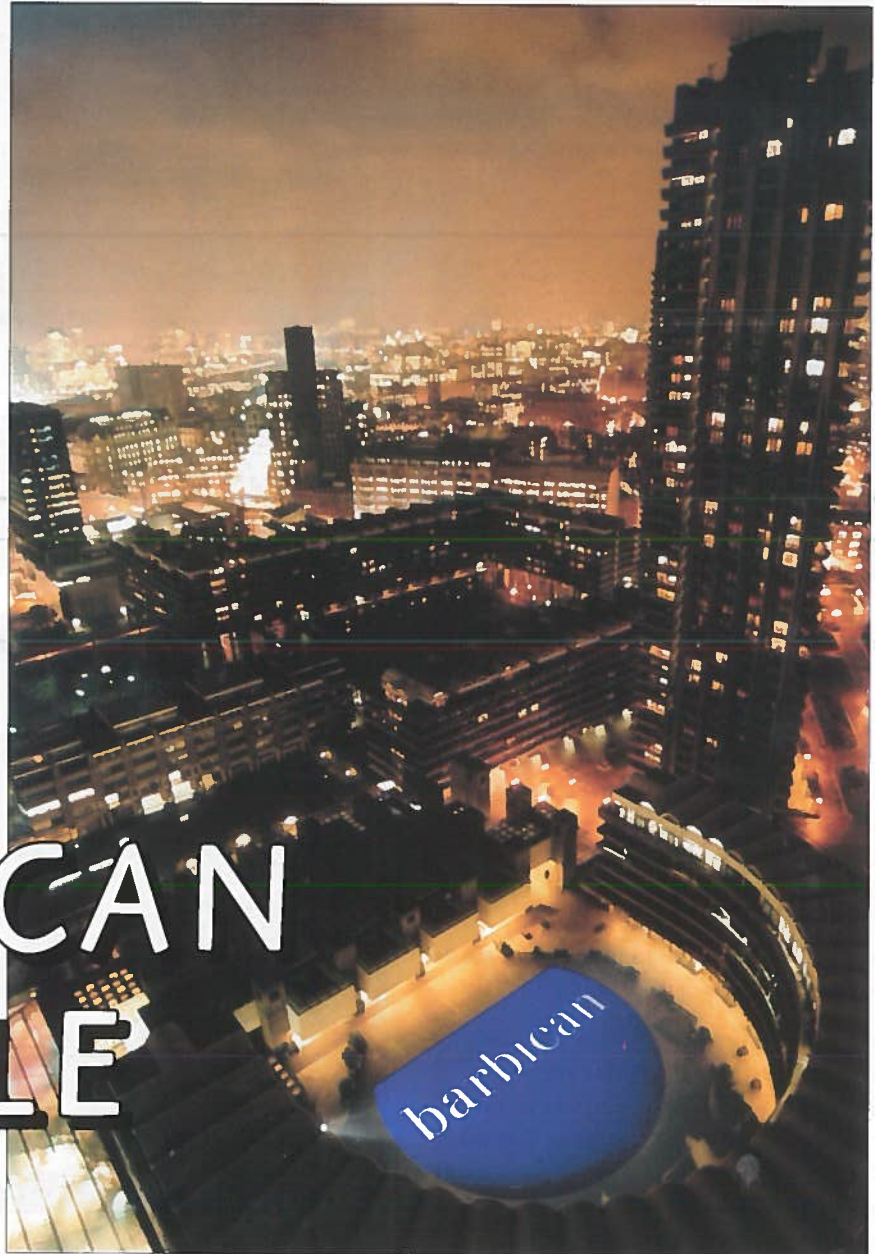
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WHITE LIGHT

The renowned Barbican Hall, the 1,989-seat concert and conference space at the hub of the Barbican, has re-opened after four months of frenetic activity and a £7 million technical makeover, wholly funded by the Corporation of London. L&SI grabbed itself a front row seat . . .



BARBICAN RESTYLE

The refit has involved every technical production area of the Hall - sound, lighting, acoustics, stage machinery, flying and rigging facilities - and that aspect was overseen by Simon Prior, the Barbican's head of planning and production. "It's been an extraordinary achievement," he says, "to bring this project in within the timescale. All we have to sort out now is the snagging list!"

The overall objective was to make the Barbican Hall into a flexible, versatile and streamlined multi-purpose production facility for the 21st century. The Hall stages the highest profile international orchestras, musicians, bands and performers of all types, as well as corporate presentations, commercial and industrial events. The London Symphony Orchestra is resident at the Hall, and also uses it as a rehearsal facility, so it's not uncommon for three or more different events to happen within a single working day. The 'new' Hall is also designed to maximize the often short changeover times between events.

The venue's closure was initially triggered by the need to replace the air handling units and stage risers. It was soon realised that this was an ideal opportunity to upgrade other technical areas, and to add new equipment and facilities to the flagship venue that opened in 1982.

Five areas have received attention - air handling, replacement of the house lighting system, replacement of the production lighting,

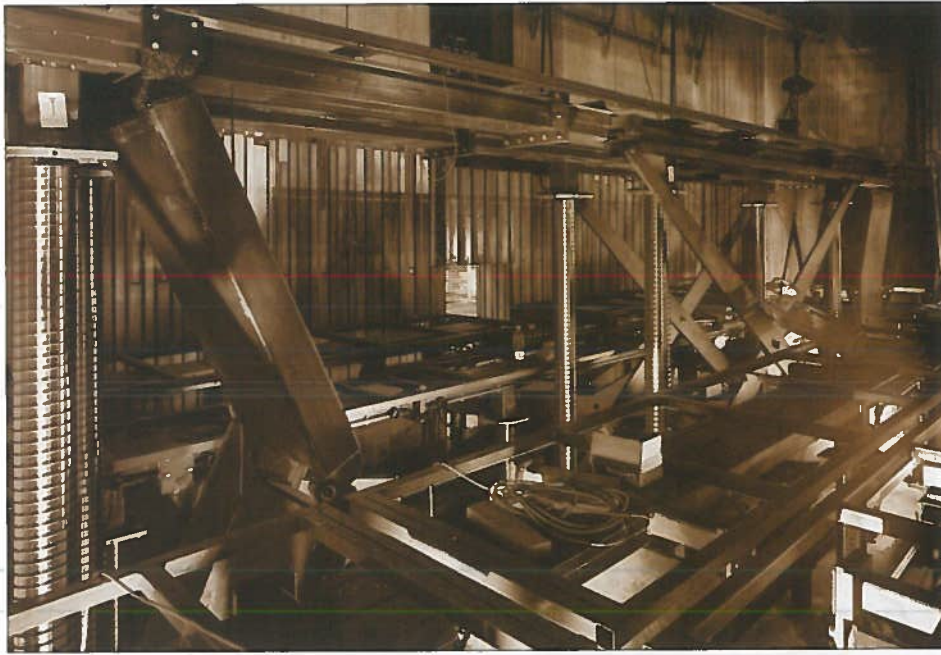
rewiring of the production lighting system and the acoustic works. The concept design of the upgrade was already underway by October 2000 when Simon Prior took up his post - from high profile corporate event and technical production specialists HP:ICM. The Barbican's technical crew - renowned for their skills and experience - had already collectively made decisions on the right equipment for the Hall, and compiled a lighting spec.

LIGHTING

The supply contract went out to competitive tender and was won by White Light. The front of house rig includes 73 assorted new Robert Juliat profile lanterns and 60 ETC Source Four Pars, 12 of which are the MCM cold mirror reflector variety. The Hall retained its conventional Pars and a quantity of Patten 750 beam lights - used as specials and back lights for soloists.

The defining factor in choosing moving lights was quietness. With an orchestra playing below, ambient noise from lighting is non-negotiable! They decided to go with High End because the fixtures' convection cooling system ensures maximum quietness. The Barbican Hall now features a rig of 12 Studio Color wash luminaires and eight Studio Spots, plus a dedicated Wholehog II desk for control. In addition to the HES lights, more potential movement is offered with six new





operation of lighting for the late-night Club stage in the foyer - an area utilized after the main show for those wanting to party on! Here the existing rig is 10 Martin MAC 250s, six Source 4 profiles and 24 chrome Pars, and the entertainment oscillates between all types of bands and DJs.

AUDIO

The Barbican Hall's existing Renkus Heinz system, purchased four years ago, has been retained and modified to deal with its slightly revised positioning. It is now on movable points and can be flown up above the canopy when not needed. This vastly improves the general stage aesthetics and sight lines for classical shows where the system is not used. Before, the central cluster of speakers was in a fixed position and clearly in view!

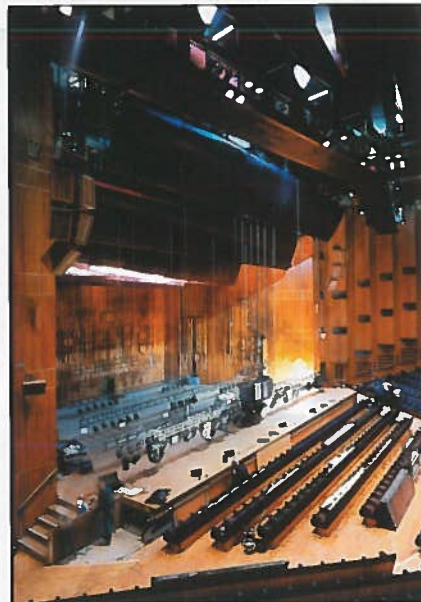
HISTORY OF THE BARBICAN

THE BARBICAN, EUROPE'S LARGEST MULTI ARTS AND CONFERENCE VENUE, LIES AT THE HEART OF THE 35 ACRE RESIDENTIAL ESTATE KNOWN AS THE BARBICAN. A MAZE OF SMALL STREETS AND WAREHOUSES BEFORE THE WAR, THE AREA WAS BOMBED IN DECEMBER 1940 AND COMPLETELY DEVASTATED, WITH ONLY THE HISTORICAL CHURCH ST. GILES', CRIPPLEGATE (WHERE OLIVER CROMWELL MARRIED AND JOHN MILTON IS BURIED) STILL SURVIVING INTACT.

IN 1955, THE FIRST PROPOSALS FOR THE AREA'S REDEVELOPMENT WERE SUBMITTED TO THE CORPORATION OF LONDON. CENTRAL TO THE SCHEME WERE NEW PREMISES FOR THE GUILDHALL SCHOOL OF MUSIC & DRAMA, INCLUDING A SMALL THEATRE AND CONCERT HALL THAT COULD BE LICENSED FOR PUBLIC PERFORMANCES.

IN 1959 THE CORPORATION OF LONDON BOLDLY SEIZED THE OPPORTUNITY AND SELECTED A SCHEME DEvised BY THE ARCHITECTS CHAMBERLIN, POWELL AND BON, WHICH ENVISAGED A MAINLY RESIDENTIAL NEIGHBOURHOOD, BUT INCLUDED NEW PREMISES FOR THE GUILDHALL SCHOOL OF MUSIC & DRAMA AND DESIGNS FOR AN ARTS CENTRE.

IN THE MID-1960S, THE RSC AND LSO BECAME INVOLVED IN THE PLANNING OF THE BARBICAN AFTER LEADING THEATRE PRODUCER ANTHONY BESCH HAD RECOMMENDED THE EARLY INVOLVEMENT OF A MAJOR THEATRE COMPANY AND ORCHESTRA. BY THIS TIME, A PUBLIC LIBRARY AND ART GALLERY HAD BEEN ADDED TO THE SCHEME. CONSTRUCTION WORK BEGAN IN OCTOBER 1971 AND THE BARBICAN WAS OFFICIALLY OPENED ON THE 3 MARCH 1982. IT WAS BUILT AS 'THE CITY'S GIFT TO THE NATION' BY THE CORPORATION OF LONDON AT AN HISTORICAL CAPITAL COST OF £161 MILLION - EQUIVALENT TO BETWEEN £400-£500 MILLION TODAY.



Top, AVW Controls designed and built a programmable controller for the Spiralift-based stage lift system.

Above, work in progress in the auditorium

City Theatrical Auto Yokes - added to existing stock to make a total of 16.

The generic rig usually stays fixed in position - fast turnarounds are of the essence, and so this part of the rig is utilized for general lighting coverage. The moving lights reside in over-stage positions, and will mainly be used for the lighter entertainment end of the classical spectrum featured on the Barbican Hall's programme, and for jazz and contemporary performance requiring more colour and movement.

Also retained are two existing lighting control desks - an ETC Obsession, used for the conventional rig, and an Avolites Pearl. The Pearl is used for live, hands-on

STAGING & RIGGING

This part of the refit was undertaken by Unusual Rigging, who Simon states have been "absolutely brilliant".

The refit saw two new fixed lighting bridges installed over the auditorium which makes access for maintenance and focusing much easier and quicker - previously, the fixed overhead FOH lighting positions had been reached by a moveable gantry. There are two new motorized side lighting positions front-of-house and also two further motorized bars added each side of stage for scenery or projection screens.

Overstage, there are now 10 new motorized flying bars, seven of which are designated for lighting, as well as a variable height screen box containing two roll-down front projection

screens. Unusual Rigging designed and built a customized control system for all the overhead machinery, which can be operated from two positions - onstage and from the overstage walkway. Over the stage itself are four new moving bridges, for accessing lights at height, and four tabtrack bars at either side of the stage offer the option of a full blackout surround.

A major part of this section of the refit was the replacement of the old stage risers and hydraulic system with a new Spiralift-driven system (from Gala in Canada), which offers much more flexibility. All lifts are aligned in terms of available height differences, and the 10 stage risers can be pre-set to different levels and set-ups. Unusual Rigging asked AVW Controls to design and build a programmable controller for the stage lift system. This effortlessly enables risers to be sent into preset configurations with one button press.

ACOUSTICS

A new acoustic ceiling and over-stage canopy was designed by award-winning British architects Caruso St John, working in collaboration with Chicago-based acousticians Kirkegaard Associates. The design has a dramatic impact on the acoustic and ambience, as well as the aesthetic appearance of the Hall.

The integrated ceiling and over-stage canopy consists of 35 suspended acoustic reflectors coated in Rimex, an acid-etched stainless steel. The Rimex surface features a textured shot silk effect, reflecting a range of warm iridescent colours and shades - golden to bronze, burgundy to rich cherry - depending on the angle and ambient lighting.

The reflectors' angled geometry changes according to the acoustic requirements of different areas of the ceiling, producing an effect described by Caruso St John as 'a huge shimmering chandelier'. For theatrical-style events, the over-stage acoustic reflectors - originally specified by theatre consultants Carr & Angier - can tilt and retract to accommodate lighting and projection from above. The audiological objective was to dramatically improve the acoustic for both the audience and musicians. By raising the over-



Left, the completed hall, with orchestra

stage canopy two metres and suspending an array of the curved acoustic reflectors ascending steeply from the stage to the main body of the hall, full-bodied sound is distributed more consistently to all parts of the auditorium. The acoustic is equally adjustable for the more intimate requirements of recitals or chamber concerts, right up to the full scale requirements of a symphony orchestra and chorus.

The new Barbican Hall was re-launched at the end of September with concerts by the City of London Sinfonia and the LSO. The reviews so far speak for themselves: Erica Jeal, writing in The Guardian, said: "With the adjustable

panels in the ceiling set to suit a full orchestra, the LSO's sound, fuelled by Colin Davis's energetic conducting, was more vibrant than ever; the noise seems to come straight at you and to blossom in the air around your ears."

Laurence Hughes wrote in the *The Independent*: "... the acoustic's new warmth and immediacy came out in the rich string writing: the Barbican's changes are a distinct success."

Matthew Rye, for *The Daily Telegraph*, commented: "£7 million-worth of work, carried out over four months during the summer break - London at last has, on first acquaintance at least, a large-scale concert hall worthy of the great music-making taking place inside it."

And the final word goes to Geoff Brown, writing in *The Times*: "Even before the first note is struck, you know the Barbican Hall looks different. The stage lighting is brighter, like dappled sunshine. . . . The old dry acoustic is kicked into memory. Warmth is now in the Barbican sound, plus a soupçon of resonance. The music seems closer, rounder, more alive."

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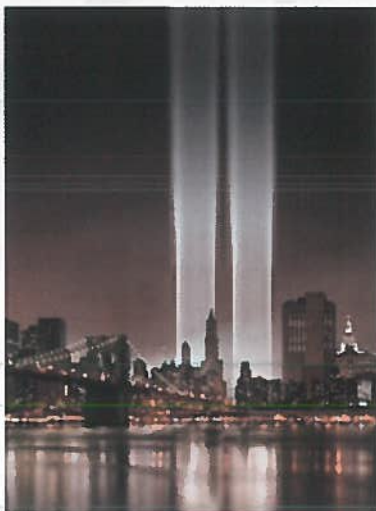
One of the great things about the resilience of the human spirit is that in every act of violent horror can be found a counterweight in acts of compassion and generosity. This is, of course, the case with the various events that have been staged in the United States recently to raise money for the families of the victims of the September 11th disaster.

The lighting and sound companies and their crews, who will have given freely of their time and equipment, at a time when they can least afford to, will be among the unsung heroes when the stars get all the headlines in the press.

WITH WORK IN SHORT supply, and rental rates already at loss-making levels, freebies are just about all these providers need right now, but with typical generosity they have not hesitated to respond. I hope that Broadway and the rest of the entertainment

community remembers this when things return to normal and they start negotiating regular contracts for new shows. Fat chance!

ALTHOUGH THIS SITUATION may make the possibility of a fantastic proposal for a temporary memorial on the former site of the Twin Towers a remote possibility, I still want to commend it to the lighting community in the hope that some solution can be found. In an



attempt to recapture the famous skyline until a new structure emerges, Creative Time (a New York-based non-profit organization that for 30 years has encouraged artists in schemes to invigorate the urban landscape) and the Municipal Arts Society of New York, are supporting a project to create two massive towers of light on the site once it has been cleared. Creative Time say that these twin beacons, called Towers of Light, will not interfere with work on the site and will serve as votive candles in memory of the victims.

IT WILL BE OBVIOUS to all concerned, from the accompanying graphic, that this is almost certainly a job for fixed xenon searchlights, and an awful lot of them at that - à la the Luxor hotel in Vegas, in which approximately 40 10k xenons were used to create a single column of light. However, in order to achieve the desired effect in Manhattan, a huge number would be needed, probably more than are currently available in worldwide hire stock, and therefore it's maybe a dream too far, but wouldn't it be brilliant both for the city and for the image of our profession?

THERE IS A MOUNTAIN of red tape and persuasive argument to be applied to the municipal authorities and others before Towers of Light could conceivably become a reality, but you never know. I congratulate those that have come up with this wonderful concept - Julian LaVerdiere, Paul Myoda, John Bennett and Gustavo Boenvardi. Paul Marantz at Fisher Marantz & Stone is advising on the lighting design. [www.creativetime.org/towers/]

AMONGST NUMEROUS IMPASSIONED e-mails received at L&S's editorial office following the events of September 11th, some even from techies who had been working in the Towers, the eye-witness account from John Huntington, author of Control Systems for Live Entertainment, particularly captured the moment.

THE WHOLE THING STARTED while he was riding his bike and, eventually, he returned to witness the ultimate catastrophe from the roof of his building. His graphical account of the event, written, literally, in the heat of the moment and photographs can be seen at www.graniteprecision.net/personal/nycwctc.

AS WE PREPARE TO HEAD for LDI at the same time as going to press, we are aware of the difficulties the show organizers may confront. While valiant efforts have been made to keep the show on track in the face of new competition at the beginning of next year, rumours abound of audio and some small exhibitors jumping ship, while advance registrations are said to be down by 20%.

THIS COLUMN WILL NOT BE PUBLISHED until after the event, so I hope that I shall have a much more happy and enthusiastic tale to tell in my December column. We all need to support these industry events to keep the business rolling - staying at home ain't gonna do that!

During the PLASA show I stopped for a brief chat with Phil O'Donnell, CEO of Strand Lighting. He seemed edgy and it came out that he felt that I had not given Strand sufficient credit for their sponsorship at Showlight 2001 and, in particular, for the fantastic banquet which they laid on (L&S July issue). I hope that this extra mention will put a smile back on Phil's face.

LASTLY THIS MONTH, I would like to thank Martin Professional and, in particular CEO Kristian Kolding and Claus Puggaard, their UK MD, for their generous contribution to Light Relief. Martin Professional has become our second corporate patron, this being a donor who guarantees a substantial contribution to the fund on an annual basis.

"A huge number would be needed, probably more than are currently available in worldwide hire stock, and therefore it's maybe a dream too far, but wouldn't it be brilliant both for the city and for our profession?"

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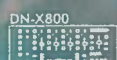
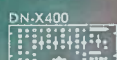
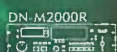
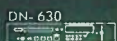
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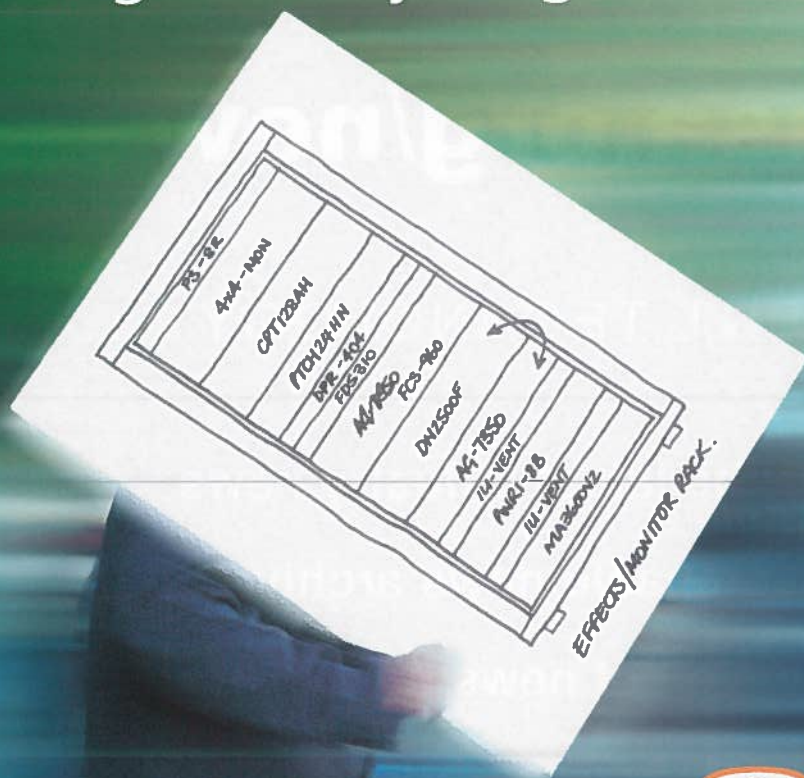


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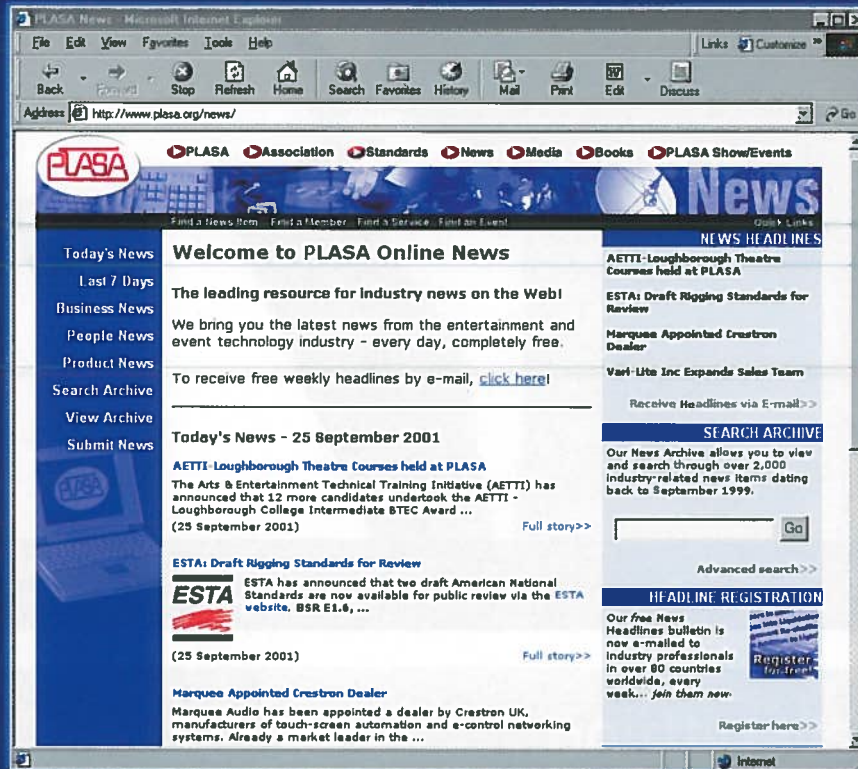
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REMEMBER WHERE YOU HEARD IT FIRST



Björk and MatMos on stage at the Coliseum

ICE QUEEN

The nights are long and the days cold in Iceland during the autumn – which is why it makes sense to be somewhere else. Taking this advice to heart, Reykjavik’s only major chart artist, Björk, took to the road in September for a series of unusual dates. Mike Mann followed . . .

Avoiding the well-trodden boards of Europe’s mainstream rock and pop venues, Ms Gudmundsdóttir (you can’t blame her for dropping a surname like that) asked her production manager Peter van der Ende to sound out opera houses for a tour to support her new album, *Vespertine*. “The tour was booked on the grounds of the quality of venues, their acoustics, and whether they had an orchestra pit,” explained van der Ende, who has been with the Icelandic artist since her days as a member of the Sugarcubes. “Having said that, we have put the production together in such a way that it can be adapted. Even if we have no pit – we will be doing one show in a circus tent, for example – we can get round it by raising the stage.” One of the advantages of using opera venues, he added, was the increased stage size and flying capacity of this type of house.

Björk’s two UK dates are both in London; having played the Coliseum (home to English National Opera) at the start of the run, she will be gracing the Royal Opera House with her charms in December. Head of

sound at ENO is Philip Ashley: “The last pop band that we had in the Coliseum was Spandau Ballet in the 1980s – though to be honest, this has more to do with our repertory schedule than any snobbery on the part of the management. Obviously we want to make the best use of our assets to generate income – and luckily we had a slot between two shows that fitted in with Björk’s tour.”

The Sunday evening show (traditionally a dark night in the operatic week) was shoe-horned in between performances of *La Bohème* and *La Traviata* – both in the middle of their runs and with full sets on stage. “The sets have been struck but are kept on stage,” explained Ashley, “even so, there are still more facilities than the tour rider asks for – they’ve got plenty of wing space.”

Rather than using the widely varying equipment that each house offers, van der Ende elected to treat each venue as a conventional receiving house, and to carry the entire sound and lighting system with him. Each venue supplies a certain amount of technical backup; sound, stage and electric crew members help with the rapid fit-up and can advise on the unique foibles of their own house.

Unusually for a contemporary show, lighting requirements for Björk (supplied by Lite Alternative) are absolutely minimal. It will come as no surprise, then, to hear that the LD is Paul Normandale who, incidentally, has been lighting Björk for well over a decade. “You’d be hard pushed to find a single cue in this show,” he says of his ultra-minimalist design. In fact, in a typically reticent mood, that’s about all he’s prepared to say. “I’m just lighting the people on stage,” he

COLI-FLOWER

LONDON'S SECOND OPERA HOUSE WAS DESIGNED BY FRANK MATCHAM, LIKE ITS COVENT GARDEN NEIGHBOUR, AS A MUSIC-HALL. INTENDED FOR SHOWS WITH NO INTERVAL, WHERE THE AUDIENCE OF NEARLY 2,400 WOULD FILE IN FROM THE FRONT AND LEAVE THROUGH DIFFERENT EXITS TO MAKE POSSIBLE A QUICK TURN-AROUND, IT WAS ERECTED WITH LITTLE OR NO FOYER SPACE, AND WITH DELIBERATE CLASS DIVISIONS ACCORDING TO SEAT PRICES.

CONSTRUCTED IN 1904 AND THE HOME FOR ENGLISH NATIONAL OPERA SINCE 1968 (WHEN IT WAS STILL THE SADLERS WELLS COMPANY), THE COLISEUM IS OVERDUE FOR A REFIT. HOWEVER, THIS WILL NOT BE ON THE VAST SCALE OF THE £200 MILLION ROH PROJECT, WHICH CLOSED COVENT GARDEN FOR OVER TWO YEARS. THE ORIGINAL PLAN WAS FOR ENO TO TAKE OVER ROYAL OPERA'S PROPOSED TEMPORARY HOME IN A NEW THEATRE ON THE OTHER SIDE OF THE THAMES - BUT WHEN THE CONSTRUCTION PROJECT WAS SCRAPPED BY ROH MANAGEMENT, ENO HAD NO CHOICE BUT TO STAY PUT. INSTEAD, THE BUILDING WILL BE REFURBISHED IN TWO STAGES; NEXT YEAR SEES A DARK PERIOD OF 12 WEEKS, WHILE A SIX-MONTH BREAK IS PLANNED FOR 2003.

WHEN THE HOUSE REOPENS ON THE 100TH ANNIVERSARY OF ITS COMPLETION, NOT ONLY WILL PUBLIC FACILITIES BE DRAMATICALLY IMPROVED, BUT THE ENTIRE LIGHTING, SOUND, DATA AND COMMUNICATIONS INFRASTRUCTURE WILL BE UPGRADED. THE THEATRICAL CONSULTANTS ARE CARR & ANGIER, WHO HAVE LOOKED AT WAYS TO STREAMLINE THE BUILDING'S TECHNICAL OPERATION TO HELP WITH ENO'S HECTIC REP SCHEDULE. ON STAGE, SUPPORTING PILLARS THAT CURRENTLY OBSTRUCT TRUCK MOVEMENTS WILL BE REMOVED, AND THE TEMPORARY UPSTAGE STORAGE AREAS WILL BE REBUILT AS A PERMANENT ADDITION. SADLY, THE PROPOSED LOAD-IN IMPROVEMENTS HAVE NOT BEEN PERMITTED, DESPITE THE INCONVENIENCE OF ONLY HAVING ON-STREET STOPPING SPACE FOR SCENERY TRAILERS.

THE GENERAL DIRECTOR OF ENO, NICHOLAS PAYNE, COMMENTED: "ENO'S HOME AT THE COLISEUM, WITH ITS UNRIVALLED LOCATION OVERLOOKING TRAFALGAR SQUARE, HAS PROVED A MAGNET THAT HAS ATTRACTED NEW AUDIENCES TO OPERA AND TO DANCE. WE ARE COMMITTED TO GIVING THOSE AUDIENCES THE BEST IN THE SURROUNDINGS THEY DESERVE."

From top to bottom . . .

The grand interior of the Coliseum

Monitor engineer Bob Lopez, fancying his chances with a harp

FOH engineer Kevin Pruce



concluded. "The show is not about lighting at all - it's an honest presentation of her music." Normandale's almost architectural approach is the antithesis of modern pop practice - using tone as much as colour to echo the sentiments of the various numbers in Björk's wide-ranging set, he deliberately includes sections where the artist's face is all but invisible.

Opting for a largely conventional rig, Normandale specified a three-truss layout (using Tomcat MD Stacking truss), hung with 17 ETC Source Four profiles, an

octet of High End PC Beams ("which are there because of the intensity of colour that is needed for some songs," says Normandale), and a couple of snow machines for the opening instrumental sequence. A pair of PANI 1k spots was used out front, but the majority of the pick-ups were being done by eight tiny CCT 650W fresnels - painted white to match the stagecloth and distributed around the floor. A further four were suspended from custom booms reaching over the 'electronics riser',

which was home to Matmos, Björk's guests and collaborators on this tour. Normandale and operator Mark Risk were also responsible for graphics projection, which, in suitably unorthodox fashion, was run directly from the video output of a Mac i-Book laptop.

With such an unusual lighting arrangement, it seems natural to approach sound in a non-standard way. Monitors, though exclusively wedge-based, are a mixture of Nexo PS-15s and d&b E3s - a total of 22 enclosures on stage supplied from a Midas Heritage 3000 as part of a 16-mix system, which includes reverb sends. "I wanted them to try in-ear monitors," explained monitor man Bob Lopez, "but they were after a more ambient sound." In fact, the whole premise of the monitor system on this tour is that it should work alongside the acoustic information from the room itself. "The monitors are there to give a timing reference, but they're not loud - the band is listening to a 50/50 mix of the system and the auditorium.

For Lopez, this means judging the room characteristics each night - which has highlighted differences between room responses and has affected the level at which he mixes. "At the Coliseum, we are in a fairly dead room - so I won't need to throw a lot at them. It's not difficult, but you have to get inside Björk's head a bit and figure out what she needs." Lopez describes his client as "a dream to work with," adding that, since she views the show holistically, the wisest course is to accept that she is sufficiently experienced to know exactly what she is doing - even though the process is very different from the rock 'n' roll norm.



The on-stage setup for Matmos gives a clue to the front-of-house topology; the two musicians generate and monitor their own mix in a quad format. With their own Mackie submixer and an Alesis AirFX proximity panner, Drew Daniel and M.C. Schmidt position and move specific sources around their universe; four feeds are taken to the monitor board and split to front-of-house. On stage, a pair of PS-15s are used as the 'front' speakers, while E3s are used as a lower-power rear pair.

The Matmos monitor system is a miniature version of the front-of-house setup, which is under the capable direction of Kevin Pruce. The last time I bumped into Kevin was at a Spice Girls show in late 1999, where he was co-mixing monitors. This tour, he admits, couldn't be more different. "This is a very delicate mix," he explained. "It's a balancing act between the orchestra (a full-size 56-piece pit band), the band, a 16-piece choir, Matmos and Björk's voice." To facilitate this, Pruce is using a Wigwam-supplied Yamaha PM1D - 72 inputs arranged on two layers so that the orchestra can be



'hidden' underneath the less predictable sources. "I don't think there would be another way to do this," he commented, explaining that the conventional equivalent would necessitate two full-size boards, plus racks of EQ, delay, effects and processing - which would remove too many precious seats on this sell-out tour. As it is, a Lexicon 480L is his only effects unit ("it's probably unnecessary - I'm also using the on-board effects"), and Björk's vocal is almost the only channel to be processed externally - with a combination of Tubetech and BSS DPR-901 compressors. More compression is used inside the digital Japanese board, though not the DSP gates - though this, says Pruce, is because they are simply not required for this ambient style of sound. Outputs (of which Pruce is using all but three) are hooked up directly; main sends are routed through XTA DP226 system controllers set up for the dV-Dosc system.

As well as feeding the main L-Acoustics dV-Dosc front-of-house PA (comprising five flown and seven ground-stacked per side, plus three V-Dosc subs), Pruce is also providing grouped sends to a Tascam DA 88-based 24-track recording rack - and to a surround system installed in the auditorium. To enable the



Björk in that many-faceted dress. Inset, the Avolites Sapphire 2000



limited crew to rig no fewer than 16 surround speakers - two pairs per level of the circle, plus stalls and balcony feeds, Amina NXT flat panel speakers are being used. Their light weight (around 2.5kgs) and shallow depth make them ideal for mounting in public areas - and, much to the relief of opera house managers everywhere, the lads at Wigwam have come up with a series of alternative, building-friendly methods of mounting them. These

include lightweight versions of builders' Acro-props (expandable pillars that can be braced between floor and ceiling) and suction cups for affixing the Amina panels to marble surfaces.

It is not often that costumes feature in the pages of L&SI - but mention must be made of Björk's stunning red gown, which she wears for her entire set. A bright scarlet crinoline skirt edged with feathers was designed by fashion maverick Alexander McQueen to support no less than 2,000 glass microscope slides, each hand-painted a blood red. Previous outings have seen Björk sporting outfits made entirely from paper - which, as she pointed out, means a lot less ironing and packing on a long tour!

Watching the reaction of Björk's audience to their plush surroundings, it becomes obvious that here is an artist who understands what her market wants. Critics of the Royal Opera House management (who, it would appear, can do nothing but wrong) have blasted them for accepting the chance to host an evening with Björk - but opera houses are only really rock 'n' roll venues with good acoustics and clean toilets. God knows, we could do with a few more of those.

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Ian Herbert, Asleep in the Stalls...

I've been all over the place, literally and figuratively, for the last month, so this will be an even less coherent column than usual. Let's start in Tanzania, where my most unlikely assignment to date took me to the Bagamoyo Theatre Festival, a major event in that part of the world which is held every year in the only two purpose-built theatres in the country.

"For obvious reasons, Stratford wasn't a contender this year, but Adrian Noble's bold plans for making over the waterside site should put the RSC seriously in the running in a few years' time."

THERE'S A FLAT-FLOORED indoor hall with room for 400 or so, backing an outdoor amphitheatre which, during festival time, must hold about 2,000, even if its official capacity is 800. Over the indoor theatre, and the stage of the amphitheatre, towers a magnificent thatched roof: not Anne Hathaway's cottage, but traditional Tanzanian workmanship.

THE KIT IN BAGAMOYO

reminded me again of the wretched lack of technology that dogs so many theatres outside the richer West. Half a dozen floods and profiles hung uncertainly from the bars of each theatre, operated from a ten year old board which had the delightful habit of blowing up at regular intervals. Sound was supplied by one on-off hand mic with a will of its own, and three Shure 800s on stands, placed either in front of the stage or actually on it. Feedback came as standard.

YET FOR ALL THIS technical inadequacy, the event was an unforgettable experience: a sea of

children crowding the flat space in front of the stage; an ocean of adults on the amphitheatre's concrete seating under the night sky (the indoor space was used in the heat of the day); all responding with uninhibited enthusiasm to the four-hour programmes of song, dance, acrobatics and theatre presented by groups who had arrived from all over the region to show their skills.

IT ALL MAKES THE BALTIC HOUSE theatre complex in St Petersburg, which has also just held its annual festival, look very luxurious. Last year Baltic House, too, had a very dilapidated air, but it seems to have benefited from the shift in Russian cultural emphasis from Moscow. Fresh paint in the foyers and plenty of new lanterns in its theatre suggest that Sergei Shub, the festival's affable director, is getting plenty of support. How useful, too, that his main commercial sponsor should be a vodka company . . .

THE FESTIVAL WAS SHOWING off the work of a Who's Who of top directors from the Baltic region (Eimuntas Nekrosius, Oskaras Korsunovas, Kama Ginkas, Alvis Hermanis - the only major absentee was Rimas Tumainas, who was off directing a *Seagull* in Dundee). But the show that most impressed me came from a director whose work I had not seen before, Elmo Nugainen of Estonia's Talinn City Theatre. His version of *Crime and Punishment*, instead of opting for a stripped down duel between Raskolnikov and his pursuer in the manner of Wajda's great Polish version, went for the full panorama of nineteenth century St Petersburg life in a production which was often reminiscent of the storytelling quality of the RSC *Nicholas Nickleby*. It was helped enormously by a brilliant set from Vladimir Anshon. Almost completely boarded up at first, so that we see the 'crime' through chinks in the planks that seal off the stage, it gradually opens up, along with the revelations of the story, into wide open spaces in which the guilty can no longer hide. Terrific lighting, too, from a sadly uncredited designer.

THIS GAVE ME an appetite for Estonian theatre which was quickly satisfied in Tartu, the country's second city, where the Drama 2001 festival showed a '10 best' drawn from the last season in the country's theatres. Talinn City Theatre were there with two plays, *The Cripple of Inishmaan* and a new one from the very promising local actor-writer Jaan Tatte, *The Bridge*. Best of the fest was a highly atmospheric version of Brian Friel's *Aristocrats* by veteran Priit Pedajas, and a final treat was supplied by Pyotr Fomenko's company, visiting from Moscow with *A Perfectly Happy Village*, a colourful rustic saga of war and peace that brought back memories of Lev Dodin's early success with the more monochrome *House* trilogy. Another astonishing set, from Vladimir Maksimov, was put to fantastic use by Fomenko's predominantly young cast: every corner of its cube of space, shared with the audience in traverse seating, was employed. I don't think I have ever been part of such a three-dimensional production.

BACK HOME in time for the TMA Awards, where the *Crucible* deservedly won Theatre of the Year for its huge surge under Michael Grandage and Grahame Morris. I won't disclose the secrets of the very enjoyable judging panel I shared with Michael Billington and David Brierley, but I must note what a very high standard of entries we had to sift. I didn't believe, for instance, that the *Regent* in Stoke could be seriously putting itself forward, but their dossier was one of the strongest.

FOR OBVIOUS REASONS, Stratford wasn't a contender this year, but Adrian Noble's bold plans for making over the waterside site should put the RSC seriously in the running in a few years' time. By then it is to be hoped that the company will have re-established some of the staff morale that it has so badly damaged recently. Knocking down the main house can do nothing but good, and I hope English Heritage won't stand in the way of the wrecking ball.

STAFF MORALE IS RUNNING HIGH at the National, with a string of new writing hits, a useful income from *My Fair Lady* and more to come from *South Pacific*. All of this should usefully ease the pressure on Nicholas Hytner, who will take over in Spring 2003. (Funny what an obvious choice he seems, now that the waiting and speculation about the appointment are over). Meanwhile, at an Old Boys reunion with fellow directors Richard Eyre and Trevor Nunn to celebrate the NT's 25 years on the South Bank, Peter Hall was in fine form, claiming that the notorious Olivier revolve had in fact been capable of working for five years before it actually came into use: "I just took care not to tell anyone."

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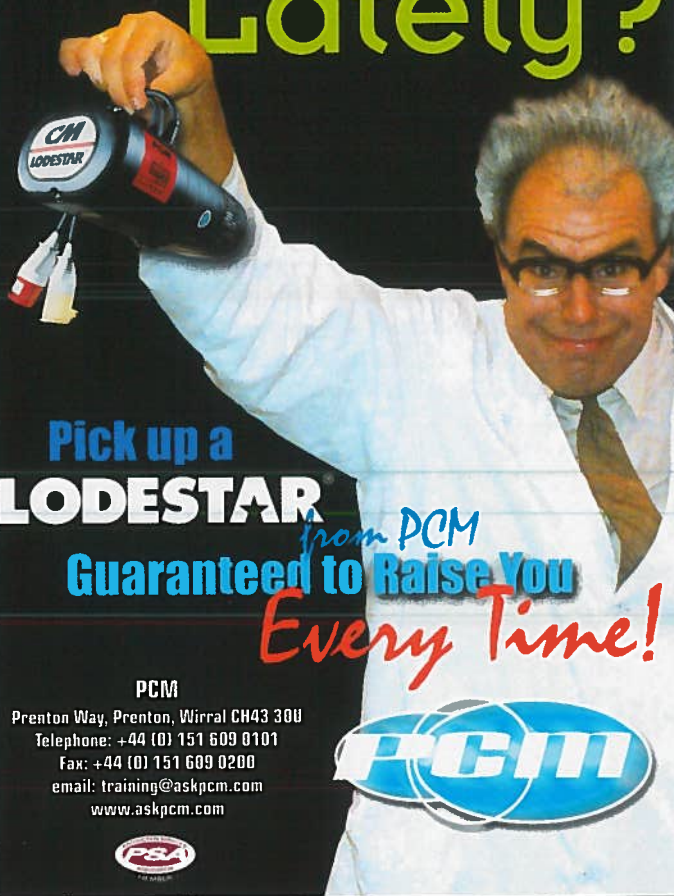
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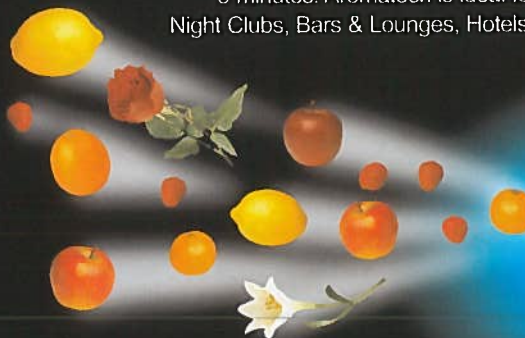
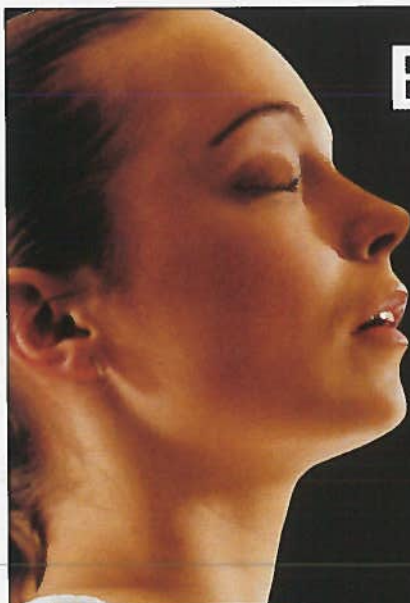
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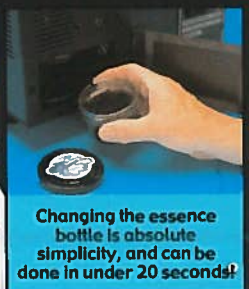


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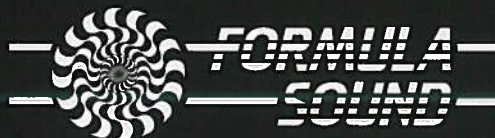
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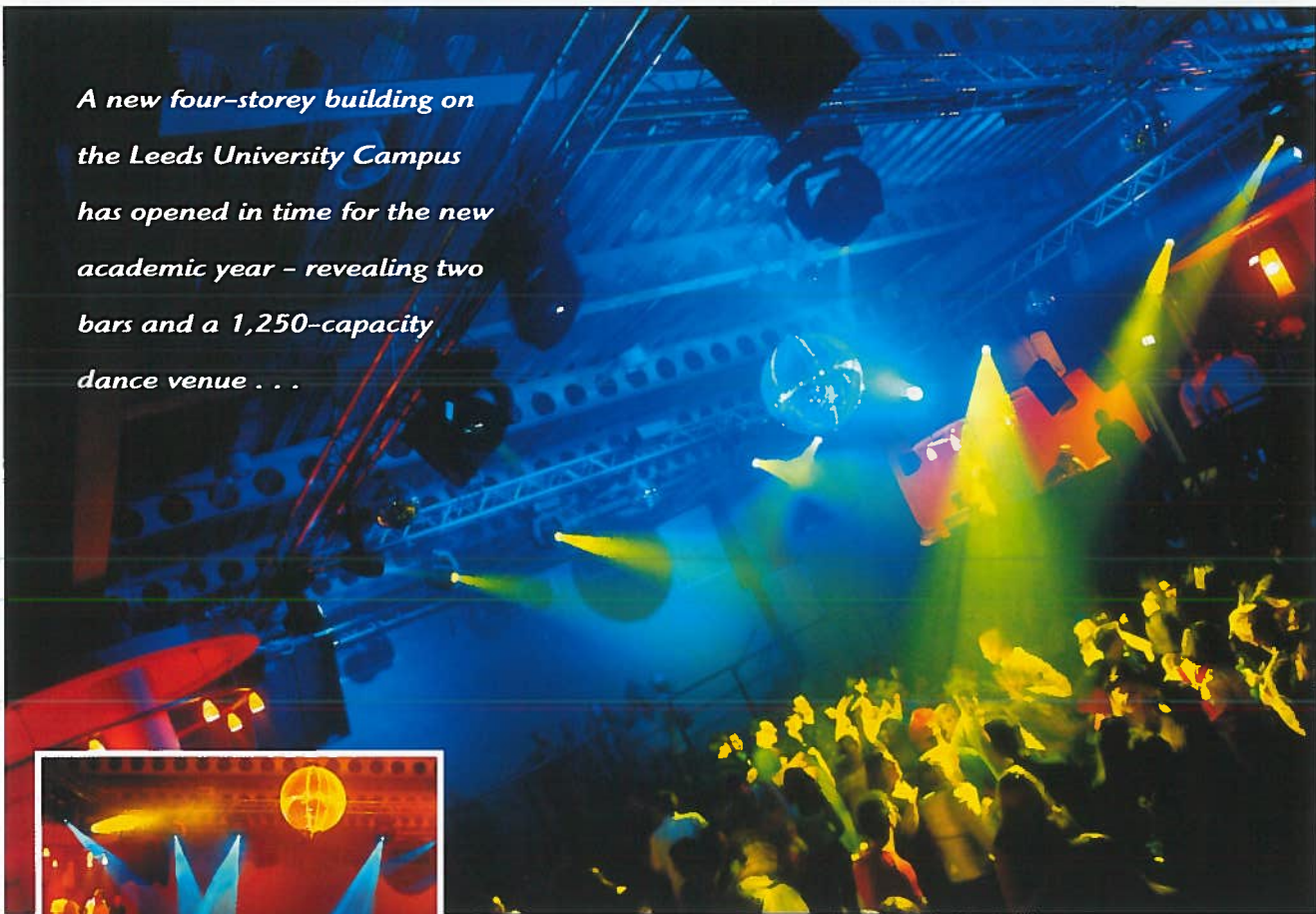


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A new four-storey building on the Leeds University Campus has opened in time for the new academic year - revealing two bars and a 1,250-capacity dance venue . . .



CLUB CAMPUS

The site was originally a courtyard surrounded by buildings on four sides, which has now been completely filled. The new four-floor development includes snazzy offices, a bar area, a supermarket and games room (presumably not together), shops and other social facilities, one of which is the new dance club - Stylus. The project cost a total of £4.8 million to realise, with £109,000 being committed to sound and lighting.

The nominated contractor for the new venue's entertainment systems was Harpenden-based ProMedia Systems, something of an expert in these types of installation. Since audio is key to any club environment, the company specified a Martin Audio Blackline system - similar to that configured in Fabric's Room 2 - controlled by a BSS Soundweb digital processing network across the complex. A Martin EM sound reinforcement system in the adjoining 250-capacity space, Bar Coda, is controlled on the same Soundweb network, as is a third new licensed area, The Terrace Bar.

ProMedia's Matt Bate explained that the company had won the contract to fit The Terrace Bar six months ago, which they were required to cable and fit in record time. "But when we realized this would be part of a larger complex, we insisted on using a Soundweb

building block to give it expansion possibilities for the future," said Bate.

That bit of future-proofing paid off for a few months later ProMedia tendered for - and again won - the work to supply sound and lighting for Bar Coda and Stylus - working alongside the company H Peels, who fulfilled the design and build contract. "We were asked to build a club that would rival the best in the city, in order to keep the students on campus after dark," continued Bate. His choice of Martin was based on previous experience. "I'd used the Martin Audio Blackline system before - in the Player in Northampton - and also heard it in Fabric. Its credentials, particularly its configurability, were perfect."

First Bate specified four architectural EM56s and a pair of recessed EM150s to provide even coverage along the two legs of the L-shaped Bar Coda. Then he selected eight H3 Blackline enclosures, designing them in a quad array (two in each corner), reinforced, as he says, "by eight thunderous S218s in a mono block at one end of the room at front of stage. This is a major sound wall, facing forward to create a single point source; the layout of the room dictated that this would be the best approach."

The dancefloor pit is surrounded by a raised area, and on the overhead truss are six further

EM56s facing out to provide secondary coverage of the raised areas. At the rear of Stylus is a lounge area which also features four EM56s.

Stored in the Soundwebs are the crossover and compressor/limiter functions and source select for Bar Coda - enabling customers to listen either to the CD source from the main room, or a local DJ. The same applies to the Terrace Bar.

According to venue manager Steve Keeble and venue technician, Jon Morris, the planning for the venue has been long-term: "Previously the facilities on campus had been extremely poor and there has been a lot of competition in Leeds town centre, so we needed to develop something to compete," explained Morris. "The University started saving around 10 years ago for a new four-storey development, and there was always a nightclub venue within that plan. ProMedia specified Martin Audio because they liked the system and I had no problem with that - it performs great."

Although there will be some PAs, MCs and local bands appearing live at Stylus, much of the touring activity will be confined to the University Refectory, where nine SJM-promoted concerts will be staged before Christmas. Meanwhile, Stylus will feature



Venue technician Jon Morris pictured with both the Avolites Azure (right) and the well-stocked sound rack (below)



different promoter nights with the Saturday night open to the general public. "This will feature an external promoter and credible DJs," added Morris. "In fact we've already had Goldie appear." Next on the shopping list is a PC laptop in order to interface with Soundweb, into which ProMedia will be storing the appropriate 'audio landscapes' for the venue's different style nights. At the same time Morris will be taking advantage of attending a Soundweb tutorial. "At the Student Union, it typically wouldn't take long for casual bar staff to change all the EQ settings - but the beauty of the BSS Soundweb is that no-one can gain access or break into the system."

When it came to lighting for the new venue, Morris was looking for a cost-effective, yet

visually appealing lighting rig to ensure the club keeps pace with the latest technology expected by 21st century clubbers. With this in mind, ProMedia proposed Coemar LX wash and spotlights as the moving fixtures, and an Avolites Azure console for control.

The spec was put together by Matt Bate and George Bailey in consultation with Morris. With no generic lighting in the space at all, it was essential that the moving lights - and their controller - gave maximum range and versatility. Another factor was having expediently sized fixtures, and whilst Stylus's ceiling height was extended by

excavating the ground below the building, it remains relatively low.

The 10 Coemar Pro Spot LXs and six Coemar Pro Wash LX fixtures were supplied to Promedia by Coe-tech, Coemar's UK distributor. Their punchy 250W MSD lightsource is perfect for the space. Coe-tech also supplied two TAS Strobes. Bate and Morris also chose the Avolites Azure 2000 console collectively, and sourced it direct from Avolites.

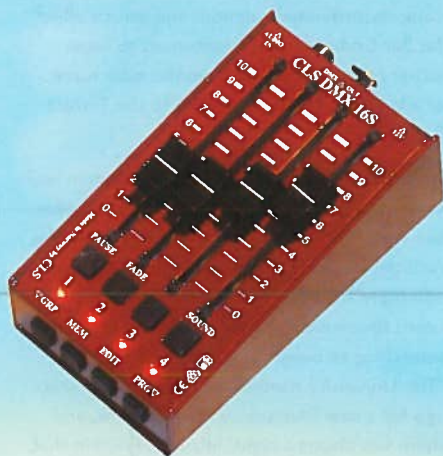
This console has proved highly popular for club installations worldwide - high profile UK venues include Fabric, la Scala, the Ocean Music Centre, the Roadhouse and Hanover Grand in London; CODE in Birmingham and Archaos in Glasgow. Being pragmatic, the Azure 2000 version with the beer-proof membrane, was ordered. Morris and his colleagues intend to make full use of Avolites' training facilities to learn the console fully and maximize its full potential.

The new venue opened at the end of Freshers' Week, and Leeds University expected to welcome 5,000 people across six venues for the Freshers Ball. And as for the wisdom of placing a supermarket immediately over a dance venue, Morris admits that Blackline has already managed to shake some of the items off the shelf.

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John Watt

Second Take...

John Watt's view from beside the camera

A short visit to IBC in Amsterdam confirmed this a missable event if you are interested in lighting hardware.

I'm sure there were wonderful and innovative things amongst all those halls of electronic wonders, but a little learning is a peaceful thing, so much passed me by. Couldn't help

noticing that camera manufacturers still imagine good lighting to be irrelevant and are largely great exponents of the 'pudding' faces much beloved of many newsrooms. To this end, the lighting designers they employ do not disappoint, managing to shadow faces in a way not seen in nature other than within 10 miles of the equator at noon.

THE LIGHTING IS CONCENTRATED

in one hall, where on first sight you would be forgiven for thinking that the whole of the TV business has moved to fluorescent. There is just a lot of it about, like flu in January, and it makes you feel about as good, too. Yes, I know why it's popular, we've done all that ad infinitum. The disastrous events in America left a few gaps in the stands and the attendance figures too. Alan Bermingham found himself in sole charge of the Viddescence stand, but managed to thwart the photo opportunity of the year by not allowing me to run it while he grabbed a deserved break and lunch. Wonder why?

OTHER BRITS FLYING THE FLAG were Roger Duncan and Rick Dines manning a small stand for

the STLD. I shouldn't be surprised that my favourite organization had come up with an innovative joint venture with a number of manufacturers. A sort of budget entrance ticket to a big exhibition where your product could be promoted by two enthusiastic working lighting men who, in turn, promoted the Society. I wish I had thought of that. The stand was, in fact, shared with GTV Lighting and I would have cheerfully dismissed their folding three kilowatt softlight as yet another gimmicky softlight, were it not for the aforementioned Mr Duncan. This is a truly innovative device boasting three 1kW lamps, each with their own internal dimmer, and it folds up into a ridiculously small space with a place for spare gels and cable. Much of it is constructed from carbon fibre and, as they say on the Antiques Roadshow, is just "right". Designed by cameraman Martin Graham it's a piece of kit I would love to try out.

SOME OF THE BIG BOYS were represented - De Sisti with the irrepressible boss holding meetings every 10 minutes, Arri (with whom I was once on speaking terms), and ADB, where I'm always assured of a drink and a cuddle. Trouble is, you get the cuddle from Nick Mobsby and the drink from Brenda Dunsire. Never mind - I'm off to Woking soon where I'm definitely on a promise.

COMPLETELY by chance, I find I've not been selected to receive the ultimate status symbol, an indicator of being a member of the 'in crowd'. This rare artefact is in fact a Mike Lingard pen. Has he considered the ignominy one feels as your console operator takes down notes with this unique instrument while you must make-do with one of those short HB pencils dished out for free by Ikea? Never mind that they're on offer at five quid for 50 in the small ads of Loaded magazine; never mind that the type face is different on every line, never mind that it's short on ink and doesn't pop in and out very well - I'm feeling deprived.

A QUICK FLIT TO TEDDINGTON the other Sunday and if you haven't worked there, try to

fix it. A monopole grid with well-maintained lights, car park and restaurant overlooking the river, and nice people. I was there to catch up with a show which has got itself a new set since the last series. Why do they fix things that 'ain't broke, I wonder?

THE OLD SET HAD STYLE and stood out from the crowd - a pig to light, but that's not always a bad thing at the end of the day. The new one features a circular ring of Perspex in the floor edged with chrome strip. This acts as a mirror (book one, page one - angle of incidence equals angle of reflection), providing hours of fun for the lighting man as he tries to keep the resulting hot stripes off the presenter's face. The day was extended by a malfunctioning fire alarm which sent us all to our muster stations, or in some cases, the coffee shop. The audience got soaked for the second time, having queued in the rain. Aren't they good, putting up with hard seats, hot lights and a manic warm-up man (come back Felix, all is forgiven) all for being part of showbiz? Did I just describe me?

WOOD LANE IS A SOBERING EXPERIENCE at twenty-to-six in the morning, in spite of the best efforts of a faithful rearguard party now running the place. Paul, Mr Fixit, has suffered the barbs of this column so much that getting in is now not a problem. Red carpets and a uniformed, saluting commissioner are not involved, but a parking space and not being crapped on by the railway arch pigeons is not a bad start to a TV Centre day. The bumpy start is made tolerable by a really good team: out of the pavilion, bang on six, the urbane Michael in charge, the quietly efficient Raj, the steady, experienced Alan and wild man Trevor, who never put a spot wrong - it serves to remind us that lighting is a team game. Ian Penny (not called vice captain for nothing) accompanies me on these jaunts, making sure I don't do anything daft like going to the canteen. This week he played at silly mid-off, taking several fine catches as bits of miscellaneous hardware fell off the ill-maintained lamps.

A SORT OF LIGHTING DELEGATION from Sweden turned up at home last week: Ebbe Friman from Goteburg and Paco Harleman from Stockholm. We whiled away a couple of evenings over a bottle of Glenfiddich, putting the world of TV lighting to rights. It's some consolation to realize that the hopes and fears of lighting people are universal. Well, I suppose it's safe in the hands of the newer fellows. I passed by Dave Davey's studio the other Saturday, and he seemed to be understanding the 'music' he was accompanying (sounded like someone building a shed whilst strangling a cat to me). A recent article by another 'lad', Will Charles, once again reminded me how little I know: is it a defence mechanism that makes me wonder whether good lighting is now quite dependent on technology? Answers on a postcard, please.

"We whiled away a couple of evenings over a bottle of Glenfiddich, putting the world of TV lighting to rights. It's some consolation to realize that the hopes and fears of lighting people are universal."

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John A Leonard

This book provides a thorough review of essential information from basics to more technically-advanced work. Beginning with a brief history of the use of sound in the theatre, Leonard covers different sound systems currently in use, as well as the practical considerations arising from working in different types of theatres.

He also discusses artistic input; working with the director and other designers as well as the production process; putting together cue sheets; desk plots; conducting rehearsals and operating the show.

A & C Black • ISBN 07136 48031 • 200pp • 2001 • paperback

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SPATIAL AUDIO

Francis Rumsey

This book explores the principles and practical considerations of spatial sound recording and reproduction. Particular emphasis is given to the increasing importance of multi-channel surround sound and 3D audio, including binaural approaches, without ignoring conventional stereo.

The enhancement of spatial quality is arguably the only remaining hurdle to be overcome in pursuit of high quality sound reproduction. The rise of increasingly sophisticated spatial sound systems presents an enormous challenge to audio engineers, many of whom are confused by the possibilities and unfamiliar with standards, formats, track allocations, monitoring configurations and recording techniques.

Focal Press • ISBN 0240 516230 • 256pp • June 2000 • paperback

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Gregg Hopkins & Bill Moore

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Music Sales • ISBN HLE00330289 • 288pp • 1999 • paperback

Price £17.95

THEORY OF SOUND VOLUME 1

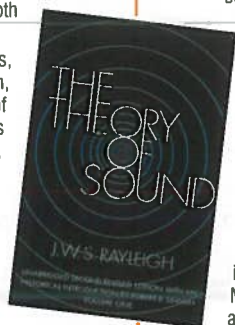
J.W.S. Rayleigh

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Scott Hunter Stark

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Tony Moscal

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COMMUNICATION TECHNOLOGY UPDATE

August E Grant, Jennifer Harman Meadows, Editors

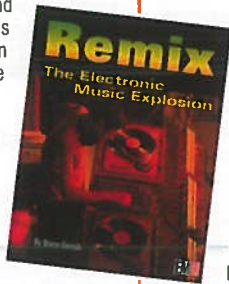
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Des Lyver

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Chuck Gloman, Tom LeTourneau

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Derek Phillips



This book documents the part played by the independent lighting designer, leading to a greater understanding by architects and lighting engineers of the importance of lighting in architectural design.

The book starts with an exploration of the basic human needs of vision and the perception of our exterior world...the intellectual and the physical...since this is what lighting is all about. To do this, it is necessary to trace the development of daylight from the earliest times up to the present day; the starting point for any lighting design is the 'natural' source.

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Stage Accompany: it's a quaintly not-quite-English name for a hugely successful Dutch company, one of an élite few now making a lot of noise on the international scene. Phil Ward traces its roots

Left, Ed Wijnker, Tom Back and Esther Lute with a see-through model of the Blue Box. Below, the 10,000sq.m manufacturing facility in Hoorn.

Going Dutch

Stage Accompany's products do indeed accompany you on stage, but large-scale touring is a relatively recent departure for this manufacturer of loudspeakers and related electronics, based in the old fishing town of Hoorn, about 30km north of Amsterdam.

Celebrating 25 years of operation, the firm has travelled in many ways in the opposite direction to its British competitors in that time, founding its reputation in permanent installation - especially cinema - and then diversifying into concert systems. While the UK mainstays established the modern live sound market, SA paralleled the likes of Dynacord in Germany, DAS Audio in Spain and RCF in Italy, building a presence in, well, buildings.

With one key difference. At the heart of all of SA's speaker products, for any market, is its proprietary Ribbon Compact Driver technology, a genuine alternative to compression drivers. The power handling of the 'ribbon' tweeters, mids and subs now emanating from the Hoorn factory has breached the 2,000W milestone, making the company's products potential contenders for the biggest stack and array challenges that live sound can set. They were already here, but Stage Accompany have arrived.

Twenty-five years ago, the USA marked its bicentenary, England had a severe drought and few continental pro audio companies were known outside their own countries. Somewhere in Holland, a sound engineer called Ed Wijnker was working FOH for legendary pop group The Dizzyman's Band, and like so many of his generation decided to do something about his dissatisfaction with the contemporary sound systems available.

The full scale of the legend of The Dizzyman's Band may not have made it all the way from the Hook of Holland to Harwich, but Wijnker began a process that set his audio designs on the path to worldwide recognition. Building prototypes in his parent's attic in a tiny hamlet near Hoorn, all he had to do to reach his first customers was ensure that nothing he made was too big to exit through the door frame.

"It was an important measurement tool," smiles sales and marketing director Tom Back. "Every cabinet we produce today must go through a standard-sized door. There was only ever one exception - the Chicken Shed, a bass bin so big that it was constructed outside, with a wooden roof on it to keep the rain off. . ."

Early products included the W-Bin, a range of bass and mid bins loaded with JBL components that found favour with Dutch rock bands touring around Benelux and Germany. The first amplifiers appeared in 1980 with the SA500 series, and by 1986 the company was making its first investigations into a better integration of amp and speaker.

Out of these came the PPA1200, a Class A/B amplifier and one of the world's first digitally-controlled analogue (DCA) amplifiers. It also introduced SANet, a pioneering network control interface, and provided the processing heart of the PPE2410 programmable parametric equaliser - also DCA. Fifteen years on, both products are still going strong.

But the company really struck home by incorporating the same processing technology into its Blue Box range of loudspeakers. Tom Back takes up the story.

"This was a revolutionary concept," he says. "Think of a time when the standard system was a 5-way pile of 'old wood', as we call it. You'd have a bass bin, a low-mid bin, a mid bin and a mid-high with bullets on top. We went from that idea to a more compact approach, which included everything within a single building block that could be used from small to very large systems."

The Blue Box incorporated the PMS5000 DCA amplifier, and in so doing pioneered not only network controllability but also the self-powered concept. SANet, indeed, predated both Windows and DOS, and is consequently based on the GEMS operating system - nevertheless providing fully interactive remote control for up to 250 units.

Demonstrating a continuing urge to improve upon whatever third parties had available, SA developed its own cone driver for the Blue Box - a 4-inch voice coil in a cast aluminium chassis. Not only that, for the mid and high frequencies SA came up with a new type of transducer altogether, called the SA8520 - the first Ribbon Compact Driver.

"In a market where everybody was using compression drivers," says Back, "we were a relative newcomer and we wanted to find new solutions. Through our very good contacts with Philips in Eindhoven, we discussed a small tweeter they had developed for domestic hi-fi. It was very expensive for them to produce, and they weren't ready to bring it to market."

This turned out to be what Philips called an iso-phase tweeter - a ribbon tweeter for frequencies from



Right, Since 1980, SA has developed and manufactured amplifiers. Here the final test on a batch of ES amps is being performed, after a 'burn-in' period of 12 hours. Inset, all speakers are proprietary design and are manufactured in the factory in Hoorn. Below, the Ribbon Compact Driver is SA's unique high power speaker for the mid and high frequencies.



5kHz-30kHz. Its frequency response sounded so smooth to the assembled SA ears that Wijnker and co decided to adapt it for pro audio use, and the rest would be history - but for the fact that development continues apace and promises even more for the future.

Compression driver technology had come into its own with the talkies, when transducers were needed to turn electrical sound into acoustical sound. The first horns struggled to exact sufficient projection from the meagre wattage of early amplifiers, so the 'compressor' was born to squeeze the wave through a narrow diameter before rapid expansion through the horn flare.

Fine and dandy, but some tests have shown that compression drivers, which are quite heavy, can start to vibrate at 8kHz and above and continue to resonate after the signal has passed - interfering with frequency response. Ribbon drivers are light enough for this problem not to arise. According to Back, it also means they prevent listening 'fatigue'.

"The vibration of the resonating membrane is also the reason why, if you listen to a compression driver for long enough, you get listening fatigue," he says. "That's why people tend to think distortion and loudness go together - that loud sound always hurts your ears. We say it comes from the typical behaviour of the compression driver, and because everyone has been using them for the last 80 years or so, there is no distinction."

The ribbon driver is a magneto-stat, a moving mass to put air into motion with an engine behind it - in this case a voice coil. Unlike a compression driver, the engine and the radiating surface are integrated. Instead of two separate, heavy parts, there is a single

diaphragm incorporating the voice coil. "I compare it to accelerating a heavy truck and accelerating a sports car," says Back. Both solutions use magnets to hold the voice coil, but whereas in compression drivers the voice coil moves up and down within the magnet structure, in ribbon drivers the voice coil lies in front of the magnet - outside of the heat generating source.

The 8520 appeared in 1986, weighing 4.2kg with a peak power of 500W. Adding magnetic power, and therefore weight, to increase power handling, later models of the ribbon diaphragm have achieved 2,000W - countering the increased heat by a system of blowing air directly onto the external voice coil. In 1993 weight was saved by a switch from ferrite magnets to neodymium, while other refinements included ever finer coats of aluminium on the foil of the diaphragm. Depending on the precise thickness of the diaphragm, you can tailor the driver for different markets, says Back.

"You have either a hi-fi speaker which is very loud, or a PA speaker with a very high frequency response. Either way, we can create

studio monitors or sound reinforcement systems."

Over the years, distinct series of loudspeakers have addressed differing segments of the sound reinforcement market, with Entertainer, Performer, Champ and Screen having all corners covered from pubs to cinemas and concert touring. Cinema, certainly, has been a cornerstone of SA's success.

"Cinema is the cradle of pro audio," Back suggests. "Our Screen Series takes the ribbon concept and applies it to that market. You don't need a horn to create a dispersion pattern, so you can create a box only 23cm deep - which is obviously good news for the movie theatres. If you fly them behind the screen you save a lot of space. To demonstrate the variety in ribbon-application, because of the natural cylindrical wave pattern of the Ribbon Compact Driver, touring companies are now incorporating the Ribbon in their proprietary line-arrays with great success."

Stage Accompany's R&D encompasses transducers, acoustics and electronics. The latest developments in amplifier technology further the integration of amp and speaker, most notably through what the company calls Dynamic Damping Control (DDC) - which extends the control loop of the amplifier up to the speaker terminals.

Because extra wires maintain a dynamic reading of the damping factor, triggering adjustments as necessary, the normal limitations over lengthy cable runs are quite simply eliminated. "We introduce an arbitrary damping factor of 10,000, as opposed to the normal 200 or 500," says Back, "but really it's infinite. We just didn't think people would accept such a claim from a small company in Holland . . ." Meanwhile the prototype Newton System provides independent DSP control of every individual speaker in large, multi-channel configurations - perhaps the ultimate in amp-to-speaker control, showcased spectacularly in the new Amsterdam Arena not long ago.

The factory has grown along with the company. In it, drivers are magnetised - behind a large screen - with a shot of 5,000V a go, courtesy of a machine developed in collaboration with a Swiss professor of atomic research. Every model is tested for 1,000 hours at clip level. And Ed Wijnker seems to have a sunny grin across his face all day long. In the name of Quality Control, the equaliser settings are stored at the factory for every installation from the cinemas of Amsterdam to the discotheques of Malaysia. There are sales channels in 35 countries.

"There are markets for every application of our technology," Back concludes. "We have the know-how. But we can't focus on every market at once, so we'll just keep going at our own pace. We're happy."

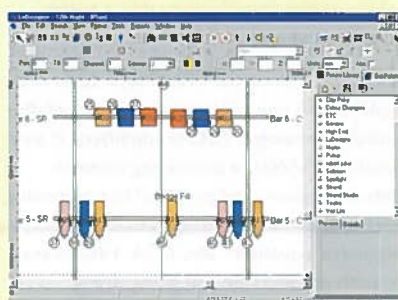
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Lighting programmer/technician

Location: Egypt Salary: Eq to: £25K+

An established company based in Cairo is looking for an experienced lighting programmer to work on their many productions, utilising the companies extensive stock of Clay Paky moving heads. Accommodation is provided as is flights to and from the UK. The successful applicant should be familiar with programming and operating moving lights in theatre and conference formats. Job ref:- TP999

Project Manager

Location: North England Salary: £25-30K

This established installation company is seeking a very experienced contracts manager to oversee all aspects of the companies lighting contracts. The successful applicant should be very experienced in installation contracts, the positioning of intelligent lighting plus commissioning. Job ref:- TPCM262/2

Project Manager

Location: London, Venue Salary: £30K+

This established rigging company is seeking a very experienced contracts manager to oversee all aspects of the companies London contracts. The successful applicant should be very experienced in overseeing all aspects of temporary contracts from health and safety, get in / get outs, rigging, power etc. Job ref:- CM280

Sales Manager AV products

Salary: £25-30K plus commission

The company manufactures and sells unique audio and video distribution systems as well as supply full projects from small conference venues to stadiums. They have developed a range of distribution systems capable of solving many industry installation systems problems and were recognised by PLASA last year winning best product in this category. The successful candidate must have a track record in AV sales and preferably system sale. Job ref:- TP:AVS165

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Area Sales Manager

Location: South Salary: £30K+

This fast growing company requires a salesman experienced in giant daylight LED screens and associated services. Client base are Music, sports and corporate based. The successful candidate will preferably have experience in selling large screen projection to the events industry. If you have the relevant experience and drive required to join one of the fastest growing area of the events industry, call us. Job ref:- AV1814 or 1810

International Sales Manager - Live sound

Salary: £35K+

An established French live sound manufacturer of loudspeakers and amplifiers are seeking an international Sales manager to head their export drive. Candidates should have a track record in export sales and be able to demonstrate sales growths they have achieved whilst managing export territories. A working knowledge of French would be an advantage. Job ref:- AS817

Professional Audio Sales

Location: South Salary: £22-25K plus commission

This world-leading manufacturer of studio recording and processing products is seeking an experienced and aggressive UK sales professional. If you have a sound understanding of studio technology and practice, and have the energy and commitment needed to succeed, call quoting Job ref:- AS199

Audio Systems Sales Location: London

Salary: £20-35K subject to experience

Our client, an established audio systems supplier specialising in sound reinforcement, installation and AV systems, is seeking to recruit a new member of an already strong and diversely skilled sales team. The role involves both office based and field sales and requires a professional, enthusiastic and results-driven approach, combined with appropriate skills and experience. Job ref:- AS160

Software Engineer

Location: South Salary: £25-30K

This well-established UK manufacturer is seeking a software engineer with the following skills. A thorough knowledge of the C programming language and visual basic as well as assembly language programming (preferably for the PIC range) is essential to this position (some knowledge of C++ would be an advantage). Job ref:- SP179/2

Electronics Design Engineer

Location: South Salary: £20-30K

A UK lighting manufacturer is looking for an individual to liaise with experienced clients and engineers in the industry and write design specifications and draft feasibility studies. This will include High frequency power conversion circuits with both bipolar and mosfet devices. All products need to be designed to the relevant RFI emission standards. Responsibilities include building and developing prototype circuits as well as costing and production of parts lists. Job ref:- SP179/1

Export Sales Manager - Broadcast Electronics

Salary: £35-45K+

This leading British manufacturer is seeking a technically well-grounded sales manager to manage and develop their business in Asia. Extensive travel together with substantial autonomy offered for the right candidate. Job ref:- 1815

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UK Field Sales - AV Products Salary: £25-30K+

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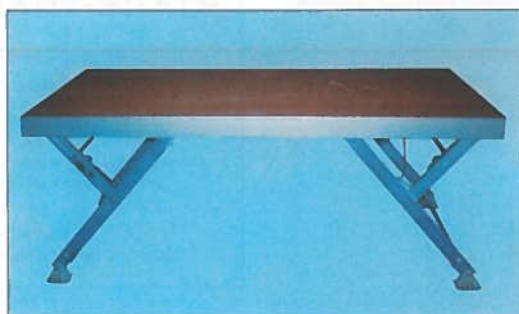
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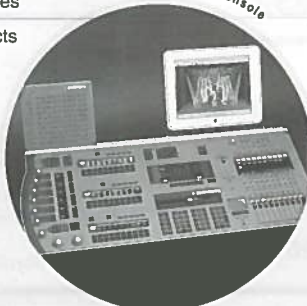
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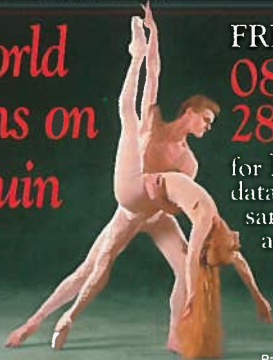
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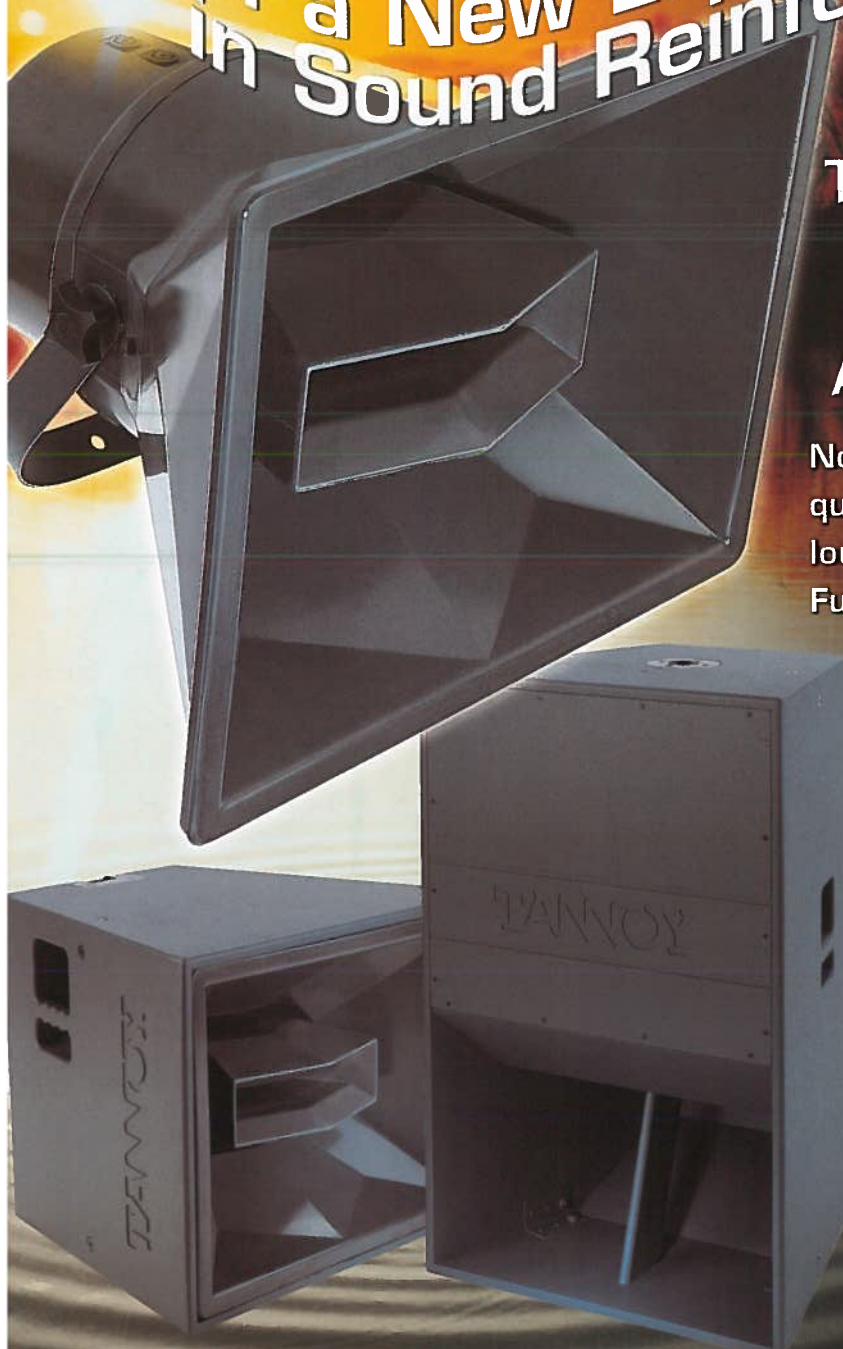
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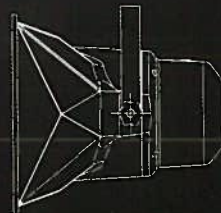


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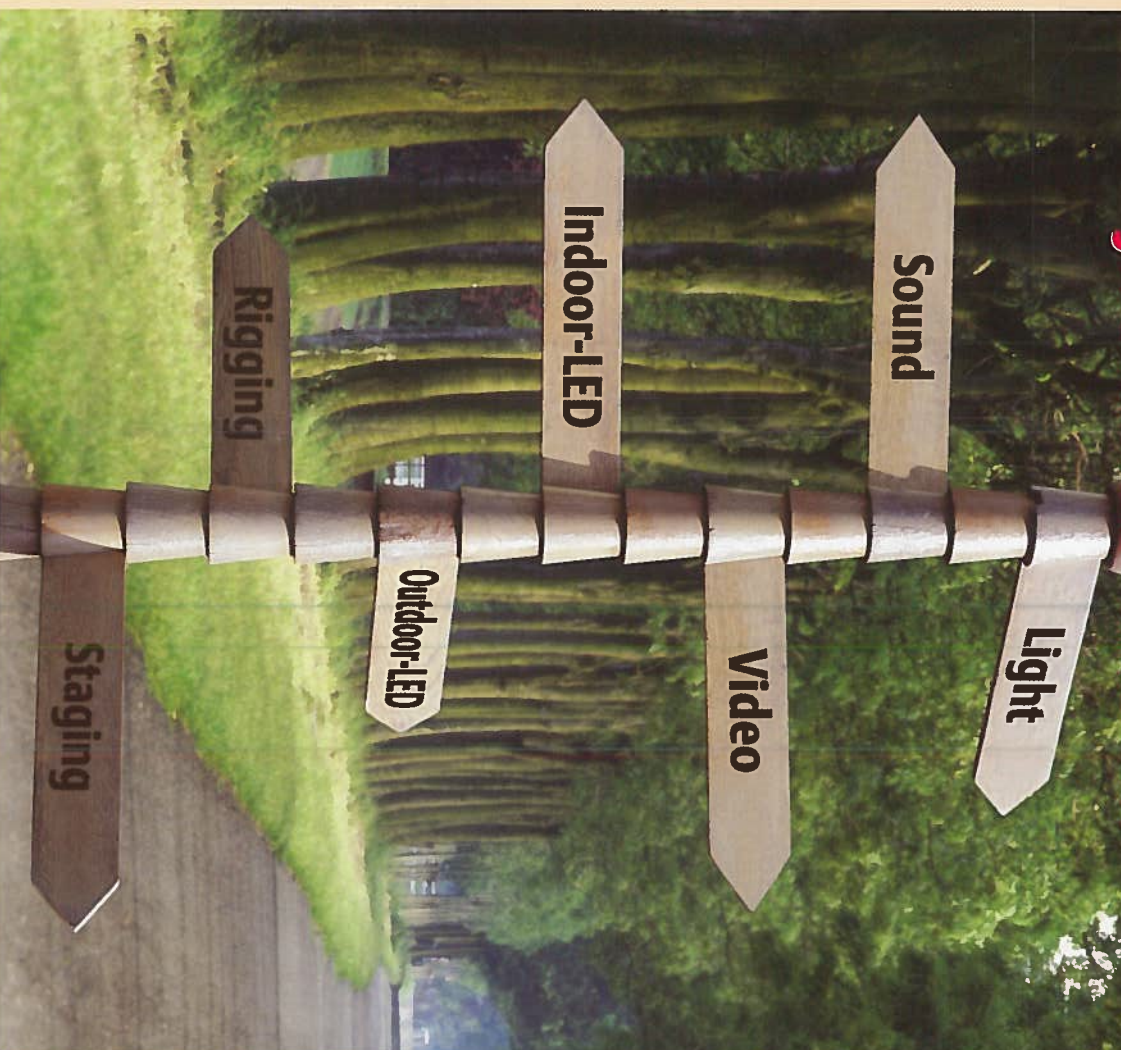


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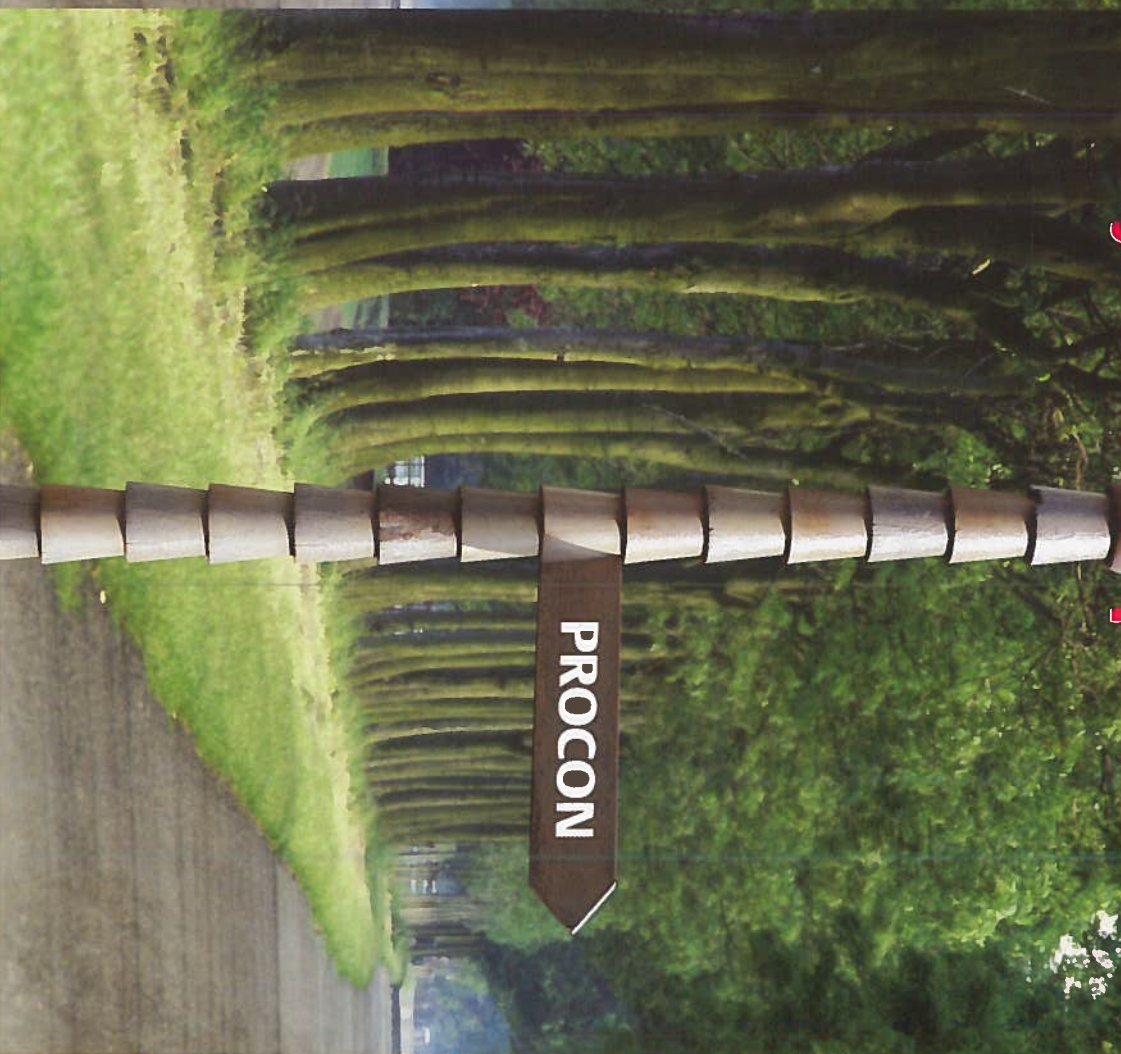
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