

Lighting & Sound INTERNATIONAL

February 2001

The Entertainment Technology Monthly

www.plasa.org/news

Quidam

- Cirque du Soleil in Battersea

A New Odyssey

- The arena putting Belfast on the map

Weird & Weirder

- Offspring and Marilyn Manson

Rock in Rio

- L&SI in Brazil

Round Table

- Multi-media in the frame

The logo for PLASA, consisting of the word "PLASA" in a stylized, bold, red font with a white outline, set within a white oval shape.

Dave Matthews Band, Universal Studios, John Fogerty, Nintendo, Creed, Oasis

Murphy's Beer, Princess Cruises, Chicago '98, & '00, Bjorn Again, Walt Disney Company, Clint Black, Sony Dev., The Offspring

Landmark Entertainment, Royal Caribbean Cruises, Lord of the Dance, Insane Clown Posse, Glow! The M & M Academy, Splash!

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<p>DAY TO NIGHT SCENERY</p>	 <p>25' X 40' BACKDROP ON LINO SCRIM NORMAL LIGHTING</p>	<p>CLINT BLACK TOUR</p>  <p>SAME ART UNDER UV LIGHTING</p>	<p>BJORN AGAIN TOUR</p>  <p>SAME ART UNDER UV LIGHTING</p>	 <p>24' X 40' BACKDROP ON LINO SCRIM NORMAL LIGHTING</p>	<p>DAY TO NIGHT SCENERY</p>
	<p>"THE VIEW" BAR NEW YORK CITY</p>				

 <p>15' X 20' OUTDOOR MURAL ON VINYL/NORMAL LIGHTING</p>	 <p>SAME ART UNDER UV LIGHTING</p>
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<p>DUAL IMAGE SCENERY</p>	 <p>200' MURAL ON FIBERGLASS TUNNEL NORMAL LIGHTING</p>	<p>THE CURSE OF THE MUMMY'S TOMB UNIVERSAL STUDIOS HOLLYWOOD</p>  <p>SAME ART UNDER UV LIGHTING</p>	<p>DUAL IMAGE SCENERY</p>
	<p>OASIS TOUR</p>		
<p>DUAL IMAGE SCENERY</p>	 <p>14' X 40' CLUB MURAL ON MUSLIN NORMAL LIGHTING</p>	<p>OMEGA MAN</p>  <p>SAME ART UNDER UV LIGHTING</p>	<p>DUAL IMAGE SCENERY</p>
	<p>CHICAGO TOUR</p>		
 <p>SAME ART UNDER UV LIGHTING</p>		 <p>3- 20' X 28' BACKDROPS ON LINO SCRIM UNDER SHOW LIGHTING</p>	

<p>COMPLETE INVISIBLE SCENERY</p>	<p>LEFT BEHIND</p> 	<p>7- 5'X 8' FRAMED MURALS ON SCRIM UNDER NORMAL LIGHTING</p> 	<p>BOOK TOUR</p> 	<p>COMPLETE INVISIBLE SCENERY</p>
	<p>SAME ART UNDER UV LIGHTING</p>			

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Lighting & Sound INTERNATIONAL

February 2001 Volume 16, Issue 2

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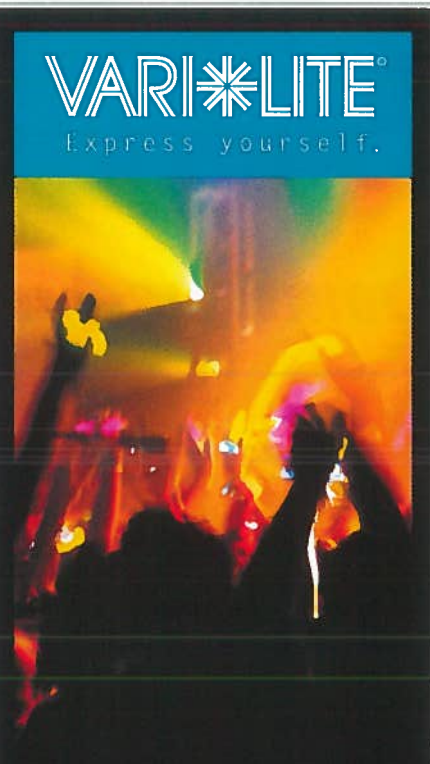
EDITOR Ruth Rossington - ruth@plasa.org
 DEPUTY EDITOR Lee Baldock - lee@plasa.org
 ASSOCIATE EDITOR Tony Gottelier
 ADVERTISEMENT MANAGER Barry Howse - barny@plasa.org
 PRODUCTION MANAGER Sonja Walker - sonja@plasa.org
 SUBSCRIPTIONS Sheila Bartholomew - sheila@plasa.org
 ADVERTISING CO-ORDINATOR Jane Cockburn - jane@plasa.org
 PLASA - Managing Director: Matthew Griffiths - matthew@plasa.org
 PLASA - Financial Controller: Shane McGreevy - shane@plasa.org

Regular Contributors:
 Steve Moles, Rob Halliday, Louise Stickland, John Watt,
 Ian Herbert, Jacqueline Molloy, Mike Mann, Phil Ward.

Published from the PLASA office:
 38 St Leonards Road, Eastbourne, East Sussex BN21 3UT, UK.
 Tel: +44 (0)1323 418400 Fax: +44 (0)1323 646905

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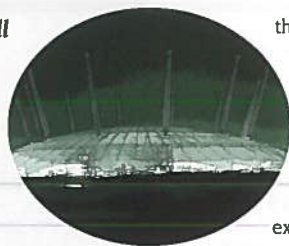
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Dome Decommissioning Gets Underway

In excess of 15,000 lots will go under the hammer when international auctioneers Henry Butcher sell the surplus contents of the Dome, at the end of February.



Since the Dome closed its doors to the public on 31st December 2000, the process of decommissioning its contents has begun and the majority of assets owned by third parties have already been removed and returned. Henry Butcher will sell any surplus assets owned by the New Millennium Experience Company (NMEC).

The decommissioning is being taken forward in two stages. Stage One, up to the end of March, is known as the 'soft strip.' This sees the removal of all assets not owned by NMEC and the removal to safe storage of high value IT, video, sound and light technology owned by NMEC. Stage Two, known as the 'hard strip', starts on 1 April and follows the expected completion of the transfer to the preferred bidder. This stage sees the removal and disposal of unsold NMEC assets, including zone structures and zone displays.

The public auction will take place over four days commencing Tuesday 27th February

through to Friday 2nd March 2001, starting at 10am each day. Zone and theme items on sale include the heart, eye and brains from the Body zone and stage equipment, lighting, AV, sound and broadcast equipment - expected to attract interest from the events and entertainment industries.

In the event that the Legacy plc agreement does not go ahead, the NMEC needs to be prepared for the fact that the Dome may be reactivated as a new visitor attraction, so areas such as the Home Planet and Timekeepers attractions and the visitor turnstiles are not included in the sale.

The auction will be conducted from the Skyscape building adjacent to the Dome where a digital image of each lot will be projected on to screens. Derek Sadler, Henry Butcher's director responsible for the Dome, told L&SI: "Not surprisingly we have received an enormous amount of interest from prospective buyers all wanting to own their own piece of history." Viewing takes place on 22nd and 23rd February and brochures for the auction and details on how it will work can be obtained from Henry Butcher on +44 (0) 20 8331 4194. Interested buyers can register online by visiting www.henrybutcher.com

Help for Companies Missing out in the 'Grants Gap'

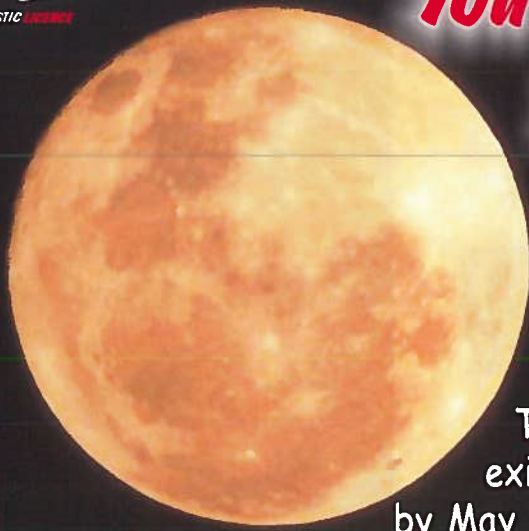
Britain's first free database of business grants has gone on-line - with the aim of putting the country's businesses in touch with more than £100 million going begging because of lack of awareness and red tape.

The cash is part of a potential annual multi-million pound grants' pot, designed to help Britain's 3.7 million companies flourish. But many businesses which could benefit from the money simply don't know they can claim it, or are put off by the confusion, complexity and time involved in finding out what is available.

The new website offers a free grant search service that gives results in seconds. Sophisticated technology means a search takes just seconds to complete and searchers can link immediately through to grants providers with applications.

The site contains information on around 5,000 capital ('hard cash') grants. These range from Regional Selective Assistance grants, which can run to several million pounds, to small, localised grants. Once searchers have found a grant for which they would like to apply, the website directs them to their most convenient grant administrator. Registered users of the site will also be entitled to receive a free grants alert service giving tailored updates on new developments.

www.j4b.co.uk



You'll be over the moon with the Ethernet Technology from Artistic Licence

Art-Net is the only public domain, royalty free Ethernet protocol available for the Entertainment Technology Industry. Multi-Vendor support already exists. Artistic Licence will be shipping OEM modules by May 2001. Register now for a data sheet or brochure.

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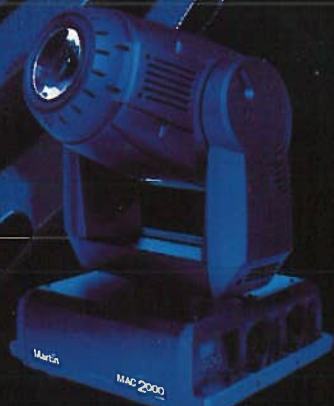
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The Pop Factory

Avanti Television, one of the largest-growing independent production companies in Wales, has recently launched an all-digital facility - The Pop Factory.

The new operation, located in Porth near Cardiff, is sited in the former Corona Pop Works and will become home to a weekly live music programme that will be seen on the digital platform BBC Choice Wales. It also houses A3 Records and a brand new 48 track recording studio and rehearsal complex, complete with on-line and off-line editing facilities, called The Welsh Hills Works.

The multi-purpose broadcast centre is, according to Avanti's founder and MD Emyr Afan, the most important development in Welsh broadcasting this decade. "There is a new confidence in Wales. More and more high-tech companies are locating here. With The Pop Factory, we are proud to be bringing London-quality facilities to South Wales and creating a focus for media businesses in the region."

The centrepiece of the audio system is the new Sony DMX-R100 which was chosen to fulfil a busy and varied schedule in the Pop Factory's hectic programme, which includes the production of a music magazine series for BBC2 as well as 'Sesiwn Hwyr' (the 'Late Session') - a live Welsh-language programme for S4C. Programming was already underway when the building was officially opened by Welsh music icons Tom Jones, Cerys Matthews and Kelly Jones of the



Owen Thomas at the DMX-R100, right, the Sound Control Room

Stereophonics in the latter part of last year. "In fact, the moment the console power was switched on, we were editing on it!" recalled Owen Thomas, head of sound at The Pop Factory. "Even the opening itself was mixed live on the console and broadcast to the crowd outside."

As the console has to handle inputs from several studios around the complex, routing was a significant issue for Thomas: "Especially when you are working in a live studio, being able to route anything anywhere is great - especially when this needs to be reset instantly during a busy programme. The routing system is very straightforward to use, and lets us set up the console layout in exactly the way we want to," he commented.

The technical fit-out was masterminded by Visual Impact's Bristol office. Richard Madeley commented on the tight timescale of the project. "The builders moved in during May and we had to be ready by the end of August. There was no time for trial runs - we just had to make it all work on time!" He also pointed out that the choice of console was the result of some forward planning on Avanti Television's part. "We debated about how we could achieve what was needed at The Pop Factory - such as linking a pair of smaller digital mixers - but

the DMX-R100 integrates so much better into a professional broadcast environment. With 96kHz/24-bit capability, the technology is also very future-proof, which is important in the fast-moving television production market. It's also very rare to find a

product that is so good at multi-tasking - and The Pop Factory's workload is an ideal use for a sophisticated mixing console like the DMX-R100."

The Sony DMX-R100 is a professional 8 bus digital mixing console, designed for stereo and 5.1 surround operation, with an emphasis on sound quality and ease of use. The DMX-R100 can operate at up to 96kHz, using high-quality 24-bit ADCs and DACs and high speed SHARC Digital Signal Processors. Its 56 input channels include 24 analogue inputs as standard; a total of 18 output buses can be configured to suit the application.



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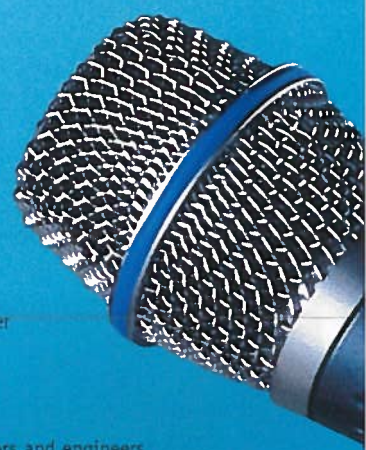
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A Modern Approach to a Classic . . .

The lighting for the new season of Classical Spectacular shows was recently pre-programmed at Stage Electrics' new Virtual Lighting Studio in London's Waterloo. The show, which performed at arenas around Britain and at the Royal Albert Hall, involved over 200 performers playing 20 popular classical pieces, complete with cannons, muskets and an indoor firework finale.

The show set up on the morning of each performance and had to be technically ready by 2.30pm for an orchestral rehearsal. Promoter Raymond Gubbay has long championed the use of large intelligent lighting systems to accompany the Classical Spectacular experience and expected this system to be used to its full potential with some 500 lighting cues throughout the show.

LD Durham Marengi, who has been lighting the show for the last decade, utilised over 100 intelligent Martin Professional luminaires with 2,000 control channels as part of his new design. Illuminating the production are 16 MAC 2000s, Martin's most powerful automated moving head, along with 16 MAC 500s, 72 MAC 600s, 12 Pro 400 colour-changers and 22 conventional lights, all supplied by Stage Electrics of Bristol.

It was clear that the lighting programme could not be created in one morning on site, so pre-programming was vital. In the past, large,



expensive rehearsal spaces such as the Docklands Arena have been used, along with all the necessary equipment and crew, for one week. The show would then be worked through with the

orchestra and choir layout marked with tape on the arena floor - a far from ideal method of envisaging such a large-scale production.

To make things easier, Durham Marengi took advantage of the WYSIWYG studio at Stage Electrics' new London office. Before doing so he worked on his 3D designs at home. The results were then presented to the client as photo quality images of different views of the rig for their approval. At this stage, sightlines were checked and the sound system was added and its position agreed.

Main picture, Durham Marengi's design for the Classical Spectacular in action at the Royal Albert Hall, London (picture courtesy of Raymond Gubbay). Inset, one of his initial design renderings

Once given the go ahead, Marengi transferred to the WYSIWYG studio and connected the virtual lighting system to the control desk that eventually ran the real lighting rig. Working with lighting operator John Sinden, Marengi programmed the show over a week-long period, before finally presenting the results to the client as projected moving images, along with photo-realistic renderings of the effects. The results, as you can see, are pretty impressive, not least because the programming time for the project was significantly reduced as a consequence of the use of WYSIWYG.

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paradigm (pàr'e-dim') noun - An example that serves as the pattern or model for the rest.

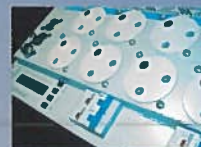
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Major Re-Launch for PLASA Website

Association NEWS

February's complete website re-design ushers in a new phase of PLASA's online development

At the start of February 2001, PLASA's brand new website went online at www.plasa.org. The new site, developed over the past three months, represents the latest phase of PLASA's online presence and continues the organisation's aim to provide the premier online resource for the entertainment, presentation, event and installation technology industry worldwide.

The new site has been re-designed and re-built from the ground up, taking into account the changing face of PLASA as a diverse organisation, encompassing the trade association, the leading trade show, a successful publishing division, a busy technical standards office, and a wealth of industry-related information resources.

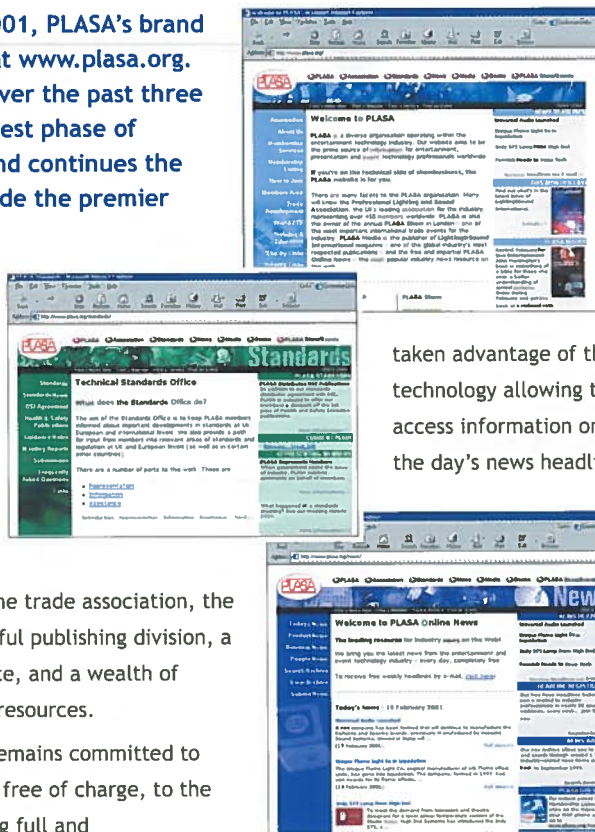
The greater part of the site remains committed to providing useful information, free of charge, to the industry as a whole - including full and comprehensive details of PLASA members, all the latest industry news, information on a wide range of industry events, forthcoming events and industry-related training courses. What's more, the new site has taken the provision of these resources a step further with the addition of custom-programmed, fully-searchable databases allowing fast, easy and flexible access to the full listing of 450+ PLASA members, more than 1,500 industry news items in the online news archive, a comprehensive calendar of industry events and over 100 titles in PLASA's Technical Book Service.

This ability to search by key words makes the new website extraordinarily powerful - visitors to www.plasa.org will get answers to their questions

quickly and effortlessly. For instance, you can find which member companies offer a particular product or service, locate news items of specific interest to you or check the dates and venue of a major trade show. PLASA has also taken advantage of the latest developments in WAP technology allowing those with WAP phones to also access information on the site. Users can look at the day's news headlines, find a PLASA Member or locate details of an event.

The new site also promotes the PLASA membership to a rapidly-increasing worldwide audience of industry professionals. Figures for 2000 show that the previous PLASA website

received around 1.2 million page requests during the year - representing a 50% increase on the figure for 1999. It is expected that the launch of the new PLASA website, with its enhanced information facilities, will further increase this figure for 2001, making www.plasa.org a major reference point for the global industry.



www.plasa.org



Look out for these areas of the new PLASA Website at the addresses below . . .

PLASA Association:



For information about the Professional Lighting and Sound Association, membership benefits and services, trade development, training and more . . .
www.plasa.org/association

PLASA Members:



For a fully-searchable database of PLASA members, with contact details, main personnel and description of the company's main area of activity . . .
www.plasa.org/association/members

PLASA Show:

All the latest news on the PLASA Show - the annual trade exhibition which has grown into one of the premier industry events on the calendar and a major launchpad for new products . . .

www.plasa.org/show

PLASA Technical Standards:



Members of PLASA have access to detailed information on all developments in national and international standards and health and safety matters through PLASA's Standards Office . . .

www.plasa.org/standards

Trade Development:

For full details of PLASA's trade development activities, including exhibitor groups, brochure groups and the government exhibition and seminar funding programme, visit . . .

www.plasa.org/association/trade

PLASA Media:



PLASA's publishing arm is responsible for L&SI magazine and PLASA Online News, as well as the annual PLASA Industry Directory, the PLASA Show Preview and PLASA Show Catalogue . . .

www.plasa.org/media

Lighting&Sound International:

Now in its 17th year, L&SI is the industry's most-read magazine covering the broad entertainment, presentation, event and installation technology industry. Its team of highly-respected columnists and writers bring you the strongest and broadest international coverage of the industry available . . .

www.plasa.org/media/lsi

PLASA Online News:



Online since September 1999, the PLASA Online News website brings completely free and impartial daily updates of industry developments, as well as a fully-searchable news archive and free weekly headlines bulletins e-mailed to industry professionals in 80 countries worldwide . . .

www.plasa.org/news

PLASA Technical Books:



Fully-searchable online database offering more than 100 technical titles covering all disciplines across the breadth of lighting, audio, and show design, as well as general business-oriented titles . . .

www.plasa.org/books

PLASA Industry Events:



PLASA now offers an up-to-date listing of industry events intended to help you find out more about the wide range of trade shows, conferences, seminars and workshops aimed at this industry . . .

www.plasa.org/events

Show FactFiles:

PLASA looks at forthcoming international trade shows, covering key details alongside show and visitor profiles, accommodation and travel information and a focus on the host city.

www.plasa.org/events

Venue Confirmed for 2001 PLASA AGM

The venue for the Professional Lighting and Sound Association's 2001 AGM and Industry Dinner has been confirmed as Coombe Abbey, near Birmingham. This beautiful 12th century Cistercian Abbey, set in 500 acres of parkland, is now a stunning hotel and conference venue which promises to provide 'no ordinary experience'.

The AGM and Industry Dinner will both take place on Thursday 14th June - allowing members to attend both events without taking two



days out of the office - and offer the ideal opportunity to discover more about the Association and to meet with other members. Details of the guest speaker for the dinner will be revealed nearer the time.

This will be the fifth annual Industry Dinner, and the evening has always proved highly popular in the past, with guest speakers including Sir Ranulph Fiennes, Richard Noble and Frances Edmonds. We would like to urge all PLASA members to take an active role in the affairs of the Association by attending the AGM and the Industry Dinner.

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PROFESSIONAL SHOW LIGHTING



HHB Celebrates 25 Years

HHB Communications celebrates its 25th anniversary this month. The company, founded by Ian Jones, has grown to become one of the UK's leading pro audio suppliers and a major international manufacturer of digital audio equipment and recording media.



Above, HHB founder Ian Jones. Below, the sales operation.

With offices in London, Los Angeles and Toronto, and distribution partners in more than 30 countries throughout the world, HHB now employs a staff of 70. During its history, HHB has played a pivotal role in establishing the professional acceptance of many digital recording technologies, notably DAT, CD-R and Minidisc and today HHB's own products encompass all these formats.

To date, almost three million HHB DAT tapes have been sold, the new Portadisc MD portable looks set to become an industry-standard broadcast recorder and the new HHB BurnIT is the latest in a line of CD recorders which have had a high profile in the market. Looking to the future, HHB sales director Steve Angel outlined the company's plans to assist its customers in taking on the multi-channel world and helping them through the transition from analogue to digital.



DMX512 Revision up for Review

ESTA, the North America-based Entertainment Services & Technology Association, has announced that BSR E1.11, Entertainment Technology - USITT DMX512-A, Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories, is now available for public review and comment.

This document is a revision of the widely-used DMX512/1990, which was originally developed by the United States Institute for Theatre Technology. USITT's DMX512 is being revised to clarify loosely-defined provisions in the original document and to accommodate new lighting technology, whilst maintaining backward compatibility with products that comply with the existing standard. The new version addresses the use of alternate start codes, the undefined data pair, grounding practices, over-voltage protection, error detection, and alternate connectors. The draft document can be obtained from the ESTA website at www.esta.org/tsp or from the USITT website at www.usitt.org.

Scientists Claim to 'Freeze' Light

The Boston Globe newspaper has reported that US scientists say they have stopped light, held it in one place and then let it go again. The Harvard University team is due to publish its findings later this month. It is thought that light, which normally travels at 186,000 miles (300,000km) per second could, if 'tamed', be used to relay information around high-speed computers. Scientists Ronald Walsworth and Mikhail Lukin are expected to publish the details of their experiments in the journal *Nature*.

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City Theatrical - profiled by Rob Halliday

Every now and again one stumbles across a fact that truly surprises. New York-based company City Theatrical, which has seeped into the British theatrical conscience over the last five years or so with its award-winning range of accessories, dry ice machines and, latterly, the AutoYoke moving light, is actually 15 years old.

Company founder Gary Fails manages to hide his surprise at my surprise, then fills in more historical details. "I started the company while I was working as a Broadway electrician - for the Circle in the Square Theatre. I felt that it would be good to have a back-up plan, to have a company as a base. LDs and rental shops often needed special, one-off items made for shows - so I became the person who made them!"

It is typical of Fails' self-effacing modesty that he underplays the work involved in getting started. Without any background in engineering or metalworking machinery, Fails taught himself about the equipment he'd need, then went out and bought it - the presses, the folding machines: these very machines still form the heart of City Theatrical's operations today. He also found premises for the company in a building in the South Bronx, far enough from the glitz of Manhattan to be affordable, close enough for him to keep in touch and deliver goods quickly. And, in fact, to continue working in both places. "For the first 10 years or so I had a double life, working here during the day and working on the shows at night."

Eventually, he realised that he couldn't continue to do that. "The real aim of the company was that I didn't want to work nights any more; I was never seeing my family. The first stage in that was to decide to stop working as an electrician; that was a tough decision because it meant immediately



Left, company founder Gary Fails. Below, the sales team of James Horie, Brian Byrne and Patrick Eagleton

taking a big pay cut - so the company had to grow from there!"

The early products were often the low-cost, but useful, accessories that lantern manufacturers didn't really want to be bothered with -

particularly top-hats for profile spots. But Fails also has a knack for listening to what people need for particular projects: "I have a notebook full of ideas, and that list is always growing," - and, more importantly, the machinery to react quickly and make those products.

Things like the BeamBender, a mirror that fixes to the front of a profile spot and can usefully fix problems caused by awkward rigging positions, or the sound baffles offered for various moving lights - or, most recently, the profile spot beam splitter, which won the company yet another award at last year's LDI.

The move to more complex, higher-value products began with the AquaFog dry ice machines - made from corrosion-proof moulded plastic rather than the then more common steel - and has continued with the EFX effects projectors and, most recently, the AutoYoke, which turns ETC Source Fours, Source Four Pars or Strand SLs into theatrically-oriented moving lights. Compared to the 'rock and roll' lights, AutoYokes have quite a low feature-count, but they have been snapped up by many

demanding installations including London's Royal Opera House. Over 1,000 have already been sold.

Fails' South Bronx base resembles something of a mad-professor's cave, an eccentric small engineering firm rather than the multi-million dollar company (about \$3million annual turnover, 25-or-so employees) that it has become. But it also charts City Theatrical's history: it still works in the original unit, but broke through the wall to take over the next two units as it expanded. They are now full-to-bursting again, and Fails has further expansion in mind: "We have a five-year plan to get to \$10million annual turnover, with a number of new products due to appear next year and a full schedule of R&D projects."

This expansion will necessitate a move and, though Fails likes the South Bronx and the South Bronx has been good to the company he is

starting to look at industrial parks further afield. One suspects that the spirit of the company is its founder rather than its location: his office hovers next to the front door and has views over his beloved machines (marketing and R&D are hidden away elsewhere in the building), and many of the company's employees were taught their machine skills by

Fails himself. That spirit should be safe, therefore, particularly since Fails is still having fun. "I love being able to figure out what to do next, where to go. There are lots of engineers out there who you can get in to actually create a product. Working out the need for that product is much harder."

And then, as the conversation moves to 'the future of lighting', you can see his ideas list growing longer again - and you can look forward to playing with the results of City Theatrical's work as those ideas come to well-honed, well-built fruition.



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Buy Now, Pay Later

According to new research just published, half of all the companies in the sound equipment industry increased their level of debt last year, suggesting that companies are more confident than before. The findings come from the latest Plimsoll Portfolio Analysis.

The research on 230 companies, who range from loudspeaker manufacturers through audio consultants to distributors and contractors, also revealed that most companies are using their debt in their day-to-day business. 86% of those surveyed had some form of debt last year. Only 17 showed no debt at all. Adding debt takes confidence, not only in the future ability of the company to pay the debt back, but also to generate extra profits to justify the risk.

Why would almost 50% of the industry add debt last year? Two key reasons seem to be increasing their formal lending. 1) Companies are financing losses in a bold attempt to keep afloat and stay in the marketplace. For 25 companies borrowing money is a means of staying in business. In fact,

these are located and named in the analysis as having taken on more debt last year whilst funding losses.

2) Companies are investing to become more competitive, believing that extra investment in assets will ultimately deliver more profit. Only 25 out of 62 companies or 40% of those adding extra debts increased profits last year.

Obviously too much debt is a bad thing, yet it needn't be. The research suggests that a typical sound equipment company finances on average 30% of their assets. This statistic, however, hides the reality that almost 28% of companies have a debt level twice this average.

Ironically, it also suggests that keeping too much cash can also be dangerous. The 28 cash rich companies located should review whether they are getting the best out of their money.

A full copy of Sound Equipment Analysis, February 2001, is available for £305. For more information call +44 (0)1642 257800 or visit www.plimsoll.co.uk

Strand Sets Up London Base

Strand Lighting has established a new base in London.



The company's new split-level mews studio in the Fulham/Chelsea area will not only become a Strand Academy Training Centre, but will also provide a southern base for Strand's project managers and sales team. Ivan Myles, Strand's general manager of UK trading, told L&SI: "The London office will enable us to reinstate our training programme, to be closer to our customer base and to give better customer support." Among the senior personnel based at SW6 will be Ivan Myles, Vic Gibbs, Bill Richards and Lucien McQueen, and recently-appointed sales administrator James Vaughan.

Pictured above are Bill Richards, Bill Campbell, Peter Rogers, James Vaughan, Lucien McQueen, Peter Sherrington, David Cusworth, John Wright, Phil O'Donnell and Ivan Myles.

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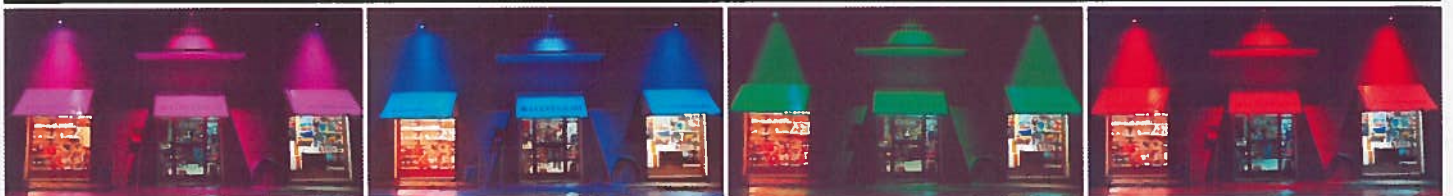
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David Taylor is a director of Theatre Projects Consultants, the world's leading theatre designers, and lights shows in the US and Europe. His recent credits as lighting designer include seasons for Theatre Royal, Plymouth and at the Watermill Theatre,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

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Total Audio Strengthens The Weakest Link

The Weakest Link, BBC Television's most talked-about quiz show, is the latest assignment for the TARDIS - Total Audio Solutions' radical new digital audio mobile. The task of providing technical facilities for the popular series, which is recorded at Magic Eye Studios near Wimbledon, was given to Picture Canning, who turned to Total Audio for the audio provision.



At the heart of the TARDIS mobile is a Sony DMX-R100 digital mixing console - the first in the UK to be installed in a mobile facility. This is equipped with a combination of local and remote mic preamps to offer a total of 48 microphone lines, enabling it to cover every eventuality. The TARDIS is also equipped with a 32-track 24-bit/48kHz Tascam DA78HR recoder, as well as a pair of Sony 4-head PCM-700 DAT machines. Monitoring is by PMC, while effects are courtesy of a Sony DRE-S777 sampling reverb processor and DPS-V77 effects unit. CDP-D11 and MDS-E11 CD and MiniDisc units are also incorporated, each requiring just 1U of rack space. The Weakest Link is equipped entirely with Sony WRT-860 and WRR-850 radio microphone transmitters and receivers, a system that Picture Canning uses widely for wet and dry hire. Our picture shows Conrad Fletcher at the controls of the DMX-R100.

Hollywood's Biggest Party

Hollywood recently celebrated its biggest party - the Golden Globes - held in the International Ballroom at the Beverly Hilton. Production Resource Group companies Fourth Phase, ProMix and LSD/Fourth Phase were on hand to help. ProMix Burbank provided all of the audio equipment for the event, which included the press audio and video feeds to the worldwide press audience. All presenters and award recipients were heard through the propriety ProMix 'pop-up mic', a robotic system. Front-of-house console was a Yamaha PM4000, driving Apogee speakers and Crest amplifiers. Sound designer for the event was Gary Hardesty with his team consisting of audio supervisor Bruce Burns, system engineer Andrew Fletcher, press liaison engineer Steve Cohen, with Mark

King on broadcast audio mix and Randy Faustino on house audio mix.

The interior lighting was designed by Lee Rose of Design Partners, and LSD/Fourth Phase provided the rigging and conventional lighting package for the 11th consecutive year. LSD crew chief Ken Delvo and technician Jeremy Schilling oversaw the installation and operation of the kit, which included ETC Source Fours and Par 64s, controlled by an Expression 2X and Sensor Rack. The exterior lighting, also designed by Lee Rose, was handled by Fourth Phase Burbank. The equipment included a selection of 300W and 650W ARRI fresnels, 125W HMI ARRI pocket pars, 1.2kW HMI Sunrays, 2.5/4kW HMI ARRI pars, MR16 Xray strips and 1kW Mickey Moles.

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People

Yet more significant news from the Martin Professional camp. **Torben Johansen**, the company's production director has left the company. A brief statement posted on the company's website states that Johansen has resigned and that until a successor is appointed his role will be taken on by CEO Kristian Kolding.

More news too from High End Systems, with the announcement that CEO **Frank Gordon** will be leaving the company to consider new opportunities. As a result, High End is conducting a search for a new CEO to replace him, which the company expects to complete as quickly as possible. Gordon originally joined HES in 1998 with the closing of the equity investment by Generation Partners of New York, and will remain at HES as CEO until a suitable replacement has been found. Gordon's departure comes six weeks after the announcement of co-founder Bob Schacherl's intention to leave the company. High End has also announced the appointment of **John Wiseman** as vice-president of worldwide sales. An industry veteran, Wiseman has served High End in several capacities since joining the company five years ago.

Bill Campbell, managing director for Strand Europe, has appointed **Ian Roberts** as managing director of Strand Italy. Roberts, has been with the Rome-based company as sales director since 1997, and replaces outgoing MD **Giuseppe Toia**.

Robert Bell has joined Rosco/ET as Horizon product manager. Bell is best known as a founder of Cast Lighting, and was instrumental in the development of WYSIWYG software. Bell is also an accomplished board operator and lighting designer. More recently, he founded Shock Lighting.



Fuzion's **Graham Pope**

BBM Electronics, the London-based manufacturer of Trantec Wireless Systems, has announced major changes to its senior management. **David Binks**, one of the co-founders of the company, has stepped down as managing director. Another of the original co-founders, **Steve Baker**, is also resigning his post as R&D director, though he will continue with BBM as a consultant. Also departing is **Chris Gilbert**, who has spent many successful years as sales director. Parent company TOA Corporation of Japan has appointed **Gordon Gillett**,

previously a director of several engineering companies, as managing director. **Sho Kubo**, currently managing director of TOA Electronics Europe GmbH, will take over as sales director and **Richard Ganley** has been appointed R&D manager.

Fuzion has welcomed a new pair of hands to the sales team in the shape of **Graham Pope**, formerly of Panasonic and HHB. Pope, whose main responsibility will be for accounts in the south of England, joins **Mick Butler** who looks after Scotland and the north, and sales director **Paul Ward** who oversees the sales operation as a whole.



Simon Harrison of KT

Klark Teknik has appointed **Simon Harrison** as director of signal processing. Harrison comes from an R&D background, having been a key member of the design team responsible for the Sony OXF-R3 'Oxford' digital recording console.

Harman International has appointed **Mark Terry** as president of the Harman Pro Group Worldwide. Previously serving as president of Harman Pro Group North America, he now also takes responsibility for the international companies of Harman Pro Group.

After six years handling technical sales and support on AC's exclusively-distributed products, **Mike Falconer** is leaving AC Lighting Ltd and

heading off to AC Lighting Inc in Los Angeles. AC Lighting Ltd, meanwhile, has made a number of new staff appointments. **Peter Searles** has been appointed company secretary. Searles has held a variety of senior roles within the company since joining in 1990. **Mark Tonks**, who joined AC in 1993, has been appointed IT & Logistics Director, whilst **Martin Savage**, formerly assistant head of lighting at the Millennium Dome, has joined the company's technical sales team.



Dobson's **Tone Ferne**

Following the recent appointment of **Nick Hughes** as technical manager, Dobson Sound has now appointed

Tone Ferne to work alongside Bill Woods and David Lewis on project management and co-ordination.


Following the opening of Lighting Technology's new sales office and showroom at The Business Design Centre in Islington, London, the company has appointed **Graham White** as sales manager. He joins the company after working extensively in the commercial lighting projects market with Parkersell, Barrel Lighting and, most recently, Absolute Action.

Stage Two Ltd, the Watford-based audio-visual, sound and lighting company, has welcomed **David Reeves** back into the fold as business development manager to consolidate the company's position in the conference equipment hire and presentation field.

Celestion has appointed a new South of England sales executive. **John Nightingale** has joined the loudspeaker manufacturer after nearly three years with Batmink, the West country wholesale and distribution company.

Andrew Williams has been appointed NXT's new group marketing director. His prime responsibility will be co-ordinating the global marketing strategy of NXT's SurfaceSound, SoundVu, TouchSound and 20/20 Speech technologies. He replaces **Jon Vizor**, who will now concentrate full-time on his business development role as head of venture sales and also leading the commercial audio sales teams.

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Creating the Perfect Pint . . .

In a launch event spanning three days, Imagination has opened the Guinness Storehouse in Dublin, a brand experience on which the company has been working since 1997.

The Guinness Storehouse, which replaces the Hopstore, the brewery's existing visitor attraction, is set to become one of Ireland's biggest draws, with a million Irish and overseas visitors anticipated annually.

The six-storey Guinness Storehouse sits at the heart of the St James' Gate brewery complex. Originally built in 1904, the former fermentation plant was the first steel-framed building in Ireland. Imagination has converted the 170,000 sq.ft building into a state-of-the-art visitor attraction featuring an immersive Guinness Experience as well as three bars and a retail store. The Irish business community, as well as Guinness' own staff, are able to use the Guinness Storehouse's extensive facilities for corporate training and events, while the building's purpose-built gallery and exhibition area will host an eclectic mix of one-off artistic, musical and cultural events designed to attract a local as well as an international audience. The building is also home to the Guinness Archive, which contains 250 years of brewing and social history.

The emphasis on attracting local visitors as well as the tourist market was a key element of Imagination's vision for the Guinness



Storehouse. The company collaborated with Dublin-based architectural practice Robinson Keefe Devane in the conversion of the building, whose most distinctive feature is its 102ft high atrium, in the shape of a giant pint glass, which runs through all six floors. Its glass cap is overlooked by the roof-top Gravity bar, the highest point in Dublin, whose circular glass walls allow unrivalled 360-degree views over the city.

Visitors to the exhibition element begin their journey by learning more about the four basic ingredients before moving on to fill in details on the man who started it all - Arthur Guinness. Throughout these areas, the team from Imagination, led by lighting designer Kate Wilkins and sound designer John Del Nero, worked to give each area a unique feel. A range of ETC Source Four zooms and profiles, together with Selecon 500W fresnels and Astral zoom spots, have been used in tandem with



Crescent fibre optics (HOI projectors), neon and fluorescent fixtures to give each area a particular ambience.

Control is provided by an Electrosonic Helvar Imagine system with 12 x 12 channel dimmers and five relay modules. A mixture of Bose, EV, Tannoy and Eurotec speakers,

together with a number of specially designed NXT flat-panel speakers, form the mainstay of the audio system. These are fed by both Cloud and Crown amplifiers run through a BSS Soundweb.

Kate Wilkins also designed the exterior architectural lighting scheme for the Storehouse. A combination of 240v Sils, IP65-rated bulkheads with LEDs and Thomas Par 56s are used to create a 'light representation' of Guinness. Programmed by Electrosonic's Pete Sarson on a Celco Navigator, the system now runs on the main exhibition AV system through a MIDI control card.

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Finnish Theatre School

A disused soap factory formerly owned by Kone Ab lies in the heart of the old city of Helsinki. Not unattractive, the factory building, though squat and angular, is made from softly textured sandstone. It is barely a hundred years old, yet has just recently undergone extensive renovation.

The reason? It's been taken over as the new home for the State Theatre School. A major project, the fifth floor of the North Wing is home to 11 large dance studios, while downstairs, surrounding two sides of a roofed courtyard, are five separate, though admittedly small, theatres. Other facilities include lecture halls, a gym, make-up room - just about every possible theatrical discipline is catered for - as well as admin functions being contained within the factory's ample interior. The funding is all from the government, as is the full digital TV studio just installed at the Helsinki University of Technology.

Although these facilities are decidedly state-of-the-art, they don't appear profligate; the equipment is there, but not in excessive quantities. On the day of my visit, 300 new students were enrolling at the State Theatre School. These will swell the ranks of an existing 600 second and third year students who were previously trained at various locations around the city and further afield. The department of Lighting and Sound Design, for example, was housed at Tampere, 200km away.

For that reason alone, this new central unitary facility will save the school immense amounts of money. And what do the students have to contribute towards all this? "Just 400 Finnmarks



per year (a little more than £40) for medical insurance," according to my host Kurt Nyback from Oy Hedcom Ab - the company responsible for installing the technology.

Equipment-wise, the State School is more about facilities: they have the rooms, space and tutors to make it work and if they stage productions, then kit is sub'd in. Although the paint has still to dry, I did spot Nexo PS15s, 10s, and 8s dotted about the dance studios and theatres, all driven by EV amps with Nexo processing. There was an extensive dimmer room under construction - the wiring looms for several hundred channels were already in place, though not the hardware. It can't be long before all this will be completed; after all, four lighting and three sound operators are already on the payroll.

Over at the Helsinki University, Hedcom had a much greater project on its hands. The University's full digital TV studio. The studio itself is 300sq.m with 80sq.m of spectator space on the lighting gallery on level one. The walls are fully encircled with a white cyc, blacks and chroma key (a two-camera Virtual Studio system will be

installed soon). The back wall can be opened to join it to the 650sq.m University film studio behind. A full lighting grid is home to 41 Gis remote control hoists, 100 various DeSisti studio luminaires and a further 36 DeSisti manual hoists. These are run from a DeSisti Icarus system and the Gis hoists can track left/right as well as up/down. All the lights are controlled from a Compulite OvationD console with 2000-channel capacity with Ethernet or DMX options. The dimmers are likewise Compulite, 222 channels of 2.5kW digital dimming.



The video system is built around a 32-channel Philips DD-35-3 digital mixer, with three Philips LDK-100 studio cameras, a 32 by 32 Venus matrix, Grass Valley DVE and 30 Barco monitors. But it's the audio side where Hedcom has had most fun. The studio houses a 48-channel AMS-Neve Libra digital console with a custom in-built digital matrix. The Neve can be used in tandem with the 128-channel SSL

which Hedcom also installed next door for post-production movie sound. Off-board tools include Lexicon 91 and 81, BSS 4048s, a TC Finaliser and M5000. The post production suite includes Dolby Surround 5:1 and Lucasfilm THX Certification.

Finland has one of the highest levels of income tax of any country within the European Union. In spite of which the nation is relatively prosperous, thanks to high employment. The levels of taxation are not dissimilar to those we experienced in the UK back in the seventies when UK Government was more socially inclined, but there is a difference. For the first time in decades the UK is in a period where a more benign attitude towards the performing arts pervades the political agenda. Money has come through recently from the lottery, and will do again (though possibly from more direct sources). It might be an idea to look at the Finnish model of how to spend it.

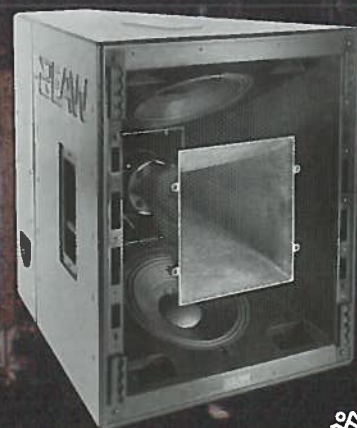
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Out of the Boy Zone

Ronan Keating's solo material was showcased at the end of last year - and an arena tour has already been announced for this Spring. Mike Mann reports.

Though LD Paul Normandale's design (based around a couple of 40ft trusses and a 33ft diameter semi-circular Tomcat MD stacking truss) was essentially traditional, the eagle-eyed lamp-spotter would have picked out a quartet of new luminaires in the rig - Normandale was putting the MAC 2000s through their paces for the first time. "This is really an early trial for me," he explained, "and Martin have been very supportive. I never go to tradeshow, and I don't like trying anything out in the warehouse." Though the 1200W HMI unit is, says Normandale, better suited to arena shows, the more intimate environment of the Keating tour gave him a chance to see more clearly what the MAC 2000 is capable of. "So far, I'm happy - it seems to do everything that other powerful moving heads can do - plus zoom."

The remainder of Normandale's kit list (sourced from Lite Alternative) included 18 Vari*Lite VL5s, 10 Starlite Mk5s, a dozen or so Par 64s and eight ChromaQ scrollers. A pair of Strong II FOH followspots were augmented by a single rear truss spot. Control (under the direction of Fraser Elisha) was via an Avolites Sapphire 2000 console, with a second unit "to give me something to do during the show," according to Normandale. The set, from Alan Chesters at Hangman and Lite Structures, was largely drape-based, though the addition of plush red velvet riser facings, ramps and steps gave the stage an intimate and opulent boudoir feeling - to the delight, no doubt, of some of Mr. Keating's female fans.

Paul Normandale had been pushed into the boyband circuit by Steve Levitt, who apparently



challenged him to break the routine of lighting acts such as Björk, for whom he has worked for 15 years. "Steve bet me that I couldn't light a boyband," recalled Normandale, "so I went out to prove him wrong!" He says that there is a simple formula to follow for a breakaway act of this sort. "The audience is here to see him. Ronan is trying to transcend the production style and big effects of a boyband show and is going for more of a 'man with a band' look. We spent a lot of time lighting the band and the drapes rather than just chucking in a load of pyro." Though he limits the amount of touring that he does, Normandale was happy to be on the road with a production of this scale. "There is not normally enough budget at this level to pay a designer's fee and an operator. Now that it's running, all I really do is turn up and flash some lights each night!"

Ronan Keating's trademark vocal style is not, claims FOH engineer Steve Levitt, one that lends itself to an easy live mix. "Ronan has an unusual voice - when he sings he loses a lot of mid frequencies, and when he speaks all the



top end goes. He's also trying very hard to break away from the boyband vocal sound." Keating's vocal mic is a Sennheiser 3000 series - a choice that Levitt had made following several try-outs. "I originally thought that I'd have to put Ronan on a supercardioid to limit the spill - but we have ended up with a cardioid as it allows him a little more movement without thinning his voice too much." Processing is via a TLA valve limiter and BSS DPR-901 dynamic equaliser. Sennheiser systems were also in evidence on backing vocals and as in-ear monitors (also 3000 series) for the principal band members.

The Wigwam-supplied system for the tour was based around D&B C7 and C4

long-throw cabinets - the latter being deployed only for the largest venues on this theatre tour. C4 subs in the air and B2 subs on the floor provided the bottom end, while Levitt had chosen MAX downfill boxes and two pairs of C6 front-fills to maintain imaging for the front rows. The



system was powered by D&B P1200 amps fitted with crossover modules, and driven from front-of-house by a rare set of Amek line drivers. These, according to Levitt, have both practical and sonic advantages: "Hardly any gear is built to drive down long lines,"

explained Levitt. "Most boards aren't capable, and even though some outboard equalisers are, I prefer to insert them across the mixer outputs. I was introduced to the unit by Geoff Muir (now at Wigwam) while he was still with Amek. He plugged it into a big system that I had been using and suddenly everything changed to hi-fit!"

Levitt's FOH position was dominated by a Midas XL3 and stretch - just enough for the 56 inputs being used, 28 of which were live instruments. "When writers and producers have created songs completely with machines, it's very difficult to reproduce it without samplers," Levitt said. "Also, we couldn't afford to tour an entire brass section for just one song." Even so,



Left, the tour production manager Ian Whitehead (left) with FOH engineer Steve Levitt (right)

Below, monitor man Joe Campbell

On monitors, Joe Campbell was revelling in the sound he could generate from the Firehouse wedges that formed the bulk of his system. "These really are very nice," he commented, "we have a mixture of 15" + 2" and 12" + 2" - Ronan has the smaller ones as he wanted to keep them as low-profile as possible." Campbell added that the 15" low-end driver was more than ample for the band, and that the Crown 36 x 12 amps supplied to drive the wedges were set to half-power to avoid hearing damage from the frighteningly-efficient TAD HF compression drivers. Nexo sidefills provided the downstage directional control that Campbell and Levitt needed.



Campbell was equally enthusiastic about the reliability of the Sennheiser IEMs on the tour: "These are the best we've ever used. We've not had any of the RF problems that you would expect - in fact, we've never had perfect results from the IEMs and handheld mics throughout a whole tour - before now."

Ronan Keating's 2001 arena tour dates have now been announced and will encompass a 14-night trek around the UK, finishing up at The Point in Dublin at the end of May.

the acoustic line-up was impressive, and the eight-piece band included three acoustic guitars, a Hammond organ, and accordian and whistle, as well as a Bodhran in their armoury. "I don't believe in blindly reproducing the album - a gig should be like seeing a football match at the ground rather than watching it on television."

Though Levitt runs Production North with Ian Whitehead (production manager on this tour) and is now involved in every aspect of touring, it is behind a mixing console that he feels most at home. "For me, the excitement of a mix is the immediacy - even the odd parts that stand out where they shouldn't. I'm 'old school' - I like to be able to differentiate between 'let' and 'less' in the vocals."

Levitt has, in the past, been known to turn a band off entirely in order to be able to get a good clear vocal sound - though the crowd noise at a typical Ronan Keating show does not usually allow him this luxury. "We all got sick of doing Boyzone and hearing 3kHz at 113dB all night. You have to be so confident to leave the mix where it is - not to push it up - and by the third number the audience will quieten down. Ronan's audience is a little older on average - around 23-24 - but there are still enough young 'uns to make a noise!"

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Colour by Design

Toronto-based Spectrum Manufacturing has recently launched a new colour-changer - the Aquarelle - the result of a seven-month long race to design an architectural colour-changing system for the Famous Players project in Montreal.

The work began in March last year when lighting designer Stephen Pollard approached Dave George of Spectrum to discuss the feasibility of a new architectural system. The deadline was October 2000 and since he wanted to 'paint the outside wall of the theatre with light,' the team at Spectrum, having accepted the challenge, immediately christened the project Aquarelle - French for 'water colour'.

Spectrum's engineering department began by evaluating several architectural lighting fixtures, finally recommending a 1,000 metal halide HID fixture. Its optical system, modular reflector and overall construction of the fixture seemed ideal for the proposed link up with a colour scroller. For the scroller itself, Spectrum started by modifying one of its existing large size indoor constant tension colour scrollers, the M-5 MkII. Since the terms of the brief required the unit to be totally sealed from the external environment and withstand heat from the 1,000W lamp, not to mention the extremes of the Montreal climate which can range from -40 degrees in the winter to +100 degrees F in the summer. Using its in-house environmental chamber, Spectrum tested components, and then built a full-scale



prototype to verify that the proposed design would withstand 100% humidity.

A patented IR-reducing technology that eliminates 95% of all transmitted heat from the lamp was used to control the heat transmitted to the interior of the scroller. Various lengths and construction of gel strings were tested, resulting in a nominal gel string length of 200" and a revised string manufacturing method to prolong the life of the gel string in the scroller.

A working prototype was installed in the company's outdoor test facility in July and operated 24 hours a day until the end of September. Additional water sprays were carried out to augment mother nature. A mounting bracket was designed to allow for easy installation of the scroller which is powered by 24V DC obtained from a power supply mounted in the light fixture's ballast housing, whilst control is via DMX 512.

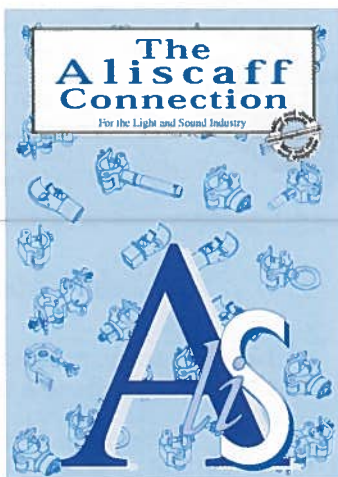
Right on schedule, the 33 Aquarelles were installed at Famous Players Olympic Park in Montreal in October.

Showcom hands over Camco distribution to Fuzion

Showcom Audio has handed over distribution of the Camco amplifier range to UK distribution specialists, Fuzion.

Commenting on the decision, Showcom's Richard Willis explained that over the last year the company's resale and installation support activities have increased significantly with the prospect of this becoming even more pronounced in the future. "Until now we have been operating distribution and sales projects side by side," said Willis, "but with the amount of work we are now handling in our sales and installation department, it is becoming increasingly difficult to avoid conflicts of interest between the two activities. As a result, we are more focused on providing dedicated sound reinforcement solutions for our client base - hence our decision to relinquish our distribution of Camco."

Fuzion's Tony Oates added that the move was welcomed by all concerned. "We are delighted that Showcom will continue to sell and support the full range of Camco amplifiers as there is an obvious symbiosis with the Nexo range which the company already supports. As for the brand itself, we feel that the move comes at a good time for Camco. As a dedicated distribution company, Fuzion has a very well established distribution structure, and Camco has reached a stage in its development as a brand - particularly since the introduction of the lightweight high power Vortex range in 2000 - where it is ready to benefit from the distribution network that Fuzion can provide."



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Teasers Tempted by Tannoy

Tannoy equipment has been specified for use in a new themed bar in Manchester by Aquarius Acoustics in conjunction with Dutch installers, MK2 Visuele Media.

The Dutch concept bar, Teasers, features a bar, dance floor and DJ booth on the ground floor, with additional seating space and videowall on the first floor, linked by a stunning glass lift centrepiece.

Tannoy speakers are used throughout the bar, with the ground floor and dance floor boasting four i12 Dual Concentric speakers and eight compact i8 Dual Concentric speakers for sound reinforcement. Two Tannoy T40 subs, TX1 and TX2 advanced electronic controllers to optimise speaker performance, together with Chevin amplification, complete the ground floor. The first floor, complete with balcony, also takes full advantage of Tannoy's Dual Concentric speakers, using four i12s and eight i8s to provide high-quality sound both day and night.

Set Lighting Becomes First VL Rental Associate

Set Lighting & Sound has become the first UK rental associate of Vari-Lite, having added the Vari*Lite VL2202 spot luminaire to its extensive hire stock. Based on the VL2201, the 02 version features an upper enclosure that houses the control electronics, as well as a power factor corrected arc power supply for the 700W short arc lamp. Set Lighting's Guy Heselden told L&SI: "We are excited at the opportunity of becoming the first UK Rental Associate, and looking forward to a long-term working relationship with Vari-Lite." Established in 1992, Set Lighting & Sound is also one of the UK's key suppliers of Martin Professional's MAC 500 and 600 luminaires for rental.

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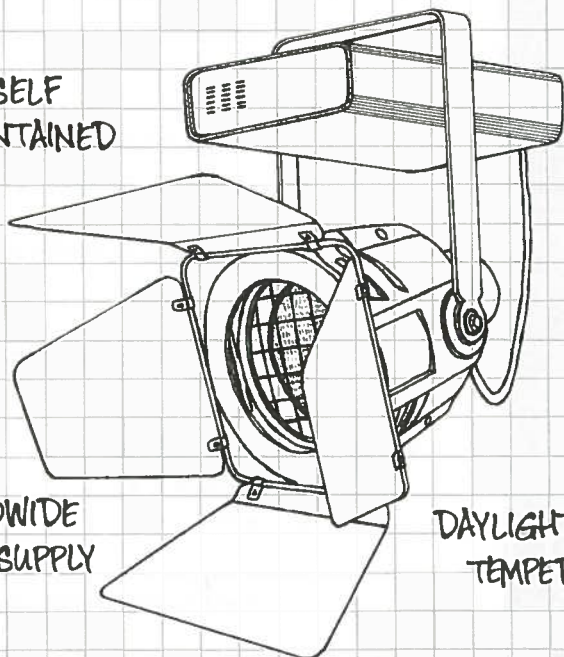
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Blackout Triple E Move

Following the successful merger last year between Blackout and Triple E, the new company has now moved into new premises in Colliers Wood, south west London. With nearly 75% more space than previously occupied by the two companies jointly, the new offices, manufacturing and warehouse facilities offer a one-stop shop for drape, track and rigging requirements. The company's recent credits include the MTV Awards in Stockholm and Madonna's gig at Brixton Academy. The company can now be contacted at 280 Western Road, London, SW19 2QA, tel +44 (0)20 8687 8400.

Federal Lands Belfast Contract

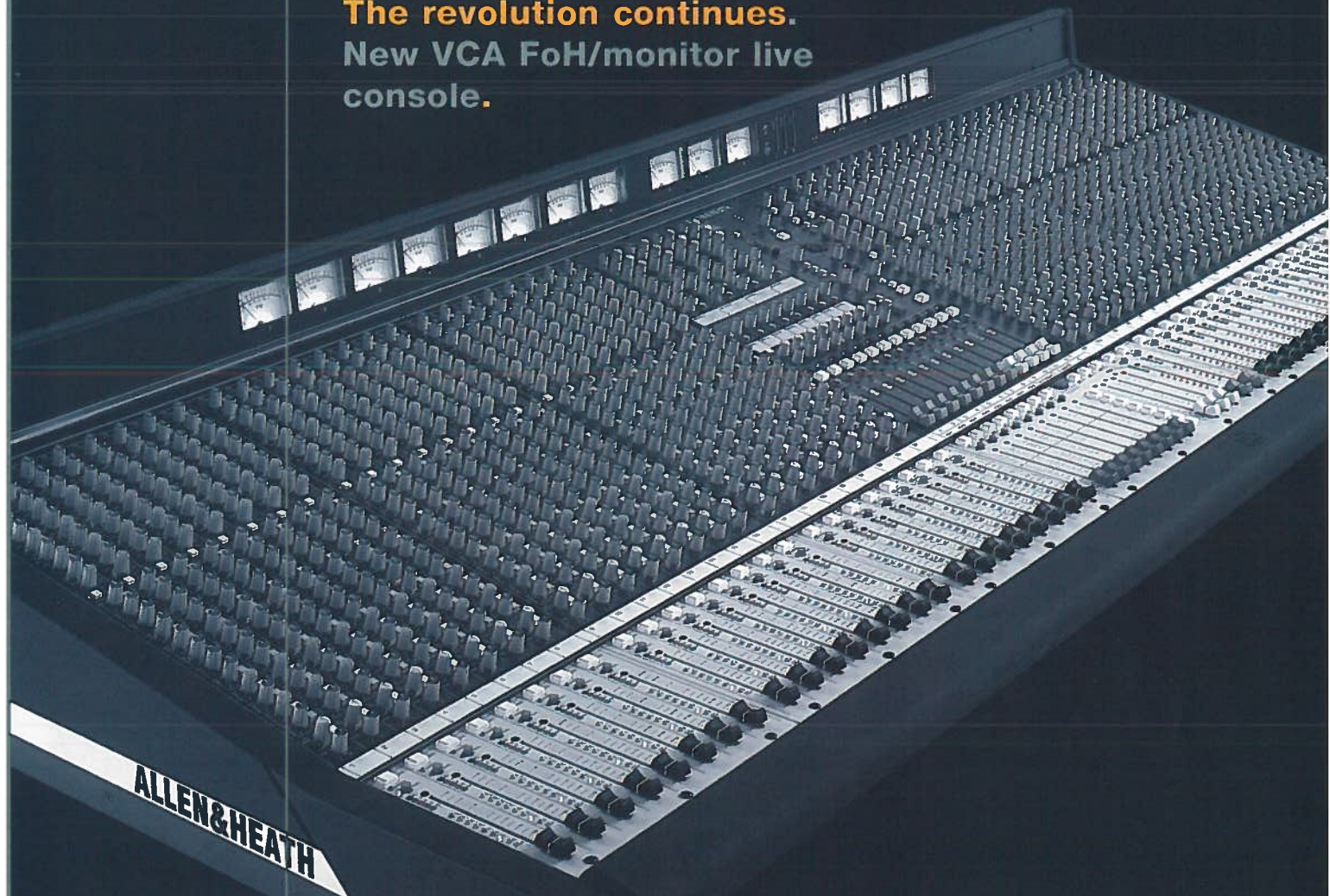
Macclesfield-based Federal Signal has won a major contract to provide state-of-the-art VA equipment for the new multi-million pound Belfast City Airport development.

The company will be supplying its broadcast VA system Verifire to Oxford-based systems integrators and project contractors Installation Technologies who will integrate it with hard disc-based background music equipment to provide an advanced multi-featured VA and audio communications system. The contract also involves Federal Signal specifying speakers for the column, corridor and ceiling mounting.

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"What are theatres for? They were never meant to be architectural gems preserved for the benefit of mawkish aesthetes. It isn't just chic iconoclasm to say that the haughty theatre with a proscenium arch has had its day. Its auditorium belongs to a more upstairs-downstairs world than our own."

So says Benedict Nightingale, writing in *The Times*. It will be interesting to see whether the first ever cross-industry conference for British theatre to address the challenges and opportunities for its future, which takes place at the end of this month, will reach the same conclusion.

"Put on your trousers sir."

The police's request to Nick Oliveri, lead singer of the hard-rock band Queens of the Stone Age, after he went onstage naked at the Rock in Rio music festival.

Party for Sennheiser Decade

Sennheiser UK threw a spectacular party before Christmas at London's Café Royal to celebrate the company's tenth anniversary.

In addition to 250 customers, suppliers and staff, special guests for the evening included Professor Jorg Sennheiser, chairman of Sennheiser GmbH and Rolf Meyer, president of sales and marketing in Germany. Presentations to mark the occasion were made to Sennheiser UK MD Paul Whiting, sales and marketing manager Rob Piddington, financial controller Lesley Alaway, field sales manager Nigel Mann and technical applications manager John Willett, all of whom have



been with the UK company since it was formed. Additional presentations were also made to Gerry and Jaz Ford of Dublin-based Professional Audio Ltd, Sennheiser UK's distributor for Ireland, also celebrating its tenth year in business, whilst awards were made in their absence to area sales manager Simon Jones and Dave French from warehouse and despatch, both of whom have also been with Sennheiser UK from the start.

Mackie Works a Little Emagic

Mackie Designs has joined forces with audio software and hardware company Emagic, to work jointly on the development of a range of state-of-the-art hardware controllers.

The two companies have agreed on an inaugural project - Logic Control - a control surface for Emagic's Logic Audio software which will take a modular approach. The first product will be an entry-level version featuring eight motorized touch-sensitive faders, one touch-sensitive master fader, eight mutes, eight solos, eight rotary encoders, tape style transport, two XDR mic pre-amps, a data wheel and an alps control pad.

In a separate move, and with the intention of expanding its digital audio recording presence, Mackie has signed an agreement to purchase Sydec n.v. of Belgium, the company behind the first PC-compatible multi-track digital audio workstation.

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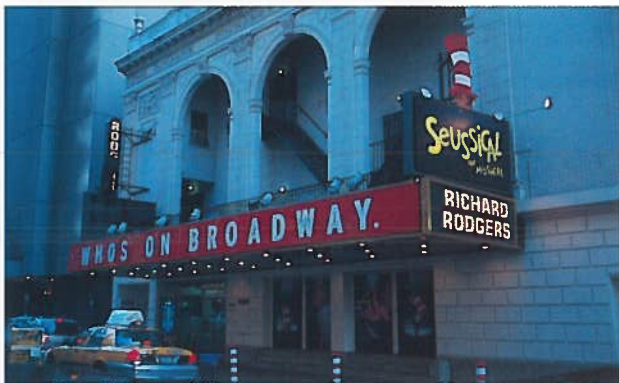
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Broadway Goes Digital

"It's the first time a show's sound has been all-digital on Broadway," says sound designer Jonathan Deans. "As revolutionary as Tharon Musser putting memory lighting control on A Chorus Line."

Deans is speaking at the back of the Richard Rodgers Theatre in New York, home to *Seussical: The Musical*, the slightly troubled new show (half the creative team replaced before opening!) by Lynn Ahrens and Stephen Flaherty, the writers responsible for *Once On This Island* and *Ragtime*. He can make the claim because of what looks like a tiny mixing desk shoe-horned into the space next to him: CueConsole, a hands-on control surface to LCS' Matrix3 and SuperNova range of digital signal processing sound equipment. Why choose to take a chance on a new piece of equipment? Firstly, size is an important consideration in theatre where on a sold-out show each full price seat can bring in around \$37,000 per year. "The CueConsole takes up seven seats," Deans notes, "rather than the 28 that a conventional set-up would have needed. That's for a system with 128 inputs and 64 outputs. If the show's a hit, that means the producers are effectively getting the sound system for free!"

Secondly, the ability to easily move some or all of the modular console around during the production period, connecting it back to the eight Matrix3 LX300 16-input/8-output processing racks in the basement through standard CAT5 cable. "We had all of the faders set up in the middle of the orchestra seating at our first venue, so that the operator could actually hear what she was mixing. Being there also meant we became part of the artistic team - everyone knew our names rather than just yelling 'sound!'"

This is a commercial Broadway musical, though, with little room for failure: "We had a Crest mixer in the basement for monitor and foldback mixes and, since this was a new system, we put in a second console to take all of the radio feeds, then switches so that either the LCS or the Crest outputs could be sent to the speakers, largely self-powered Meyers, to give us a back-up." All of the equipment was supplied by Masque Sound. Seussical's operator Carin Ford has a meter plus over-ride switch (these backlit LCD buttons) for every input, faders for every radio channel and then a series of virtual group faders - the LCS equivalent of VCAs - with which she runs the show. Wedged into the back of the audience, her operating position is less grandiose than most, but looks comfortable enough!

"Switching to this system has been quite a learning curve," Deans reports, "with occasional problems as a result. No audio is sent to the control position, but meter data is being sent up, PFL data is being sent up, and that takes up processing power. If we do everything - all channels active, metering on all channels, all displays open, we're right at the limit of the system and things just slow down. But that's just a matter of more powerful DSPs and processing and that's coming all the time." "And it is the future," he adds. "It is a new way of doing things, and it is better - otherwise why go to all the trouble?"

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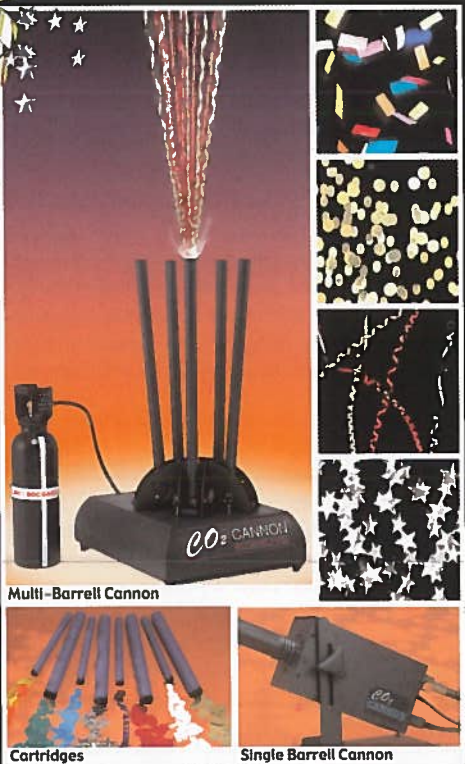
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Lighting Technology in Paris

The Lighting Technology Group took advantage of the recent Siel show in Paris to invite visitors to their newly launched Paris showroom nearby.

The new 125sq.m facility is located in the City's 13th arrondissement, just four kilometres east of Notre Dame and gives the company a strong foothold in the French theatrical and architectural markets. The new showroom is a direct result of LTG's purchase in November last year of French distribution company Durango. Under the care of Jean-Francois Cheron and Brigitte Delehay, a comprehensive range of products has been set up for hands-on demonstration. Companies represented include Anytronic, Andolite, Brightline, Blackout, Color Kinetics, DHA, MAD, Powerdrive, Rosco, Strand and Spotlight.

In a separate move, the Group has announced that it has acquired the business of Milton Keynes-



Pictured in Paris are Jean-Francois Capoulade, Jean-Francois Cheron, Brigitte Delehay, Michel Hapillon and Garry Nelsson

based Direct Lighting. The company is well known for the distribution of light sources and related products to independent retailers and commercial end-users. Direct Lighting directors Ian Moodie and Steve Copping will remain with the company. Stock will move to LTG's brand new central distribution depot in Corby.

Fireworks Industry Gets New Trade Association

The fireworks industry has combined resources to form a new trade association - The Guild of Firework Pyrotechnic Operators (GFPO) - in an attempt to improve professionalism through training and improve working practices to reduce accidents.

The GFPO was launched yesterday at Event Expo at London Docklands Arena. Its membership will initially be drawn from event industry professional and semi-professional firers, though it is hoped subsequently to widen the membership to amateurs. As part of its remit, the GFPO plans to standardise working practices for people firing fireworks, and have a nationally recognised set of graded standards.



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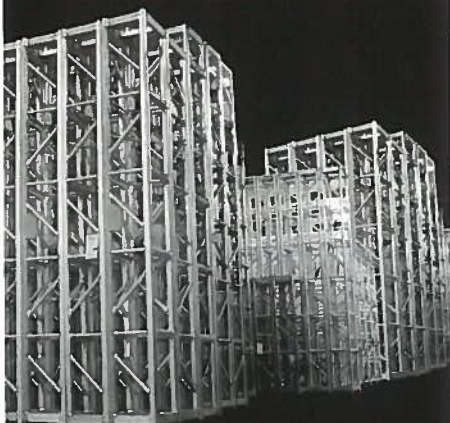
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News Round-Up



James Thomas Engineering has supplied its Spanish distributors, Madrid-based Bofil & Asociados, with a unique stage set/tower system for production company Snake.

The system was custom-designed and built by James Thomas in the UK for an extensive domestic tour by top Spanish music artists Miguel Bose and Ana Torroja. This is the first time the two have

performed on a twin-headlining bill, and the tour

completely sold out within hours of being announced.

The incredible aesthetics of this set were created by James Thomas' project manager Paul Young, collaborating with stage designer Ignace D'Haese and JTE's structural engineers The Broadhurst Partnership. It's based on three 14m high stand-alone towers, complete with self-climbing cross beams - connected via custom sleeve blocks that interface with 20cm trussing to make up a T-shape. The cross beams contain lights and glide up and down throughout the performance. The towers themselves are constructed from 52cm SuperTower - a product specially conceived by JTE for this project.

Another key feature of the towers is that they have no guy wires. They utilise 4m outriggers and ballast weights - four points of 1250kg, and are built to withstand high winds at outdoor shows. The biggest challenge was making the towers free standing, whilst ensuring their bases were unobtrusive. It was possible to dispense with the guy wires because of a combination of the



Spanish Stars

strength of the SuperTrussing itself, and the carefully calculated ballasting. The

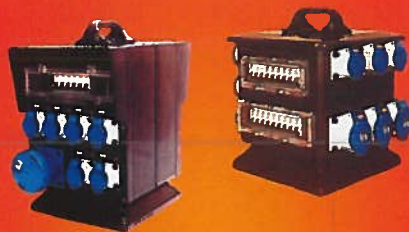
footprints of the towers are concealed below the stage, the radius of each an expedient four metres.

Stagetec Product Day

On March 6th, Stagetec Distribution is holding a Product Day on the CompuLite and LSC product ranges.

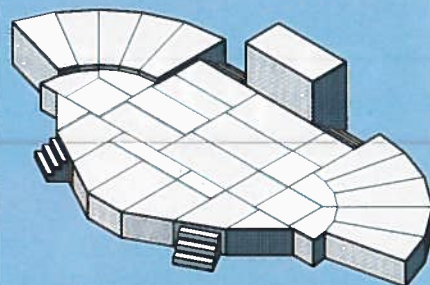
The full range of products from both companies will be on show, including the new flightcased/touring version of the CompuDIM 2000 digital dimmer and pre-release versions of two completely new consoles from LSC scheduled for launch later this year. Anybody interested in attending should call Stagetec on +44 (0)1753 553522.

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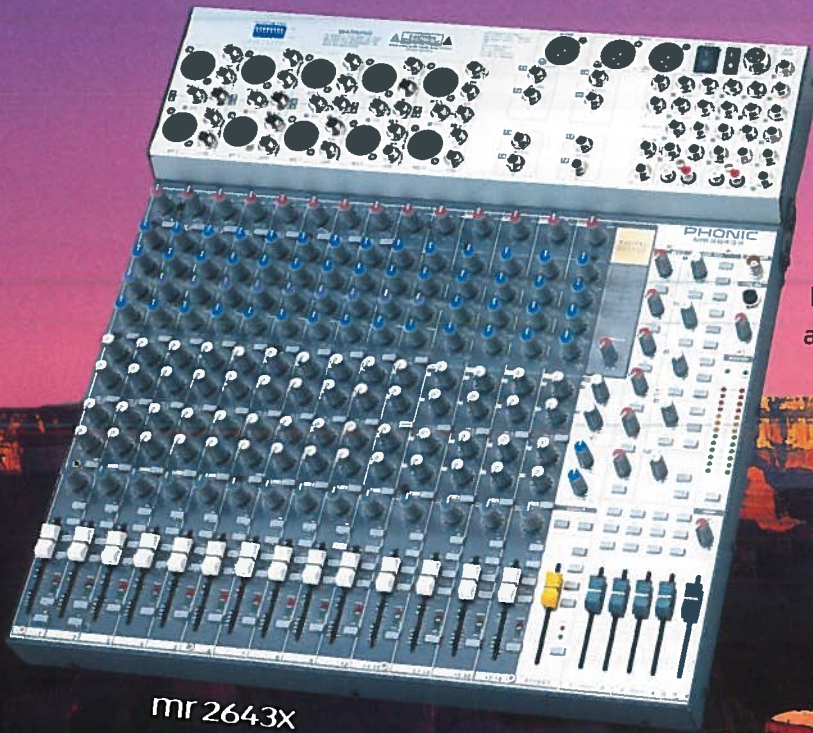
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DHA Design Winner

Gobo specialist DHA Lighting organised a gobo design competition for members of the ALD at its Waterloo base recently.



The winner, Robin Carter (pictured with DHA MD Diane Grant), is a freelance lighting designer based in Brighton, East Sussex, and his winning design, called 'Smoke Screen' (inset) was one he created for a production of The Glass Menagerie at The Northcott Theatre, Exeter. Carter, who began his lighting career in New Zealand where he grew up, came to the UK four years ago, and has been designing for regional theatre productions ever since.

The winning design will now be published in the DHA gobo catalogue, and instead of receiving royalties for his design, Carter has opted to donate these to the Light Relief fund, set up last year to provide help and assistance to freelance lighting designers in times of personal crisis.



Pulsar UK Light Jockey 2001

Pulsar has launched its 2001 light Jockey Contest.

The competition is open to all, from experienced Light Jockeys and operators, to lighting enthusiasts with no previous

experience. Free training at all levels will be provided, covering a variety of topics, from basic programming to creative lightshow design. Preliminary heats, especially designed for new-comers, will take place at Pulsar's headquarters in Cambridge, whilst the prestigious Ministry of Sound will play host to the main heats.

Deadline for entry is February 28. If you are interested in taking part, or would like more details, contact Sabrina on +44 (0)1223 366798.

Support for Birmingham Fringe

Cause & Effect, the organisers of the 2001 Birmingham Fringe theatre festival, are looking for companies within our industry to collaborate on a range of projects during the 2001 festival.

The idea is to demonstrate the contribution made by our industry to technical theatre. Project director Derrick G Knight told L&S: "My motivation is to enhance Birmingham as a host city for performing arts. This will be achieved through the development of a network of performance venues in partnership

with the performers, venue owners and production companies associated with performing arts."

The initial idea is to include a sound and lighting exhibition alongside the festival, which takes place in July and August, and Derrick Knight is exploring the availability of no-cost exhibition space at a number of venues near the performance spaces. If you are interested in participating call +44 (0)121 622 1771.



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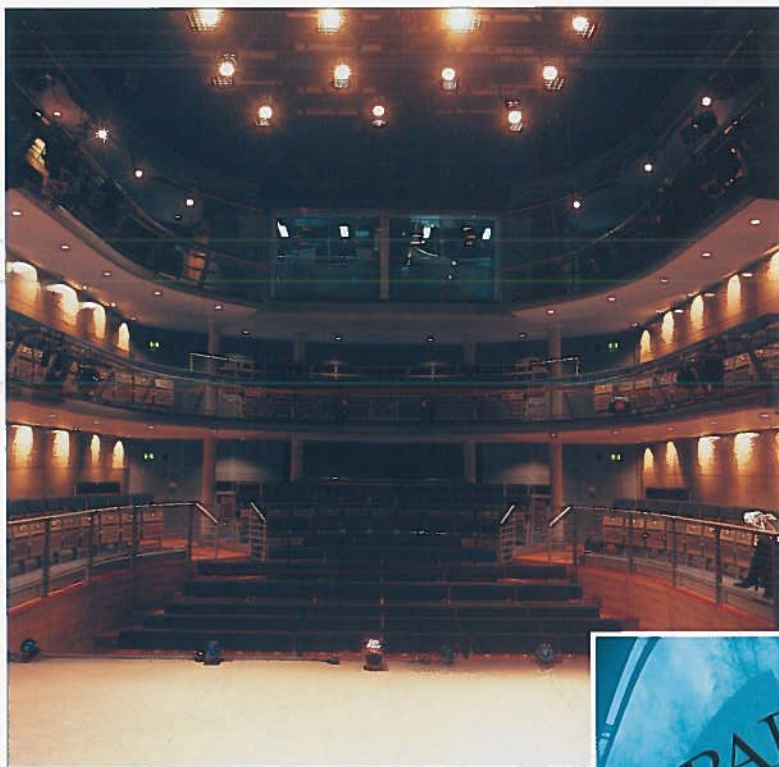
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The Redevelopment of RADA



The Royal Academy of Dramatic Art (RADA) saw the five year Centenary Project of redevelopment and refurbishment come to fruition at the end of last year when the new facility was opened by HM The Queen alongside a host of celebrity guests, politicians and past students. Andy Wood talks to head of sound Colin Brown.

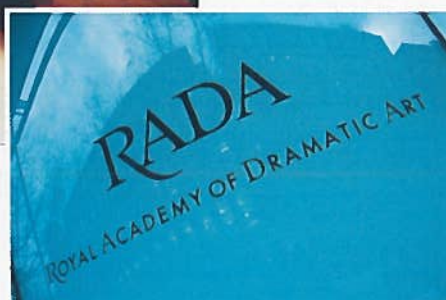
The scheme for the re-development of RADA - one of the premier training establishments for theatre arts and technology - was made possible thanks to a £22.7m grant from the Arts Council Lottery Board, along with £8m of self-generated capital donations.

RADA includes a new Jerwood Vanbrugh Theatre, George Bernard Shaw (GBS) Theatre, John Gielgud Studio Theatre, a recording studio and three control rooms, all of which are linked by a state-of-the-art sound, video and communications systems which allow complete synergy between the performance spaces.

Education is naturally the major emphasis, however, RADA also doubles up as a public performance venue with 16 full productions a year and as such its infrastructure needs to be flexible. For Colin Brown, head of sound and a RADA technical staff member since 1974, the new work involved co-ordinating with the BBC, Theatre Projects, the Oxford Sound Company, builders Laing and project managers Buro Four Project Services, to create work spaces that would allow both practical production and instruction in the same area.

The same criteria applied to head of lighting Neil Fraser. The new Jerwood Vanbrugh theatre therefore is the first space in London to use a high-tension steel wire grid, which both lighting and sound can be focused through without obstruction, whilst allowing easy access for rigging and placement.

"I had a very clear idea that I wanted three control rooms for sound, and knew what I wanted in them. The wiring up, the layout, the design of the units and the outboard racks were done in close consultation with the contractors. All the theatre design, racking and so on was down to Andy Hayles at Theatre Projects.



Brown expands. "We have a Central Apparatus Room, which holds all the amps, comms and patching systems, plus there is another separate amp room for the Gielgud Studio theatre which is all racked and can be moved - or even toured."

Each theatre has its own Soundcraft K3 Theatre desk, a

choice which was made easier for Brown given its accessibility to both training and practical production protocols. A Soundcraft B800 console can be found in Control Room 1, alongside the recording studio, the choice of which was a direct result of the BBC's input into the facility with BBC Consulting and Projects' David Seditas a consultant on the Sound Recording Studio Complex. "I did look at other desks; those that were affordable tended to be digital and the analogue ones within our price didn't have what we wanted," says Brown. "If you go to a big analogue desk, you're talking tens of thousands of pounds, which was out of our price range and beyond our needs anyway. The Soundcraft K3 offers a practical number of channels with extensive auxiliary options and matrixing, which is highly important in theatre for distribution. It also was one of the few boards that offered pre-fade LED input monitoring on each channel. Students can instantly see if a signal is going through the channel without lifting the fader or putting on headphones. It sounds basic, but we are here to teach and that is an aid to understanding the sound chain."

The second control room is based around a Mackie D8B digital board and also incorporates a running theme through the spaces with the inclusion of an Akai DR16 Pro hard disk recorder with removable MO drive, thus allowing students to transfer projects between studios if required. All the control rooms offer MiniDisc, DAT, CD, cassette and Revox open-reel mediums, along with reverb, effects, compressors, gates and Dell PCs installed with Syntrillium Cool Edit Pro and Cubase VST24. Additionally, all three control rooms can be patched through to each other if required. Indeed, thanks to the patching system, a performance in the recording



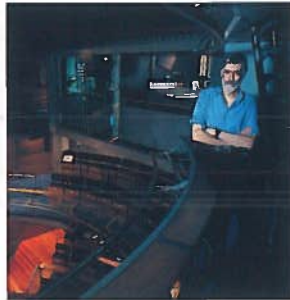
studio can be relayed in real-time down to the Vanbrugh theatre for use during a show.

Alternatively, a performance on any of the three stages can be recorded in any of the control rooms with video interfacing throughout.

"There was always a continuous struggle between the two mediums. The acousticians got upset because I put a marker board over one of their acoustic panels. They said that it would affect sound back into the room, but I said I need to do that. I'm trying to reflect sound into students' minds as well! This is a classroom, and you need the tools of teaching to be incorporated."

This dual functionality also reflects the need for the equipment and spaces to be suitable for both the training of actors and technical staff. Voice-over training facilities are also incorporated alongside extensive high-speed copying facilities across all recording mediums. Despite the high budget, there was, however, one system which didn't make it into the final product list. "I had originally specified a CD jukebox," says Brown with a smile.

Colin Brown, head of sound at RADA



"We have an extensive library of special effects on CD and there is a system which allows you to access this via computer. The idea was that any studio could have access to the library and call it up without having to actually pick up an FX disk. Alternatively, if a director asked for a

different choice of effects, you could dial it up and feed it down automatically. Now we have to track where each disk is throughout the building.

"I think the students do appreciate the new facility," he adds. "All the control rooms and studios are a good working environment, but with theatre sound becoming increasingly complicated and technology-driven, I think some of the major sound designers like Matt Mackenzie would be shocked that I've kept the specification so simple. Most of our productions are just straight plays, hence I think it suits what we do. I'm more concerned that it is operable and that the quality is good enough to be credible. In every sense we have achieved that."

Background . . .

Since its foundation in 1904 by Herbert Beerbohm Tree, the Royal Academy of Dramatic Art has been arguably one of the greatest centres of British acting training ever known. Originally based at His Majesty's Theatre, the establishment moved to its current Gower/Malet Street site in London's West End in 1905.

The original Malet Street theatre was destroyed by bombing during April 1941 and, when rebuilt in 1954, was named the Vanbrugh in memory of the actresses Violet and Dame Irene Vanbrugh. The largest of the three spaces, the new theatre has been renamed The Jerwood Vanbrugh following donations by the Jerwood Foundation, headed by Alan Grieve.

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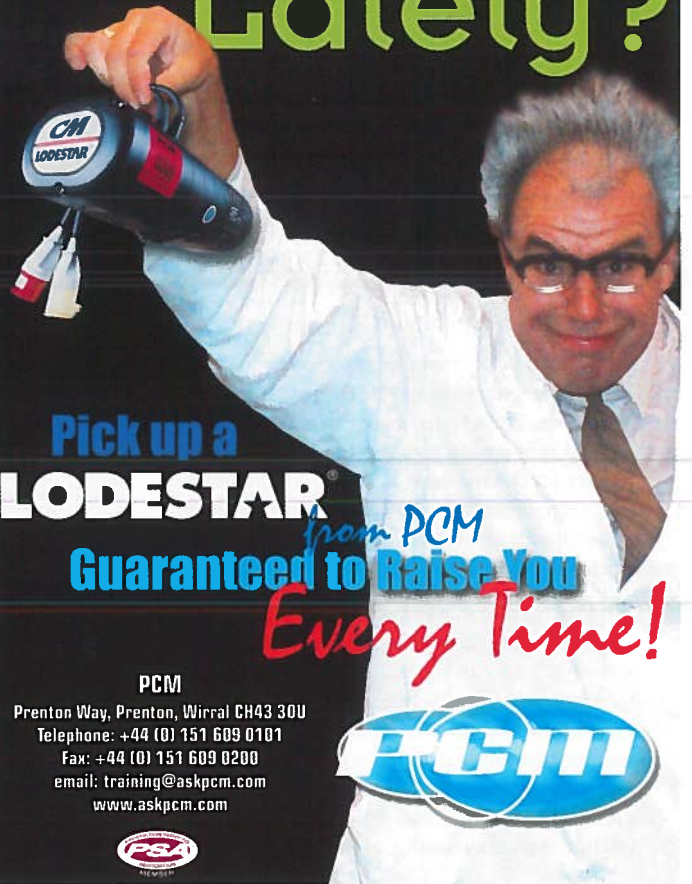
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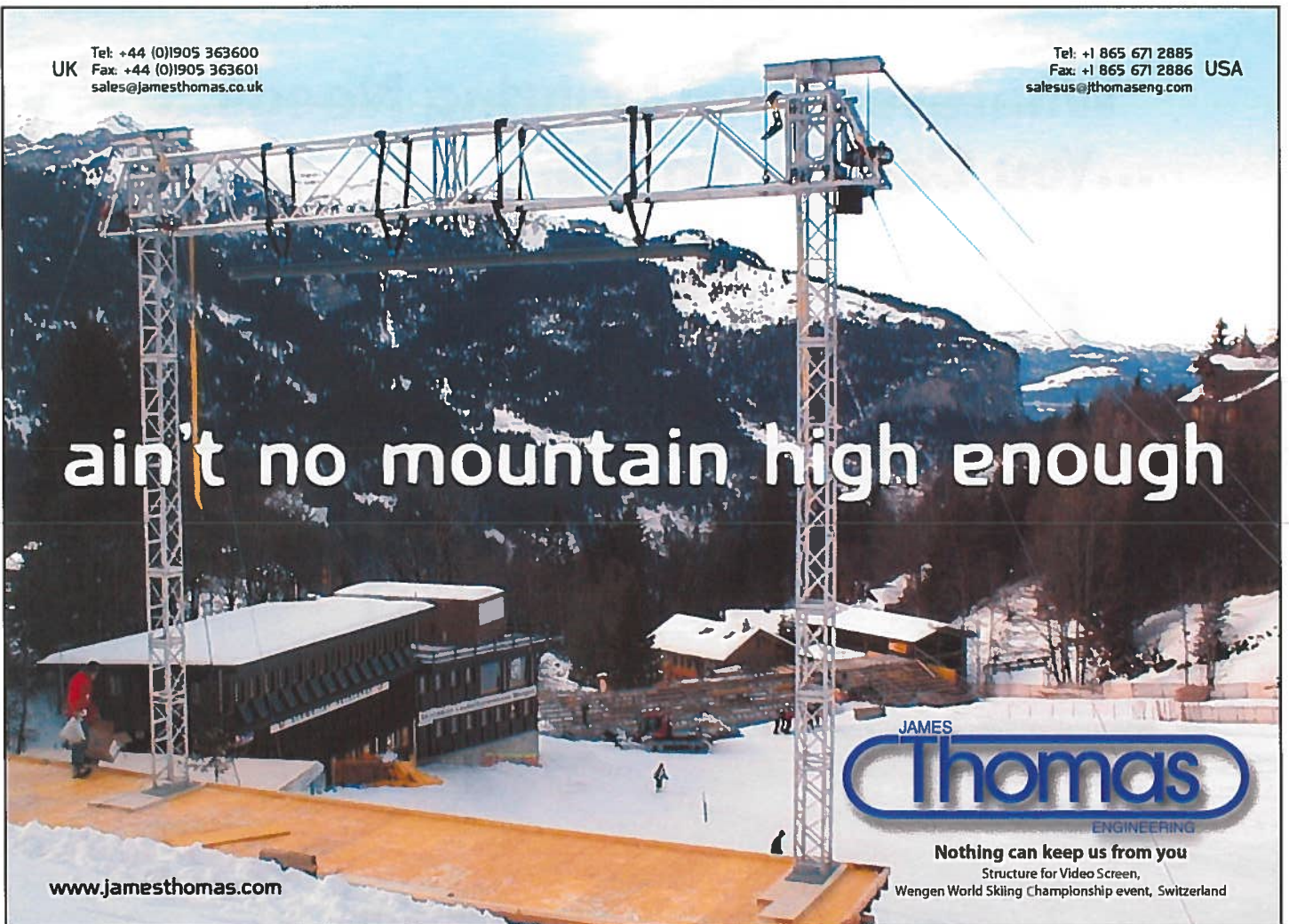
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Two events happened this month in the USA that triggered off a chain reaction in my mind. The first was the announcement that Color Kinetics had been granted another US patent. The second was that some members of the ESTA Control Protocols Working Group sub-committee, sitting on the new bi-directional DMX protocol - so-called extended DMX 512-A - suddenly found that they were sailing over rocks in what they thought was a previously charted area.

THE FACT THAT, by extension, this might have implications for the advanced Ethernet control protocol (ACN), is also a concern. Furthermore, it seems that the crew of the good ship ACN may be in a similar boat heading for a submerged reef of their own. On face value, the new Color Kinetics patent (US 6,150,774) doesn't look much different from the original one (US 6,016,038), though the company claims that it extends and protects the facility to network their Chromacore technology. Whether anyone in the industry would see the use of pulse-width modulation and an addressable controller with LEDs as anything more than an obvious step is a moot point, and this is the substance of both claims. More to that point is the US Patent Office's propensity for ratifying what can only be seen as hybrid patent applications. Worse, once granted, the patentee is under no obligation whatsoever to license others, though I am pleased to report that there are moves towards harmonisation with the European system.

MEANWHILE, as Mike Wood, of High End Systems and the President of ESTA says: "Any misuse of the US Patent System as a blunt instrument, as opposed to the free sharing of innovation, is completely contrary to the original intent." Essentially, the current situation in the USA is that, despite prior art, if you can think of a new application for an existing invention, you can apply and achieve a patent. That means, for example, one could take any existing technology not previously applied to lighting and patent it for that purpose.

I AM GRATEFUL to Karl Ruling, ESTA's Standards Officer, for this superb example of that process at work, although it has no connection whatsoever with lighting: US Patent 6,004,596, entitled 'Sealed Crustless Sandwich', issued December 21st 1999. I won't go into the formal description of this 'invention' except for the first claim, the technical language of which makes hysterical reading. But beforehand, what about the Cornish pasty, ravioli, dim sum and canapés and who else remembers the Breville

sealed sandwich makers of the 1970s? The first Earl of Sandwich must be spinning in his grave! Here's the first claim: 'A sealed crustless sandwich, comprising a first bread layer having a first perimeter surface coplanar to a contact surface; At least one filling of an edible food juxtaposed to said contact surface; A second bread layer juxtaposed to said (at least one) filling opposite of said first layer, wherein said second bread layer includes a second perimeter surface similar to said first perimeter surface; A crimped edge directly between said first perimeter surface and said second perimeter surface for sealing said (at least one) filling between said first bread layer and said second bread layer; Wherein a crust portion of said first bread layer and said second bread layer has been removed'. The brackets are my own. Its inventive step appears to be only that the fillings would consist of peanut butter and jam.

I HAVE SAID BEFORE that not only is this patent process, patently, out of step with Europe, and probably the rest of the world, but it may also be causing considerable damage to free trade, by the very people who are supposed to believe in it most. Even assuming that the system is not being used and abused with some cynicism, it can also serve to create an invisible fence around the US market. Bush fans may say 'hear, hear' to that, but it is my view that they can't have their sandwich and eat it. If they believe in free market access, the US should speed up the patent reform which promises to be more transparent and open, and make it retrospective as far as compulsory licensing is concerned.

MEANWHILE, if those are the present rules, though it may be opportunistic, you can hardly blame US corporations for having taken advantage of them by playing the game accordingly. On the ESTA Control Protocols front, it seems that some members, at least, of the DMX Task Group were shocked when a question was tabled on the agenda at a recent

meeting, regarding the implications of some Vari-Lite patents relevant to their work. "I was not alone in assuming that this issue had long since been resolved," Wayne Howell of Artistic Licence, and a member of the committee, told me: "Some of us were exasperated that all this effort might be at risk. Furthermore, the fact is, that this could also have implications for the proposed ACN standard if you see bi-directional DMX as a gateway to Ethernet applications." Karl Ruling acknowledges that Vari-Lite may have "patents too numerous to mention that may have implications for ACN."

BUT THEN the ACN Task Group may be faced with other patents specific to Ethernet applications, courtesy of Leviton, the owners of NSI/Colortran, and more. This, from PRG's Steve Terry, co-chair of the CPWG: "Indeed, there may be other patents extant or yet to be issued which will affect companies building ACN products or (that may) cause them to pay license fees." Terry doesn't see any problem with this, and in principle I agree if the playing field were level, which it isn't: "Intellectual property has value," he says. "Licence fees are a cost of doing business in mature industries."

QUITE RIGHT, where international patents have been granted, but what happens in the case of a US patent alone? "Fair and freely-available licensing is the key point," says Mike Wood. "If innovation is to be encouraged, it must be rewarded, but rewarded in a way that means everyone can get affordable access to the technology." Again, I agree, but the

"I have said before that not only is this patent process, patently, out of step with Europe and probably the rest of the world, but it may also be causing considerable damage to free trade . . ."

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technology also needs to be universally acknowledged as truly inventive - which is less than convincing under the present US system.

I AM ONCE AGAIN grateful to Karl Ruling for the background information to all of this: "Vari-Lite has never been absolutely clear in regard to DMX-A," in relation to patents held by them. The committee relies on a letter which Steve Terry has from Brooks Taylor of V-L in regard to ACN, the gist of which is as follows: 'Vari-Lite

will be willing to license any manufacturer for a reasonable royalty, under the claims of Vari-Lite's patents, required to implement the ACN standard as finally adopted by ESTA. This license will be offered under non-discriminatory, reasonable terms and conditions'.

AT THE TIME, there was no representative of Vari-Lite on the Working Group, indeed for years they declined to participate. However, this letter was apparently taken at face value, and

the work continued. Later, Charles Reese of V-L joined the Group, and he was present at the recent meeting in question. My understanding is that he did not participate in the discussion on that issue, nor was he willing to make any commitment on his company's behalf in that regard.

SO, WE HAVE A SITUATION where it seems to have been accepted, at least in the USA, that some levy may be payable to Vari-Lite, though whether by annual fee, or by product manufactured, is unresolved. Nor is the interpretation of 'reasonable' clear. I am not suggesting that the intentions of V-L's Rusty Brutsché are anything other than honourable. To

be fair, he has always promised not to be obstructive to this process and I prefer to believe that that remains the case today. But what happens if ownership of the company changes, indeed do we even know whether he or his lawyers, bankers, or investors are in control of the patents right now? The point is, that the definition of what is 'reasonable' in his eyes should be made clear without prevarication, and within the very near future.

I WOULD POINT OUT also that the Brooks Taylor letter only referred to the infamous US patent 187 that expires in March this year. However, as has been said, V-L has several other patents that could be applied in this context, though it is assumed that the letter applies equally to those. As Ruling adds: "One could argue, only slightly facetiously, that if something moves and puts on, or switches off a lamp, and a computer is involved in the process, there is a Vari-Lite patent covering it." Whether this is the sandwich principle at work, or genuine innovation, is not for me to judge.

IF RULING IS RIGHT, then DMX512 as it is, has operated as an 'open' protocol only by grace and favour of Vari-Lite. The implication being that they are proprietorial only when it comes to bi-directional communication. Nevertheless, I would ask them to consider the public relations aspect of their ultimate decision on this issue. Their stock in the PR department has been on the slide for sometime, especially since they started prosecuting their patents, and a wrong move now could prove very damaging. Rusty Brutsché should demonstrate that he supports the industry at large and show that he is bigger than his bank balance by supporting the open, universal protocol principle. Otherwise, the industry could be plunged back into the dark ages, literally, and years of work and effort by individuals for no reward will be tossed in the can. My fear is that the backlash - at least in Europe where there is likely to be deep resentment - will render these long-awaited protocols ineffective as they will never achieve

anything close to universality unless they are, effectively, shareware or something very close to it. As we know from DMX512, universality is key.

I EXTOL THE PEOPLE at Leviton to take a similar view; after all, they have stood back and watched the work continue without let or hindrance, which somebody more cynical than I might say could be used to their ultimate commercial advantage. They have made no absolute commitment other than that by letter to Ruling on 17th August, 2000 in which they stated: 'At this time, no decision has been taken as to what action, if any, will be taken by NSI with regard to this patent (i.e. US 6,020,825, Theatrical Lighting Control Network). However, we would like it to be known that we have no intention of taking any action which would have an adverse effect on the industry. We would also like to let ESTA know that we have no intention of interfering with any of its planned work'.

AS WITH VARI-LITE, I would prefer to believe that the people at Leviton will stand by their word and do the decent thing. "Nobody has any reason to believe that either of these companies would violate the letter or spirit of the ESTA Policies and Procedures by trying to extract unreasonable licensing fees. It is our belief that companies will continue to participate in this open standards effort and play by the [ESTA's] rules because of the great commercial potential of ACN products for all manufacturers," Steve Terry says.

IN ANY EVENT, what is needed now is for ESTA's laudable efforts to be recognised by those who may have a claim for compensation and for them to come forward and state precisely what it is they will demand in exchange. Then the debate as to whether it is reasonable and justifiable can commence in earnest. Otherwise, we may find that all that work has been in vain. Because until that missing, but vital, piece of the jigsaw is in place, we do not have anything beyond DMX512, and that does not bode for a bright future.

WE ASKED RUSTY BRUTSCHÉ to react to the points made in this article, his response on behalf of Vari-Lite follows: "Vari-Lite is committed to supporting development of the ACN and DMX-A communications standards. To that end, we will be willing to license any manufacturer for a reasonable royalty under claims of Vari-Lite patents required to implement these standards as finally adopted by ESTA. These licenses will be offered under non-discriminatory, reasonable terms and conditions. However, we cannot determine the amount of a reasonable royalty until ESTA adopts a specific standard for us to evaluate against our intellectual property. This sequence of events is dictated by the ESTA standard setting process, and is the approach followed by all other standards-setting bodies of which we are aware."

"Until that missing, but vital, piece of the jigsaw is in place, we do not have anything beyond DMX512, and that does not bode for a bright future."



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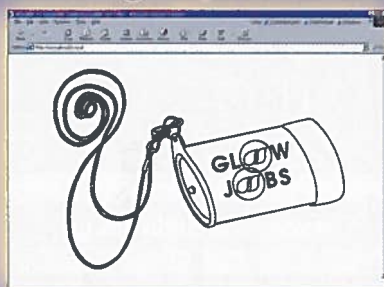
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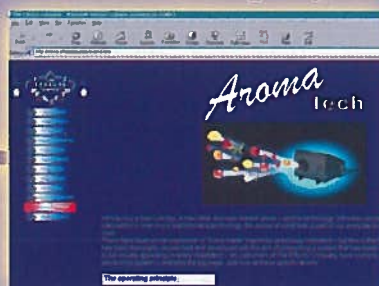
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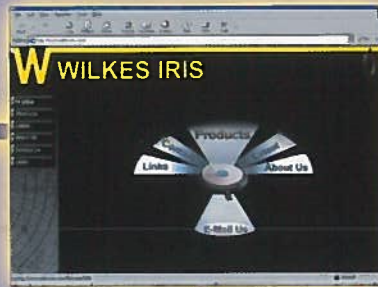
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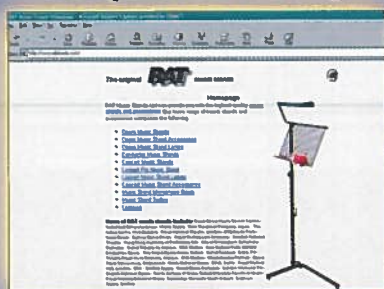
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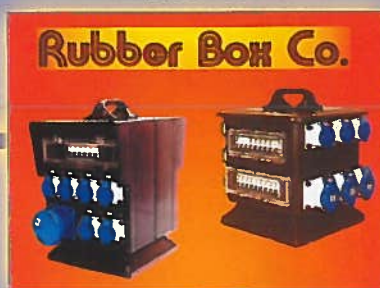
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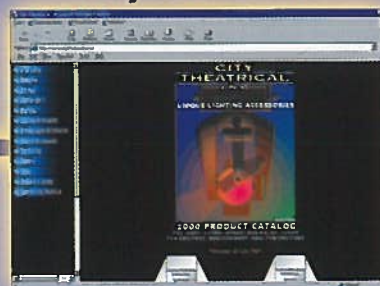
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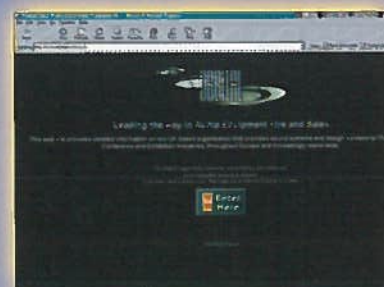
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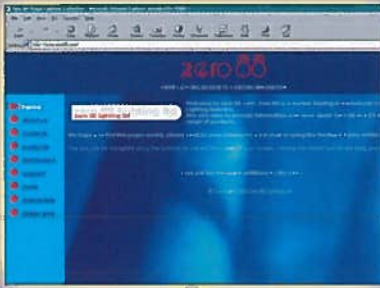
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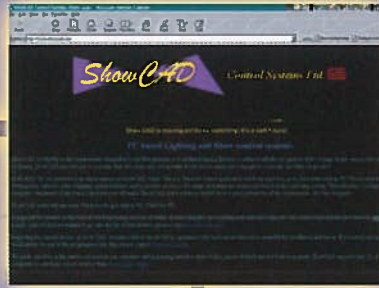
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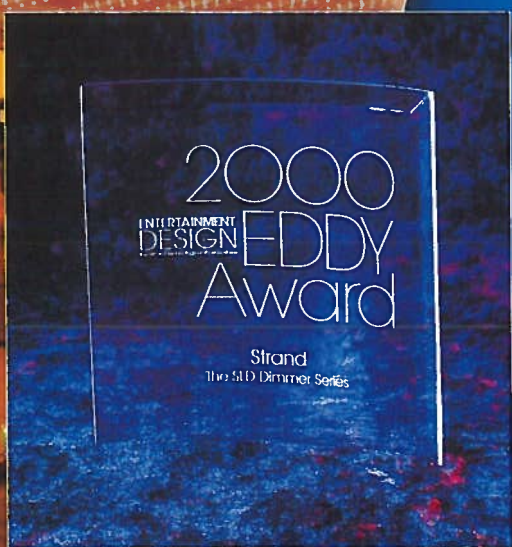
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QUIDAM



Rob Halliday with Cirque du Soleil in London . . .

Can it really be five years since I first covered Cirque du Soleil for *Lighting & Sound International*? Well, it says January 1996 on the cover of that issue, and we're now well into the 21st Century, so I guess it must be.

That's a fair amount of time, and time not spent standing still but seeing and (one would hope!) learning about new things. Remarkable then that, even after all that time, all those shows, all those adventures, this company still has the power to amaze, to leave even this semi-hardened cynic jaw-dropped, breathless as a parade of seemingly-impossible acrobatic stunts unfold on the stage, each remarkable in its own right but made more remarkable by being joined together into an apparently seamless theatrical event. And, it seems, this has also been the experience of the other 2,500 people per performance who've seen Cirque's *Quidam* around the world; recently the lucky country was the UK, where the show enjoyed a sold-out Christmas season in London before moving up to Old Trafford in Manchester.

For those who've just tuned in and are wondering what we're talking about, some background. Cirque du Soleil is essentially circus, but circus like you've never seen it before: remove the musty old tent, remove the tatty costumes, remove the animals. Replace them with the highest standards of theatrical scenery, costumes, sound and lighting, wrapped around acts involving some of the most talented gymnastic and acrobatic performers in the world - many ex-Olympic performers, the best in their fields - and you have Cirque. Their detractors call them corporate circus, and while it's true that they are now a sizeable entertainment corporation in their own right - with 2100 employees around the world, and with their shows enjoyed by more than 23 million spectators since 1984, 'corporate' (in the bad sense) is never a feeling that carries into their performance spaces. That's also not how they started: they were originally a Quebec-based collection of street entertainers, stilt-walkers, fire-eaters and mime artists that were somehow pulled together into what would become Cirque by Guy Laliberté in 1984. The group received funding from the Quebec government - proof positive of the long term benefits that subsidising even the most 'non conventional' of arts can bring in the long term, and something that must bring hope to the ex-Dome performers now

striving to set up their own companies to continue to develop the skills they learnt for that show - and toured Quebec, and then America. In less than 10 years their reputation had grown to the point that custom theatres were being built in Las Vegas to house new shows created by them - first *Mystère* at the Treasure Island Hotel (L&SI, January 1996) and later the incredible *O* at the Bellagio (L&SI, December 1998). The Vegas shows continue to play to 100%+ capacity, and the myriad of attempted Cirque clones along the Strip gives further testament to their influence, if any were needed.

Their other shows, notably *Saltimbanco* and *Alegria*, continued to tour the world in their 'Grand Chapiteau' - the big top. Somehow, though, London missed out on this - and, for a long time, didn't see the company at all. Cirque were scarred by a London appearance in 1991 when a rented tent, a poor location and Britain's reluctance to embrace anything foreign-sounding - especially under canvas - led to an unsuccessful season. It wasn't until the inspired decision to play the shows in the Royal Albert Hall in 1996 (L&SI, January 1996) that Britain discovered the company and took them to their heart.

Now, finally, we get to see the company in their natural environment. For January (London) and February (Manchester), the Cirque-us is in town!

The Grand Chapiteau

It's a remarkable sight, Cirque's big top, glistening floodlit-white in the dark against a grey London skyline, as if a giant alien spacecraft has chosen to land in a derelict site next to the sadly-decaying Battersea Power Station (guided in by the dramatic lighting of this London landmark created by Midnight Design to mark Cirque's presence). In fact, the location doubles as publicity for Cirque's latest venture: they are to be involved in re-developing the Power Station as a massive leisure and entertainment complex with Cirque-themed hotels and theatres which will play host to their touring shows.

At Battersea, *Quidam* arrived to find the site cleared and tarmaced, but as technical director Scott Wallace explains, their minimal requirements are quite basic: "Flat is good! We like asphalt, but we've played on everything



crew, and we have some fly-ins, specialists who come in for the move to take some of the pressure off the permanent staff, people who know specific things about the bleachers or whatever. They start arriving on the Friday; that's when the energy level gets up and off they go into tear down. They bitch about it the whole time, but they enjoy it. That's why we're touring!" He's also full of praise for his team: "They really are one of the best show crews I've worked with, a really tight team who have their focus on the show - it's really nice to have that kind of dedication." Wallace himself is one of many to have fallen into Cirque from other worlds: "My old boss at Boston Ballet was the former technical director of *O*; I was at the opera, he called me and said 'Do you want to go to Europe?' I'd just got divorced, so it was good timing - 34, run away, join the circus."

Quidam

Though new to London, *Quidam* has been touring Europe for about two years, and in fact originated in Montreal in 1996 before embarking on a North American tour. Historically, that places the show at an interesting time in Cirque's development - after *Mystère*, the Las Vegas show whose high budget saw the company moving from performers on ropes into higher-tech and automation for the first time, but before *O*, the Vegas water show where the individual acts become subservient to the bigger picture of the show as a whole. It shows, too, both in the way the production is staged and in the style it adopts.

The scenery immediately reveals that *Quidam* is a step on from the likes of *Saltimbanco* and *Alegria*. Designed by regular Cirque designer Michel Crête (it is remarkable how many outstanding shows this same, tightly-knit creative team have produced) the stage follows the same general layout as for those two shows: a downstage playing area thrust into the wrap-around audience linked to an upstage area that is then backed by the live band. In *Quidam*, the downstage area is a 34ft diameter revolve, manually-controlled by Conrad Hillson. And above it, instead of hemp rigging for the myriad of ropes and pulleys those show's aerial acts demanded, is the telepherique: five trusses forming a giant arc running from upstage behind the band, up to their highest point in the centre of the tent, then down to the rear of the audience.

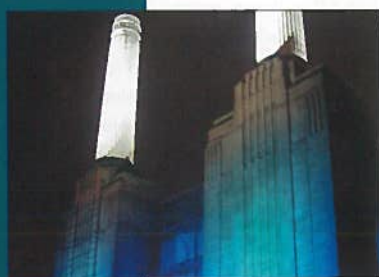
The trusses conceal automation: each contains two trolleys, running on tracks on the truss and cable driven via friction drives. The two can move together or separately, with relative movement causing cables to lower from one or the other down to stage level. The trolleys are controlled from a custom-written PC control system run by automation operator Jem Hodgson, and spend the evening running back to the platform above the band (nicknamed 'the garage' by the crew), being loaded with new props or artists, then heading out over the audience bringing something new floating

Battersea Power Station Re-Development

At last, something is going to happen with London's long-derelict, but still monumental Battersea Power Station. After earlier re-development efforts foundered, the Power Station was left without a roof, exposed to the elements, protected by listing from demolition, but not from the effects of wind and rain. Now Parkview International has developed a masterplan for the redevelopment of the 40-acre site that will turn it into a residential and entertainment centre for the capital, with work on the hotels and performing arts venues being undertaken in conjunction with Cirque du Soleil.

Models and renderings of the scheme were on show during the London run of *Quidam*. The plan will build a curved line of apartment buildings following the line of railway tracks to the west of the site, to shelter it from the railways. The open heart of the Power Station will then be filled with a massive glass atrium, which will in turn contain shopping facilities and entertainment venues, these intended to provide a London base for Cirque's touring shows as well as for other visiting companies.

If it matches the models, the results will be stunning.



from mud and dirt to grass to whatever, it's mostly where they can find a site the meets the requirements of marketing and of the city. We have a pre-production department who work to prepare the sites."

The statistics for moving the show around are then dramatic. "The last show is on a Sunday. By about three o'clock in the morning all of the show equipment is packed, the only structure left is the telepherique," which is the five-section truss that runs across the stage to support the aerial acts. "The artistic tent, all of the side walls for the big top, the side walls for the concession tent are all gone, all of the tunnels are gone - pretty much it becomes just a big tangle of cable and metal and steel and trucks!

"By Monday at about 4 o'clock all of the masts are down and loaded, everything is packed,

then Tuesday is spent taking up the plates for the big top, then the big top comes down that day. In total, that's between 55 and 60 trucks, but that includes the office structure, generator package, the kitchen - we're totally self-contained. We move to the new

city on Wednesday, the masts go up, the big top goes up, then we load in the show equipment, and we have to be ready by the next Monday, everything working, backstage floors in, everything that needs to be done, done."

The crew which achieves this is largely self-contained within the show. "We have a show crew of 18 and a site crew of about 15 who take care of the generators, the public toilets, water, all the stuff that maintains the facility we work in," says Wallace - at the time we spoke, 26 days into his new combined role of technical director for the show and the site, though helped in this by technical show manager Dawn Wilson. "We also have a tent crew, which is part of the site

magically into view. They also feature in the opening of the show, when the mother and father of Zoe, the show's central character, sit in chairs quietly reading their newspapers and are suddenly floating oh-so-slowly up and away from view as we enter into the Cirque's surreal world.

Though it looks to be suspended from the tent, the telepherique is actually a completely independent structure, self supporting on its own masts. Indeed, at one time it is reputed to have saved the tent, which had started collapsing under unexpectedly high snow-loading in Denver; the telepherique held the canvas up until it could be rescued!

Loading of the telepherique trolleys is run by a team led by head artistic rigger Vladimir Antosik, along with Peter Will and Yago Pita Alvarez; in Cirque parlance, artistic riggers are riggers responsible for rigging and checking anything relating to the performers, and the close working the acts require means that performers and crew are closer than in many other companies.

Lighting

Quidam's lighting was in the safe hands of Luc Lafortune - the person many consider the luckiest working in lighting, due to his ability to develop with one company and develop his designs over a long period of time as a show evolves, rather than being stuck to a plot-as-drawn. For Lafortune, work on a show starts long before the physical production, with long discussions with director Franco Dragone and the rest of the creative team, including costume designer Dominique Lemieux, choreographer Debra Brown, composer Benoit Jutras and sound designer François Bergeron. "For *Quidam*, the discussions were about war - the war happening in Sarajevo, that sense of loss, of societies being wiped out," Lafortune recalls. All those themes are clear in the final show, to the surprise of many of the audience.

Lafortune is a designer keen never to repeat himself, to always move on, and it is interesting to place *Quidam* in its place in that development, for certainly the looks he has created for it - often abstract, uneven, crisp gobo patterns in open white toplighting the stage (as well as providing clouds and a moon to the inside of the tent) and enhancing the sense of movement as people move through them - are removed from the colours of some of the earlier shows, and leaning towards the fractured gobo light of *O*, there made more extreme by the use of discharge Juliat profiles. Here, the technology is lower-tech, most of the

Right, Robert Patrick Perrault, chief electrician/deputy lightboard operator

Below, Andrew Gartland (right), Nathan Hughes, sound board operator, assistant sound



lighting being achieved by ETC Source Fours rigged from bars slung across the top of the telepherique trusses. Curiously, Luc's solution to the

problem of lighting dance/movement-style acts on a stage that doesn't allow sidelight because of the wrap-around audience - using gobos to provide the movement - is similar to that adopted by David Hersey on *Cats* many years ago, a show performed on quite a similarly-shaped and sized stage. Lafortune, too, is a genius, a master at work.

There is some technology present - Clay Paky Superscan Zooms, Chroma-Q scrollers - but they, in particular the moving lights, are lightly-used. More impressive are the High End Dataflash, *Quidam* making better use of their possibilities than any other show I have seen; they are complemented by sparkle strobes located behind the band and under the floor to make it twinkle; an upstage wall of MR16s above the band provides the effect of audience-blinder or distant stars, according to level, while domestic bulbs are also placed at regular intervals along the telepherique trusses, run at low levels just to give a glow. Scrollers are used on lights uplighting the telepherique trusses and providing backlight up from the floor at the rear of the stage; most of the performer lighting comes from three Lycian short-throw followspots, two on the stage left mast and one on the stage right, all three rigged to allow spot and operator to rotate about their centre to allow operators Martin Gauthier, Krishan Wilson and Marc-André Couture to cover action in any part of the tent. But the best moments are the simplest: a curved, padded, dusty bench, a sad old clown, a circle of light forming the ring and instantly, you have a circus within a circus.

The rig is controlled by a Compulite Micron 4D, with a second as back-up - these recent purchases to replace an earlier Compulite console that had been with the tour from the beginning; dimmers are ETC Sensor touring racks, with the whole rig owned by Cirque and brought with the tour from America; the generator-supplied power fed to the tent is stepped down to 110V to provide the voltage that the sound, lighting and automation equipment expects. Overseeing the lighting are

Alexandre Picotte and his deputy Robert Patrick Perrault, both of whom were with the show at the beginning, though Patrick has had time away during the run. As with all Cirque shows, they take their own cues when running the show, though stage manager Roland Richard does oversee the show as a whole. The lighting team have also cracked the problem of accurately focusing Lafortune's tricky gobo

cover on a tight deadline: "On the move where we got the focus perfect, when Luc was really happy, we bought a cloth big enough to cover the stage and drew all the positions on that. Now we just step through cues of each set of gobos while a team run around on the truss focusing," Perrault explains. To aid in this, the trusses have grip-tape attached to their top surfaces and safety lines abound.

Sound

Quidam's sound design is by another Cirque regular, François Bergeron, and is now operated by Andrew Gartland and Nathan Hughes. Like the lighting, Cirque own the sound system, in this case principally a Meyer self-powered system consisting of a central cluster rigged high above the telepherique and then newly-purchased Meyer UPAs providing coverage from the tent masts. There's also a novel surround-sound coverage, with the Electro-Voice speakers seemingly rigged backwards, pointing up into the fabric of the tent, a trick Bergeron uses to provide greater coverage and dispersion with a less obvious sound 'source'. Electro-Voice subwoofers can also be found under the bleacher seating to add low-end to the sound.

That sound comes principally from the live band, though the Zoe character, who sings for part of the action, uses a radio microphone and also a radio in-ear monitor. The band feeds are split and fed out to the front-of-house Ramsa console, with keyboard one first being mixed down on a ProMix mixer, but also back to individual mixers for each band member, allowing them to create their own mix for their wired in-ear monitors. The Ramsa's automated muting is controlled from a Macintosh running LCS software, which also triggers samplers for sound effects and provides routing for the surround sound, Bergeron often taking his superbly atmospheric sounds and sending them floating out and around the tent. System delay and equalisation is provided by BSS Omnidrives.

In Performance

This is the darkest Cirque show yet. "It's supposed to be happy circus people, but I think this is the dysfunctional family one," is Scott Wallace's take on it. It's the only Cirque show where, on the one hand, much more than you might have thought possible is made of





European feel of the music reminds where the inspiration came from. Act one ends with a cheerful party interrupted by helicopters, the citizens gunned down. The second half is perhaps post-apocalyptic, Lemieux's costumes losing warmth and texture, becoming cool and ragged, the acts apparently imbibed with super-human powers: an athlete leaping onto the top of a tower of three others, a balancing couple so

astounding that at times it feels as if they will lift each other and hover clear of the ground.

Dragone even manages to conjure up a happy ending, of sorts - or at least, an ending of reconciliation, of youth learning from the mistakes of age, as beautifully cross-lit red drapes fly in to remind us that this holocaust, at least, was just a performance.

Quidam is an astounding achievement, art of the highest order, on a more human scale than the epic *O*, but perhaps more overwhelming for it. It is performed by a committed and talented team of people. In January 1996, my article ended thus: "They are a must-see company. They feel like a must-work for company."

Five years on, nothing's changed.



The Launch Parties

To launch the Quidam London season, Cirque du Soleil held a spectacular series of parties over three nights, held in a linked quadrant of tents pitched opposite the Grand Chapiteau. Produced by Cirque in association with Fisher Productions, the parties were lit by Cirque's lighting designer Luc Lafortune and associate, Nol Van Genuchten.

White Light supplied around 100 ETC Source Fours, 100 pinspots, Martin MAC automated lanterns as well as dimming (Avolites and White Light touring racks), rigging and cabling.

Production electrician Gary Collins and his team ran the lighting from an Avolites Diamond console. More esoteric light sources, including a huge assortment of neon signs, were sourced by the Cirque team from Fisher's stores. Other diversions for the guests included OptiMusic's OptiBeam systems on the walkthroughs between the various tents, as well as interactive video games and a variety of Cirque-related performers.

skipping, balloons and hoola hoops while, on the other, in one act a female performer entwines herself in mid-air in two red fabrics, suspended only by those fabrics; she appears to be born from a glowing red womb, and eventually hangs herself. All of life is here, and that act is perhaps the most frighteningly, erotically, beautifully dangerous thing you will ever see on stage.

The show marks the origins of the move to make the acts a subservient part of the show that was taken further in *O*, but the achievement here is breathtaking and profound. There are big themes at play - war, ethnic cleansing, normalisation - the characters in the white 'clean room' suits seeming to banish the anarchists, outcasts, anyone who dares to be different. The Balkanese or Eastern-

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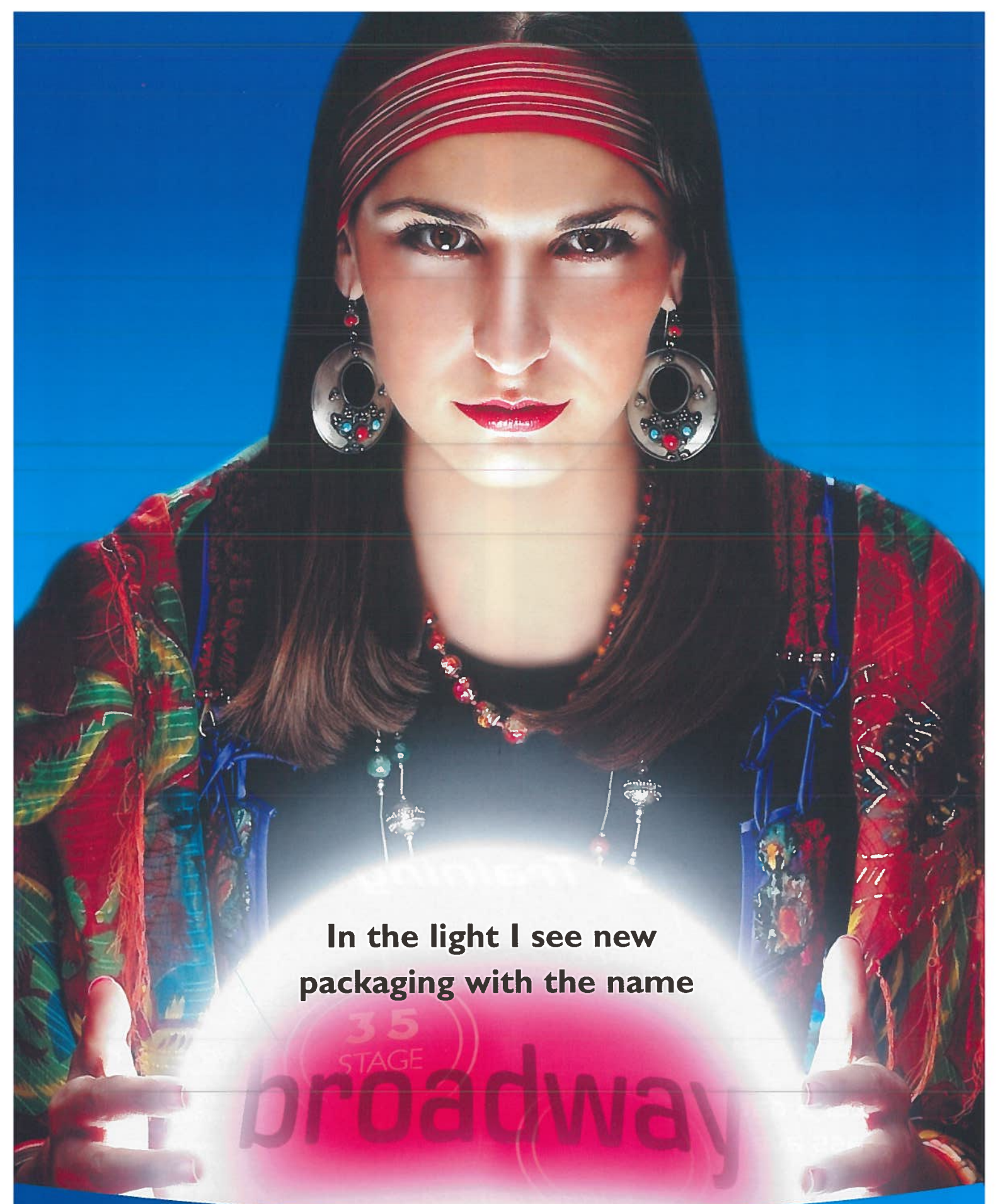
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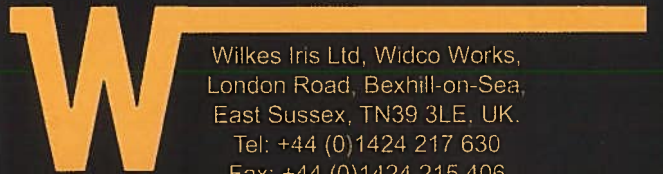
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A New Odyssey

The Odyssey Arena is the centrepiece of Belfast's Odyssey Landmark Millennium Project. Ruth Rossington finds out why it is putting Northern Ireland on the international map for live entertainment

For generations, the River Lagan and the dockland areas surrounding it, have played an important role in the historical development of Belfast. Industries like linen, ship-building, tobacco and ropemaking not only developed on the banks of the Lagan, but were dependent upon it as a source of power. Shipbuilding in particular thrived, and it was into the waters of the River Lagan that Harland & Wolff first launched (with the help of 22 tons of tallow, soap and oil) White Star Line's ill-fated Titanic. But times change, and as the industries thriving on it fell away, Lagan and its surrounding area became an industrial and environmental wasteland.

That is, until recently, for in common with many other industrial cities, Belfast is currently rediscovering its waterfront, redeveloping land along the river to encourage a renaissance of the long-neglected area. Using public investment as a catalyst to secure private development capital, the city has encouraged a range of commercial, residential, civic and leisure developments which have all given new life to the area.

At the heart of the Laganside redevelopment programme is the new £91m Odyssey Arena, named after Homer's epic voyage of hope and endurance, and one of the 12 so-called 'landmark' projects promised to the regions of the UK. Built on the 23-acre site of a derelict coal works

in the harbour area, just 10 minutes walk from the city centre, it represents eight long years of planning and a complex partnership of public and private funding.

It is also somewhat distant from what was originally intended. The Ulster Museum began the initiative of seeking funding for what was then planned to be an interactive science centre in 1991. Following feasibility studies, they applied to the Millennium Commission for funding for a Science Centre and Imax cinema, along with the Belfast-based Sheridan Group, a leisure and entertainment management company. After a merger of bids in 1997, the project grew to include the Arena and Pavilion, and later that same year, the Millennium Commission raided the lottery coffers to come up with the lion's share of the funding. By the time the project was officially launched in March 1998, it was to include an Arena, the W5 (whowhatwhenwherewhy) science discovery centre, an Imax cinema, a Pavilion featuring a Warner Village 12-screen multiplex, conference and exhibition facilities and a range of restaurants, bars and retail outlets.

The exhibition designers, architects and contractors were selected following European Procurement procedures. Hands On Inc, from St Petersburg, Florida, were appointed as lead exhibition designers alongside Ontario Science Centre, Canada; Consarc Design Group from Belfast were appointed the lead architects for W5, Imax and the Pavilion, whilst London-based Marshall Haines and Barrow were given the contract to design the Arena. Then came the contractors - a consortium of Farrans and Gilbert Ash, from Northern Ireland, supported by Bovis. JB Electrical was then sub-contracted to supply all the electrical services for the entire site, in turn appointing Diamond Systems, DJ Kilpatrick and TOA to oversee the fire alarm, PA/VA, security and access control systems.





Left, the Arena - the showpiece of the Odyssey complex, with inset, the original renderings.

Below, a screen shot from TOA's SX-1000 digital audio management matrix system

As for the audio system itself, well in common with most Arenas, the intention was to create a two-tier system: first, an effective and flexible communications, PA and voice evacuation system (which would be deployed site-wide) and second, a performance sound system. Unfortunately, somebody way down in the financial layers didn't understand the difference and assuming the two to be the same thing, didn't allocate a budget to the latter. It was fortunate then that TOA were in the frame for the safety aspects of the Odyssey

system for they proposed a hybrid solution that would go most of the way to fulfilling both requirements. Led by project manager Ian Bridgewater, the company worked closely with Jim Hookes at DJ Kilpatrick to formalise the brief for the design and supply of a full voice



evacuation system across the entire complex (to the requirements of BS5839: Part 8) whilst in the Arena addressing the need for performance-quality sound.

The team's first priority was to address the voice evacuation system for the entire complex. TOA matrix devices were used to provide the digital backbone to the entire Odyssey complex. The main control set-up is sited in the Pavilion area, with further satellite racks situated in both W5 and the Arena; these can operate independently if communication is lost to the Pavilion rack. There are fire microphones at each location, which can address not only their own local area, but others within the complex.

At the heart of the control and satellite racks is the TOA SX-1000 audio management digital matrix which is used for both routing of simultaneous audio channels and fault monitoring and logging. This is ideal for a venue of this size, since it can be configured as a 64-audio input/128-audio output device, with 128 x 128 control inputs. The 16 audio busses enable simultaneous processing of up to 16 audio signals, while the software-driven operation makes complicated wiring set-ups unnecessary.



One of the nice touches is that whilst the SX-1000 can be operated by its mainframe CPU with its own LCD and function keys, it also comes with PC-compatible software for PC-screen menu-driven operation. In recognition again of the often complex nature of running a venue like Odyssey, up to 64 priority levels can be assigned and up to 1000 operational events can be logged into the memory.

Because system reliability is an absolute fundamental, a self-diagnostic function checks the remote microphones, the audio flow signals, the data communication lines, the memory contents and the power voltage. Should



"The flexibility of the audio system across the entire complex has readied the Odyssey for any eventuality, but it is in the Arena that the proof of the TOA pudding has already been demonstrated. The Arena has already successfully hosted several major-league pop groups, one outgoing US President and a Gatecrasher New Year's Eve event."

Although the Arena was not part of the initial blueprint, it is this that now forms the centrepiece of the complex, and the only facility up and running at the time of my visit (with the other elements of the Odyssey due to open on 1 March). And it was here that Oscar Faber's structural and building services teams, working in tandem with a team from AMS Acoustics, have had to prove their flexibility and experience in overcoming several design challenges. Faber brought with it the experience gained at Sheffield Arena, and several of the techniques employed there were re-visited in this project.

Timescales on the project were relatively short, with less than two years allowed from start to finish, and, despite the size of the overall cost, the budgets remained tight. The vision was to create a 10,000 all-seated capacity Arena with the capability of hosting several radically different sports, as well as music concerts. That quickly became a reality: a 200-metre international standard running track (the first ever in the UK or Ireland to be hydraulically operated), frames an area able to stage tennis, basketball, football and other mainstream sports. Beneath this sits a 60m x 30m ice rink capable of hosting Super League ice hockey (in fact, the Odyssey is home to the Belfast giants, currently fifth in the Sekonda Super League). The combination of fixed and retractable seating added further flexibility, allowing the venue to be converted to a concert or exhibition venue, with relative ease.

Arenas are not the most acoustically-friendly environments, especially those with ice pads, so AMS Acoustics conducted a series of worst-case scenario speech intelligibility tests. (Spare a thought for the poor soul conducting these tests at 2am in the morning, not only frozen, but thanks to the odd fall, heavily bruised too). Sound absorbency and reverberation times proved to be the two key issues; to deal with these, the seats were all punched with holes to create a more absorbent surface and membranes were inserted in the roof and walls to act as acoustic buffers, thereby reducing sound breakout. Reverberation chambers were also designed into the roof to filter out unwanted noise.



Outside the Odyssey - TOA's Ian Bridgewater (left) and Brett Downing (right) flank James Hookes of DJ Kilpatrick

the digital system become inoperative, an analogue all-call line broadcasts messages from the main frame panel microphone. System headroom is guaranteed by the provision of expansion frames and additional input/output cards.

The entire system at Odyssey sends signals, powered by the TOA VP range of 100V line amplifiers (in 60W, 120W and 240W output configurations) to a range of TOA loudspeakers, including the new TOA CS-154s in the six exhibition areas within the Science Centre. These are supported by TOA PC-1867 ceiling loudspeakers and Alert metal cabinet loudspeakers, suspended from the underside of the exposed electrical cable trays. CS-154s are also used for the voice alarm system.

The Arena's intended multi-format use, a centrally-located scoreboard which could be raised and lowered, and a reverberation time of anything between 1.5 and 3.7 seconds, led TOA inevitably to a decentralised loudspeaker system. The main system therefore features 20 of the company's new ES-0871 two-way flown speakers - specially modified to allow greater control, thus giving the Arena its performance sound system. The idea is that visiting artists will supplement the in-house system with their own audio systems. Because the venue dictates a certain degree of flexibility, the TOAs are hung from brackets (custom-built by DJ Kilpatrick), in the gantry areas above the main performance area to allow for ease of repositioning and maintenance. For infill to the bleachers, the team positioned TOA CD horns in pairs in the corners of the stadium.

In the public areas around the Arena, TOA PC-1867 ceiling loudspeakers were positioned on the concourse and in the staff offices, while the maintenance areas and staff concourse were covered by Alert loudspeakers.

The system has been split into six different areas, controlled by TOA's DP-0204/0202 digital signal processing system. As a result, each loudspeaker can be set up for optimum SPL and intelligibility to match the event it is serving, and its configuration presets can be changed at the push of a button. The control of all this is undertaken by the PC connection on either RS-232 or RS-485 ports. Up to 30 units can be linked via RS-485 and all configuration changes and set-up can be undertaken from a laptop anywhere in the Arena.

The flexibility of the audio system across the entire complex has readied the Odyssey for any eventuality, but it is in the Arena that the proof of the TOA pudding has already been demonstrated. The Arena has already successfully hosted several major-league pop groups, one outgoing US President and a Gatecrasher New Year's Eve event.

By international standards, the city of Belfast is relatively small with a population of just over 350,000. But size isn't everything and with landmark projects such as the Odyssey and the nearby Waterfront Hall forming a series of new skylines rising along the river, you have to rate its chances for its bid to be European City of Culture in 2008.



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Phil Ward.

... Audio File

Know your audience, as the Greeks said. Actually they said, 'know thyself', but they did great theatres so they must have said variations of this kind all the time. 'Know thy monitor level', Homer must have said, night after night. Be that as it may, knowing who the audience is should come before any judgement of a production - either how to pitch it, or how to watch it.

the press has to do to earn a living - needing to be in the know - and turns it deftly into an insult. I take my hat off to the author, but ironic applause must stop there because it was, in fact, the most important press conference of the entire event, and further sparring would brand me churlish.

THE AUTHOR CLEARLY KNEW his audience, of course, and was just having fun. Probably. But equally you need to know which audience you belong to. Within the industry, it is a truism that you don't belong to an audience. You don't expect the same things - like having to pay to get in - and you know arcane things about the production which would put most fans off for life. There's nothing like a thorough awareness of the inner workings of a public address system to un-suspend disbelief, like being able to see the Punch & Judy man's shoes and socks beneath the canopy. Worse still, a thorough awareness of the ratio of hard-disk playback to actual live performance can force a seasoned observer to leave the building.

THIS IS WHERE it is especially important to know your audience, and what audience you belong to. The stage is a magic lantern, an illusion, and the sound coming from it an elaborate artifice. All that really matters is that the illusion works for the audience paying for it. Some examples. Delay towers are programmed to create the impression that everything you hear is coming from the stage. Fine. In the same way, performers can be point-sourced across the set to ensure that, positionally, the sight matches the sound, as though there was a direct acoustic correlation between the two. Furthermore, thanks to TiMax, this trick can be performed dynamically, in three dimensions. Great.

HARD DISK SUPPORT in a live show serves a similar function, which is the preservation of a set of illusions about just exactly how a given

performer looks and sounds on stage. If the act's reputation is founded on hard, raw and raucous playing, or alternatively delicate and subtle delivery with plenty of wood about the place, all of the artistry and craft of getting those sound waves into discerning ears comes into play. If, however, the act is a modern TV phenomenon, the production must simultaneously solve all normal acoustic problems and maintain the illusion of the act. Yes, I am talking about acts like The Spice Girls, who are in fact the direct descendants of the movie musicals of the '30s, '40s and '50s for the following reasons.

ON STAGE, The Spice Girls (for example) constitute a three-dimensional TV show. The audience knows them from TV, mainly, and is endorsing this awareness with a big night out. They do songs, but their appeal is much broader than music. The show is a theatrical spectacular, in which music is important, but not the whole point. The audience appreciates the show in the same way as audiences of Fred Astaire or Gene Kelly appreciated the movies in which they danced, acted and . . . mimed. There, said it. Miming during a filmed dance routine was necessary to achieve the desired effect: a perfectly-balanced audio and visual kaleidoscope; the magic lantern.

NOW, HANG ON A MINUTE. I'm not going on record as 'outing' anyone, and to be perfectly honest, I neither know nor care about the full extent of mimed and live vocal. My point is that this technical detail is not important to the audience. Mainstream pop music has always lived with a sneering suspicion that some kind of con is going on. From The Monkees onwards, the word 'manufactured' has been a dirty one. Why is this? All acts are manufactured, in the sense that they get a great deal of professional support from the industry around them. Obviously there's a difference between the way in which The Monkees were manufactured, and the way in which The Beatles were manufactured, but that doesn't invalidate The Monkees' role, nor, more importantly, their audience.

AUDIENCES QUITE HAPPILY ACCEPTED Fred and Gene's voices in the context of their silvery hoofing, mimed or not. If they wanted great singing, they had Frank Sinatra. And that's all that the current crop of radio-mic'd mainstream pop acts is really doing: silvery hoofing, with Saturday morning TV and a range of dolls at their service. There is no absolute scale on which this type of entertainment is less worthy than any other. The total product is the thing; the package. The question to the consumer is, do you want to buy it or not? The question to the professional is, can you make the consumer want to buy it? Come to think of it, knowing your audience and knowing thyself aren't too far from being the same thing.

"There's nothing like a thorough awareness of the inner workings of a public address system to un-suspend disbelief, like being able to see the Punch & Judy man's shoes and socks beneath the canopy."

IT'S NOT THAT EASY.

Let's take a perverse example, from the recent NAMM show in California, where the American MI trade convened once again to the accompaniment of an ever-increasing sound reinforcement and recording fraternity hell-bent on matching every guitar and hi-hat with a loudspeaker and a hard-disk multitrack, much like Frankfurt.

PRESS CONFERENCES abound at events like this, and you'd be unchallenged if you assumed that the target audience at such conferences is usually the press. I wonder, then,

who a certain manufacturer had in mind when it issued an invitation to a press conference which included the brilliantly cynical hook: "Those who obsess about needing to be 'in the know' all the time will want to be there." Wonderful, isn't it? It takes a de facto description of precisely what

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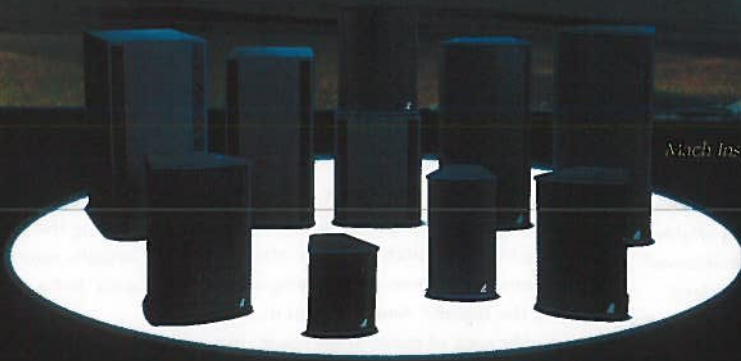
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Weird & Weirder



Steve Moles finds himself keeping company with Offspring and Marilyn Manson at the Manchester Evening News Arena

If your 12-year old is sick of Westlife, then this is the band for them. Admittedly, the sub-teens in the audience looked like scared rabbits caught in the headlights when the show first kicked off, but they were soon in the swing of things. The band's patina of youthful angry frustration is only that, a thin veneer. As the crowd surfers were hauled over the crush barrier down the front of stage, I saw many of them turn to thank the security staff. They might all dress like Burt Cokain, but no one here is going to top themselves.

SOUND

It was Hawaiian shirt day today; the imposing form of house engineer Gregg Bess in combat fatigues and gaily-coloured shirt is at once incongruous and amusing. Bess is an affable son of upstate New York, but don't be deceived by his lighthearted demeanour, for a loud metal-pop show he extracts a tight, crispy mix.

The PA he chooses is provided by Britannia Row, a sub-hired V-dosc system, something the purveyors of all things Turbosound have had to do a couple of times in recent months. (As an aside I can see the commercial imperatives of such a manoeuvre, but giving away part of the revenue stream to another supplier - even if there's more money in the control system rental - is never going to be comfortable. But with line arrays seemingly creating one-dimensional PA congestion in the USA, I

personally hope Messrs Grant and Lowe take a dose of Andrews and retain the clear Blue waters of distinction.)

The monitors, operated by George Squire from a Midas Heritage desk, are mainly Turbo wedges - TFM450s - plus some of the band's own short-throw cabinets, built by Rat Sound in the US. Although Squire wasn't available for comment, assistant monitor man Aide Barnard rates them highly and reports a high degree of satisfaction.

Similarly, the PA subs are also Turbosound, and in this instance a whole lot tighter and punchier than the Auras that normally seem to accompany V-dosc. Auras are a good driver, but it always seems like there's a gluey patch around 50Hz that predominates.

Bess is forthright about his PA choice: "Imaging and clarity," but isn't power distortion part of the music? I ask. "With all bands, clarity is paramount. There's no point having a weak link in the system." And he means it, despite a preponderance of guitar in the music, the vocals come through strong and sweet, so clear in fact that the experience is akin to hearing Black Sabbath (at speed) backing the Beach Boys harmony section.

Naturally, he pays a deal of attention to vocal treatment - an ATI Pro 6 for all four vocalists, whilst "everything else uses the Midas XL4 pre-amp and EQ. I have an Aural Exciter (Aphex II) inserted on the vocal sub-group - a real eighties tool, it's an idea of producer Rick



Offspring sound engineer Gregg Bess

Ruben. The vocals are slightly delayed through a TC2290, and across the left/right final mix I have a Dolby 740. It's a studio mastering piece, a kind of sliding cross-over, the great thing is it doesn't add any harmonics." Bess also has four Antares ATR 1s in his rack, the Auto Tune Intonation Processor, but he wouldn't comment on those - infer from that what you will.

Overall, Bess achieves that neat trick of making this show sound very loud without actually resorting to the physical reality of ear pain. Just one more reason to like the band.

LIGHTING

Phil Ealy first came to my attention as LD for Guns 'n' Roses back at the tail-end of the eighties. Even then, he'd already formed his own lighting rental company, Westcoast Lighting, which today is providing the Diversitronics strobes and a new Avolites Sapphire 2000 desk. "I've been an Avo' user since day one," he said. "I've only just outgrown the Pearl for this show, and thus far the Sapphire works well."

Strobes apart, Ealy's rig was supplied by Bandit Lites, a three-truss design of MAC 500 and 600s, with 14 Mole light scrollers and a dozen Pars. "I'm really comfortable with virtually all moving light rigs.



The MACs are pretty roadworthy, just the odd screw falling out is about the level of maintenance needed." He uses the Moles to set the main stage wash, adding the MACs as soft- and hard-edge beam lights for movement and effect. "I'm really lighting in the conventional way, looking at tempo and mood."

Which he does with varying degrees of success, but then he does have a limited set to work with. Conceived by production manager Bobby Leigh, designed by Jeff Hall and built by All Access staging, the derelict light-industrial unit look is under-exploited. It's the lack of backdrop that kills it, just a black void beyond. Although the 'realism' of the set is fine, it sits out of context, which diminishes the effect. Even a distant twinkling LA skyline would help.

That said, Ealy produces some nice retro chases, some monster strobing into the audience, and his coup of the tour is using Cyberlights for truss spots. "I've been with the band since '95 and this is the first time I've persuaded them to accept any sort of spot. The nice thing with using the Cyber's (he has the head removed, the lamp is aimed manually with the aid of laser pointers) is I can pick them out in the same colour as the main system, but with greater intensity." Also, having desk control for all parameters of the lamp gives him tight cueing.

All in all, this is just a 21st century rehash of metal music, but the skateboard chic is amusing: "Com'awn, you gonna sing with me dudes?" is charming and underlines the fact that these guys don't take themselves too seriously."

It's a truth known to French patisseries for centuries; the erotic potential of a truly well-presented cake is one of their most powerful weapons. What could be more seductive than a light, fluffy oyster of choux pastry, filled to overflowing with thick whipped cream or rich confectioners custard? A man is hard pushed to know whether to bury his face in it, or make love to it. I draw these deep Freudian allusions because this is the primitive psychosexual world that Marilyn Manson chooses to inhabit. However, read the Press, and by comparison Manson is like a slice of discarded pizza, face down on a wet Slough pavement, being licked by a mangy dog.

Not that Manson is without certain redeeming features: indeed, the pre-show brief for security included the direction: "Don't be offended if Manson brusquely pushes you out of his way, he just wants to spit and he doesn't want to do it all over you."

That's what I've always cherished about this type of group; the audience gets to hum along while the band strum their catarrhs.



LIGHTING

Visually, this is fairly low-key by Goth rock standards. The set is no more than risers with artwork on the front, an ego platform front stage centre, and a profusion of backdrops superbly rendered by Perry Scenic. There is also an excellent roll-on lift, the so-called Zip-Lift, built by Tait Towers. This self-stabilising beast knits together three unrolling lengths of sprung steel to thrust Manson vertically up to 30 feet above stage.

The stage is dark, but only in the ephemeral sense. LD Roy Bennett has provided plenty of textual variations to relieve the monotony of this bleak musical oeuvre. The rig of three straight trusses is deceptively simple; provided by Neg Earth Lights it holds, according to operator AJ Pen, "approximately 50% of the lights. It's a typical Roy design, with the rest on the floor around the stage." Thus there's lots of up-light and sidelight, and all generally in close proximity for stark silhouette and deep shadow.

Bennett's fertile mind has once again come up with a new type of audience blinder. Built by Upstaging (the tour's US contractor) the 'Roylight' is seven Leko reflectors built into a hexagonal cluster. The nice thing about this lamp, apart from the intensity of 7kW wide open, is the ability to chase around the individual cells, making for some added interest.

Pen (just 21) is a new operator for Bennett; there on the recommendation of production manager Jim Digby, he appears to have developed an instant rapport with the LD, and certainly he knows his marks on what is a very tightly-cued show. "Of all the artists I've ever worked with, he's the most attentive [meaning Manson]," said Pen. "He's very theatrically inclined, and although he understands mechanical equipment failures, he won't tolerate missed cues through lack of concentration." Manson himself also contributes: "He's really good at finding light and going to it."

Bennett's rig comprises a profusion of 3kW Diversitronic Strobes (Pen had lost count), 61 High End Studio Colors and 19 Studio Spots, with some standard cyc lights on the six backdrops. The Roylights apart, the only other vaguely conventional instruments are a pair of Reich & Vogel beam lights used as truss


followspots; deliberately indistinct when played against the rig, they added to the general sense of gloom.

Pen, while stood at the Hog II console, also demonstrated a neat trick with the Studio Colors: "Go to double XX mode and you can get split colours. Have the lamp in open white and you can tease in the Tiger stripe to 50% and the same with the colour flags for the mix effect." A particularly striking feature of the song Tourniquet was open white beams in the air, with backlight beams of orange split with yellow from the floor. Such effects are everything: Bennett's trade mark eclectic choice of colours - and he really excelled at finding some appropriately ugly combinations with this show - is enhanced by the usual smoke and mist machines (four F100s and two DF50s), the former being filled with a mix of HQ and Stage/Studio fluid: "It means I can put big thick clouds on stage quickly, but the addition of the Studio juice makes them dissipate just as fast."

SOUND

Like Offspring, Manson's house engineer Brad Madix, chooses a V-dosc system, and for much the same reason: "Imaging. I've used V-dosc for about four years now. I tried the Adamson, which is pretty good, and had a demo of the EAW 860, but I prefer this. Because of the musical style, the way it was recorded, there's not a lot of dynamic in the show, but there is a lot of image moving, side to side." And indeed, there was plenty of discernible swooping guitars and keys, which could be heard pretty much most places in the house.

Lars Brogaard's new company, Major Tom, supplied the PA, and as with the Offspring, this was a standard 12-cabinet linear hang per side for the Arena. However, an extra hang of four, with three arcs beneath, was flown about five metres off to each side of stage. "I do like to fill in that spot, up on the mid/near upper bleachers," explained Madix. "Whatever people say, I do find you need to fill that area, particularly for the mid/highs."

There was a further 'hang' of three V-dosc per side for side-fills. I asked Madix if this produced any problems in the front rows of the audience. "No, we just get a lot of support for the vocals in that front stage area." 

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Left, Brad Madix survives an exciting interview with Steve Moles

Below, lighting op' A J Pen



Which is understandable. I was unable to speak with Maxie Williams the monitor man (Midas Heritage) on this subject, and frankly I was too timid to venture down into the Mosh pit myself during the show to find out. But I'm curious; a V-dosc three-cabinet stack is too few boxes for the coupling effect to produce long throws, which is fine for a side fill, but surely the extreme width of the horizontal directivity would put excessive energy into the front stage zone of the audience and compromise the information from the main system? I'd be interested to receive some comment on this.

Madix mixes from a Midas XL4: "This board has great pre-amps and EQ. With this show, its programming features made it essential." Like Bess on Offspring, Madix's main pre-occupation is vocal sound, with one ironic contrast. "It's the typical problem with this kind of act: keeping the voice clear and then adding lots of distortion." Poor devil. But he's not without help, whatever the foibles of V-dosc side fills (if any) the general stage levels are low enough: "It's not hard to get voice projection, he sings right into the mic; it's a gain-vs-gain scenario, rather than gain-vs-feedback."

Off-board Madix runs the Manson's vocal through a Tube Tech LCA 2B. "We use a Shure Wireless with 58 cap, because he really abuses the mic and the 58 is bomb-proof. He does a lot of tricks with the mic - cupping the cap, then not. Then I run him through a BSS 901 to give me a little extra help on the EQ." Effects are provided by a rack full of Eventide devices, for a host of spatial weirdness. And my favourite, the Zoom 90/50: "A cheesy guitar processor," as Madix would have it, which he also uses for vocals. Again like Bess, Madix has a studio-type device across the final mix: "A Smart Research C2. It looks suspiciously like an SSL device to me - I haven't really made my mind up about it yet." But he will.

Madix shows us that Manson's songs do, amazingly, possess melody and structure. So to return to the introductory metaphor: as the mangy dog recognises, whatever the environment, the essential ingredients of the pizza are still intact, and very tasty. In its desire to satisfy its hunger, the dog can ignore the presentation. So too, today's teenagers. The essential ingredients are good, and it sates their hunger. To paraphrase Oscar Wilde: "All of us are face down on the pavement, but some of us are looking up to the stars." I leave you to surmise who is doing otherwise.



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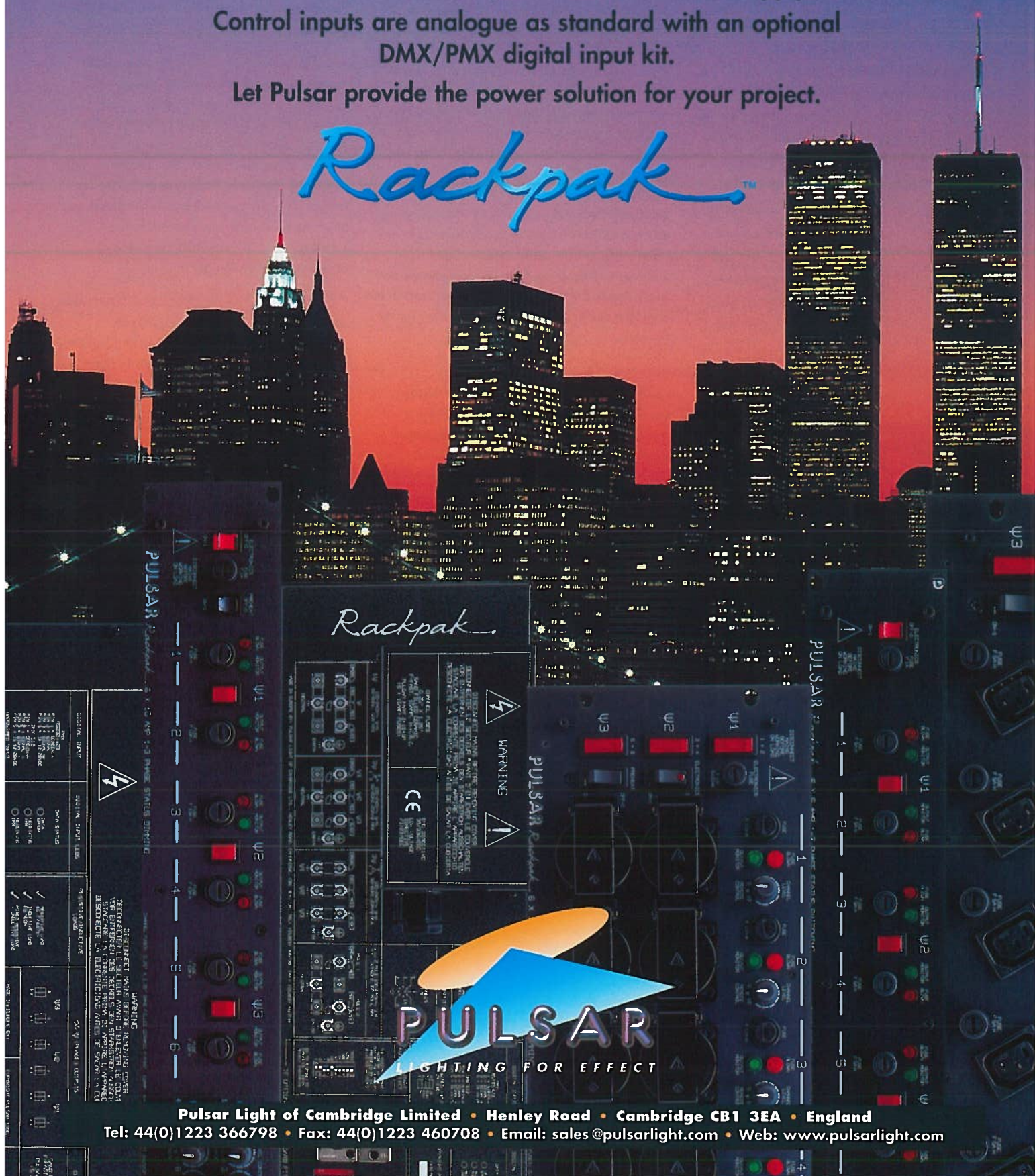
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Ian Herbert, Asleep in the Stalls...

The theatre critic is a spoilt beast - I've enjoyed this spoiling for so long now that I risk losing touch with the experience of the ordinary theatregoer. For a start, you don't usually pay for your ticket, unless you're feeling really sympathetic to some Fringe group that has sold its granny and mortgaged the family

semi. You're usually in the better seats in the house, if the press rep isn't having a down on you for your last review. You'll get a free programme, and quite often a free drink at half time.

NOT A BAD LIFE: all you have to do is find a parking space and stay awake for a couple of hours - and, as you know from the title of this column, all I myself can guarantee is to find the parking space.

SO IT WAS AN EYE-OPENER to go to the Strand the other Saturday as a paying punter, for the second house of *Buddy*. I went with a bunch of students from Clinton, Mississippi, where Buddy Holly's home town of Lubbock, Texas, is not too far away. For many of these clean-living young people, it was their first time in any professional theatre; for all of them, it was their first time in a London theatre.

WE WERE IN THE CHEAP SEATS. Did I say cheap? £13.50, the price of a CD or two seats at the cinema, seems quite enough for the third shelf, the Upper Circle. £35, which would have covered a month of my wages in the year in which *Buddy* is set, was the going rate for the posh folk downstairs. And there were plenty of them - the theatre was nearly full, even at our exalted level. To get to it, we had passed two notices which quite altered my view of a visit to the West End theatre: 'Patrons are reminded that dancing is not allowed in the Upper Circle' and, more quaintly, 'Chewing gum is not permitted in this theatre'. Rich or poor, if you want a programme you'll have to pay £2.50, something which is difficult to explain to my American friends who get the rather larger, more informative Playbill for free. Our programme has two pages of background to the show, apart from an advert for its merchandise and another for its fan club.

WHEN YOU GET TO THE UPPER CIRCLE (puffing and blowing a bit in my case, having been sent up the uncarpeted, dimly-lit back stairs) you see why they don't encourage too much jumping about. The rake is such that any serious rock and roll would have you plunging to the stalls in no time. Once the show starts, you have the strange sensation that it's all taking place off-stage. A disembodied voice is talking. Sounds like a DJ - we must be listening to a broadcast. Gradually it dawns that those lower down the theatre can also see the DJ, since he's sitting on the upper level of Andy Walmsley's two-tier set, in an area completely invisible from our top shelf. The sound is very much intended for those in the posh seats, too, since none of the theatre's speakers seems to be pointing up at us - it's as if we are listening in on the Tannoy.

ONCE THE LOWER STAGE LEVEL is in use, we do share something of the show: obviously the

big musical numbers are all going to take place within our sightlines, since the followspot operator behind us can himself only reach the forestage. He's got quite a tight angle between the front of our circle and the roof, which slopes down too.

AT LEAST WE CAN ADMIRE the stagecloth, which is vividly decorated with old ads and newspaper headlines, including one about *Buddy's* fatal air crash, which rather gives the game away for anyone who actually doesn't know the end of the show's story. (As it happens, only half of my Mississippians have heard of *Buddy Holly*). I like Graham McLuskey's scrupulous use of period lighting for the concert scenes - glitterballs and all - and Rick Price's use of cabled-up fifties stand mics.

THE FIRST HALF BUILDS WELL ENOUGH. After all, Mr Holly's short life isn't capable of supporting much of a story. What I and the oldies who make up most of the audience are here for is to hear the music. What the younger members of the audience are here for is to party. At the interval, I explore the rest of the theatre, going down past the circle bar, a cubby-hole off the upper staircase where far too many people are struggling to get a drink.

THE SECOND HALF develops into the expected party, even if it is rather like one given by a group of Butlin Redcoats. We are in The Surf Ballroom, Clear Lake, Iowa, on 2nd February 1959, 'the day the music died'. We know this because even the Upper Circle have been issued with free programmes for the event. Audience members on the lower floors are greeted by a suitably cheesy compere, asked where they come from and given a chance to come up on stage to collect the lucky programme prize.

AT THE SHOW'S FIRST NIGHT, 11 years ago, I really loved the party atmosphere, because it seemed pretty spontaneous. It was also broken by the show's one heart-stopping moment, when we learn of the deaths of the young men we are watching in that fatal crash. Now that atmosphere is false, and the crash is glossed over so quickly that if you didn't know about it, you might not even notice it. A sense of fake bonhomie is whipped up, aided admittedly by what is still some terrific musical performance on stage. The devotees are still rocking in the aisles downstairs at the show's close, and the final encore, 'Johnny B Goode' (which I don't remember as a Holly number) has all of us on our feet.

MY MISSISSIPPI FRIENDS are generous in their praise as they file out. They haven't danced, they haven't chewed gum, but they tell me they've had a good time. How polite.

"We were in the cheap seats. Did I say cheap? £13.50, the price of a CD or two seats at the cinema, seems quite enough for the third shelf, the Upper Circle."

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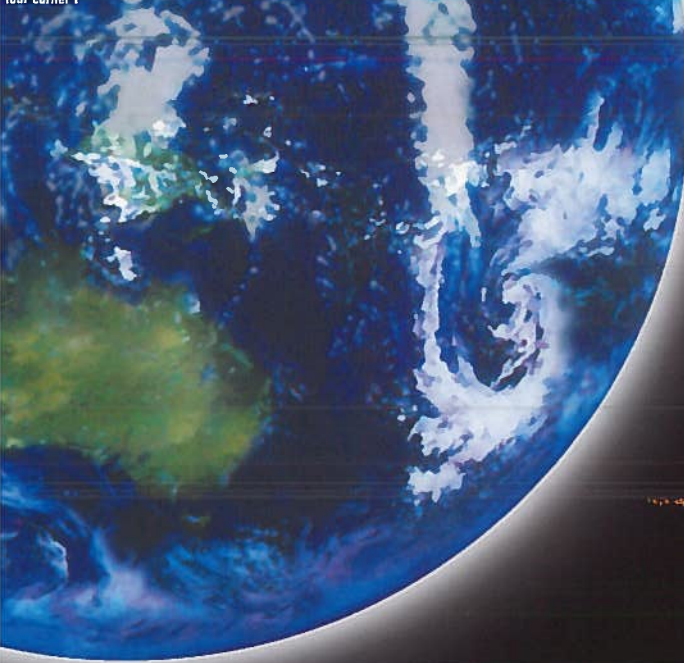
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Navigator Extends Service

Navigator Systems has launched its new website, designed specifically for registered users of HireTrack and HireTrack Eclipse. The new site will enable members of the Navigator community to instantly access the Navigator library of technical support documents. The company has also developed a forum, where all users can post comments.

www.clubnavigator.co.uk

JBL New Generation

JBL Professional has recently released the EON G2 line of powered speakers. Among these is the EON10 G2 compact speaker with 10" woofer, increased power and a three input mini-mixer. When combined with the new EONSUB G2 powered subwoofer, it provides a full range sound system for more demanding applications.

Arbiter - tel +44 (0)20 8202 1199



New Denon CDR/RWs

Hayden Laboratories Ltd, UK distributor for Denon, has launched the Denon CDR-1000 and the CDR-W1500, two professional machines designed to take advantage of the burgeoning CD recording market. Features include a 19" rack-mounting option, available in kit form; digital level control - for enhancing analogue recordings, and CDR playback on the W1500.

Hayden - tel +44 (0)1753 888447

Soundcraft M Series

Soundcraft has launched a new range of compact mixers - the Spirit M series.

The M4, M8 and M12 offer 4, 8 and 12 mono inputs respectively, and all feature four stereo inputs, four stereo returns, 100mm faders, and an S/PDIF stereo digital output. All channels have peak and signal LEDs, complemented by a high-resolution stereo output meter.

Physically, the layout of the desks will be instantly familiar to any experienced users. The mono input mic preamp design comes straight from the award-winning Soundcraft Ghost console. The electronic design of the desk incorporates 'ground-tracking' architecture, usually found only on more expensive mixers, and attention has been paid to details such as grounding around the faders.

Soundcraft - tel +44 (0)1707 665000

Beyer to Distribute AudioControl

beyerdynamic has been appointed exclusive UK distributor for the full line of products from AudioControl Industrial - a US-based specialist in audio measurement and analysis systems.

The company's key products include the SA-3052 Real Time Spectrum Analyser - a one-third octave analyser that includes a pink noise generator, six memory snapshots configured in a 'Point and Shoot' characteristic that requires no PC, parameter setting or complex menu commands making it simple to use. This is the first product beyerdynamic will stock, with further new products to follow over the coming months.

beyerdynamic - tel +44 (0)1444 258258



Celestion's Substation

Celestion has launched two new multi-purpose bass systems that make up a range of innovative products called Substation.

The new Substation 10, Substation 15 and Substation 18 are designed for easy integration into fixed and portable systems. All three cabinets feature a unique Celestion connector panel that allows them to be configured in any one of three modes: passive stereo, passive mono and direct mono. The dual voice coil design enables mono 'summed' bass reproduction of a stereo signal, while an internal passive crossover allows the user to select mono or stereo high pass passive filtering for separate mid/high loudspeakers.

The smallest loudspeaker is the Substation 10, designed for use in space-critical fixed installations. This provides additional LF reinforcement for music systems and is ideal for use in retail stores and restaurants. The Substation 15 combines high power and performance in an easily transportable cabinet, adding extended bass performance to portable systems or fixed installations. The Substation 18 is the largest product in the range, providing a powerful low-end performance for bars, clubs and live music venues.

Celestion - tel +44 1473 322222

Dare Micro 12

DARE Professional Audio has released a shielded version of its highly successful Micro 12 Loudspeaker.

The Micro 12 is passive as standard, handles 650W and has a dispersion of 90° by 60°. The speaker has seven integral flying points, the horn can rotate for horizontal installations, and there is also a wall/ceiling bracket available. The Micro 12 is also available in a portable weatherised versions.

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Cannon System

Soon to be released from The Effects Company is an advanced system of air-launched effects - the CO2 Cannon, which will be available in single or multibarrel versions.



Previous methods for time-consuming hand loading are now eliminated as this system uses factory pre-loaded cartridges, available in two sizes/loadings with a choice of effects such as E-Fetti, Glitter, Streamers, Star, Hearts, Flash Discs, Metallic Streamers, Ultra Violet E-Fetti and even condoms! Available at the end of March, the CO2 Cannon system will have its world launch at the Frankfurt MusikMesse in early March.

Effects Co - tel +44 (0)1342 870111

Hayden's Raper & Wayman Deal

Hayden Laboratories Ltd, UK distributor for Rane products manufactured in the US, has appointed Raper & Wayman as a reseller/distributor for the Rane Inc range of ECS audio products.

The move is part of a campaign to highlight the potential of this range of conferencing equipment. Raper & Wayman will handle the products in a consultative capacity to other dealers, as well as in their role of installation subcontractors. The company will also supply a comprehensive UK-based service and support facility. At the heart of the Rane ECS is an 8-input automatic microphone mixer, the ECM 82/82A, which integrates sound reinforcement within a room. Various plug-ins can then be added as required.

Raper & Wayman - tel +44 (0)20 8800 8288

Impressario Motion Control

AVW Controls has developed Impressario - a computerised system for moving theatre scenery.

The system, which can record up to 500 cues, features a control console and purpose-designed motion processor modules. It communicates on a high-speed data network with up to 255 motion processors, each of which is interfaced to a servo-amplifier or motor controller. A Penny & Giles JC030 single-axis rocker switch is incorporated into the control console to provide a manual speed override for pre-programmed scene changes.

AVW - tel +44 (0)1379 898340



PCM's Stairway to the Stars

PCM has added a new webbing ladder to its inventory of professional rigging accessories.

The new product replaces conventional, bulky ring and tube-style ladders with streamlined rods of carbon or glass fibre. The rods are inserted into tubular braid sleeves made from synthetic fibre which are sewn into side members of the same material for maximum strength. The product is ideal for all entertainment industry applications - theatrical, performance, industrial, live event, touring, television and film. The ladder is available in standard lengths of 10, 15 and 20 metres, and custom lengths can be produced as required.



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Audio Technica has released the new ATW1400 series of UHF radio systems. Offering three fixed channels on licence-free

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beltback system can be used in conjunction with a wide range of microphone options from A-T's Wireless Essentials range, including lavalier, headset, boundary and gooseneck microphones options. The ATW1452 handheld system uses a shock-mount for reduced handling noise, and a high-energy capsule for improved output.

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The BBC programme Tomorrow's World recently featured an innovative new microphone that will prove ideal for backstage crew at rock concerts, for instance, where noise levels can exceed 110dB. The new microphone, manufactured by Nextlink.To and called Invisio, sits inside a specially-made earpiece and picks up the voice of the speaker via the vibrations passing up through the jawbone.

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Rock in Rio For

A Better World

In January, the third Rock in Rio swept all before it. Hosted at the stunning Rock City Arena in Barra da Tijuca, Rio de Janeiro, the event drew big names and even bigger crowds. L&S! went crew-hunting

The building of Rock City, 12 times larger than the previous (1991) Rock in Rio venue - Maracanã Stadium, was spearheaded by Rock in Rio founder, Roberto Medina, and the owner of the land, Carlos Carvalho. The site was originally intended to host Rock in Rio biennially, but already the massive success of the 2001 event has prompted discussion to make it an annual landmark. Rock in Rio III ran for seven nights, packing in a minimum audience of 180,000, with most acts drawing the full capacity of 250,000 people. Revenues were further boosted by AOL sponsorship and worldwide syndicated television rights.

The striking look of the massive World Stage roof, constructed by Kreimer Engineering, resembled a giant rubber fetish-style backpack, full of white spikes, magically illuminated at night with colour-changing luminaires. Underneath this, all Rock in Rio's headliners performed. Maverick stars like REM, Sting, Neil Young, Guns 'n' Roses, Iron Maiden and Oasis were joined by contemporary chart-toppers like Britney Spears, Five and N'Sync.

Three additional tented satellite areas formed the other performance spaces - Tenda Raízes (world music), Tenda Eletro (dance, techno, house, etc), Tenda Brasil (the cream of Brazilian talent). The Tenda Mundo Melhor (Better World Tent) provided a fifth area, hosting spoken-word performances, lectures and addresses by various speakers, covering an assortment of topics from music, art and sport to the environment, global issues, technology and more. The incredible buzz and carnival atmosphere of the event was also heightened by the appearance of hundreds of Latin American acts throughout the week. The fundamental artistic and

technical policy of the Festival was that all artists - be they first or last on stage each night - would get the same conditions, billing, technical equipment and support.

LIGHTING

Lighting contractor LPL also supplied equipment for the previous two Rock in Rio events, in 1985 and 1991. Lighting for the 1991 event was also designed by Patrick Woodroffe, who returned here - 15 years after he first worked in Brazil with LPL's Cesio Lima - to stamp some memorable lighting moments on the main World Stage. This year Woodroffe worked closely with Brazil-based Danny Nolan and Chris Steel who took on much of the programming responsibility.

Woodroffe's design adhered to the usual parameters of a festival rig. "The system needs to be dynamic enough for a wide range of artists and, very importantly, look good for TV," he commented. "It must appear imposing for Guns 'n' Roses, yet small and intimate for the likes of James Taylor. Like most productions, budget was not unlimited . . . and this is possibly the biggest stage I've ever lit." Woodroffe is convinced that the acts who achieved the best results were those who utilised the house system, as intended, to create the big looks and wide televisual pictures.

For maximum flexibility, Woodroffe and his team decided on a large moving light rig, split into separate control systems to cover the different areas. The World Stage system was heavily High End-based, with 72 Studio Spot 575s, 72 Studio Color 575s, 12 Studio Color 250s for truss toners, 24 Cyberlight Turbos and 24 Studio Beam PCs. These were joined by 10 Coemar CF7 HEs, four Studio Due City Colors, over 500 Pars, Molefays, mini brutes and strobes. Control for the 120 moving lights was via an Avolites Diamond III, and for the generics, an Avolites Sapphire 2000. The main stage dimming was also entirely from Avolites.

The lighting rig was styled into a horseshoe shape that followed the gentle contours of the roof interior. "We were helped enormously," Woodroffe explains, "by this extremely beautiful roof." A fusion of the various visual elements of the main system, including the backdrops and the imposing 72m diameter roof





So what was Woodroffe's overall impression? "As expected, the production was replete with style, humour and Brazilian panache, and LPL still pulled off one of the largest and most impressive shows of the century."

SOUND

The event's sound contractor was Sao Paulo-based Gabisom, who have been established for 20 years and are the largest audio company in Brazil, ranking third largest in the world. Sound was provided for all four music stages, the Better World Tent and the various rehearsal areas. The team was led by José Luiz Ferreira (Gabi), company owner, and Peter Racy, who was technical co-ordinator for the World Stage front-of-house area.

structure, created a coherent layering and depth.

The audience lighting was equally impressive, with 68 Coemar CF7 HEs running from an Avolites Pearl 2000. Additionally, each of the 14 PA delay towers was fitted with 24 Pars, completed with a further 120 Pars either side of the PA wings. All this audience illumination was run by another Pearl 2000. The imaginative site-wide architectural and environmental lighting was designed and co-ordinated by Brazil-based Peter Gasper.

Danny Nolan discusses the production's specific demands: "It sounds obvious, but the main objective was to keep thinking big. The scale of a show like this means subtlety has to take a back seat in preference to the big picture. We had to use large blocks of colour to maintain the depth of this enormous stage. I mean, if you're going to have one spot on, have all 14 on; if you're going to have two lights on in blue, have them all on in blue!"

Meticulous pre-production allowed Woodroffe and Nolan to inform LDs in advance about the whole package - fixtures, positioning, focus, television and broadcast

requirements, video schedules and the various key personnel. In the months preceding the event, Avolites Visualiser systems were made available in Brazil by LPL, in the UK by Avolites Ltd and in the US by Avolites America. This enabled headline act LDs to visit the various facilities, familiarise themselves with the rig and pre-programme much of their shows. Nolan says that the benefits of employing Visualiser went far beyond just this, also allowing visiting LDs to work in a more relaxed environment once on site. Bands maximising this opportunity included Sting's LD Nick Sholem and Iron Maiden's Martin Brennan, who both spent time at Avolites UK, and REM's Bruce Ramus who worked at Avolites America.

Nolan continues: "The decision to use multiple consoles, even though it would have all fitted onto the Diamond III, was to allow faster programming of the show as a whole entity." The elements were split into stage moving, stage conventionals, audience moving and audience scenic - all on separate consoles. All desks were programmed concurrently, with corresponding scenes utilising different fixtures stored in each one, but ensuring an overall visual continuity.

The Avolites control set-up was used by the majority of acts, but designers bringing their own desks and systems were also easily accommodated. Guns 'n' Roses' LD Lee Gilbert came complete with his Icon Show Controller and 24 Icon fixtures, and N'Sync's Garry 'Sport' Waldie stayed faithful to his touring WholeHog II.

LPL started the get-in immediately after the New Year. In addition to the lighting fixtures on the main stage, they supplied all the lighting trussing and Columbus McKinnon Lodestar motors for the 60 points. The four satellite tents had lighting equipment supplied by LPL too, continuing the combination of Avolites and High End Systems.

The World Stage featured a flown L-Acoustics V-Dosc system with EAW SB1000 subs. This



FOH sound man for Five - Nic Warren

was chosen because of its rating as one of the leading live audio systems available, and was thus in line with the festival's policy of pushing the technical boundaries to their limits. The system produced a phenomenal sound for its incredibly neat size, and all engineers appeared impressed by the clarity of the system, despite the high SPLs needed to reach the rear of the 280m x 300m arena.

During pre-production it became clear that a mixed bag of audio riders needed to be accommodated. The mixer position was thus designed for all engineers to choose from any one of three Midas XL4s, three Yamaha PM4000s, an Amek Recall, three Yamaha 02Rs and four Yamaha 01Vs.

In keeping with Rock in Rio III's overall egalitarian philosophy, every engineer was given a standard outboard rack containing 10 Drawmer gates and 12 DBX 160X compressors. Also available were effects racks containing CD, DAT and mini-disc players, real-time analysers, Lexicon PCM 90 reverbs, Yamaha SPX1000s and 990s and Sony digital D7 delays. The FOH main drive rack united all the console signals - each desk sent three - left, right and sub. These were then distributed to the main FOH system, the delay system (two rings with origin at centre), front fills, OB recording truck, radio and to cable television channel Direct TV.



Top, the stunning canopy of the World Stage constructed by Kreimer Engineering.

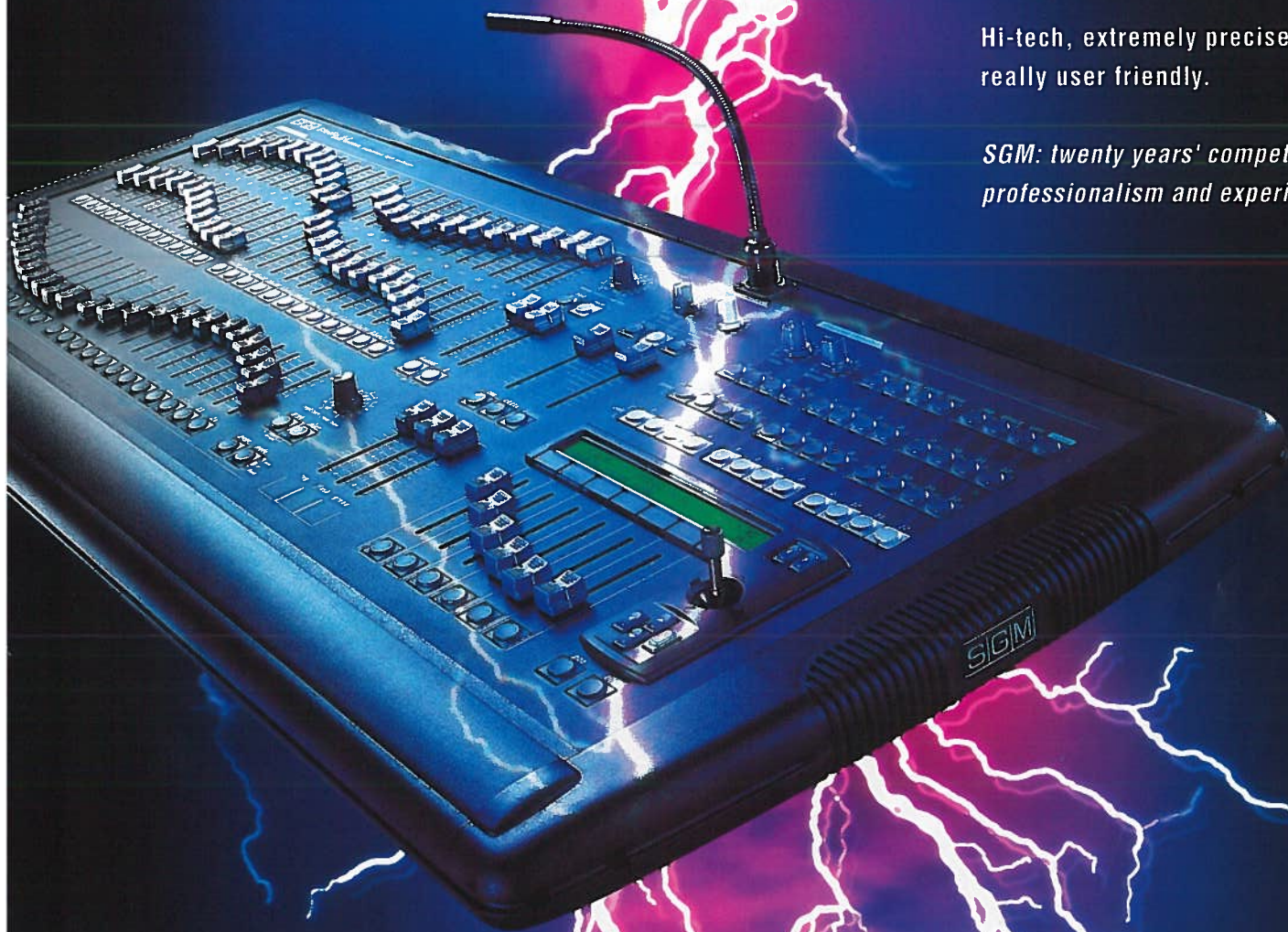
Above, the lighting crew: LD Patrick Woodroffe (white t-shirt) and Cesio Lima of LPL with friends at FOH

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The monitor set-up was run on similar lines in terms of engineer's choice. There were three Yamaha PM4000-Ms, two Midas Heritage H3000s or an ATI Paragon P2. The monitor speaker system offered a choice between up to 72 Clair Bros wedges or Shure PSM 700 IEM systems. Monitor equalisation was via three TC Electronics TC1128s digital moving fader systems and the microphone menu offered AKG, Sennheiser or Shure.

Gabi, renowned for his penchant for designing and using delay systems, outlined the challenges: "The biggest was maintaining the expected and demanded sound pressure levels over such a wide area." In reality, this proved no problem for Gabison. As regular contractors for events like the Pope's visit and the Rio Carnival - which stretches 4km and incorporates four stages and covers two million revellers - they are no

strangers to the concept of 'wide dispersion audio'.

Equipment supplied to the other three tents included (to Raizes) FOH: PM4000/Meyer MSL2 and MTS4 boxes, Monitors: PM3500/L-Acoustics 15FM boxes; (to Brasil) FOH: two Soundcraft Series 5 consoles with EAW KF850 boxes and Meyer 650P subs, Monitors: Soundcraft Series 5 with Clair Bros 12AM wedges; (to Eletro) a Yamaha

ProMix plus EAW KF850 boxes, complete with SB850 subs.

VIDEO

As with any major production and large site, video was de rigeur at the event. The World Stage had three Screenco LED screens - the central one measuring 70sq.m, flanked by two 35sq.m sides. The three screens continuously broadcast stage action, with the central screen available for band playback footage as required. DPU, cameras and broadcast came from Jotaeme from Sao Paulo, the largest live video production company in Brazil.

The video production was all digital. Utilising a combination of Ikegami HK388 and Sony DVP 950 cameras, two on-stage cameras were dedicated solely to monitor the stage and 12

others for the Direct TV transmission, complete with live camera direction co-ordinated by Milton Urციoli Jr. Vision mixing was via a Sony DV57200 with two 32 x 32 matrix switchers for audio and video.

Milton Urციoli Jr, also Jotaeme's director, explained that they came onboard the project in September to ensure there was plenty of time to calibrate the numerous technicalities of video projection. "The biggest single challenge was clearly compatibility. In our industry, both lighting and sound have resolved their compatibility issues, and now it's time for video to follow suit." This was the first time in Brazil that different visual media brought to the show by the artists could be accommodated. DVD, digital and analogue tape, CDR and hard-disk were all absorbed seamlessly into the overall multi-media spectrum.

LASER

Many acts brought in their own pyro, flame effects, confetti cannons and numerous other effects. This was not enough for N'Sync, who used all of the above, plus their own dedicated laser system run by Jeremy Midget, from US-based Strictly Effects.

TRUCKING

The massive road and air freighting operation, together with customs clearance for all equipment going onto site, was co-ordinated

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Left, control central - a battalion of Avolites desks

Below, Scott Holthaus, LD for the Red Hot Chili Peppers and Foo Fighters

by Rock It Cargo's Brazilian partner DFX, also based in Sao Paulo. This was project-managed by DFX's Fernando Campos and Rodrigo Lalli.

The logistics were mind-boggling because of the heterogeneous mix of equipment, ranging from pyro' and special effects to mechanical elevators, hydraulic lifts and complex stage sets such as Iron Maiden's Wicker Man. N'Sync topped the trucking charts with eight containers of gear, followed by Britney Spears with four, and two for Iron Maiden. REM came in with a modest single container.

For those on an even tighter time schedule like Guns 'n' Roses, the solution was to air freight - 28 tonnes in Guns 'n' Roses' case. Others taking this route were Neil Young with 12 tonnes, Oasis with eight tonnes and REM, Foo Fighters, Sheryl Crow and the Dave Matthews Band all around the six tonne mark. Amazingly there were no tales of lost or damaged equipment, and refreshingly the Brazilian customs were reported as being "specially helpful" in ensuring the event went without a hitch.

OVERALL PRODUCTION

With the hectic running schedules (six acts per night) based around the philosophy of equal billing for all, Rock in Rio took full advantage of the \$1.5million stage. Production manager Nico Gomes elucidated on this core vision: "We're not talking about 'headline' and 'supporting' acts - they are all major artists in their own right and deserve equal treatment."

The stage contains three huge, fully-motorised



moving trucks, each measuring 20m by 12m and therefore large enough to accommodate even the most set- and equipment-happy band. When these rolling platforms are in place, a 5m x 12m rolling riser is added, creating a performance space of 25m x 12m.

Three of the night's acts were set up on the trucks before kick-off. The system, designed and built by vertical parking specialists Easypark, allowed very slick changeovers - in as little as 10 minutes if necessary.

Gomes, who has a lighting background, co-ordinated the overall technical aspects of the World Stage and FOH, working with associate Maurice Hughes, a former sound technician. Their experience certainly came into its own. Having dealt with innumerable production inadequacies in the past, they seized the opportunity of building the optimum festival facility here. Gomes emphasises: "We paid special attention to the needs of lighting and sound engineers. We have a solidly-constructed FOH platform with plenty of space for technical/rigging requirements, full air-conditioning, walkway to the stage, tube ladders and equipment access from all sides.

The popular and commercial success of Rock in Rio III, coupled with the most advanced stage and production technologies, has clearly achieved the team's objective - showing that Brazil is optimised to stage live events of the highest international standard.



The video crew (left to right) Silvano, Fabio Fausto, Mark Haney (Britney vid director), Marco Braga, Milton Urcioli Jr, Alexandre.

Right, Dave Rat - FOH for the Chili Peppers





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Louise Stickland -
freelance journalist
for L&SI

Peter Wilms -
multi-media designer

Chris Bird -
visual artist and engineer



Malcolm Lewis -
founding partner of
Media Projects International

Lee Baldock -
deputy editor L&SI

L'Odeon, London
Friday January 19

In the second of L&SI's series of round-table discussions between eminent industry professionals, Louise Stickland meets with three of the UK's most innovative practitioners of multi-media presentation for leisure and entertainment applications.

Lighting & Sound
NEWS

RoundTable

Multi-media, its role and its future in production and entertainment

The Contributors . . .

Chris Bird has worked with live performance video for nine years, initially in the heady clubbing/rave heyday of the early 1990s. As part of a group of cutting-edge visual artists and engineers, he helped to coin the term 'VJ' (Visual Jockey). In 1997 he toured Europe with The Prodigy, running and maintaining their controversial video show intro (Smack My Bitch Up). He designed, edited the video content and ran the live show for the Pet Shop Boys' Nightlife tour of 1999/2000. In 2000, he was lead editor with Nine Inch Nails under the direction of LD Mark Brickman, and editorial director for the Leftfield tour, working with the stage designer and artistic director, Matt Clarke. Chris plays out most weeks at clubs and gigs.

Malcolm Lewis trained in fine art, followed by film-making at the Royal College of Art in the energetic mid-1960s. He founded Media Productions in 1969, producing a range of integrated media for product launches, corporate communications, museums and World Fairs. In 1986 he won a special award for 'an outstanding contribution to the audio-visual industry'. The same year, he formed Media Projects International with partner Rosalie Vicars-Harris. In the last two years, the company has carried out productions for a range of Lottery and Millennium projects in the UK, created a new attraction for Terra Mitica in Spain and produced the media elements of the world's first 'Cybermall' in Hong Kong. Current projects include the development of a number of generic dark rides for international theme parks.

Peter Wilms graduated with a degree in Acoustics from Southampton University in 1993 and pursued a career in lighting. After developing a moving light system, he started working with large-format projection for industrial launches, son et lumières, rock and roll, and television events. Since 1997 Peter has worked with film-maker and director Peter Greenaway, one of the UK's foremost visual creators. Their first work together was 100 Objects to Represent the World. Wilms has subsequently designed projection, video and control systems for Christophe Colomb in Berlin 1998/99 and for the Andriessen/Greenaway opera Writing to Vermeer, premiered in Amsterdam in 1999, which toured Australia and the USA in 2000. He is currently working on Emily Dickinson, a new theatrical work directed by Terence Roe, and an AV installation.

LSI : Let's start with a definition of 'multi-media'.

CB: The name defines what it is - a mixture of media. When you see images, either moving or still, in conjunction with sound in staged events that's 'multi-media'. I'd say it's predominantly a combination of sound, lights and moving or still image - be it video, slides or scrolling projections.

PW: I'd say exactly the same. Any event, show or performance that involves different media. Sometimes people think just in terms of either 'computer graphics' or 'video' or 'visuals' for 'multi-media'. But it could be just 'sound' and 'performance' - that's still mixed. Elements like 3D sound are very much a part of 'multi-media' - it's not just a visual entity.

ML: 'Multi-media' is all things audio-visual, and all media integrated in different combinations. I would include live performance in this too. Actors are visual entities and they make sound too. So it's really the full spectrum of communications and media.

LSI: Do you think the concept of multi-media is contributing to or detracting from events, live performance and entertainment experiences? Is it positive or negative?

CB: There's two sides to the coin and it depends largely on the production. Some productions benefit greatly from having what we've just defined as 'multi-media', but theatre and stage productions as a whole are already 'multi-media'. The idea of combining interactive media like lighting, sound, images and actors goes back centuries, certainly way before the computer, and back to Elizabethan theatre and before. There's always been forms of multi-media. When applied appropriately, it can greatly enhance projects. If done badly . . . what could've been a good production can be trashed if the heart of the production itself is overshadowed.

PW: It should definitely be used as a tool to assist the product/production and not as something relied upon to sell it. That's where the shortcomings arise, when people rely on 'multi-media' or gimmickry to sell or replace the content of a show.

ML: Indeed, 'multi-media' is one of the tools in the creative box. As professional practitioners of the genre, we find our



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“Now people are increasingly familiar with the technology . . . they’re potentially less surprised when presented with multi-media. This is good for professionals - it forces us to keep the standards high, to keep experimenting and continually seek new ideas.”



CB: Now people are increasingly familiar with the technology and can produce their own work, when they see a production, concert, event, performance or an installation, they’re potentially less surprised when presented with multi-media. This is good for professionals - it forces us to keep the standards high, to keep experimenting and continually seek

individual with creative integrity, relative freedom and a host of original ideas about how to apply mixed media to drama?

PW: Absolutely! He has the ability to express his ideas and visions in a non-commercial environment. A lot of the multi-media technologies we’re talking about are only used in commercial environments - for financial reasons, perhaps. It’s great to be able to push multi-media to the limits where there’s no product selling or commercial message at work, where the artistic content and integrity of a piece is the most important element.

ML: The originality of thought is important here. There is a freedom that technology offers in fuelling creative ideas simply because it’s more accessible and flexible.

LSI: Chris, how about working in clubs - do you encounter commercial/artistic barriers or do you enjoy plenty of freedom?

CB: Often I reckon I have the most freedom of expression of any multi-media designer or performer. In a club, I can pretty much do what I want. It’s up to me to keep pace with the flow of



music and the energy of the night. I have much more creative leeway than in a choreographed event - be it a live band or an installation - where everything is planned to the last millisecond. Sometimes there are guidelines. Certain types of music and video or images don’t mix, and some clubs expect visuals to be themed - but even so, I think I have a lot of freedom. Of course, if anything goes wrong in a club, well, it doesn’t really matter!

LSI: Yes, it’s a different story if it’s the climax of a mega-budget product launch!

ML: There is also a difference in what Chris is doing with multi-media in clubs - creating a powerful atmosphere - to a product launch, which is an event communicating specific information. However, in that context, we try and make the information penetrate by doing exactly the same thing - by creating emotional impact! When working on a project for international audiences, language is not the way to do it, it’s the power of multi-media - of imagery and sound - that communicates. We term it ‘emotional management’.

CB: One of the primary communicative powers of multi-media is its ability to break through language barriers.

ML: Even the most calcified people can be touched - there really are ways of doing it!

LS: This is exactly how propaganda functions psychologically.

commercial clients sometimes come to us asking for a certain solution . . . before they and we have understood the problem. So yes, it’s very much a case of using it when and where appropriate. I think the worst failure here is where a solution becomes mediocre because the focus is in the wrong place, or the budget is spread too thinly in the wrong areas.

LSI: Do you ever have problems with clients coming to you with too fixed an idea?

ML: Yes - and often it’s technology led. They’ve read about the latest all-singing, all-dancing device, and they say ‘I want one of those’.

CB: Let’s not forget there are some events and experiences that wouldn’t exist at all without modern day ‘multi-media’.

LSI: You mean like webcasts?

CB: Yes, that’s one example. Or interactive, immersive AV events - the sort of thing that Malcolm works on a lot. They need modern-day technology, digital video projectors and control devices or they couldn’t exist in that format.

LSI: So we know it’s not a new concept - how do you think the role of mixed- and multi-media is changing as a tool of creative expression?

ML: I think multi-media is being understood - sometimes incorrectly - by a wider range of people. Many use the internet, have home PCs and are creating imagery and sound for themselves. It’s good that the technology can potentially empower those not in the communications business to be creative.

Consequently, I think multi-media has a new place in mainstream consciousness. As professionals, we’ve been living with multi-media’s evolution, so to us it doesn’t seem so surprising, but as it matures, it offers both more precision and more freedom to our work.

PW: The price of technology is dropping constantly so it’s becoming more accessible to a wider range of users. Yes, the home user now has the tools to engage in video and sound editing. This is exciting and generates new ideas, perspectives and creators/artists outside the current scope of ‘the industry’.



new ideas.

LSI: Which leads - the professionals or the audience expectations? When things become familiar to the public does it spur on the development of new ways to ‘Wow’ people or is there a general caution about being too cutting-edge?

CB: Any professional likes to be perceived as at the forefront of their field, and there’s always something new on the horizon - that’s the nature of technology. However, many tried and tested methods also work, and traditional methods and technology may stay around for a variety of reasons, technical, fiscal, practical, in any line of production work - lighting or sound. It’s the same with multi-media too.

ML: Software developments are empowering everyone, but generally I think any creative person has their own agenda, which is to push the boundaries and the language of communication and multi-media to the limits.

“A lot of the multi-media technologies we’re talking about are only used in commercial environments. It’s great to be able to push multi-media to the limits where there’s no product selling or commercial message at work, where the artistic content and integrity of a piece is the most important element.”

As the language of new media develops, it’s a springboard to leap further into the future. As for caution, nothing kills a strong idea more effectively than the ‘committee decision’! As well as some wanting the latest new technology for the sake of it, sometimes we find ourselves being careful not to let a corporate client know that what we’re proposing is new, so as not to scare them.

LSI: Leading on from that, Peter, it must be great to have worked with a multi-media, multi-discipline artist like Peter Greenaway, an

ML: Yes, you could argue that ethically we are being politically incorrect! But I don't believe that. It's an interesting issue because as a dimension of 'communications', the way multi-media messaging works is different according to scale. You can't get the same kind of stonking emotional impact out of watching a PC screen in isolation than when you're in a space with megawatts of surround sound, hundreds of other people, flashing lights, lasers and big screens!

PW: I do find it very strange how everyone drools over the web and web broadcasts etc. Even when you get to the site, there's this little jerky picture with the sound cutting in and out.

LSI: So on that note, are we currently seduced by the concept of 'new' multi-media technology?

ML: When any new technology comes in, it's never as good at the outset as what it's replacing. Digital photography is only now just approaching the quality of film . . . and going back to the 1890s, the quality of big plate cameras is still unbeatable! But there are other reasons why we do it - because it's cheaper or easier, for example.

PW: I did a conference recently where standard video projection and live video tapes, etc, were going on, and as part of the presentation package they were also playing MPGs and AVIs instead of just coming off a traditional Beta player. The quality was terrible! It was way below VHS standard, but because it was coming off the same hard disk as the presentation, everyone deemed it 'fantastic', even though it looked and sounded terrible. I'd be fired if I ever made a video that looked that bad!

ML: I think it's the trap of the 'charisma' of new technology. It's something we should all be aware of. 'New' doesn't mean it's either better or appropriate for the job in hand. As I said earlier, clients will often want 'one of those' either because it's new or because someone else has used it.

CB: We still have old technology that works readily available to us in addition to the new and emerging technologies. I think this makes our jobs potentially more difficult because we have such a vast range of options available to produce a piece of work.



"I think it's the trap of the 'charisma' of new technology. It's something we should all be aware of. 'New' doesn't mean it's either better or appropriate for the job in hand. As I said

earlier, clients will often want 'one of those' either because it's new or because someone else has used it."

ML: One great advantage of digital technology is its inherent safeness, and the immediacy with which you can detect a problem. With film, you could spend weeks working on something, send it to the lab praying there were no scratches on the neg or hairs in the gate . . . and if there were, it would be useless.

PW: This also means that people can wait to the last minute before making any decisions, so the whole process becomes more stressful for all involved.

ML: I'd like to follow up here by saying that technology is sometimes seen as a safety net for a lack of good ideas and planning. If you're in a video edit suite, you know there are 16 buttons the editor can press to produce different effects if you don't have any ideas yourself. At the end of the day, good ideas are the bottom line - and will never lose their value.



LSI: What do you think are the most interesting new multi-media technologies emerging?

PW: In a way, many things are just replacing their predecessors. I think the most exciting thing is the ability to integrate all these multi-media elements cohesively in terms of 'control'. So everything really does work seamlessly together - including motion control of screens, and the ability for simultaneous control of older technologies. But, for projection, recently it's all been getting brighter, sharper and lighter.

ML: I think it's the evolving fusion of the technologies that's interesting, rather than one 'new technology' alone . . . apart from one exception - the infra red transfer of data! Roll on the day when electricity is available without cables!

PW: I know it's very clichéd to say this, but in the last five years, the Internet as a 'new multi-media technology' has made a real difference. You can have access to pretty much everything you want when you want it.

ML: I'd probably agree with that. But in terms of it's importance in relation to what we know . . . and what we can do with it, the Internet is still primitive. What's changing is the way we think and learn: this is key. We often work on projects collaborating with teams dotted around the world. We will put up a website for that project containing work from the different

contributors, using the Internet as an information exchange without the restrictions of time zones.

CB: I totally agree with what's been said, specifically about the Internet as a tool for

communication, which is still in its infancy. Another piece of technology that's interesting is DVD - whether it offers the ability to interact with a piece of film or artwork or as a control device.

ML: Yes, DVD is one of the key developments. For me it's important because it assures quality of production and greater layers of interaction.

CB: I think ADSL will be important for multi-media - high bandwidth and greater, faster access to the Internet will take the Internet to new heights as a multi-media platform. People will be able to watch events in real-time on their computers, so you can see Robbie Williams live at Wembley, virtually real, on your home PC in Arkansas. It's not the same as being there, but the person in Arkansas couldn't possibly go to the live event and wouldn't have seen it otherwise . . . so a combination of multi-media technologies will enable new experiences to reach a greater audience.

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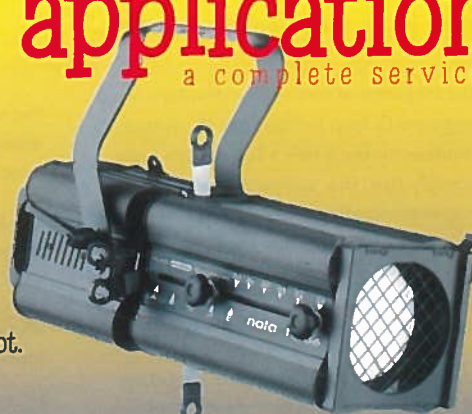
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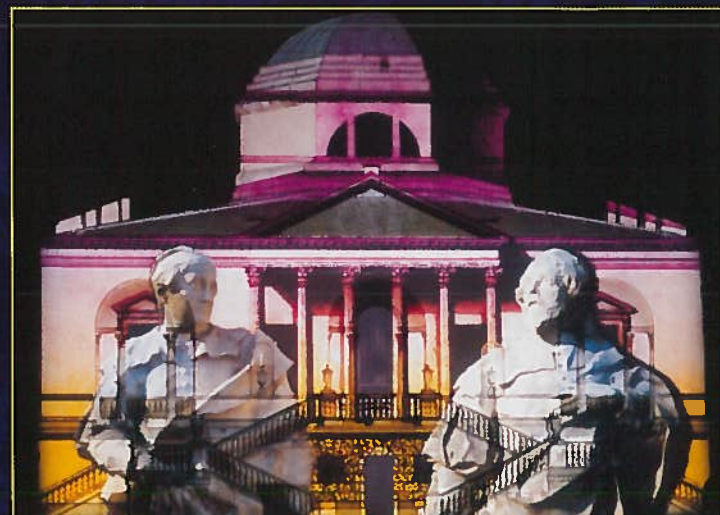
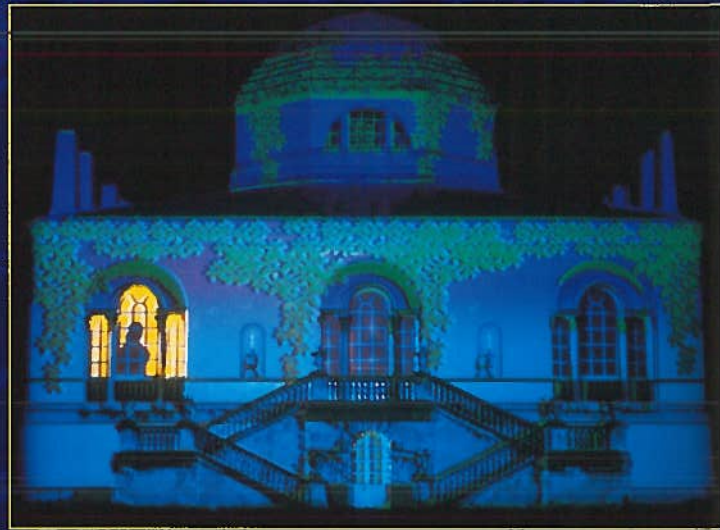
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ON PAGE 89.



John Watt

Second Take...

John Watt's view from beside the camera

Continuing one of the mainstream functions of this column (namely to keep lighting designers up-to-date with those little nuggets of information not found on any website, but essential to the smooth execution of any lighting scheme), please note the following warning regarding Teddington Studios.

THIS FACILITY NORMALLY WINS hands-down over all others: good monopole grids, Keith and Peter - two electrical managers who are

"As soon as we had the dock door open and a few 'barra' loads on the pavement, would you believe all seven Seven Dwarfs came tripping out of the pub to blow our cover."

automatically on your side, car parking, a view of the river and a crew of cockney characters who keep your feet firmly on the ground ('We 'ad that Brian Pearce in 'ere yesterday'). So why the Government Health Warning, you ask? Well, all facility companies depend for their good picture reputations on a quiet, highly-skilled racks guy who, between fetching the tea and

biscuits, irons out the wilder imbalances of exposure and colour created by a distracted LD.

TEDDINGTON BOASTS NOT ONE, but two racks guys, and Richard, the Hampshire Hog, as he's known to his friends, fits the above job description admirably, though he is a bit of a one-off. His 'tweaking' is fine, but his waistcoats ensure that no one pays much attention to the massed ranks of monitors which are completely overpowered in terms of colour rendering and contrast by these sartorial explosions. The latest features foot-high penguins in startling black and white, with brilliant orange bibs, which cause a slipped-disc-inducing double-take of whiplash proportions.

SO WHY THE HEALTH WARNING? Well, apart from the fact that five seconds' exposure to this phenomenon completely destroys all rational colour perception for a week (of itself it's harmless enough), you assume that the guy has just come from a job interview with a circus. I can only presume that on my last trip to Broom Road I may have inadvertently made a passing reference to said garment, which led to my undoing. I had carelessly tossed my trendy green fleece (with only discrete advertising across the back) on the Hog's filing cabinet!

AT THE END of the uneventful recording, I bobbed down to the floor as usual to thank the crew for another set of Rembrandts and for putting out the set fire caused by the groundrow. Returning to a now deserted box, I don the fleece with thoughts only for the 130 miles of cones and tarmac which is the A1. Imagine my horror when I'm brought to a halt halfway across the room because 'someone' has shut my coat zipper in his filing cabinet and locked it! My briefcase with the trusty Leatherman inside is just out of reach, and jemmying a filing cabinet with a plastic teaspoon is not that easy. Half an hour later, a broken man with bleeding fingernails, I stagger on to an empty car park pondering the wisdom of upsetting key members of staff, confident in their pensionable jobs and in possession of series five BMWs to achieve fast getaways. You have been warned; if you can't take a joke, stick with working at LWT, and pass all Teddington work to me.

JUST BEFORE CHRISTMAS, I found myself involved in an undercover job at Wimbledon Theatre; you will have to work out for yourself which show depends on a surprise opening. I approached the job with some trepidation knowing that it was pantomime time and the stage would be crammed with gold coaches, curved staircases and flash boxes. This transpired to be all too true, with every lighting pipe filled end-to-end (what did we do before Par cans?) and not surprisingly, FOH positions at a premium too.

WITH A TRUCKLOAD of stuff to install surreptitiously overnight, I could see a few potential pitfalls. I shouldn't have worried - salvation was at hand. Many touring houses rely pretty heavily on a technical/stage manager-type figure who masterminds nigh-on impossible production demands on a weekly basis. Some can be sods (can I say that, Editor?) but at Wimbledon, Mike King is the archetypal Mr Fixit who sees all problems as a challenge to be overcome, even if they involve much hard graft and, as in this case, the disturbance of a honed and up-and-running rig. I decided our show needed a bit more poke from out front (sorry if this is getting too technical) and adopted the old-fashioned idea of avoiding multiple shadows as much as possible. This led me to choose CCT two and a half profiles, rather than one of the newer, smaller breeds which I would have had to pair up. It seemed a good idea at the time.

THE GET-IN WAS AT ELEVEN at night to ensure that the Panto' cast and crew were safely away to their loved ones (in some cases their wives). Best laid plans, etc. As soon as we had the dock door open and a few 'barra' loads on the pavement, would you believe all seven Seven Dwarfs came tripping out of the pub to blow our cover. (I'm still not sure if the distant strains of Hi Ho, Hi Ho drifting down Wimbledon High street were the dwarfs or my crew.) Later, at four in the morning, as we dragged those narrow-angle CCTs up to the Gods, I fleetingly thought that a second shadow would have been a reasonable price to pay. Never mind, I would have noticed, and anyway the exercise must have done me good. Incidentally this 'giving the lads a hand' has its limits, which in this case was the two followspots. This was altogether a bit weighty for a sedentary worker like me, who normally only gets exercise from running up hospital steps to visit friends who have keeled over from too much jogging.

OFF TO YET MORE news studios this month which occasionally provide me with gainful employment. They all seem to operate on the now familiar principle of love 'em and leave 'em. Happily, most have someone on staff who lights for the local thespians and who feels more than qualified to adjust the rig with a broom handle each time he passes. Every six months or so, this results in a call to me. I turn up with my own broom and get it back to my version - maybe no better, it could be argued, but undeniably different. Continuing the occasional series of 'masterclasses', to ensure your next engagement, take a damp sponge along too and remove the thick film of dust from the lenses and the autocue glass. They will assume the resulting extra stop is down to a unique blend of skill and expertise which almost justifies what they consider your exorbitant daily rate, which approaches that charged by our window cleaner.

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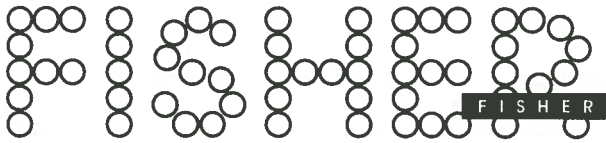
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Experienced freelance staff are always required for on-site work. Technicians should be highly motivated and capable of independent work. Trained riggers, electricians and moving light operators are especially welcome.

Applicants should send CVs to:

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Install is a thriving installation and service company working anonymously for many of the countries major national sales organisations.

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Training in the maintenance and operation of our range of products will be given. Knowledge of other lighting or projection systems would be an advantage but is not necessary.

Full clean driving license required. References required.

Please send CV, and a covering letter explaining why you would suit the position to:

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Are you flexible, innovative, a team player with excellent communication skills and initiative? If so, you could join the Technical Production team at the EICC. You would be responsible for discussing, planning and implementing events to meet and exceed client requirements. Minimum of three years experience in a conference or related 'five star' environment would be beneficial. A variety of technical skills are required such as lighting, sound, rigging, computer presentation and AV. You must have the ability to develop strong client relationships.

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Northern Sales Representative.

Location: field-based.

Salary: 25k + bonuses.

A manufacturer and distributor of Public Address and Voice Alarm systems, which has the backing of an established group of companies, with excellent funding arrangements, is looking for a sales representative to promote the company in the North of the Country. The ideal applicant will be ambitious and salary will be dependent upon age and experience. To apply for this position e-mail or call Ian Kirby quoting job Ref 1330/2

Internal Office Co-ordinator.

Location: Hampshire. Salary: £15-18k.

A manufacturer and distributor of Public Address and Voice Alarm systems, which has the backing of an established group of companies, with excellent funding arrangements, is looking for an organised and competent person to assist with the sales and engineering manager's daily operations for running the company. The applicant will be required to deal with customer's calls, organise engineers, order equipment and process orders. Excellent growth opportunities exist for an ambitious candidate. To apply for this position e-mail or call Ian Kirby quoting job Ref 1330/1

Technician (On Site / Field)

Location: Surrey.

Salary: £18-26k + benefits.

An energetic new presentation rental company, established to provide a support service to the corporate and live events market, is currently putting together a team which will make it one of the leading service providers in Europe. A dedicated individual with an interest in installing and operating both video and sound equipment in a live events situation, would be ideal. To apply for this position e-mail or call Julie Kirby quoting job Ref: - TP1331/2

Project Engineer.

Location: London. Salary: Neg.

This market leader in drapes, rigging and automated track systems, is looking for an experienced project manager to join its busy rigging and installation team. Capable of leading a team and taking responsibility for a variety of projects from inception to completion, you will be a dynamic and adaptable self-starter who thrives in a challenging environment. Your key responsibilities will include client liaison, budget management, project co-ordination and delivery. To apply for this position e-mail or call Julie Kirby quoting job Ref: - TP1230/2

Marketing Assistant (Junior position).

Location: Deptford.

Salary: £16k + pension and other benefits.

A fairly small, but innovative and energetic company, with a strong vision and a strict safety-first policy, is looking to expand its marketing department. The ideal candidate will be an excellent communicator with strong written and verbal skills and preferably a media background. Marketing a wide range of products, the objective is to increase the customer base, liaise with a continually growing list of clients, assist with the PR strategy and lend administrative assistance elsewhere. The job has excellent prospects and a salary review will follow after six months. To apply for this position e-mail or call Julie Kirby quoting job Ref 1950/1

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The rapid expansion plans of this company have increased the need for a Lighting Designer/account handler. Established in 1983, with 15 years experience in the professional lighting production and presentation business, the company has a formidable reputation for imaginative, adventurous and theatrical lighting of exhibitions, product launches and conferences. You will be an established and successful lighting designer with experience in corporate lighting design and have an excellent portfolio of projects. You will also be able to demonstrate a good production history in conference lighting design and will need to establish excellent working relationships with existing clients, plus attract new clients to the company. Although the majority of work will be in the conference sector, exhibition work for existing clients will also feature. To apply for this position e-mail or call Ian Kirby quoting job Ref 1944/1

New Business Development Manager.

Location: South, field-based, working from home.

Salary: £21k OTE £60k + other benefits.

An established blue chip company is looking for an experienced person with a proven track record in the entertainment industry. The ideal candidate will source and develop new business for the company from retailers within a designated market sector and will ensure that products and services meet or exceed the customer's expectations. They will also guarantee the long-term security of the business by signing well prepared and authorised National Account Agreements, as well as seeing that sales targets are achieved, and that the company strengthens its reputation as a quality provider of music services, audio-visual system services and business messaging services. To apply for this position e-mail or call Ian Kirby quoting job Ref 012/2

Account Handler.

Location: London.

Salary: £20-25k + on-target bonus scheme.

One of the most powerful and innovative lighting rental companies in the world today, offering a full range of equipment and services to its client base, is looking for an experienced Account Handler, to work in its busy rental office. You will work alongside the sales team in a somewhat high-pressured environment but one which offers excellent career prospects. You will initially learn the administrative system within this department, alongside the development of sales techniques. You will thrive on getting results and have excellent communication skills. To apply for this position e-mail or call Ian Kirby quoting job Ref 013/1

Sales Manager.

Location: National. Salary: £30k+ bonus.

An innovative American design company providing a complete service to its clients in the nightclub, restaurant and themed markets, has recently formed a UK office and is now looking to develop its UK presence. This exciting opportunity would suit a candidate with excellent contacts within the licensed trade sector who has the knowledge and experience to promote the company at Board level. To apply for this position e-mail or call Ian Kirby quoting job Ref 1596/1

National Accounts Manager.

Location: field-based, working from home.

Salary: £50k OTE

An established blue chip company is looking for an experienced person with a proven track record in the entertainment industry. Your role will be to maximise revenues and gross profits from existing National Accounts by establishing strong relationships with customers and revising/implementing account retention and growth strategies. An interest in music is essential, as is a clean driving licence. To apply for this position e-mail or call Ian Kirby quoting job Ref 012/1

Senior Engineer.

Location: North East.

Salary: From 18K + vehicle.

A sales and installation company which provides service contracts to large companies within the industry is looking for an experienced senior engineer to manage the existing staff and sub-contractors. You will have operational knowledge of the Pulsar Masterpiece, Yamaha Pro IV and Crown processors as well as a full understanding of the latest IEE wiring regulations. As you will be working with a range of clients, including nightclubs, pubs, leisure centres and holiday centres, you will be required to travel as part of the job which may, on occasion, require you to be away for long periods of time. To apply for this position e-mail or call Julie Kirby quoting job Ref: - TP214/1

System Design Engineer.

Location: Nottinghamshire.

Salary: £17-25k.

This company is looking for an engineer who has at least five years' experience of sound systems. The ability to liaise with clients, consultants and contractors is important, as is a willingness to learn and explore new ways of achieving satisfactory solutions. The applicant must be able to read architects' drawings and have an understanding of sound/PA systems, as well as being computer literate, and demonstrating a good knowledge of CAD systems. To apply for this position e-mail or call Julie Kirby quoting job Ref: - TP019/1

Customer Services Representative.

Location: London.

Salary: £15-16k.

As a high profile company supplying consumables to the wider Entertainment, Theatre, Film and TV markets worldwide, the company has a reputation for high quality, award-winning products. Working with a young, dynamic and friendly team, you will be responsible for handling the day-to-day business of key accounts, whilst dealing with customer enquiries, technical questions and other sales-based activities. A good telephone manner, the ability to juggle projects, with solid computer skills (Windows-based) is essential. Languages, product and relevant market knowledge would be advantageous. If you enjoy a constantly challenging environment and direct customer contact then this is the job for you. To apply for this position e-mail or call Ian Kirby quoting job Ref 1354/2

Audio Sales Rep.

Location: London & Home Counties, field-based.

Salary: £20-25k + benefits.

An exclusive manufacturer of commercial and professional audio systems, covering a wide market area, is looking for a sales rep who has the ability to work well with people and promote an idea or product. The ideal candidate will be a 'people person' with good communication skills who can handle a wide range of situations. Covering London and the Home Counties, you will be expected to work with existing accounts, follow up important sales leads and generate new business; whilst also helping the company meet its overall sales targets and objectives. To apply for this position e-mail or call Ian Kirby quoting job Ref 068/1

Senior Lighting Technician.

Location: Gloucester.

Salary: £17-22K.

This successful rental company is looking for an experienced Lighting technician to manage and maintain their in house fleet of intelligent lighting fixtures. Working primarily at their HQ you should have at least 5 years experience and completed manufactures courses on maintenance of current intelligent lighting fixtures. To apply for this position e-mail or call Julie Kirby quoting job Ref: - TP1947/1

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Applicants should have a good knowledge of lighting and sound equipment with basic computer skills. Full driving licence, own transport essential.

Successful applicants will have good communication skills, the ability to work effectively and efficiently under pressure, whilst maintaining accurate paperwork and systems.

Project Technicians

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Mr. L. A. Pieters, Managing Director
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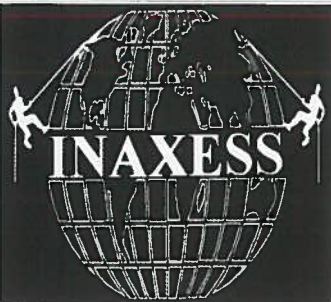
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In Profile... L&S Talks to the Industry Trend-setters

Perhaps best known for his front-of-house skills mixing (amongst others) *Wet Wet Wet*, *Tears For Fears* and Gary Barlow, Jim Ebdon now flies another sort of desk - as Marty Pellow's tour manager.

Tour manager and sound engineer Jim Ebdon learned his craft the hard way. He talks to Mike Mann about his career . . .

"It can be a bit like being a glorified travel agent," laughed Ebdon, who first acted as tour manager for B*Witched in 1999, "but it certainly gives a fascinating insight into where the record companies spend their money." This is not a career departure, he explained, but works in parallel with his other role - as front-of-house engineer for Mr. Pellow. "I pointed out that if they couldn't afford

to have me mix the tour, they should find me something to do before 8pm!" he explained.

Ebdon has brought a wealth of experience to the position; having played drums from the age of 13, he was gigging in pubs while finishing his 'O' Levels and enjoying the music, as well as the fringe benefits, of being a young musician. Having landed a summer job at Surrey Sound Studios, home to The Police and Godley & Creme among others, Ebdon progressed to become assistant engineer. However, the first session where he took the controls proved to be a lesson in priorities; having spent too long getting everything to work, the resulting recording sounded terrible and had to be re-done by the studio's senior engineer the following day.

Undeterred, and with a natural flair for mixing, Ebdon stayed at Surrey Sound for five years, during which time he came into contact with a number of major artists. "Even though I was working for

peanuts and never saw the daylight, I was learning all the time." His ability to do just that, landed him a freelance job recording an album for Wishbone Ash - which, in turn, led to live festival work. "It was amazing - well, it sounded crap, but what a buzz!"

He completed a tour with the band and since then the phone hasn't stopped ringing. His career in live music included a stint at Electrotec (making cables), the memory of which, he claims, helps to keep his feet on the ground. In the last few years Ebdon has twice scooped the prestigious Live Sound Engineer of the Year Award, making him one of the touring circuit's most respected professionals.

Ebdon cites Lars Brogard and Chris Beale as having a great influence on him. "Chris, especially, is very into new technology and he has introduced me to several new ideas." Despite maintaining an open mind, he still remembers that first lesson in the studio, and explained that it is very easy for an engineer to become too engrossed in the technology. "At times, I have been guilty of over specifying things - and when the Wets were at the peak of their fame it was easy to get the budget to throw more gear at a problem."

The last few years have seen him revisit his attitude towards live sound, and this has led him to spend more time on stage working to improve the quality of each source, rather than trying to 'fix it in the mix.' So does this make him a Luddite? "Definitely not. Technology is always moving - and I've been happy (and lucky enough) to try things out. A little while ago I tried out the Innova Son digital console at Chris Beale's suggestion. I couldn't fault it, but I still like twiddling knobs." (Ebdon has a Midas XL4 for Marty Pellow, on which there are no shortage of twiddly bits.)

When it comes to the state of the industry, Ebdon is concerned at the lack of professionalism sometimes seen on this side of the Atlantic. "There's a lot of bullshit around - I see people getting jobs based on how late they can stay up - not on their ability. The industry is too big for that now - it's no longer a bunch of blokes drinking and shagging their way round the world while doing the



occasional gig! I see a lot of very talented people going down the wrong road - and that's a shame."

This comes from the heart - Ebdon knows the price of indulging too deeply, having battled successfully with this in the past - but, like his current number one client, he has put it all behind him. "I have a great deal of empathy with Marty - we have both come through a lot and are now better than ever. I still have my passion for mixing - I'd do it all day if I could - but now, as a tour manager, I'm considered a responsible adult, too."

One of Ebdon's recent roles has been as a guest presenter on Soundcraft's Going Live weekend training courses - a job that he feels is an important part of being in the industry. "It's a good course, and there are a lot of people there with passion who ask questions, which is the only way to learn." When not on the road, he runs a ProTools-based studio at home and is an enthusiastic composer and producer.

Though Jim Ebdon clearly lives for live sound, his new-found 'day-job' has opened up a new challenge to keep him busy - budgeting. "Now I finally understand why I always seemed to get cut up in the past . . ." ■

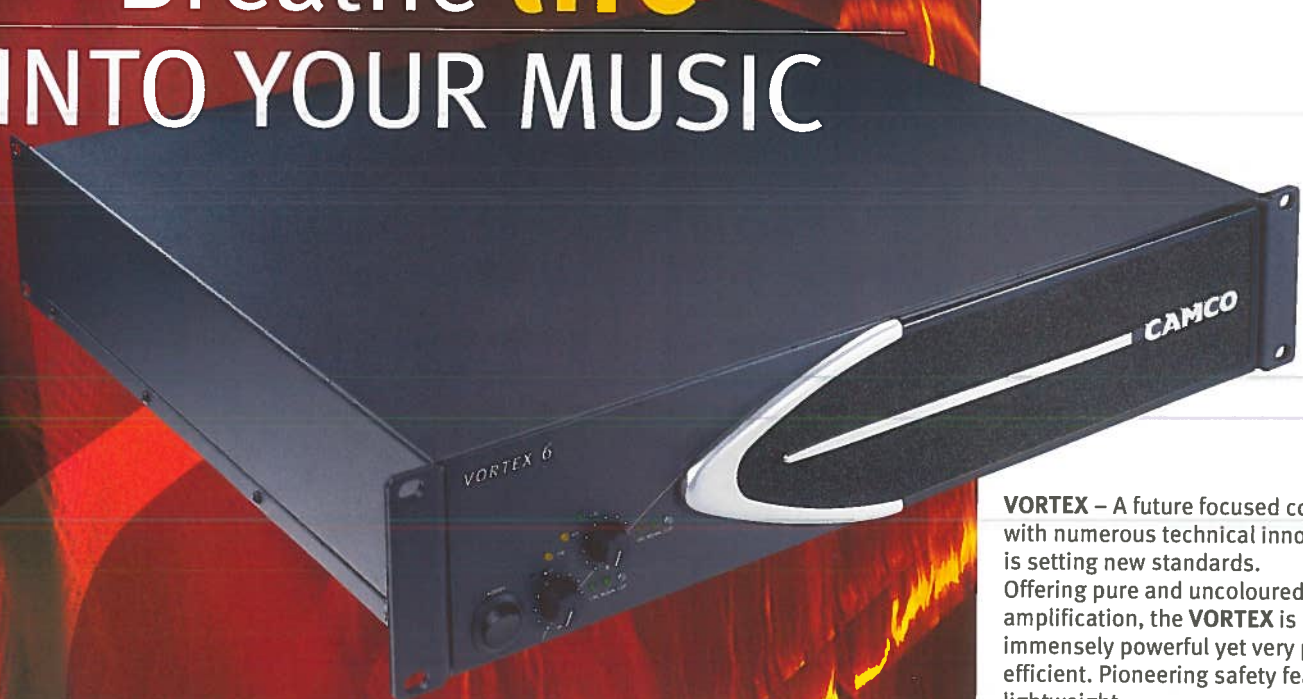
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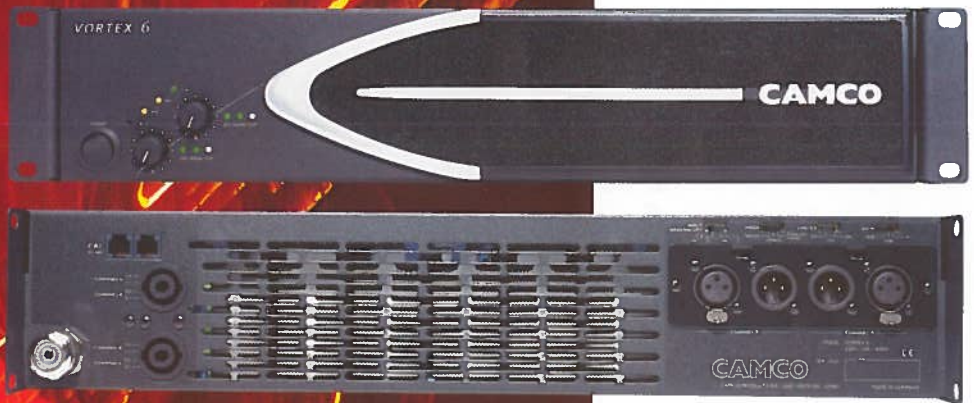
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Fuzion plc

9 Lyon Road, Walton On Thames
Surrey KT12 3PU

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