

# Lighting & Sound INTERNATIONAL

July 1999

The Entertainment Technology Monthly

## Hunchback of Notre Dame

- Disney's Latest Musical opens in Berlin

## EuroCulture

- The Eurovision Song Contest in Israel

## Jumeirah Beach

- A 90m light and sculpture centrepiece

## The Men from the Ministry

- Profile of the Ministry of Sound group

## Fragile Earth

- Doncaster's Earth Centre

## Prague Quadrennial

- International Theatre Design

## Jammin'

- Jamiroquai and Shed 7



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*Whirling, twisting, threatening  
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422 VORTEX



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*The earth lay torn and savaged  
by passing battles.*

*Primitive the carpet may be,  
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PROFESSIONAL SHOW LIGHTING





## Look Out Below

YO! Below, a pioneering new Japanese beer hall and sake cellar situated below YO! Sushi in Soho, is being billed as "the world's most technologically advanced bar."

YO's managing director, Simon Woodroffe, and his team have taken two years to pull the project together at a cost of £350,000. They're obviously feeling fairly brave, because for the first time in the UK, customers will be able to

dispense their own Kirin beer on draught at the touch of a button on the specially-fabricated American white oak and galvanised steel tables, while simultaneously receiving head, neck, shoulder and hand massages from trained masseuses. Keeping the environment pollution-free, the tables also incorporate smoke-extracting ashtrays.

It is also the only venue legally allowed to show Manga Japanese animation - and the playback equipment for this, along with the entire multimedia package, has been supplied by Marquee Audio.

Marquee Audio won the contract, and project manager Mark Brown was asked by Simon Woodroffe and YO! Sushi's openings manager, Tom Branston, to provide a discrete AV system capable of creating a hi-tech, clubby atmosphere in the evening, when DJs/VJs take over.

DJ audio inputs are from proprietary Denon CD and Technics turntables while the daytime music will be sourced from a Pioneer six-disc CD player. Marquee have also supplied a JVC 3-disc karaoke machine, complete with Trantec S2000M hand-held radio mic.

The music, which can also be fired upstairs to YO! Sushi, will be powered by Yamaha amplification, mixed through a Citronic CDM10-4



DJ mixer and played back through three powerful RCF Monitor 8 two-way compact loudspeakers.

The venue will alternate vision sources between live camera feeds, VHS machines and, of course, the Japanese cable for the Manga animations. Playback is through a combination of Sanyo 14" and 25" TV monitors.

The sound spec includes the use of recessed RCF PL81 ceiling speakers positioned over every seating area. Marquee worked closely with architect Simon Conder, of Simon Conder Associates, in creating the low-level interior.

The venue, which has 160 covers, will offer a range of five hot and cold sakes, plus different sake infusions, shooters and cocktails and other beers such as Asahi and Sapporo. There will also be six different sushi Bento boxes on the menu.

## Five to Try

If you're surfing the net you may like to check out the following web sites

5

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2. Create your own personalised CD. Choose tracks from a selection of music catalogues.

[www.imvs.com](http://www.imvs.com)

3. Searching for telephone, fax or e-mail details? The Readwell Tele site has contact directories for dozens of countries.

[www.readwell.com/tele/](http://www.readwell.com/tele/)

4. My Excite is a tailor-made news summary which you can set as your browser's start page.

[www.live.excite.com](http://www.live.excite.com)

5. Liven up your answerphone messages with a range of lines from tv, films, musicals etc.

[www.answeringmachine.co.uk](http://www.answeringmachine.co.uk)

Make sure you also visit the PLASA website where there's a host of information.

[www.plasa.org](http://www.plasa.org)

## High End/Flying Pig Complete Merger

High End Systems and Flying Pig Systems have completed their merger. Flying Pig will continue to operate as an independent business and remain focused on manufacturing high quality, universal control system. The Wholehog II consoles will continue to be available to users through existing channels and from select High End dealers. Technical support and training will be handled by Flying Pig.

FPS' Nils Thorjussen has relocated to Austin to co ordinate efforts between the two companies. Meanwhile, David Caterall, formerly with ETC Europe, has joined Nick Archdale, Tom Thorne and the rest of Flying Pig's staff in London to manage Flying Pig's marketing and sales efforts. Mike Wood, High End Systems Vice-President of Engineering commented, "The development staff of both companies share design philosophies. The combination of talents will enable both companies to accomplish what we would not have been able to without combining efforts."

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# Lighting & Sound INTERNATIONAL

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## Lighting & Sound INTERNATIONAL

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## PLASA '99 Leads The Way

**The PLASA '99 (Professional Lighting and Sound Association) Show takes place three months before the Millennium celebrations begin.**

Whichever event you decide to attend this Millennium, if it has lights, sound, vision or special effects, chances are the products and installers will have been at the PLASA '99 show from 5 - 8th September. The leading manufacturers and distributors of entertainment and leisure technology equipment will descend on Earls Court for the industry's No. 1 show. Within this diverse industry, the show offers something for everyone - be they in the AV, sound installation, late night venues, theatre, pro sound, concerts and touring, architectural or DJ sectors.

Matthew Griffiths, MD of PLASA commented: "Professional sound, lighting and AV systems have been used to enhance the experience in clubs, live entertainment and theatres for many years. This 'enhanced experience' is now finding its way onto the purchasing lists of leisure and fitness centres, retail parks, shopping centres and multiplex venues throughout the world. Their customers are demanding more from the places they spend their leisure time in and with the increased visitors year on year at the PLASA show, the management of these venues are taking notice."



Commenting on this, PLASA show director, James Brooks-Ward said: "With the Millennium celebrations only three months after the show, venue managers wanting to maximise their 'offer' to customers need to have in place the very latest in entertainment technology. PLASA presents the one-stop shop for their entire technical specifications."

The Show includes a number of new and popular elements over and above the exhibition itself.

### NSCA Conference

The US National Systems Contractors Association brings their highly successful training programme from the USA for Sunday 5th and Monday 6th September. This is a conference for audio technicians, installers, project managers, designers and sales professionals who want to build a solid foundation in audio technology. The conference takes place in the Earls Court Conference Centre.

### AV Trade Convention

The fifth anniversary of the AV Magazine Trade Convention takes place alongside the PLASA Show for the first time. An important forum for European AV trade, it allows senior managers in a highly competitive sector to share experiences and address strategic issues, as well as

highlighting areas of growth and trends. The convention is for AV dealers, re-sellers, distributors, manufacturers, systems installers, rental and service companies. It takes place in the Earl's Court Conference Centre on Tuesday 7th and Wednesday 8th September.

### PLASA Education and Seminar Programme [full details page 23]

A series of highly informative and animated seminars and forums will take place throughout the duration of the show. The programme is yet to be finalised, but will include a diverse range of topics covering all sectors of the entertainment and leisure industries.

### PLASA Awards for Product Excellence

In recognition of innovation and excellence in the products exhibited at the PLASA show, the PLASA Awards for Product Excellence take place on Wednesday, 8th September. If you would like to nominate product for the awards contact the PLASA office now on +44 1323 410335.

### DJ Lounge and DJ Competition

The ever popular DJ Mixing Competition sponsored by DJ Magazine and Gemini Sound Products takes place on Sunday, 5th September attracting the rising stars of the amateur DJ world. Combined with this will be special appearances by leading professional DJs. The DJ Competition takes place in the DJ Lounge - a dedicated area for DJ suppliers, services and record labels.

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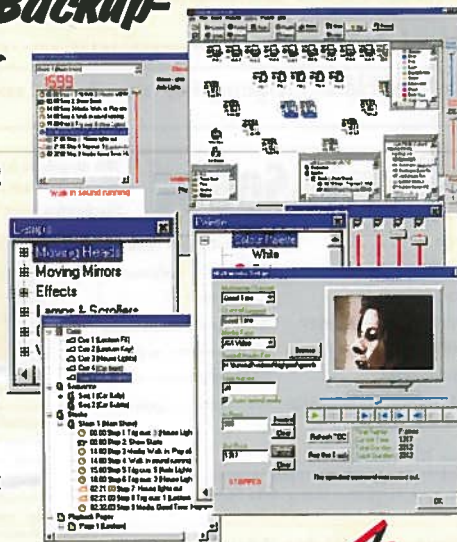
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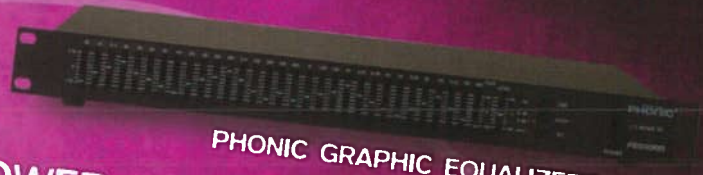
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## News Round-Up



# Deco Deal Primes EV for UK

In a ground-breaking deal aimed at making EV's THX-approved products a 'no-brainer' choice for European cinemas, Electro-Voice has approved a licence for manufacture of cinema loudspeakers in the UK.

Under an arrangement brokered by Telex/Shuttlesound, the UK distributor of Electro-Voice products, Deco Leisure, a prominent supplier to the cinema market, as well as an award-winning speaker manufacturer, will be fulfilling the manufacture of the flagship EV Variplex speaker system, along with other loudspeaker lines.

The deal allows Electro-Voice - a huge player in the cinema market in the US - to re-establish its position as one of the leading speakers for cinema installations. The brand had lost ground in recent years as shipping costs for large items had eroded its profitability. That problem has now been solved by shifting the manufacture to Deco's Birmingham works, under strict quality control by Telex/Shuttlesound's service manager Nigel Meddemmen. Elaborating on the reasons for involving Deco Leisure, Telex/Shuttlesound's Paul Barretta commented: "The tie-up with Deco Leisure is a perfect fit. They not only have a highly efficient and well-respected manufacturing operation, but they are also experts in the cinema field.



Sammy deHavilland (left) and Paul Dunkley (right) with Paul Barretta of Telex/Shuttlesound shaking on the new deal

That opportunity, reckons Deco's Paul Dunkley, could be sizeable. "The market for cinema technology will amount to some £3-4 million over the next two years or so, much of it for THX-approved products like EV's Variplex 3-way system. As well as manufacturing the speaker products, we will be handling distribution through a network of dealerships."

The agreement marks the first time that a licence has been granted for outside manufacture of Electro-Voice products. Componentry for the UK-manufactured speakers will be sourced from Electro-Voice in the US, with Deco Leisure responsible for supply of the raw materials. Non-speaker products, such as EV's THX-approved P-series amplifiers, are unaffected by the deal.

## ETG Seeks Sponsors

The Cambridge University European Theatre Group is a student-run drama group. Founded by Derek Jacobi and Ian McKellen in 1957, ETG tours Europe for three weeks each year with a Shakespeare production before returning to Cambridge for a week at the ADC Theatre.

The Group travels complete with set, lighting, sound, costumes and technical crew - a feat that can only be achieved with the help of generous sponsors. Last year the tour was sponsored by Strand Lighting, CCT Lighting, Metro Audio and Lite Structures. This year the group are looking for companies to donate the following equipment: lighting desks, lanterns, dimmers, truss, cabling, a small sound system and an intercom system. Any companies who would like to sponsor the tour should contact Claire Pamment, tour manager, on 0802 396068.

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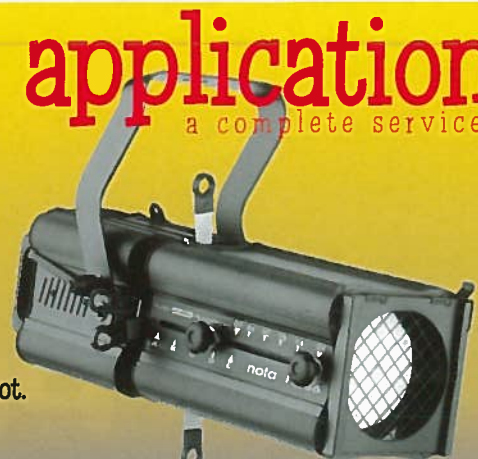
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## See the Technology at Work

Following our news piece earlier in the year about the proposed Theatrical London event, we now have more details.

**THEATRICAL LONDON**



**Setting the Scene**

8-10 September 1999

Scheduled for 8-10 September 1999, immediately following PLASA 99, Theatrical London:

Setting The Scene offers participants the chance to get backstage and see the technology at work, while at the same time meet with the designers and technical teams that make it all possible. Theatrical London: Setting The Scene has been set up in close co-operation with the London venues and promises to be informative. The following is a proposed schedule of events:

Wednesday evening September 9: dinner followed by a West End play or musical and a backstage tour of the theatre, plus the opportunity to meet members of the production's team.

Thursday, September 10: meet for breakfast and a tour of the 19th century Drury Lane Theatre followed by a tour of the newly renovated Covent Garden Opera House, just months before its

official reopening; lunch will be aboard a boat on the River Thames en route to Greenwich and a look at the Millennium Dome; the boat will return participants to Festival Pier on the South Bank and the National Theatre for dinner, a performance and backstage tour.

Friday, September 10: farewell breakfast complete with a map of venues of interest, and a list of local design and technology companies that will welcome visitors throughout the day.

Participants are responsible for their own hotel accommodation, but a three-day Underground pass will be provided for local transportation. The fee for Theatrical London: Setting The Scene is £225 for all day Thursday and Friday breakfast; or £295 including the performance of a West End musical and backstage tour on Wednesday evening.

If you would like to reserve a place call PLASA in the UK at +44 (0) 1323 410335, or ESTA in the US at +1 212-244-1505. Information about the event and an online registration form can be found on the World Wide Web at [www.plasa.org](http://www.plasa.org).

## Shure File Lawsuit

**Microphone and wireless systems manufacturer Shure Brothers has filed a civil lawsuit in federal court to enforce the firm's intellectual property rights. The 27-page, seven-count complaint was filed on March 9, 1999, in Illinois in the United States.**

Shure alleges that the defendants have violated Federal and Illinois law by copying the unique physical appearance of Shure's line of Beta microphones, as well as the packaging and promotional materials associated with the Beta line. The seven counts forming the basis for the action include trade dress infringement, trademark infringement, unfair competition, deceptive practices, and copyright infringement. Shure is asking the court for both monetary and injunctive relief. Commenting on the lawsuit, Shure President and CEO Sandy LaMatia told L&SI: "Our trade-marks, trade dress and copyrights are important equities that we intend to aggressively protect."

The defendants named in the lawsuit are Pro DJ Inc of Saratoga, California, Taky Electronics Co Ltd of Taichung, Taiwan, SHS Musical Wholesale of Indianapolis, Indiana and Music Go Round of Orland Park Illinois.

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## PRG Partnership with Boston Ventures

The Production Resource Group (PRG), has entered into a partnership with Boston Ventures Ltd, a private equity firm. Under the terms of a transaction, Boston Ventures has invested \$65 million in PRG.

As readers of L&S will be more than aware, as a collection of companies, PRG has no rival in the industry in terms of size, since its acquisition trail has been spectacular to say the least. Matching this, Boston Ventures is a private investment management firm that focuses on the communications, media and leisure-time markets. Since its inception in 1983, Boston Ventures has raised investment capital totalling \$2 billion in five funds. Boston Ventures has made 48 investments in companies such as Six Flags, Metromedia, Continental Cablevision (now MediaOne), BPI Communications, News Corp, River City Broadcasting, Motown Records, National Law Publishing Company and MetroRED Holdings.

In addition to capital, Boston Ventures will provide the company with board oversight, strategic guidance and management expertise with media and entertainment companies.

## Celestion QX Series Goes Active

The new QXa Series of active enclosures represents the start of a new era of integrated electronics for Celestion.

Using the same high performance drive unit combination as the passive QX-122, the QXa-122 includes a powerful 200W rms Class D DST (Digital Switching Technology) low frequency amplifier, combined with a dedicated 40W discrete high frequency power stage. High sonic integrity is delivered by means of an integrated active crossover aligned and optimised for the QXa-122, whilst thermal and overload protection ensure long and reliable service.

Featuring the same DST amplification, control and safety functions as the QXa-122, a powerful 15" Celestion drive unit in a larger trapezoid cabinet provides the QXa-152 with significantly extended bass response, making the system ideal for full-range music reproduction, whilst active system alignment ensures optimum intelligibility.

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## ESP RAM Up

ESP have recently taken on sole UK and Ireland distributorship of Spanish manufacturer RAM Audio's range of power amplifiers.

Popular on the continent, the systems are manufactured in Valencia, using aircraft and computer grade components. The four ranges cover all markets, from lower budget installations up to touring standard. The best selling model - the BU2000 - is rated at 950W per side into 4ohms and comes in 2U rack space. ESP are setting up a dealer network, with dealers already appointed in Central London, North London and the West Country.

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## Amina Breaks Audio Mould

*A new design and development company has been formed by a group of international investors to exploit NXT technology.*



Richard Newlove - managing director of Amina Technologies with CIE's MD John O'Boyle

Amina Technologies Ltd last month announced its agreement with New Transducers plc to licence the NXT speaker technology for use in PA, professional and commercial audio applications. From its headquarters in Huntingdon, the new company, under the guidance of managing director Richard Newlove, will provide semi-custom and custom NXT products.

In the UK, Amina Technologies has joined forces with commercial and professional distribution specialists, Canadian Instruments & Electronics of Nottingham. CIE-Audio (already representatives for Inter-M, Wharfedale and Atlas Soundolier) will front-end the Amina service via its network of associates, installers and regional distributors.

## History Meets the Present

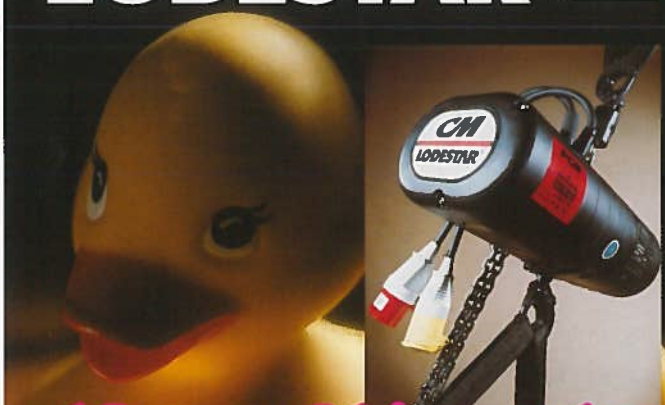
*"It had them screaming and clapping - they were jumping up and down in the aisles by the end." Not a passing observation on the recent Eurovision Song Contest, this was Michael Flatley's meister werk, Lords of the Dance come to the Holy Land.*

The acclaimed dance show was staged at two venues in Israel: Caesaria, an ancient Roman amphitheatre just north of Tel Aviv, and the Sultans' Pool in Jerusalem. When the show was tried out in Israel last year, the producers rented in a stock of Mega Fold-Flat trussing from Procon in Germany. They were so impressed with the trussing, its strength and ease of use, that they approached manufacturers Total Fabrication Ltd direct when the Caesaria project was confirmed.

"As is so often the case these days, special needs produce special demands," explained TFL's Peter Hind. "We custom-built a system for the Israeli show and increased the dimension of our standard Fold-Flat Truss to 1.0m high. This allowed for a UDL of two tons on the 30m spans necessary to bridge the Pool and Caesaria stages."

**Stellar Developments** - A number of entertainment technology companies in the US have joined forces to create a new company - Stellar Event and Presentation Resources Inc. Founding companies include three Texas-based companies - Abbey Group, LD Systems and Ducky Bob's Cannonball Rentals, as well as The Stuart Rental Company from California, and Party Plus, from Georgia and Florida. The combined Stellar operation now employs 368 people, working from 12 different locations. With annual revenues put at almost \$40m, the group now stands as a notable force in the USA's corporate and special event production markets.



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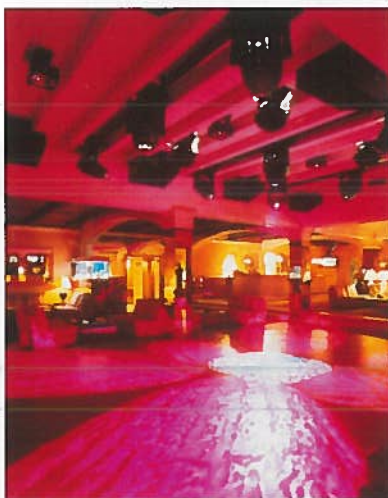


## Clay Paky's Stage Debut by The River

One of northern Italy's better-known nightclubs has become the first Italian nightclub to install luminaires from the top end of Clay Paky's Stage Line. Nine Clay Paky Stage Zoom 1200 luminaires have been installed at The River, which has been entertaining clubbers since it was first opened in 1970.

The club, a refurbished country villa adjoining the provinces of Cremona, Brescia and Bergamo, has a refined interior, including old-fashioned lamps, a hardwood suspended ceiling, arches, parquet flooring, paintings and mirrors.

The Stage Zooms were first seen by Gerrardo Ghitti, partner and supervisor of The River, and owner Signor Torrisi, when they attended a demo arranged by Antonello Barcella of Sangio Sound, the local Clay Paky dealer. Torrisi was impressed by the performance of the spots. The new projectors were installed inside the suspended ceiling, so that there would be no trussing, which would be out of keeping with the interior design.



Eight fixtures are placed in a square above the dance floor, with the ninth at the centre.

The Stage Zooms are integrated with a series of strobes and Astroraggi Power effects, adding showers of pencil-fine beams to the barrage of effects from the Stage Zooms.

## Polka Theatre

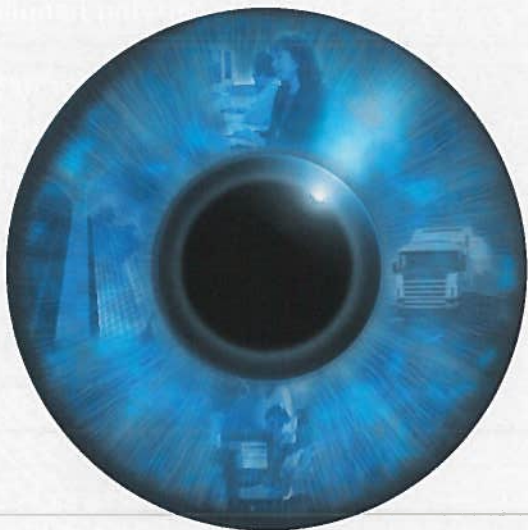
The Polka Theatre for Children in Wimbledon has recently taken delivery of a huge inventory of sound reinforcement and processing equipment as part of a major technical refurbishment.

Polka - the only theatre exclusively for children in the UK - is administered as a charity and the new specification was put together by their production manager, Sebastian Hall, and Marquee Audio's Andy Huffer, with 50% of the overall funding coming in the form of a grant from the Foundation for Sport and the Arts.

The equipment supplied by Marquee includes Tannoy i12/T40 sub combinations, Crown K1/K2 amplifiers and a range of AKG mics. But one particularly satisfying aspect of the installation is that the provision of a BSS Soundweb 9088 DSP networking device automatically makes the design upgradeable.

The Tannoy speakers are arranged in a conventional proscenium arch system, with stacks in each corner of the theatre providing separate point sources.

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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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## Student Lighting Design Award

**Pulsar have teamed up with Melton Mowbray College to offer the Pulsar Student Lighting Designer Award.**

Five students from Melton Mowbray's Performing Arts courses will participate in the contest, which takes place at the college and runs from Friday 16th to Monday 19th July. They will have just three days to light a short performance which they will see for the first time on the Friday morning. Unlike most theatrical productions, the rig they will work with will feature moving lights only - a combination of Clay Paky StageColor 300s, StageZoom 1200s and StageLight 300s - controlled through a Pulsar Masterpiece 108 desk.

On Friday afternoon, each student will have 30 minutes to familiarise themselves with the Masterpiece before beginning the pre-programming later that evening. Saturday and Sunday will see them working through the main programming of the desk and by Monday afternoon, they will be expected to be ready to run through dress rehearsals with members of the cast.

By Monday evening an audience will be in place, together with a panel of judges (Dave Slater, chief electrician at the Haymarket, Paul Henson, DeMontfort University, Martin Hawthorn, Hawthorn Theatrical), who will view each performance and present the award to the student whose lighting design is felt to best interpret the production.



Paul Duvall (left) and Richard Smith of Melton Mowbray College with Jane Monk of Pulsar.

The winner will receive £2,000 worth of Pulsar product.

Students at Melton Mowbray have been regular visitors to Pulsar's Cambridge headquarters where they are given training on the Pulsar and Clay Paky range of products. The award was introduced to offer a similar opportunity to student theatre LDs as that offered by Pulsar's LightJockey contest which has gone from strength to strength since the company first introduced it some years back. The hope is that the event will gain wider recognition in the industry and that other colleges will nominate students to compete for the award in future years.

Melton runs its own Performing Arts Course, which was established in 1974; in the intervening years the department has expanded significantly and now has 14 full and part-time members of staff teaching across a range of courses (including to Degree level). The facilities at Melton Mowbray are impressive and students have access to a fully equipped modern 343-seat theatre with computerised lighting, a full sound system and fly tower.

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## PLASA Conference Programme

A wide ranging Conference and Seminar programme is scheduled to run alongside the 1999 PLASA Light & Sound Show (5-8 September, Earls Court, London). The Conference Programme begins on 4th September, prior to the show opening.

### 4-5 Sept: 10:00 - 16:30: Comparisons of Show Control Systems

For industry professionals to gain an insight into six leading control systems in a comparative & educational environment. £395.00 (for 2 days)

### 5-6 Sept 10:00 - 16:30: NSCA - Audio Fundamentals

Emulating the successful programmes run in the USA by the NSCA, this is a conference for audio technicians, installers, project managers and designers requiring a solid foundation in audio technology. £140.00 (for 2 days)

### 7 Sept 10:00 - 13:00 & 14:00 - 16:30: AV Trade Convention

All-day seminar targeted at senior managers and covering issues such as: What's the market worth? What do users want? International Trading, Keys to the future, Millennium Issues. £195 (For 1 day - includes lunch)

### 8th Sept (am) AV Trade Convention: Presentations Workshop

Projection markets and trends; Technology change and its impact on large-screen portable projector sales; Channel change and its implications for presentation product dealers, distributors and manufacturers. £90 per session

### 8th Sept (am) AV Trade Convention: Staging and Rental Workshop

Staging and rental trends; Covering the service range - can one company be good at audio, video, displays and lighting? Screen Technologies; International Markets. £90 per session.

### 8th Sept (pm) AV Trade Convention: Systems Design and Installation

Business and Technology changes and their impact; Are the users being served? Is there a need for a user charter? IT, the net and telecoms are all converging. What skills does the future systems company need? £90 per session.

### 8th Sept (pm) AV Trade Convention: Video, New Media and Vcon

Product Sales - can camera and edit systems markets keep pace with falling unit prices? Facilities change - is the money in compression, transmission and DVD? Video to the desktop; Videoconferencing. £90 per session.

The **Seminar Programme** will be held in the Cromwell Suite, and will cover a range of specialist subjects. Cost: £15 per session.

### Sunday 5th Sept

10:00 - 18:00: DJ Competition - sponsored by DJ Magazine & Gemini Sound Products - free of charge.

### Monday 6th Sept

11:30 - 12:30: Selling Building Control Systems to Specifiers and Architects  
13:00 - 14:00: Choosing the Right Integrated Systems for Night Clubs  
14:30 - 15:30: The Big Opportunity - Cruise Liners  
15:30 - 16:30: Standardisation of Speaker Performance

### Tuesday 7th Sept

11:30 - 12:30: Lighting the Millennium Dome  
13:30 - 14:30: Entertainment, Lighting and Retail  
15:00 - 16:00: Project Development Guidelines for Themed Areas

### Wednesday 8th Sept

12:30 - 13:00: PLASA Awards for Product Excellence

The **PLASA Training Programme** will highlight the vital Health and Safety issues associated with the industry. Training Courses will run on the 6th, 7th and 8th of September, and will cost £15 per session. Each day's schedule will run as follows:

11:30 - 12:30: **Safe Rigging Practices**  
12:45 - 13:45: **Safe Pyro Handling**  
14:00 - 15:00: **PAT Testing**  
15:15 - 16:15: **Safe Working with Lights**

For more information or to book your tickets, call the hotline on +44 (0)171 370 8228 and speak to Sophie Matthews or Lucy Brooksbank.

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## Pyro-Art's Catalogue in the Sky

Berlin-based Pyro-Art Feuerwerke GmbH recently presented a 'catalogue' show of its pyrotechnics to 285 industry professionals representing 126 companies from across Europe.

The show took place on the Spree River in Berlin, where the audience watched from a boat specially chartered for the



evening. After being welcomed by Mr Kehse, the president of Pyro-Art, the assembled audience were given a 50-minute item-by-item demonstration of the company's range of pyrotechnic devices, from the smallest to the very largest.

This was followed by a 10-minute combined display, specially designed by Kehse.

## Stone Me

*It's not every day you get a request to supply a sound system to the Rolling Stones so when John Tinnline of audio suppliers Encore got the call, he couldn't quite believe his ears. "The Rolling Stones phoned me up and asked if I could provide a sound system for Wembley."*

As it turned out, the Stones were looking for a sound system for Wembley Arena (adjacent to the Stadium in which they were performing), which incredibly they were using as a dressing room. "They wanted two speakers and a CD player. So I trucked off down there on Wednesday with a pair of d&b Max cabinets and a Denon CD player, imagining I would be putting the system into one of the larger rooms under the stands. How wrong I was, the whole arena floor was the dressing room."

Tinnline dutifully set up the system: "I thought the Maxs covered the room rather well," he said with understandable pride. As it happened rather too well. "Becky, the girl that looks after the wardrobe came and told me - 'they're too loud.'" That's one for the grandchildren John - Encore do the Stones at Wembley with two speakers and they're too loud.

## Showtech, Berlin - By the time it closed, the three day trade fair ShowTech Berlin had attracted a record number of exhibitors - 303 from 19 countries - and had strengthened its position as one of Europe's leading trade shows for the event sector.

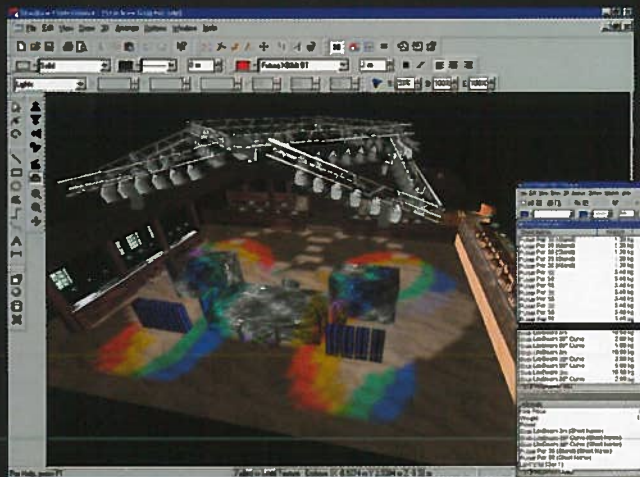
The final assessment by exhibitors, trade visitors and the two participating associations, the European Association of Events Centres and the German Theatrical Technical Society, was distinctly positive. In addition to a sharp rise in the number of exhibitors, there was a substantial increase in attendance from trade visitors, by 12%. The main focus for the theatre and shows sector was on lighting and lighting systems, technical equipment for the stage and studios, public address systems and video and communication technology. The next ShowTech Berlin takes place in June 2001.

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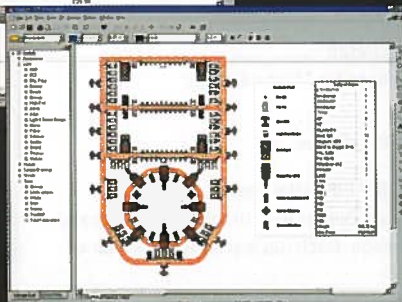
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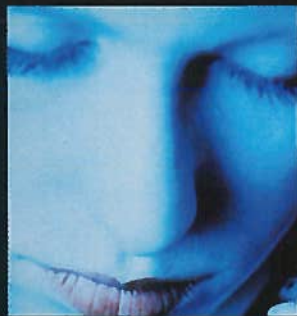
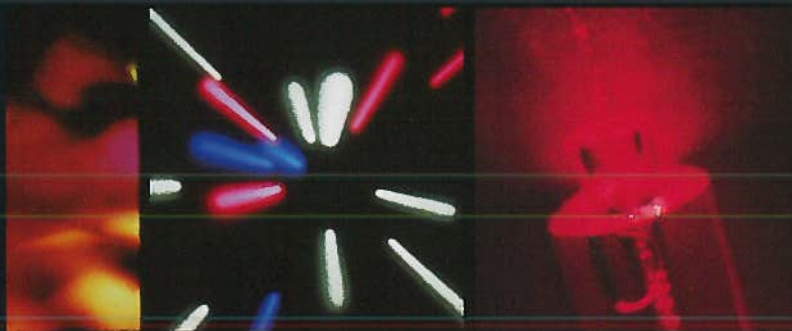
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## New Faces

Celestion has appointed **Richard Vivian** as product manager for professional products to spearhead its programme of product and business development. Most recently Vivian was at Turbosound where he was R&D manager.

Autograph Sales has appointed **Andrew Latham** to the post of broadcast systems specialist with responsibility for the sales and marketing of Clear-Com Intercom Systems. Latham joins the company from Baldwin Boxall Communications.

Autograph Sound Recording are also expanding their professional staff base. **Simon Baker** and **Peter Layton** are the new faces. Baker joins the sound production and design team after more than three years at the National Theatre, while Layton has joined the service engineering team.

Strand Lighting has strengthened its sales force with two key appointments. **Robert Globe**, its new North European sales manager, brings some 20 years' experience to the company, whilst **Kjell Englund**, an experienced sales and marketing professional, has joined the team as area sales manager for Scandinavia.

ETC has added two new members to its staff. **Jeremy Roberts**, formerly with the Nottingham Playhouse, has joined ETC Europe as assistant projects manager reporting to David Gray. **Angus Vantoch-Wood**, previously events technician for Leeds Metropolitan University Students Union and a touring technician with Opera North, joins as technical services engineer.



Richard Vivian (left) and Andrew Latham

**Michael Goldberg** has been named by Wybron Inc as its manufacturers representative for Europe. As an intermediary for Wybron, Goldberg will liaise between specifiers, dealers and end users. The move follows Goldberg's appointment as sales and marketing consultant to Triple E, Selecon and XTBA.

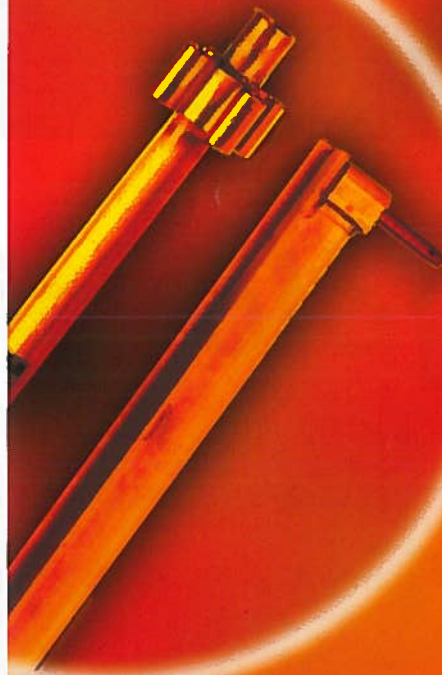
**David Gunn**, previously technical and project manager at Sony JumboTron, has joined Pixel Displays to head up their technical division. Gunn will take responsibility for technical product development.

**David O'Mara**, a member of the full time road crew for VLPS London, has died. He was a well respected figure in the industry and although he had only been with VLPS full time since 1997, he was involved in many of their key projects, most recently UB40's European tour. VLPS London have decided that their annual intake of students for summer placement will be named the David O'Mara Graduate Programme.

## Eclipse Crosses Borders

Rental software specialist, Navigator Systems Ltd, has launched HireTrack Eclipse. Eclipse allows for a range of scenarios from a single user/single site operation, up to one encompassing hundreds of users at up to 64 sites. Simultaneous support for up to four currencies enables costing to be carried out in local or foreign currency. Eclipse allows for fully integrated safety testing (both PAT and LOLER) and will work with a large range of barcode readers including hand-held and radio-based systems.

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## Vari-Lite Previews Virtuoso

*Whilst in the US for both the NSCA and ExpoLatina trade shows, L&SI detoured west to Dallas to catch up with the latest news from Vari-Lite Inc. Unfortunately for the company, its recent restructuring has attracted more media coverage than the recent launches of two of its most innovative new products.*

Vari-Lite signalled its intention to develop the Virtuoso - a successor to the Artisan control system - some time ago and has been working with a group of lighting designers and programmers worldwide on the means by which they might blend the features of the Artisan with a range of new features and develop what they hope will be an 'industry standard' user interface. What they have arrived at is a system which acknowledges that the most important elements in programming are speed and immediate access to key functions. As a result, the system supports 2,000 VL channels, has a fully integrated 3D graphics display and multiple users can be on-line simultaneously. There are designer's remote functions, preview and off-line programming and a powerful effects package including Dynamic States for instantaneous 'canned' effects. The desk was being soft-trialled at the end of April in readiness for the first run of production consoles which are now coming off the line.

Over the road at sister company Showco's headquarters, CEO Richard Bratcher was keen to demonstrate two new additions to the company's inventory. The first is the new Showconsole, launched at last year's LDI; the desk can be used as a FOH or stage monitor console and the system architecture allows the audio processing racks to be located up to 3,000 feet away from the racks, making mixing environments significantly smaller. Bratcher commented: "The Store/Recall system is able to record every setting on the console for instantaneous recall. All channel settings, input selections, dynamic settings, EQ settings, pan



Above, Anne Valentino with the Virtuoso; below, the crew from the Vince Gill US tour check out the Showconsole



and level can be included in the recall. The stored file recalls mixmaster bus assignments, remote fader assignments, monitor set-ups and assignments of all four stereo mains to the console control surface using motorised knobs and faders."

Showco has also released the Prism L3 speaker series (also first seen at LDI) which gives the sound designer a combination of systems that can expand from simple 'speaker on a stick' environments to major convention centre venues. With the corporate market in mind, the company has taken the unusual step of making the product available for sale (and not just hire) - a move that has been welcomed by the install markets.

The first units have already rolled off the production line.

## MADCAP Open Office in UK

*International award-winning nightclub design company MADCAP Leisure is opening an office in the UK to service the European nightclub and restaurant market.*

The California-based company, which was awarded the IIDA Design award for its work on San Francisco's Carousel nightclub, offers a complete package of design services for the hospitality industry including interior, exterior and landscape architecture, engineering, planning, project management and sound and lighting design.

Its innovative use of sophisticated computer software allows for conceptual designs to be shown in 3D with the option of a virtual reality fly-through of a design while still in the development stages. MADCAP's president Malcolm Carruthers told L&SI: "There still appears to be a strong interest in American themes. Our aim is to bring a fresh new approach to design by using the best ideas from both sides of the Atlantic."

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## New Catalogue from Cableworld

Cableworld, a well established and rapidly growing company with ISO9002 accreditation, has released its latest catalogue. The company supplies a vast range of specialist and standard cables, covering control, rubber, instrumentation, robotic, data transmission and halogen free cables, together with harness and assemblies.

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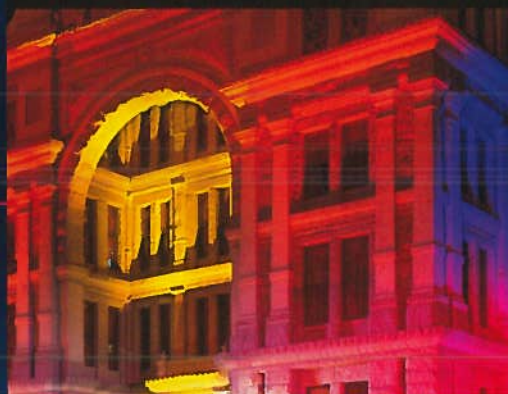
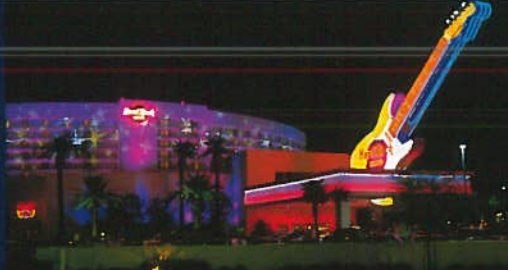
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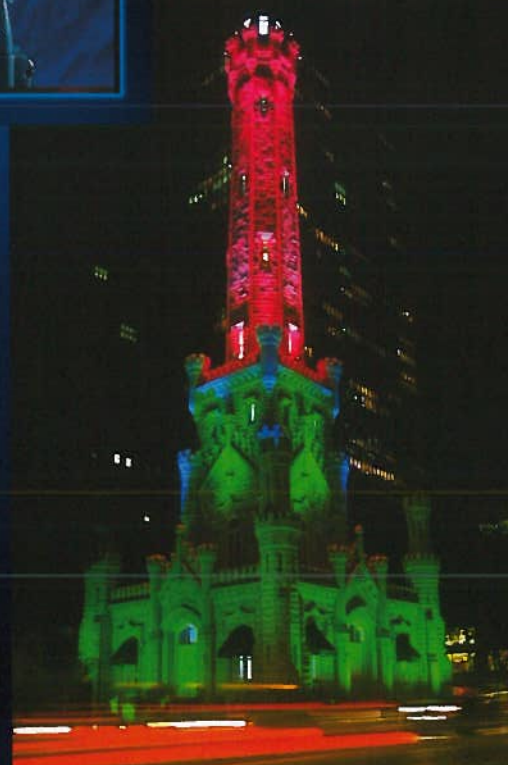
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## Caribbean Colour

The Capitol Building in San Juan, Puerto Rico, is currently ablaze with 36 High End Systems EC-1 architectural wash luminaires, with another 36 soon to be installed in phase two of the project. Not only is this the first permanent architectural installation in the Caribbean, it's also the largest installation of EC-1s since High End entered the architectural market.



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Schiller designed and programmed the lighting. Scheller also created an easy way to control the lighting by developing High End's Architectural Control Environment (ACE) System used with the Status Cue.

## 1999 Tony Awards

As the New York theatre community presented the 1999 Tony Awards on June 7th, London was still awaiting the arrival of the two big winners in the 1998 Tony ceremony - the musicals *The Lion King* and *Ragtime*.

The former will be in the UK towards the end of the year; the latter looks less likely to reach these shores following the financial and legal difficulties in which its producer, Livent, has become embroiled. British shows, by contrast, have been regularly despatched to New York - a fact that the 1999 Tonys reflected. In the Best Lighting Design category, the chances of having a British winner were quite high given that three out of the four nominees came from the UK. The nominees were Andrew Bridge (*Fosse*), Mark Henderson (*The Iceman Cometh*), Chris Parry (*Not About Nightingales*) and Natasha Katz (*Twelfth Night*), with the prize being presented to Bridge. Bridge previously won Tony awards for his work on *Phantom of the Opera* and *Sunset Boulevard*.

In the set design category, Bob Crowley might have felt quietly confident of winning his first Tony given he was nominated twice, for *The Iceman Cometh* and *Twelfth Night*, alongside Riccardo Hernandez (*Parade*) and Richard Hoover (*Not About Nightingales*). It was not to be, though, with Hoover picking up the prize.

Overall, the awards were split between just 10 productions - four going to *Death of a Salesman* (best direction, best actress in a play, best revival of a play, best actor in a play - as well as a special Lifetime Achievement Tony, presented to author Arthur Miller), two to *Annie Get Your Gun* (best musical revival, best actress in a musical), two to *Parade* (best book, best score), two to *Side Man* (best play, best actor in a play), two to *You're A Good Man Charlie Brown* (best actor and actress in a musical), one to *Little Me* (best actor in a musical) and one to *Amy's View* (Judi Dench named as best actress) in addition to the awards for *Swan Lake*, *Fosse* and *Not About Nightingales*.

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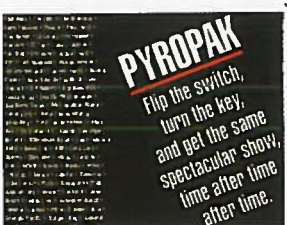


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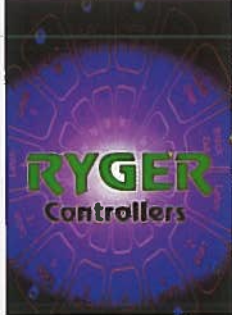


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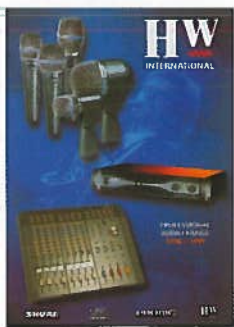


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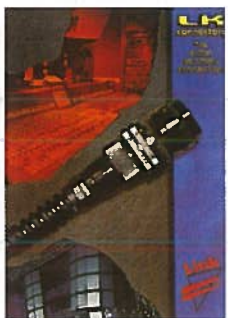
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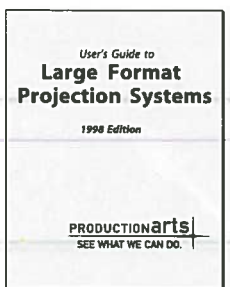
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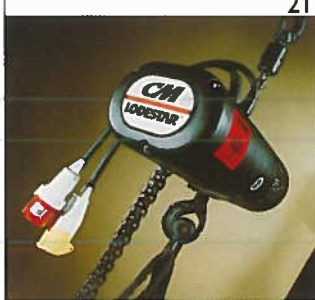
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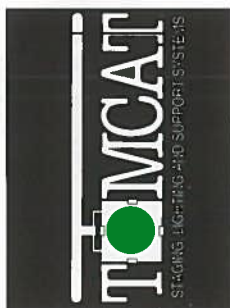
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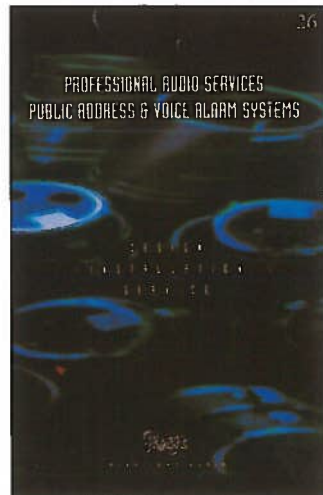
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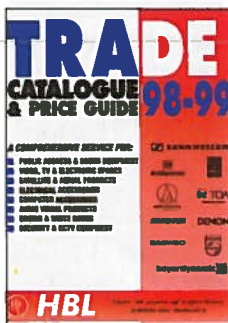


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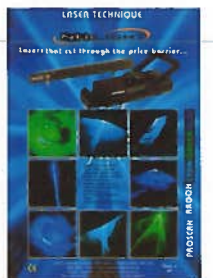
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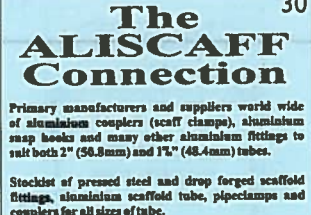
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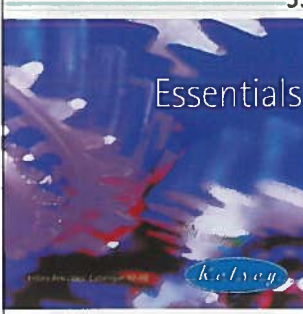


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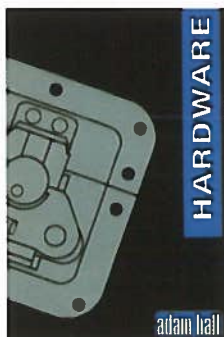
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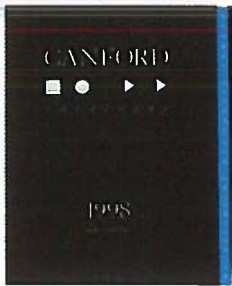
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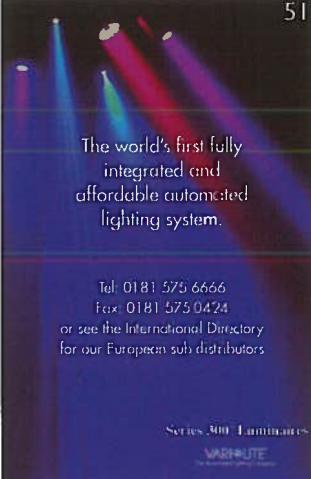
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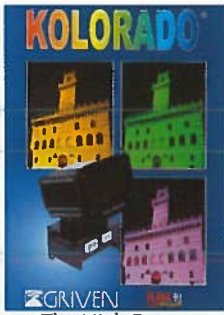


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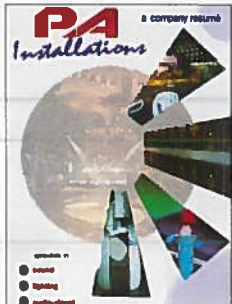
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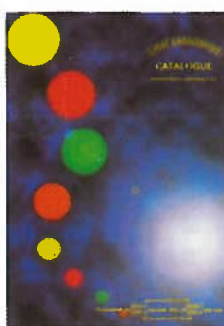
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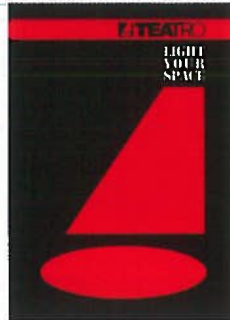
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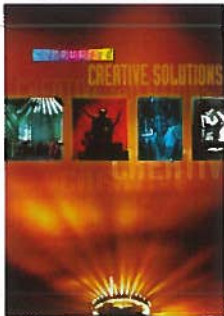
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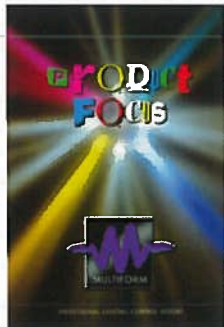
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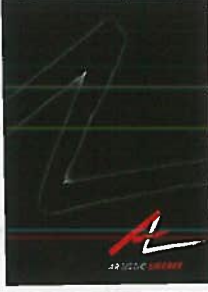


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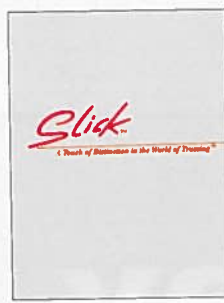


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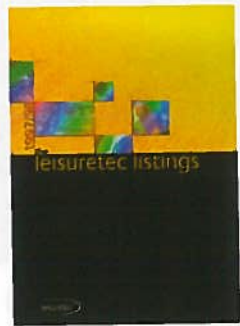


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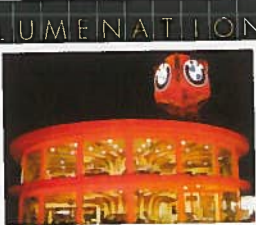


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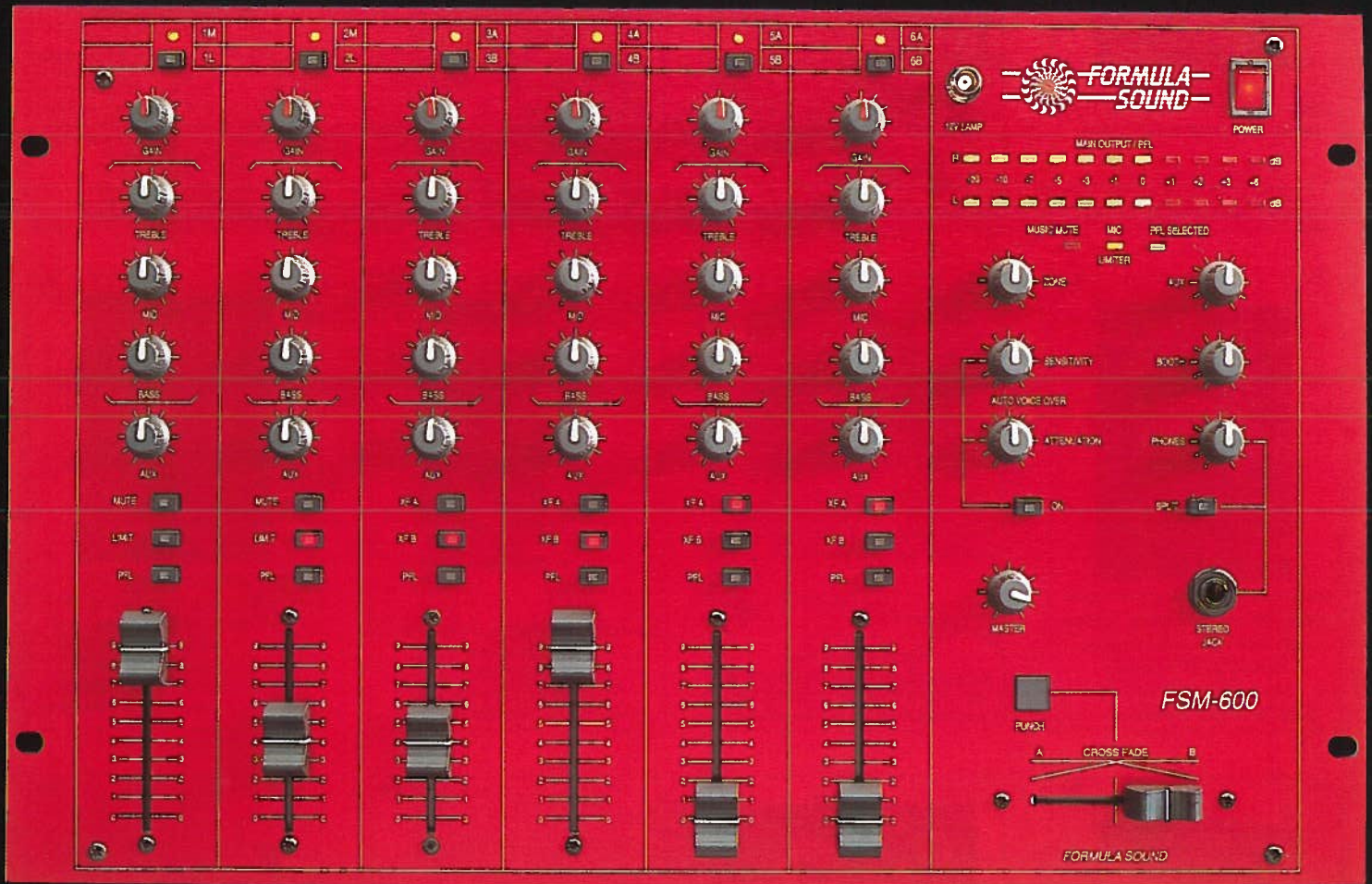
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# Glöckner



# Der



THEATRE

Rob Halliday talks to the eclectic and talented technical team behind Disney's *Hunchback of Notre Dame*

**T**he *Hunchback of Notre Dame* is the latest stage musical from Disney Theatrical. Actually, that statement isn't entirely true. To start with, the show opened in Berlin and therefore has a German title, 'Der Glöckner von Notre Dame' which, literally translated, means "The Bellringer of Notre Dame"; the German language apparently doesn't have an equivalent to 'hunchback'.

Secondly, although the show has been created by Disney and is an adaptation of their animated film (itself adapted from the Victor Hugo book), they are not producing it in Germany. Instead, the producers are Stella, who until now have specialised in taking established hits (*Cats*, *Starlight*, *Phantom*, *Les Misérables* - another Hugo musical adaptation which has done quite well for itself - and Disney's *Beauty and the Beast*) and opening German productions, often building new theatres to house them. Now faced with a new, empty theatre (the Musical Theater Berlin, built on what was a strip of no-man's land around the Wall which they are running for its owners, Mercedes Benz) and no established hits to transfer, Stella have decided to create a new production.

It's interesting to speculate why Disney, who, to date, have produced their own shows, are now working as a hired hand, making a show to order (and, to the creative team's chagrin, doing so in a far-away land that doesn't yet have any branches of Starbucks!). Perhaps after their controversial production of *Aida* (out of town try-out with hugely expensive set very badly received, most of creative team subsequently replaced), letting someone else take the financial risk seemed like a

good idea. Especially given the ever-increasing cost of mounting a show like this: pinning down the budget for *Hunchback* is hard, as those talking about it switch constantly from dollars to Deutschmarks to pounds, but somewhere around \$25 million would probably be a good guess.

The result is an interesting intersection of two quite different worlds. An equally eclectic creative team was then hired to actually mount the show. From Broadway, director James Lapine (best known for his work with Stephen Sondheim on shows such as *Into the Woods*), designer Heidi Ettinger (Tony award winner for shows such as *The Secret Garden*), choreographer Lar Lubovitch and sound designer Tony Meola (already a Disney veteran with *Lion King*). Then, completing the design team are two names more familiar from this side of the Atlantic (albeit that one originally hailed from the States): lighting designer Rick Fisher (Tony and Olivier award winner, LD for countless shows in London and elsewhere) and costume designer Sue Blane.

The show's creation was as international as its creative team, with the mixed US/European cast being flown to New York for six weeks of rehearsals then flown back to Berlin in time to move into the theatre. Though Germany was a little far away for the regular flying visits for which Disney's executives have become legendary, they still kept track of the show's progress through satellite video links and other high-tech aids now commonplace in the film world, but virtually unknown in theatrical circles.

## DESIGN

Stand on the stage of the Musical Theater Berlin with the worklights on and Heidi Ettinger's set really looks like nothing, certainly not





remotely like the set for a bright, colourful Disney musical. On either side of the stage is a three by three grid of black boxes (called the eggcrates by the crew). Upstage is a cyclorama with horizontally and vertically tracking masking in front of it that can be used to 'iris' the cyc into different shapes. And then there is the floor.

The floor turns out to be a spectacularly impressive feat of engineering, since it is actually formed of 11 'cubes' (two lines of three with an upstage line of five) each of which can move up and down independently of the others. The downstage line of cubes can drop two metres into the 'basement' (though 'substage' is actually at ground level, with stage level two floors up) or rise to approximately five metres. The others can only drop to stage level, but can then rise much higher, up to about seven metres.

In addition to rising and falling, the top surface of the cubes can be raked, with joining panels sliding out from the top panels to form a continuous raked surface when required. The engineering for the cubes, carried out by Bader Maschinenbau (whose other projects include the submarine for the film *Das Boot*) is stunning, each moving smoothly and accurately into position, the upstage and downstage cubes operated on a fork-lift principle, the centre set driven internally with all of the drive systems having to cope with the weight of the lighting equipment mounted inside each cube.

Strangely, given the usual German stringency on such matters, there are no safety edges on the cubes; there are also no handrails, which must make a first ride to their top deads quite a nerve-wracking experience. Control for the cubes is from a scenery control system developed for Stella's Theatre Consultancy division by Fülling & Partner; all of the show's flying is also automated, but this is run from a separate control system that is part of the building's automated flying system. Unfortunately, this does seem to lead to occasional problems where cubes and flying pieces have to move together, but the two computers take slightly different times to respond to their cues . . .

The combination of cubes and eggcrates allows a huge variety of stage shapes to be created. The two also work together, with ramps ('diving boards' in the show parlance) extending from the top egg-crates to allow access to the cubes when at their upper deads. An extra 'mini-cube' sits upstage centre, allowing performers to enter 'invisibly' onto the back of the upstage cubes at their highest deads.

But it still doesn't really look like anything - apart, strangely, from a collection of venetian blinds, since the front surfaces of the cubes are faced with horizontal slats of metal. That's because the show's design is conceived around projection: as well as re-arrangeable staging, the cubes are also mobile projection surfaces, with their front and top surfaces actually formed from projection screen material. The venetian blinds in



front of this material are intended to help keep the projections punchy by preventing flare from the show's lighting from hitting and wiping out the projected images.

Projection designer Jerome Sirlin uses two banks of projectors, one mounted in a sound-proof box at the rear of the stalls used to project onto the front of the stage and cubes (the low angle allowing the images to get through the venetian blinds onto the cubes' projection surface), the other against the rear wall of the stage back-projecting onto the cyclorama. All of the projectors are from Hardware for Xenon, with five OLS 7kW Xenon projectors front-of-house (four with slide changers, one with a double scroller complete with rotating mechanism) crammed in amongst the cinema projectors that are part of the theatre's permanent installation (Hunchback has to close for two weeks every year while the theatre is used for the Berlin Film Festival). At the rear of the stage a projection tower holds three more 7kW projectors, two with slide changers and one with the rotating double scroller. These three use new wide-angle lenses developed by Hardware specifically for Hunchback to allow full-width images to be



thrown on to the cyc over what is a relatively short throw. Control for all of the projectors is from a Pentium PC running Electrosonic's Easy 3.00 software (programmed by Gerhard Gronemann), this actually communicating with the projectors using DMX.

The most striking thing about the projection set-up on the show is that Sirlin and his team have effectively cut the traditional 'slide manufacturer' out of the loop, happily printing their own slides on a colour ink-jet printer. Coupled with using a digital camera to capture images of grid slides falling onto the various set configurations, these are then fed into a computer and used to produce mask slides quickly and accurately. The results are often striking - a projected bridge with projected river

beneath, or the towers of the cathedral projected onto a series of stepped cubes.

Occasionally, the imagery is a little 'blocky' - and it seems strange that the show doesn't make more use of artwork from the film: if you have some of the best animation artists in the world on-hand why not make use of them? However, at its best, particularly in two scenes in the main body of Notre Dame, where a huge projected stained glass window couples with broken, dappled 'stained glass' lighting, flown scenic arches lined with front-projection, and hundreds of HELL candles flickering gently, the result is absolutely stunning.

## LIGHTING

Lighting designer Rick Fisher was a little unsure when first offered Hunchback, then bemused during the contract negotiating phase (Disney have the rights to his design not just throughout the world, but throughout the universe!), then became quite excited about the technical challenges of making the show work, particularly working in conjunction with the set and projection. As is the way with these large-scale shows, all of the design work had to be carried out months before rehearsals started - particularly in this case, since Stella followed their normal practice of buying, rather than hiring, all of the lighting equipment, most of the rig being supplied through distributors Lightpower and co-ordinated by Despar Licht.

Which meant that just before flying to Berlin to start work on the show, Fisher became very nervous - suddenly aware that he was about to find out whether all of the half-forgotten decisions taken months earlier had been the correct ones. Just before the show opened, after two months of non-stop work in the theatre, he didn't seem sure that he had pulled off the design triumph everyone had been hoping for, unsure, with his typical modesty, about how his contribution fitted with those of the other designers. But as scene after beautifully lit scene unfolded before the audience at the penultimate preview, it was hard to see what he was worried about. The lighting for Hunchback is stunning - and even more impressive because, despite all of the limitations imposed by the set and projections and demands of a big musical, Fisher has managed to achieve a design that is predominantly and recognisably in his style - albeit with a slightly greater use of gobos than is his norm!

Part of the reason the design works is because the right technology became available at exactly the right time. The lighting is completely 'clean' - there is never the slightest degree of unwanted spill anywhere. In the old days such a look might have been achieved with lots of precisely set profile spots, but for Hunchback moving lights had to be used simply to deal with the fact that you never knew where the set would be next. A year ago that might have meant accepting the limitations of moving lights, with some spill from the largely uncontrollable beams they produce.





But Fisher and his team of associates Thomas Lüdicke and programmer Andy Voller were able to specify 12 Vari\*Lite VL7Bs with their shuttering mechanism (alongside 42 standard VL7s), and 52 of Amptown's shuttering Washlights (28 discharge units in the overhead rig, 24 tungsten units crosslighting from the eggcrates). This version of the Amptown light was first shown at PLASA '98; at the Hunchback team's behest, Amptown carried out further development work, swapping the fresnel lens for a PC lens to give tighter beam and introducing proper, individual control of each of the four beamshaping 'shutters'.

The moving light rig is scattered far-and-wide around the theatre, with VL7Bs and Washlights mounted in the eggcrates to give Fisher the crosslight he desired, allowing a controlled beam to skim across the cubes then vanish invisibly into the opposite eggcrate. There are then overhead VL7s and Washlights for toplighting and backlighting, and more VL7s on the circle front and low side-circle positions. A further VL7 can be found in each of the cubes, allowing them to be textured internally with gobos, though in the final design this doesn't actually happen that much and some of these units may be cut and returned to base (all of the Vari\*Lites are on a long-lease from VLPS London). Two DHA Digital Beamlight 2s are also lurking overhead, giving movable tight soft-edged specials. Control for all of the moving lights is from an Artisan Plus, Andy Voller quite disappointed that the new Virtuoso console, which he wanted for its improved handling of beamshape presets, wasn't ready in time.

The rig is rounded out with a familiar selection of conventional equipment: ETC Source Fours of all types (including 10 15-30 Zooms), Par cans, R&V 500W beamlights, four 5K fresnels, 153 Rainbow Pro scrollers, three 2500W Robert Juliat Margot followspots and four R&V 1K beamlight followspots, the conventionals driven from 450 SE-Verintens digital dimmers that are part of the theatre's infrastructure and run from an ETC Expression 1200 (plus a second console as tracking back-up). The Expression also runs the special effects (including nine Smoke Factory Data smoke machines, four MDG Atmospheres and three liquid nitrogen low-smoke machines, chosen over dry ice on cost and efficiency grounds) and drives a type of lantern that, in a slightly re-worked form, could become a big hit with opera houses around the world: the StudioDue Citycolor, an 1800W HQ1 floodlight with dichroic colour mixing and a mechanical dimmer. Designed as outdoor architectural floods, they are

being used here to colour the insides of the cubes and to light the cyc - which is brightly illuminated in any colour using just three units at the top and three at the bottom. The Hunchback team had slight problems with outdoor units being used indoors and so overheating, but Fisher is pleased with the results they have produced.

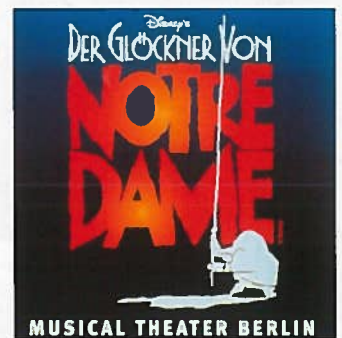
Once he gets a chance to step away from the show and look at it with a fresh eye, I suspect that he will also be delighted with the lighting as a whole. It is beautiful, both in terms of the big pictures (particularly the monks of Notre Dame seeming to hang frozen in space when crosslit in the eggcrates, and those stained-glass cathedral sequences) and in terms of the tiny details, such as the way that the three gargoyles always stand out, made to look like stone through careful colour selection and focusing on Sue Blane's costumes. The rig is infinitely versatile, but that just opens up the possibilities and makes the lighting process harder because you have to find the best looks, rather than just the first or easiest ones. Fisher and his team have achieved that magnificently.

#### SOUND

Perhaps the most immediately noticeable thing about Tony Meola's sound rig is that you don't notice it at all: the pros loudspeakers are concealed behind a gauze frame around the pros and the delay speakers are neatly tucked into the circle. Some speakers mounted on the side walls of the theatre do stand out as a result - but these turn out to be part of the cinema surround-sound installation, rather than part of the show sound system, though, of course, since they're there, Meola has managed to use them!

The heart of the system, as with so many other musicals, is a Cadac mixing console, in this instance three frames of J-Type giving 76 mono and 15 dual inputs to 15 VCAs, 16 subgroups and a 16-way matrix. 81 of the inputs are equipped with motorised faders, controlled using Cadac's established control software - their new SAM software was still being proven on *Mamma Mia!* in London as Hunchback was being put together. Vocal sound is collected through 37 Sennheiser SK50 radio mic transmitters, with 33 main transmitters plus back-ups on two of the principals and two used for percussionists who move around the orchestra pit. The actor microphones are principally Sennheiser MKE2 Golds, while the pit features a mixture of mics from AKG (C-414B/ULS, D-112),

Facing page (top), lighting designer Rick Fisher (right) with associate LD Thomas Lüdicke; The sound crew at the mixing desk, with sound designer Tony Meola (right) and associate sound designer Kai Harada (centre).



"These are interesting and challenging times in the world of the musical - but it is an area Disney seem keen to be big in, and so it will be fascinating to see what their next move is."





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Processing around the desk includes Valvotronics Gain-Ryder 3 compressors, Meyer CP-10 EQ-ing and BSS TCS-804 delays, while Denon minidisk players provide the relatively small number of effects (including some spectacular church bells) used in the show. The sound is then fed out to what is a predominantly active loudspeaker rig of 13

Meyer CQ1s, four Meyer CQ2s, six Meyer 650Ps, four Meyer UM-1 C/Ps and six Meyer UPA1-C/Ps. Apogee loudspeakers are used elsewhere, with eight SAT3s as front-fills, a further eight SAT3s as balcony delay speakers and 10 SSMs, all driven by a combination of Apogee SA-700 and DA-800 amplifiers.

As with the lighting rig, the sound system was purchased by Stella (through ASC), then installed by a team led by production sound engineers Michael Saddey and Ulli Kunst. The show is now mixed by Michel Weber, with a team of three - Peter Jutz, Thomas Milde and Andreas Hammerich - looking after the radio mics on stage. The team also featured a special two-week guest appearance from sound design assistant Jason Kreuger after a roller-blading incident hospitalised associate Kai Harada - still on



The Musical Theater in Berlin where Hunchback opened

degree of excitement in Berlin (surely on track to be the city of the Millennium) because it is a new show rather than a transfer from elsewhere.

But, as is increasingly the problem with these shows, it has to do an enormous amount of business for a very long time to break even. When even supposedly 'sure fire' hits are failing to do that (*Beauty and the Beast* in London seems set to announce its closure after just two

years rather than the anticipated five) it gets harder to predict the success of new shows (though if *Hunchback* doesn't run the versatile scenery, projection and lighting could probably be used for just about any other show!) Strangely, if the show is a hit that will also present problems, since the general consensus is that there isn't a theatre in London or New York big enough to house a 'cloned' production.

These are interesting and challenging times in the world of the musical - but it is an area Disney seem keen to be big in, and so it will be fascinating to see what their next move is. As long as they keep picking teams as eclectic and talented as those behind *Hunchback* and *Lion King*, their shows will certainly be fascinating to watch. Moneymaking? Well, that's harder . . .

crutches as the show opened he, for one, was very grateful for the lifts both backstage and in the Musical Theater's expansive foyers.

Audibly, Meola's sound for the show is much as it is visually - unobtrusive - but all the more effective for that. It is never forced on you, but just carries the vocals and orchestra to you crisply and cleanly. You hear every word even if, with the show sung in German, some of us then couldn't actually make much sense of it . . .

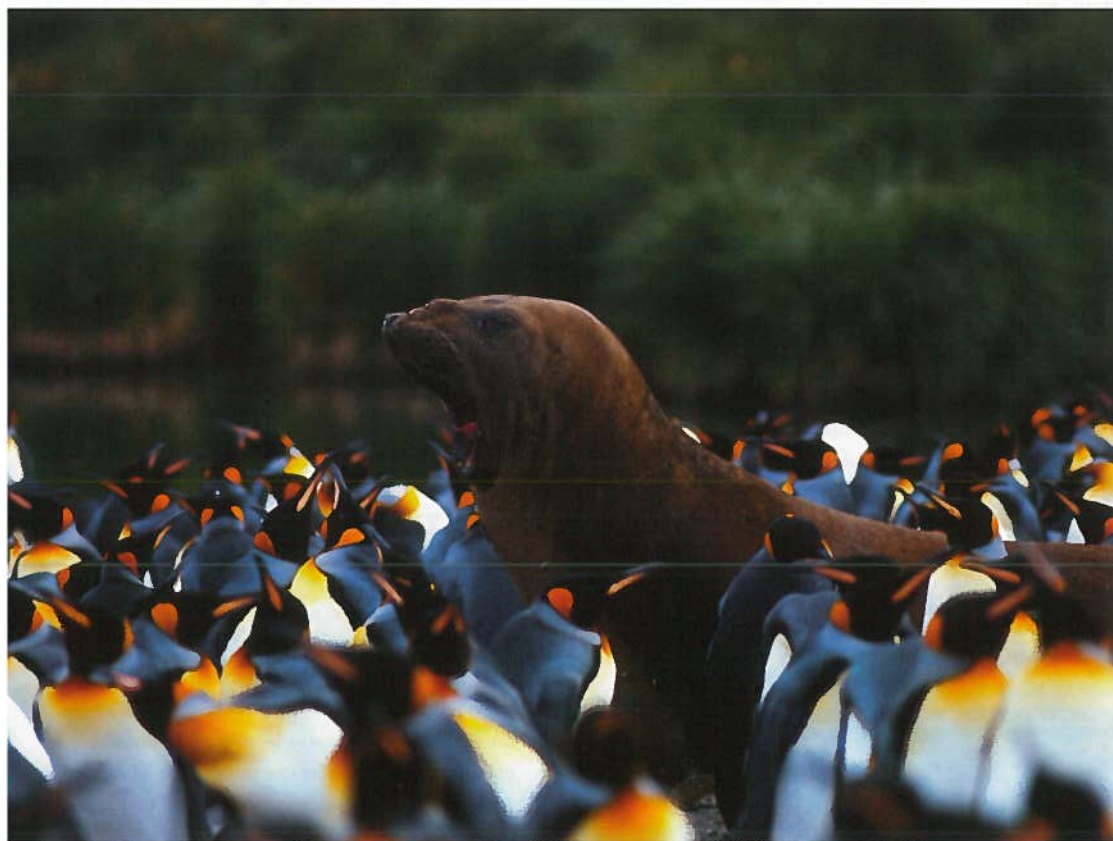
The German audience, who did understand, seemed to enjoy the show, especially judging from the lengthy standing ovation at the end - though it was interesting to note that they were predominantly adults, rather than the families that are traditionally associated with Disney products. And it is generating a considerable

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# Tony Cottelher

## No Comment...

**P**RG watchers (and there seem to be many) will, no doubt, be fascinated by the announcement that Jere Harris has opened the doors and welcomed in the venture capitalists in the shape of Boston Ventures (see page 14). Typically, the press release tells us very little, except that everyone is absolutely delighted with the deal. I bet!

Are these not the very 'suits' that I forecast some months ago? Certainly, by this move, Harris has breached the spirit, if not the substance, of the blandishments he made in the interview he gave me just a few short months ago. And one can't help wondering: what is going on?

At the time of the interview, Jere Harris sold me the concept of long arm financing via

corporate bonds - no interference! Swap the bonds for venture capital - interference! \$65 million of venture capital - serious interference! So, the suits are in the boardroom at PRG.

**I**t is traditional for the divas and luvvies of stage and theatre to be mobbed in their dressing rooms by their peers and admirers on opening night, but it might be considered a mite unusual for a lighting designer.

But then this particular tale is about a very unusual individual in that discipline, and one of the most popular and all round good guys you could hope to come across.

We are talking Rick Fisher here, LD extraordinaire, Tony and Olivier laureate and chairman (or is it chairperson, to be pc?) of the ALD. By coincidence, Rick was lighting Disney's Hunchback of Notre Dame in Berlin (see review this issue), while the Showtech exhibition was being held in the same city. Since this would be the last exhibition that could have any bearing on last-minute Millennium decisions, Berlin was naturally seething with industry people. Consequently, at the end of a special preview performance of Hunch, Fisher, normally such a shy and retiring individual, was embarrassed to find himself surrounded by a coterie of fans in thrall of his distinguished and moody lighting for the, otherwise, Hollywood-style production. Get used to it Rick, you're a star!

Whoever was responsible for the calendar clash which led to the PLASA dinner and AGM occurring on the same weekend as the BEDA annual fest, is either a glutton for punishment, or more likely got their week numbers from L&S's wall chart. Not that I care too much - I never go to these things if I can avoid it, for fear that the temptation to report on those behaving badly might get the better of me. Worse, there is always the fear that I might just behave badly myself. Thus, it's a relief to be able to attribute the story below to my deep mole who was present at the BEDA dinner.

With virtually the entire BEDA membership's estate up for sale - Rank, First, European et al - the annual bash was always going to be a less than relaxed affair, the question 'Who do we work for this week?' being on everybody's

minds. So I suppose it was not at all surprising if, in the early hours, emotions started to boil over and tempers became frayed. In two entirely unrelated incidents, so my taupe tunneller tells me, two senior industry operations execs became involved in an unseemly spat in the bar, which duly led a spilling of the life-giving liquid (no - blood, you fool), while elsewhere, another even more exalted individual, in a high state of dudgeon, was hauled away from the venue and into the night by the Birmingham plod. By comparison, the PLASA annual dinner, I am assured, was a much more dignified affair.

**W**hile the sun blazed, the bands blared and the press beamed on Glastonbury, thus throwing a good light (and sound) on our glorious industry, the weekend national papers were full of another story which does us no credit at all. Apparently, an unscrupulous promoter, well known for disappointing his charitable backers on previous occasions, and the subject of an earlier No Comment column, has managed to find yet another sponsor to succour (sic).

I won't name him, because last time I did, he came after me with a baying pack of legal hyenas and, of course, the mag was obliged to withdraw the statements I'd made. He promises to hand over royalties from the television rights for the latest concert under scrutiny, a particularly high-profile charitable event in London, at some unspecified time in the future, and of course we believe his best intentions.

The gentleman in question must simply have failed to acquire the knack of organising concerts which profit the charities which back them, despite the free appearances of various performers. So, I have decided to carry out a charitable act of my own. To save this poor individual any further embarrassment, or losses to his personal purse, or even bad press, I would like to suggest that rental companies look to their social responsibilities in future before providing any equipment for concerts in which unreliable promoters may be involved. Any who choose to ignore this advice can be sure of some free publicity in this column - for which I am sure they will be duly grateful. Meanwhile, I would be interested to hear from those who were involved in the concert in question as to why they were persuaded to participate, and how their involvement panned out commercially? Strictly off the record, of course.

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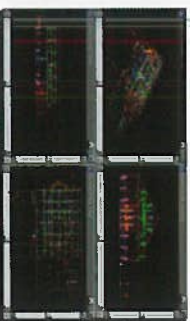
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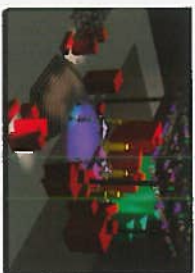
**Performance Schedule**

Time	Lighting	Sound	Video	Stage	Other
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18:30	100%	100%	100%	100%	100%
18:45	100%	100%	100%	100%	100%
19:00	100%	100%	100%	100%	100%
19:15	100%	100%	100%	100%	100%
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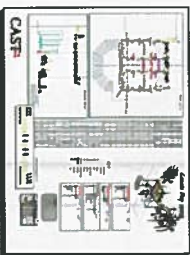
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4	4	4000	4000W PAR64	EA	
5	5	5000	5000W PAR64	EA	
6	6	6000	6000W PAR64	EA	
7	7	7000	7000W PAR64	EA	
8	8	8000	8000W PAR64	EA	
9	9	9000	9000W PAR64	EA	
10	10	10000	10000W PAR64	EA	

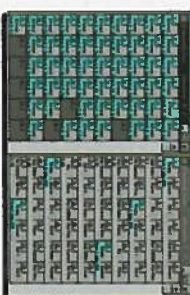
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# European Union



***At the end of May, Jerusalem played host to the largest television event ever to be staged in Israel - the 1999 Eurovision Song Contest.***

***Mike Mann takes a look at the challenges faced by staging a competition that is broadcast to an audience of 350 million across 40 countries***

**H**osting Eurovision is a matter of great national pride for Israel, and though much of the high-tech equipment involved in the production at Jerusalem's ICC was shipped in from around Europe, it was heartening to see that The Israeli Broadcasting Authority had chosen to use local design talent.

A team of four designers, from widely differing backgrounds, was employed to provide a complete set design up to and including a model within two weeks - using Convention Centre plans which resembled the Dead Sea Scrolls! Considering that the team members have design experience in architecture, exhibitions, television and rock and roll lighting, the resulting concept was amazingly coherent. Mia Raveh, who is a partner in exhibition company Bat Sheva Graphic Art, explained the simple philosophy: "We looked for a word or an image that would mean something to everyone watching at home on TV. We arrived at the Sun, and we felt that this would be a perfect centre-piece for the set. It's appropriate for Israel, it has a naturally optimistic feel and gives a non-religious image of the turning millennium."

This determination to distance themselves from traditional Hebrew imagery was clearly felt strongly by all four designers. "Though the motif of light is very emotive and has deep associations in our ancient language, we had seen too many crude Israeli or Jewish icons used to promote our

country," explained Avi-Yona Bueno ('Bambi'). "We wanted to create a truly universal, primal image." Incidentally, Bambi's career history, which spans two decades, includes a three-year period in the UK as a lighting and set designer with, amongst others, Britannia Row Productions.

The Jerusalem ICC's shallow concrete stage placed intolerable limitations on the set design, so a second stage was built over the existing one, with an additional 13 metre thrust and camera-friendly rake. This reduced the auditorium's capacity by several rows; however, the construction of commentators' booths, wide camera tracks and crane positions cut the audience figure from a potential 3,100 to a shade under 2,000. The 12 metre high set walls, which were hand-wired with no less than 6,500 low-voltage lamps, had to be manhandled in sections through the venue's 2m x 2m access doors and fabricated on-site.

Despite the deeper stage, the designers were still concerned that the relatively limited camera angles offered by the ICC's Ussushkin Hall would shorten the apparent depth of the stage. In order to combat this, an 11.5 x 5.7m LED OptiScreen was brought in from UK-based Proquip Gearhouse, and was used to great effect for a variety of 3D backdrops for the contestants' songs and interval dance routines. Lee Spencer, managing director of Proquip's LED Screens division, flew out to Jerusalem to make sure that it would be 'all right on the night'. "I looked around at all the back-up systems at the Song Contest - for the sound, the lighting and the TV feeds, and I just thought 'I know that these screens are incredibly reliable, but if just one LED goes down on the night, everyone will see it - and you can't provide a backup screen!'" he said.

The OptiScreen's design does allow rear access if LED strips ever need replacing in a hurry - which is clearly a massive improvement on the traditional system of sending a crew member on a rope down the front of the wall! For the month-long ICC installation, the screen was ground-stacked, using locking aluminium box-section frames. There was some debate at the Contest as to whether this was actually the largest screen ever to be erected; however, Spencer is convinced that the higher pixel density of the Proquip system means that the Eurovision screen had the largest number of LEDs - by my calculations an astonishing total of 663,552! For those





who are unaccustomed to the new generation of LED screens, the OptiScreen uses a square pixel comprising two diagonally-placed green LEDs, plus a blue and a red. While the pitch of these squares is a fairly standard 20mm, the use of 'virtual pixel mixing' (using adjacent rows and columns to double the apparent density) means that video resolution is effectively reached in a screen as small as 6 x 6 panels. Certainly the OptiScreen used in Jerusalem seemed immune from any kind of problems with curves, and was remarkably flicker-free. This was especially surprising, since the IBA's broadcast production team had requested that the screen be run at almost minimum brightness (in fact, about 3% of its potential output).

While the aspect ratio of 2:1 used for the Eurovision screen is not a standard video format, the graphics (run from Beta machines in the lighting control room) had been previously vignettted and the screen software took care of scaling to fit the image to the exact width of the set opening. One very positive factor about the use of a large-format screen was LD Mark Kenyon's careful matching of colour washes close to the screen edges, giving a seamless and integrated look to the set and screen. The simple contoured set walls were, according to Mia Raveh, designed to help the lighting designer, who is known to UK audiences for his work on Top

of the Pops and the Brit Awards. Though local rental company Danor was awarded the lighting supply contract, they drafted in Hamburg awards lighting specialist Procon to provide the majority of the enormous rig. Andreas Sollik, production electrician for Procon, oversaw the installation and smooth running of the 400-plus lights - most of which were intelligent! "Once we had Mark's design, we used Designer 7 just to check that all the lamps would fit on the truss - we have had to make extensive use of outriggers just to get enough clearance."

With so much moving lighting, the DMX distribution system became horrifically complex. "Sometimes we have three or four DMX lines on one truss, because different lamp types are being controlled by different desks." The desks in question were a Wholehog ("used just for the beam stuff"), a Compulite Micron for generics and a Sabre for set lights, key lights and satellites. The lamps? Take a deep breath . . . 144 Mac 600s, 71 Mac 500s, 38 Clay Paky Stage Color washlights, 32 Stage Zooms, 45 Robocolors and 56 Pars, mounted on nearly 1/2km of truss! Followspots were four truss-mounted Unispots and six FOH Xenon Super Troupers, mounted on a temporary tower over the balcony, along with a raft of six-bars provided by Danor for audience lighting. The 68 motor points (many of which were new for Eurovision 99) were pre-rigged on 3rd May, and the majority of the installation was finished by the 9th, ahead of much of the set build.

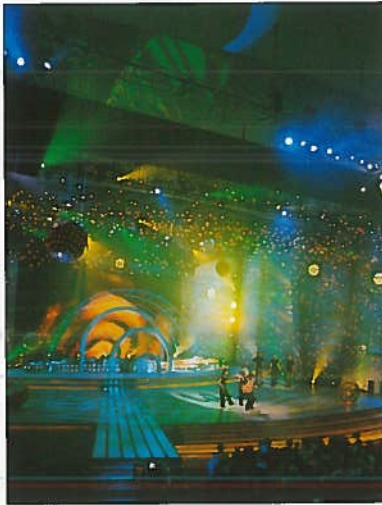
One area which is seldom covered in articles of this nature is power - but it is included here as an indication of the immense practical difficulties of staging such a power-thirsty event in a comparatively small venue. Hilton

Asmos, who was charged with providing a total of over 3,500A (three-phase) to the ICC via over 3km of cable, was running on a short fuse as the big night approached. "Is it as bad as it looks? It's worse!" he commented. "We had to run in power from the building next door and even now we are getting close to the limit. The equipment in the hall is dissipating so much heat that the air con' can't handle it. Unfortunately, I can't do anything about that - we'll just have to sweat it out!"

One of the most problematic areas turned out to be the dressing rooms - with each act bringing in everything from hair-care equipment to water-heaters ("3kW loads on the same spur as critical equipment!" groaned Asmos). On stage, the existing 750A-per-phase supply had been supplemented with an additional 1000A three-phase feed - though Asmos was relieved that the LED screen was not drawing as much power as expected. "I'd allowed 130A per phase (the theoretical maximum at 100% white), but, in fact, the LED screen, scoreboard (a Toshiba videowall) and Barcos only take up 63A per phase. The real load comes from the moving lights - they're heavy users, even when they're idle." Generator back-up was provided for all 'essential' circuits - though much to the artists' dismay, this did not include their curling tongs.

Live sound for Eurovision 99 underlined the subservience of every technical department to the broadcast production. Firstly, the auditorium could not house a full-size orchestra equipped to handle the 23 backing tracks, so for the first time playback was used throughout. This did, however, simplify the job of reinforcement for the live audience. Though the front-of-house system itself (Clair Brothers R4, provided by Israeli rental company Kilim Electronics) was fairly comprehensive, the unhelpful acoustics of the ICC auditorium meant that the presenters' reinforcement level was drastically reduced during the show. FOH control was conventional; a Yamaha PM4000 backed up by a PM3000, with a basic effects rack and BSS Omnidrives distributing signal to the main system and Meyer UPA-1P delays.

On stage, matters were a little more complex. Despite the fact that the maximum number of on-air radio mics at any one time was six, the rolling nature of the show necessitated no less than 48 channels, plus a multi-channel IEM system. Sennheiser EM1046 UHF receivers were used throughout; mics were a mixture of SKM5000 handhelds and NB2 'Madonna' headbands. The channels were divided into three bands, with a Sennheiser engineer and RF analyser constantly monitoring interference from outside sources.



Above, screen tech Pete Egan at the OptiScreen's controls. Fibre-optic links are used between the control rack and LED panels; each panel has a separate fan power inlet to prevent condensation outdoors. Top right, the final result with the OptiScreen giving an added dimension to the ICC stage

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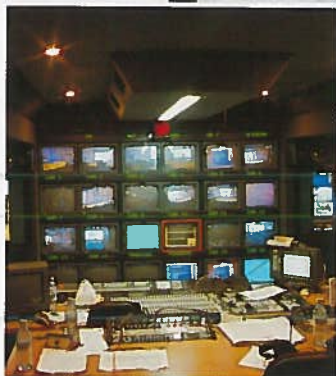
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In a security-conscious state like Israel, the heavy use of mobile radios by the police and defence forces make this kind of wireless installation a potential nightmare, but Sennheiser's Rolf Meyer was happy to report that there had been no problems: "Previously, we've used modified systems for Eurovision, but this time all the equipment is off-the-shelf. The Sennheiser team had already analysed the venue during preparatory visits, and were confident that the frequency plan was intruder-proof. "The biggest problem we have," commented Meyer, "is the ENG crews who turn up with their own radio packs. Though the IBA asked everyone to submit details of their equipment beforehand, this never really works. We are getting good at spotting the culprits before it becomes a problem - we can offer them our own alternative pack which won't interfere with the show."



Outside the venue, in the 38° heat, was located the broadcast hub of Eurovision 99 - two OB trucks from Belgian

supplier Alfacam. Illustrating the importance of back-up, Alfacam had brought an entire 14-camera van (OB4) which would take over from the larger OB7 unit in the event of a major failure. Gabriël Fehervari, general manager at Alfacam, was clearly pleased that his new vehicle had been chosen for the Contest. "We only started building OB7 in January - though we had talked to the IBA in Amsterdam last Autumn and we knew what they would need for the show."

The 13.8m rigid vehicle is based on a VanHool T9 double-decker bus frame, which allows room for remote equipment to be located 'downstairs', while vision control, sound control and engineering occupy the first floor. OB7 is a 16-camera mobile, which is equipped with a totally digital BTS video system, but with an analogue audio control room. At the centre of this is a 56-channel Amek Recall console, one half of which has been fitted with the new RN modules. Needless to say, these modules were used to handle radio mic feeds, while playback (from a bank of digital Beta players) was routed to the console's more basic inputs. With acts appearing every four minutes (and only 50 seconds between each, while transition clips were being played), the Recall was an appropriate choice. Audio mixing (like vision) was performed by the Israeli crew, with the Alfacam team in the background 'just in case'.

Satellite links for the 23 participating countries were the responsibility of the IBA and EBU - three 12Mb/s downlinks from Eutelsat II/F4 were provided at Television House in Jerusalem, which allowed the co-ordination team to set up three countries at once for the national voting results. Transmission uplinks used the EBU's high-grade 24Mb/s service - one for main programme and one as a back-up. Four channels of audio were broadcast - stereo programme mix, mono presenter's mic feed and mono engineering feed. Optical fibre links were used between the IBA



Above, LD Mark Kenyon (foreground) and his lighting team inside the main control room and left, inside the OB7 control room with Panasonic 42" plasma screens

base and the venue, with ISDN and landline back-up. In fact, so serious was the prospect of a failure,

that two ISDN links were set up direct to EBU headquarters in Geneva; if the local satellite links failed, the co-ordinators could simply switch to a link via Switzerland. For the songs themselves, each digital Beta machine had a slave machine (located in OB4) permanently running, providing audio backing (ip stereo) plus click track, just in case. In the worst possible case (and given the international profile of the competition and its location, this meant a terrorist attack), the entire show had been taped at the dress rehearsal and the tapes were run in real-time back at Television House.

No Eurovision Song Contest would be complete without commentary - whether the time-honoured opinions of Terry Wogan or the more serious tones of other country's best-known presenters. A total of 36 commentary positions were provided by the IBA, each equipped with commentator systems from AEQ, based in Madrid. Having seen the ease with which the AEQ system handled the 1998 World Cup (1300 positions across the length and breadth of France), the IBA's head of sound and

communications Saadia Karavani was determined to provide a system which would not present compatibility problems with the outside world: "We wanted to be able to use any European or US protocol. These codecs can communicate with any other system, which makes our job at this end much easier." Though not every country receiving the Song Contest was originally equipped with a commercial ISDN connection with Jerusalem, this was addressed by the Israeli PTT, with 7kHz (for communications) and 15kHz programme links being established to all 36 nations. Karavani's responsibilities also extended to the Press centre - on advice from the BBC (who handled last year's requirements in Birmingham), the centre was equipped with 130 telephone lines, 20 ISDN booths, plus a 250-capacity viewing/press conference room.

As far as the 350 million viewers were concerned, the Swedish entry (Charlotte Nilsson singing 'Take Me to Your Heaven') won the night by a slim margin. Judging by the reaction backstage as the 'on air' light was switched off at the end of the night, the real winner was the multi-cultural, multi-lingual production team, pulled together from all over Europe and Israel for arguably the most nerve-wracking three hours of television on earth.

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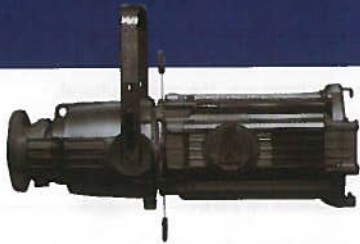
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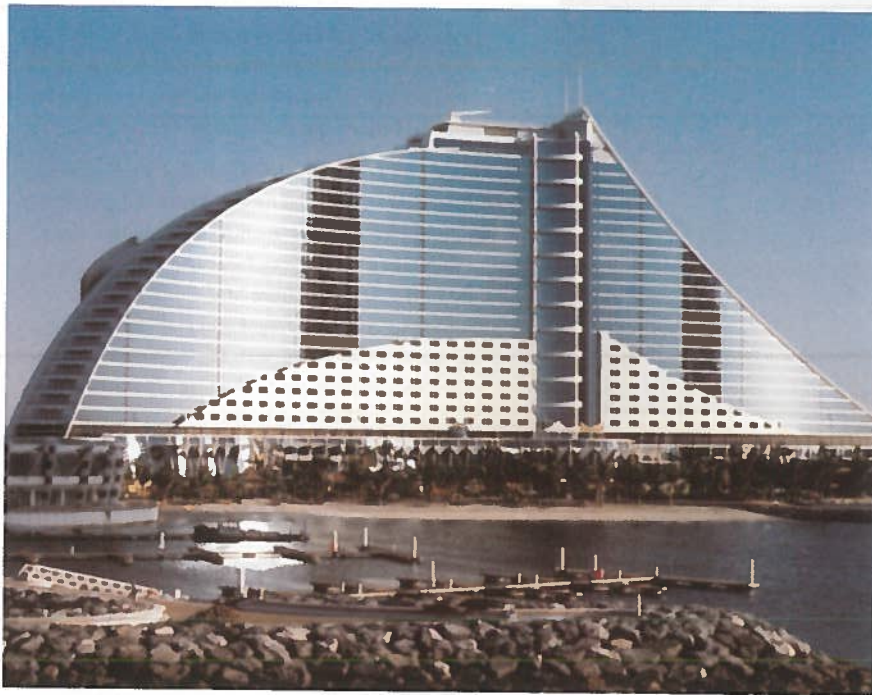


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*The central atrium of Dubai's stunning Jumeirah Beach Hotel features a unique work of art on the grand scale. Lee Baldock takes a look at the jaw-dropping sculptural diorama*



# Reach for the Stars



U A E

**T**he United Arab Emirates has long been known as one of the great oil-producing Gulf states, holding beneath its territories fractionally less than 10% of the world's oil reserves - around 98 billion barrels of oil. However, despite this enormous wealth of natural resources, the UAE has for some time been actively diversifying its economy, in order to reduce its dependence on revenue from oil and gas production. During recent years, the federal government has been busily investing in sectors such as tourism, aviation, commerce and telecommunications.

The wisdom of this diversity was demonstrated when oil prices suddenly crashed during 1998: with oil and derivative products accounting for around 78% of the UAE's total exports, the fall placed substantial pressure on the economy, but the diversified element certainly saved the UAE from a far bloodier nose.

So in order to achieve a higher level of diversification, the UAE has been applying much of its energies, and a not inconsiderable amount of its cash, to the process of laying down an infrastructure that will allow it to compete on the world stage as a target for tourism and business as it enters the 21st century. And so it should, as the 21st is the century which (without the timely development of new technologies and methods of oil exploration and extraction), will probably see the world's oil deposits run dry.

One element of this dramatic development of infrastructure can be found in the second largest of the

Emirates, Dubai, in the form of the spectacular Jumeirah Beach Hotel, itself part of the extensive Chicago Beach Resort complex. The striking glass building snakes a graceful 'S' along the Gulf beachfront, mirroring the elemental water theme that runs throughout its design, while its profile resembles the crest of an enormous wave breaking on the sand.

The Jumeirah Beach Hotel is a masterpiece of design. The structure is a slender serpentine strip, stretching 300m in length and rising 100m at its highest point - the wave's crest. The building is wide enough from front to back to accommodate a room and a corridor, so that every single one of its 600 rooms has a sea view. The vast construction includes 40,000sq.m of glazing, with 25,000sq.m of aluminium panelling; its various swimming pools contain 3.5 million litres of water, its gardens contain over 200 species of plant and its grounds are paved with a million blocks. Obviously, when it comes to competing on the world stage, the UAE simply doesn't do things by halves.

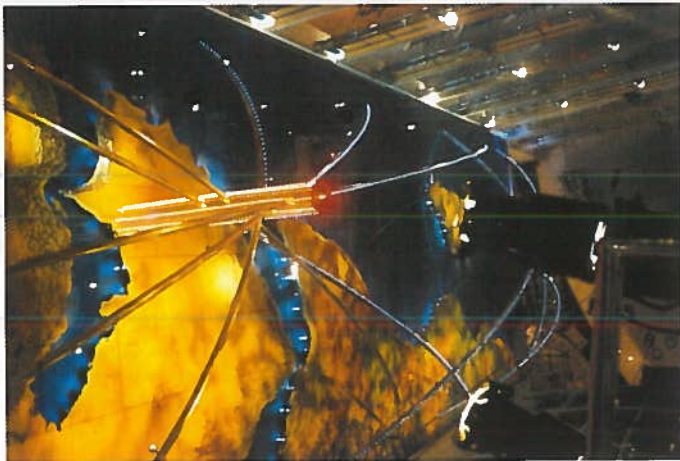
Inside, the fitting centrepiece of such a building is its spectacular atrium, reaching up 100m to the very crest of the 'wave'. Although architecturally impressive in its own right, the atrium has been ornamented with an enormous, 90m high wall sculpture, or diorama, designed to make visitors' jaws drop even further. Depicting the blue seas of the Gulf at its base, rising up to the land of the UAE, then the starry sky and finally the sun at the apex, this enormous diorama has been designed to represent a key contribution to ancient world thought from Arab culture - the concept of the four elements of water, earth, air and fire as the building blocks of all things.

*Top, the Jumeirah Beach Hotel, Dubai*

*Below, Rob Olins' and Benny Ball's initial model of the sculpture which, unlike most models, says Ball, turned out to be very accurate.*







Above, two views looking down over the lower portion of the sculpture, showing the ETC Source Fours mounted on the balconies opposite.

Right, Lighting designer Benny Ball pictured on site during the installation

The diorama was conceived by London-based company KCA and architectural sculptor Rob Olins, and engineered and fabricated in Littlehampton, Sussex, by RacePrep, a company specialising in the construction of custom shapes and body parts for a wide range of markets, including motorsport. Interestingly, they also fabricate the highly distinctive bodies of the Nautilus studio monitor loudspeakers which have become one of Britain's flagship Millennium designs. RacePrep were commissioned by WS Atkins, the consultant

engineers who were also responsible for the construction management of the 18-month project. The structure uses integrated lighting to change its states throughout the day, from sunrise to sunset, with flame effect projections onto the surface of the nine metre-wide sun, as well as representing the stars and the phases of the moon.

Lighting design for the project was carried out by Benny Ball, a Yorkshire-based designer who started out studying theatrical lighting design under Richard Pilbrow at Theatre Projects, and whose varied CV now includes extensive experience in the Middle East. Ball was initially brought on to



the project by Steve Foster at RacePrep, who had seen some of Ball's previous work in Brunei, and suggested to sculptor Rob Olins that he would be the ideal choice for the lighting scheme.

Drawings of the initial concept and a loose brief came from Olins, and he and Ball developed the concept over a seven month period before they eventually came face to face. The brief was to make the Atrium feature 'stand out' at night, as well as to combat daylight and maintain a striking spectacle at all hours, with the colours of the land and sea brought to the fore. The brief also asked if some way could be found of

*"From this outline, Ball suggested that they develop a scheme to mimic the daily pattern of sunrise and sunset, allowing the stage to be set in the evenings for the main show"*

adding some dynamic animation aspects to the feature, including a sun that actually appeared to burn.

From this outline, Ball suggested that they develop a scheme to mimic the daily pattern of sunrise and sunset, allowing the stage to be set in the evenings for the main show, involving fast multiple cues and movement of the animated parts of the feature, eventually slowing down as midnight approached.

The sea and earth section of the diorama, which incorporates reflective lacquered panels to

represent water, is accurately modelled in 3D from geographical survey data, and reaches from ground level to the 14th floor - a height of 45m. Built out over this section are nine 'orbits' representing the heavy traffic of commerce and technology in the region. Emanating from a central 'pole' of light rising out from the UAE on the map, these orbits

are curving stainless steel poles, with chasing points of light along their lengths representing this 'traffic'. To achieve this effect, Ball used a total of 167m of three-circuit TDR lamps (2.9W 24V) from California-based manufacturer Tokistar, with another 24m of white single-circuit TDR lamps for the central 'pole' which rises up out of the UAE. Where the orbits converge on this central pole, their undersides carry MR16s to act as fills for any shadows, while the red beacon visible at the tip of the pole is a converted airfield anti-collision beacon.

Outlining the coastline of the accurately-modelled land mass are 174 MR16s (50W, 12V) with glass colours, while a further 49 MR16s, this time with glass high temperature colour filters, give the whitish glow that marks the edge of the planet Earth as it sits in space. Ball explains: "The

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edge of the map is very detailed, and the surface is contoured, rising up and down, as well as just going in and out, so any strip source would have been impractical to install or maintain. As we had to combat daylight with the source used for a line of sight over 200ft, we also needed the intensity of the 50W 12V MR16s - particularly with the dark blue for the sky edge and the cyan for the sea."

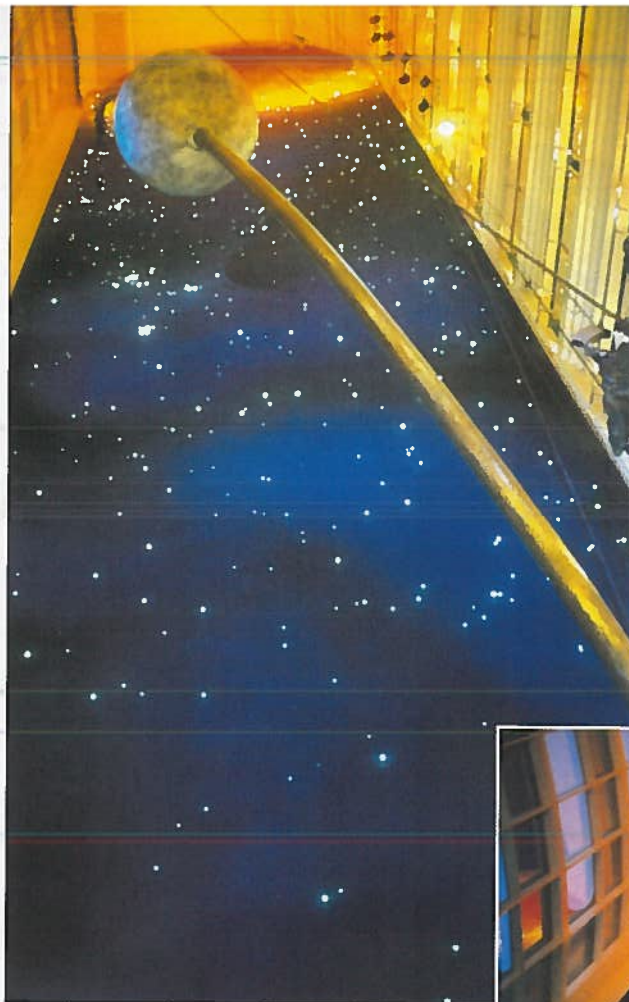
The main illumination for the feature is provided by a formidable array of ETC Source Fours and Source Four Pars with dichroic glass filters, all of which were supplied by ETC's local distributor DLC. The choice of these fixtures was a straightforward one, as Ball recalls: "At the time of specification, there was nothing else available on the market that was sufficiently small, pokey and flexible to rival the Source Fours."

Most of these fixtures are mounted on chrome 'U' frames on the balconies facing the diorama. 24 Source Fours (50° versions) cover the land mass section, a further 10 (36° versions) cover the moon's exterior, while the Universe and the Sun are lit by a combination of 50° and Par fixtures. "We use 'straw tint' dichroic glass on the land mass, with break-up gobos, all browned out of focus," explains Ball. "The focus schedule is not at all straightforward - no luminaire is focused flat on, as the whole map must be covered effectively in sections to be useful in ripples and chases, but the lights couldn't hit any of the orbit rings, so we had to create a focus plot that avoided them all."

The sky section, which continues up from the 14th to the 25th floor, has within it 899 fibre optic lights, accurately representing the stars and constellations of the night sky. Every seven hours, a slowly rotating 2.6m wide model of the moon orbits across the night sky on another, larger, curved stainless steel pole, which stretches 32m along the face of the sculpture, and weighs in at three tons. Further MR16s with coloured glass filters provide the glow from the moon's interior. Control for the moon's internal lighting is from an ACT6 rack, via an Outlook control station, with infra-red transmitters mounted on the balcony sending 'go' cues to receivers mounted on the model.

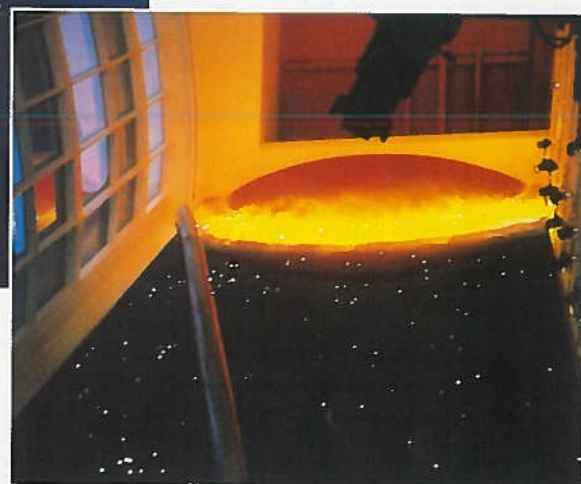
Stars come in three different sizes, with the light fed from 150W HQI sources - 10 of them for the 572 smaller endpoints, five for the 135 middle-sized stars and six for the 192 larger ones. "All of these star points are coned, so that the tips of light can be seen from any angle," says Ball. "Flat ends would have been useless."

Control for all is via a rack-mounted version of ETC's LPC Expression 2, which runs the



*Left, the impressive spectacle of looking up at the night sky section, where 899 fibre-optic endpoints give an accurate representation of the stars*

*Below, the 'burning' Sun which is lit with ETC Source Fours, each fitted with two gobos, one mounted in a DHA rotator. The gobos are an out-of-focus mix of Aztec patterns and flames.*



cues day and night in real time cue mode. Dimming is all ETC SmartRacks, a total of five in 24-way and 36-way configurations positioned in three separate 'dimmer cities' adjacent to the feature on floors 9, 13 and 21. The full process uses 410 base cue states and 223 chases.

And, as originally requested, the sun really does appear to 'burn', as Ball explains: "The Sun looks great. It's lit with Source Fours, each fitted with two gobos, one mounted in a DHA rotator. The gobos are an out-of-focus mix of Aztec patterns and, of course, flames." Ball also tells a story which admirably illustrates the effectiveness of this arrangement: "It can be seen from the freeway a mile away - one concerned local resident called the fire brigade, believing the top of the hotel was on fire!"

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# Turned On, Tuned In



*Few would dispute the fact that The Ministry of Sound is at the cutting edge of youth culture. Louise Stickland discusses with founder Mark Rodol the unique way in which MoS has carved out its own distinct moment in time*



NIGHTCLUB

**'The Ministry' as it's known by those close to and involved in the organisation, is far more than 'just' an internationally renowned club in coolest SE1 offering arguably the best music, sound system and environment on the planet. It's a fast-moving, multi-faceted, dance-orientated lifestyle.**

To maintain this position over a sustained period of time is no small order, particularly not amongst the constantly chameleoning and fragmenting trends of youth and dance culture.

The Ministry of Sound club was founded in 1991 by Mark Rodol and three business partners. All had serious mainstream careers up-and-running at the time, as well as being successful club promoters. They were deeply embroiled in and enthused by rave culture. Rodol's 'proper' job back then was working as a real estate broker for the bar and nightclub industry. At 24, his last two deals before launching MoS were the sale of Quaglinos from Trusthouse Forte to Terence Conran and of Planet Hollywood, which he acquired for The Trocadero Group.

For the last eight years, Rodol has been completely driven by his belief in The Ministry of Sound and its mission as a global unifier of youth and dance culture. As a person, he is hardworking, forthright, erudite and has tremendous vision. Well respected amongst his peers, there's not the slightest trace of arrogance in Rodol as we sit comfortably recessed in the semi-dark of one of the club's seated areas. His dedication to dance culture, personal ambition and sharp business acumen were ideal attributes for harnessing to the then relatively anarchic and uncharted territories of dance music back in the early nineties.

The Ministry of Sound can take credit for a clutch of firsts, innovations and trend settings while what we now call 'the dance music industry' essentially spawned and grew in its wake. The Ministry of Sound empire now employs 160 people and last year's turnover hit £40 million. That's definitely a proper job!

The legend started with the renowned Ministry of Sound club at Elephant and Castle. Being 10 minutes from central London made it the ideal

location for clubbers, coupled with an abundance of convenient car parking spaces close by and no neighbours to whinge about noise. The Ministry of Sound was the first club in the UK to be granted a 24 hour public entertainment licence (it is open all night on Fridays and Saturdays and holds 2,500 people), an element instrumental in the choice of location.

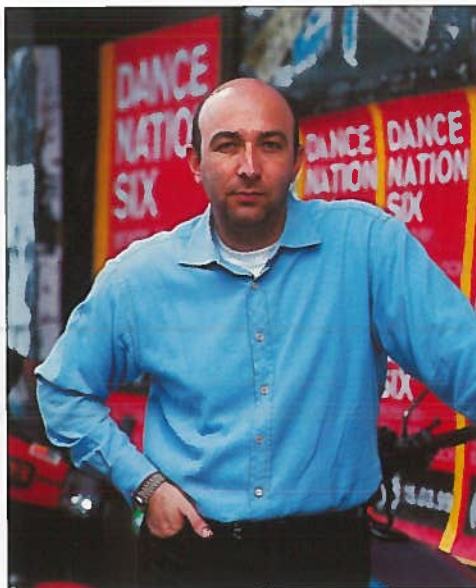
Rodol recalls that the London Borough of Southwark were the only local authority interested in this aspect at the time. For Rodol, who had grown up with rave in his veins, being open through the night was vital. At that time, mainstream clubland opened at 9pm and shut at 2 or 3am, leaving party people with nowhere to go. By the end of the eighties, the first phase in rave culture was essentially disbanded and fragmented by the law. Some of the more disparate elements re-emerged underground, others went abroad and others abandoned the event scene altogether.





Ministry of Sound founder Mark Rodol. All other photos accompanying this piece are of the recently refurbished Ministry of Sound in London.

A massive gap appeared in the UK entertainment scene as a generation of young people, used to dancing and partying all night in a non-commercial or corporate atmosphere, had nowhere to go. By this stage, many had also transcended the stage where dodgy buildings and the risk of getting busted by the police was part of the thrill. Yet they were disenfranchised by the glitz, tack, naff music, ambivalent design and zero atmosphere of mainstream nightclub operations. Rodol and his colleagues were acutely aware of this need.



When not open to the public, the club is available to hire for private functions and as a space for the likes of film, video, TV shoots, commercials, et al.

'The Ministry of Sound' as an organisation has now grown and proliferated dramatically into a diverse, creative industry. The packed offices in the old shoe factory at Elephant buzz with energy and friendly freneticism as the highly motivated team goes about its daily business.

The majority of the Ministry of Sound's current turnover is derived from the record label side of the business, Ministry of Sound Recordings. They are one

Rodol always intended The Ministry of Sound to lead the way in providing the elements needed for a great night out. "The job of a good club promoter is knowing what people want," he affirms. At the time, The Ministry of Sound stepped in to the void untapped by corporate operators who Rodol believes were clueless as to what young people really wanted. The essence of this was a place to congregate offering superb music and dancing - all night.

From day one, The Ministry of Sound's audio system, designed by the late Richard Long, was prioritised and their DJs were hand-picked as representing the best of their genre. This enabled the club to build its unique chemistry and reputation with total confidence. It wasn't where it was, it was where it was at!

In fact they spent so much of the initial budget on the sound system that when the club opened they had no lights! This made little difference to the success or atmosphere and actually fuelled the antithetical notion that the day of the all-singing-all-dancing-wagging-monstrosity disco lighting rig was doomed to antiquity. Not before time for many! There are a few more lights now, but sound and music as stand-alone elements are still very much dominant.

Décor has always been raw, minimal and stylishly under-designed - by Keith Hobbs (of Met and Titanic Bar fame). The idea of revealing wood, metal, brick and concrete surfaces has allowed the club to develop a natural ambience through the people within. Consequently, vibe-wise, a dynamic state of flux varies nightly and hourly.

Despite being one of the most expensive clubs in the country to get in to, The Ministry of Sound is packed to capacity every night. Rodol feels the admission price of £15 - £20 is more than justified in terms of quality. For a club, eight years is a remarkable lifespan, a testament to their being in tune with the shifting needs and demands of their target audience. During that time the club has changed quite radically. "Young people at the end of the century are far more switched on to service and quality than they were five years ago. They are more discerning and are generally 'trading up' in expectations," explains Rodol. Hence the latest redesign, featuring the addition of two rooms, more seated areas and conformable, stylish furniture for the chill out areas.

of the largest independent record labels in Europe, regularly outselling their more traditional and established rivals. Due to the disparate nature of dance music, most of this is achieved through compilation albums, with The Ministry of Sound's The Annual and Dance Nation series being among the UK's biggest dance sellers last year (taking the top four places). Other labels under the Ministry of Sound's umbrella include Sound of Ministry for more commercial, soulful house, Ride for credible garage, Data for melodic trance, Defected Records and Azuli.

As with the club, Rodol feels their understanding and focus on dance culture has enabled the recording business to take advantage of the fragmented and ever-morphing nature of the music which has eluded their corporate rivals. The UK leads the world in dance music by several years, and the nation is also the fourth largest global record market after the US, Japan and Germany - facts to which The Ministry of Sound have responded.

The first Ministry of Sound tour was in 1992 when they took their unique sound, experience and (now internationally famous) DJs on the road around the UK. Since then, the touring business has propagated radically, producing over 300 events a year in far flung corners of the world, including Vietnam, China, Taiwan, Japan, America, South Africa, Australia, Hong Kong and Europe. Each event includes the Ministry of Sound's resident DJs, label acts, dancers and performers, set and technical production. The tours have also attracted serious brand sponsorship from companies like Marlboro, Pepsi-Cola, Heineken and British American Tobacco.

As youth markets have become increasingly lucrative throughout the nineties, The Ministry of Sound have found themselves acting as consultants for many brands seeking success in this area. The average age of the club audience is 22, providing one of the most demanding and eclectic socio-economic groups to satisfy and inspire, and one about which The Ministry of Sound feel well qualified to advise. "We will invariably be telling them their brand is currently crap and how they can make it work for this age group," states Rodol.

The Ministry of Sound's own role within youth culture is convoluted. It has successfully navigated the dangerous tightrope straddling massive commercial success with 'cool' and 'credible'. Not only is youth culture unpredictable in

**'The Ministry of Sound' as an organisation has now grown and proliferated dramatically into a diverse, creative industry. The packed offices in the old shoe factory at Elephant buzz with energy and friendly freneticism as the highly motivated team goes about its daily business.**





nature, it is by definition transitory and increasingly shaped by disposable income in an age of advanced consumer capitalism.

Rodol sees 'The Ministry' as a funky, revolutionary youth brand and the focal point for a erratic and often under-represented minority with dance culture at their core. Notions of misunderstood youth are hardly new, but The Ministry of Sound has tapped into these in new and specifically dance-orientated ways with spectacular success. It slices through prejudices to form an expressive, multi-cultural cultural heart and soul for many young people.

The Ministry of Sound has also ventured boldly into experimental areas such as politics. In the run up to the 1997 election, an MP had his picture snapped outside the club and emblazoned all over the national press, portraying him as a purveyor of youth culture because he was in the queue for The Ministry of Sound. Apart from pissing off everyone involved there by exploiting them for crude political capital, it sparked a heated office debate about the relevance of voting. The upshot was the launch of a controversial, hard hitting direct action campaign to get young people into the polling booths.

A series of posters and commercials featured bigoted individuals expressing their views. They included racists, fascists, homophobes and misogynists, overlaid with the question 'He'll use his vote, why don't you use yours?' and the Ministry of Sound's logo. The stark directness of the campaign outraged many, and simultaneously elicited an enormous response from the people they aimed to energise. Once again, Rodol points out, The Ministry of Sound did what they do best -

communicated with young people in language, coding and on a level they understand.

The MoS's first foray into political expression was 1992 when, with the help of The Spot Co and Gareth Llewellyn from Llewellyn Designs, they projected The Ministry of Sound logo onto the Houses of Parliament. High profile publicity stunts and the company's sense of ironic humour reached their zenith in 1996 with a projection onto Buckingham Palace to celebrate their fifth birthday. It read 'The Ministry of Sound - lasts longer than a royal marriage'. It cost them about £2,000 to stage, they avoided arrest and made the headlines and pages of 117 magazines and newspapers worldwide!

Other zany and original ideas have included submitting a planning application to turn Guy's Hospital into the biggest nightclub in the world following its closure; making an official bid for the Royal yacht Britannia - to reinvent as a floating groovers paradise; and a Dadaist-style raid on the press launch of the Millennium Dome last year. "We wanted to say 'Where's the music and why should young people want to go there?'" explains Rodol on the latter, clearly not convinced that the vast public expenditure on The Dome will yield anything meaningful for the nation's youth!

Eighteen months ago, they launched their own lifestyle magazine Ministry. This was motivated by the belief that none of the currently available literature offered UK clubbers and dance music enthusiasts what was relevant or desired. In its short lifespan, Ministry has been a roaring success. It is



already market leader with a circulation of over 100,000, outstripping its well-established rivals and once again proving The Ministry of Sound have gauged their market right. Far from being a puffed up propaganda tool for the Ministry of Sound's self promotion, Ministry magazine is 200 pages of independently edited, buzzy, energetic, audacious, entertaining and lively info for fashion freaks, clubbers and hedonists. Even if there is a club in the same area that rivals one of their own operations and it's seriously worth checking out, Ministry will recommend it.

Other parts of the expanding media operation include Ministry of Sound Live, a weekly two-hour party-mix radio show, featuring DJs recorded in action at the club. This is circulated to over 150 radio stations and broadcast in 25 countries including on Virgin Airlines - where it enjoys its own channel!

Those who can't get to the club or the newly opened Ministry of Sound Bar in Birmingham can check out the web site 'ministryofsound.co.uk' for a wealth of







Ministry-related information and ideas. Once again The Ministry of Sound pioneered the use of internet promotion when the site first went up five years ago. It is now one of the busiest in the country with over 1.5 million hits a month and providing full on-line services including shopping facilities for the extensive collections of merchandising and recordings.

The Internet side of the business is destined to develop rapidly in the near future. Rodol and his colleagues have just signed a sponsorship deal worth £150,000 with Intel who are building a

virtual Ministry of Sound - expected to be on-line in the early summer. "Anyone who says they have seen this sort of thing before is in for a big surprise," warns Rodol "they've not seen anything quite like this!"

Rodol is the first to admit that the learning curve of the last eight years has been intense. Commercial success is one thing, but preserving an amiable, creative and stimulating working environment is another. In terms of management alone, with four people, it was easy to keep things under control and the flow of information

accessible. When that grows to 160, it's more of a challenge. Innovative philosophies and practices are employed, a management psychologist visits once a week and the team is run with passion and dedication. Empowerment of staff is the bottom line in encouraging the skills and talents of all to prevail.

Rodol values the staff. He believes that because they are reasonably, but not fantastically, paid, this contributes towards their commitment as team members, a crucial factor of the organisation. He is proud that staff turnover is abnormally low and that those moving on from The Ministry of Sound are perceived as being good at their jobs and quickly snapped up. The average age of the staff is 26, which doesn't seem to stop them being in the office at 8.45am and leaving at 7 or 8pm. Work hard, play hard, seems to be the order of the day.

Can The Ministry of Sound continue to successfully underpin youth culture into the next century? Rodol believes so. They have no intention of getting pompous or complacent and losing their close alignment with what young people want or their own ability to respond rapidly. Understanding and keeping abreast of - as opposed to judging - the culture and its accoutrements like music, drugs, drink, behaviour and leisure activities is all part of the whole interpretation. Open-mindedness has so far enabled their current vision and role model status.

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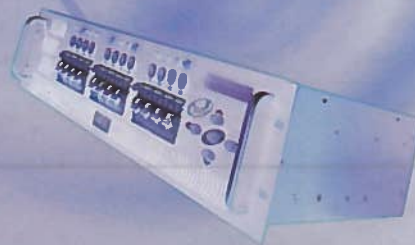
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# John Watt

## Second Take...

John Watt's view from beside the camera

It's the silly season and there are signs of high summer as I write - no hosepipe bans as yet, though the flow through the phone seems to have all but seized up - and just when I felt there was a plentiful supply in the reservoir of jobs.

**NO MATTER.** I only have to trawl through the channels to confirm my suspicions that the practice of lighting shows has become an optional extra. A special type of 'reality,' produced by shooting in available light, is in vogue. It provides pictures unrelated to anything my eye ever perceives, but saves money, hallelujah, and sooner or later the viewer will accept grey grainy mediocrity as the norm. End of moan.

**A COPY** of Brian Fitt's fourth book on TV lighting, *The A-Z of Lighting Terms*, has fallen through my

letterbox. Four must be a record in this slightly obscure subject. This is not a review, although if like me, you think you know your way through the jargon you had better nip out and get a copy 'while stocks last'. Needless to say it triggered a number of things for me, so I'll ignore the author's request to write to him with suggestions and do it here.

**UNDER 'A' COMES** "Alligator clip used for making temporary electrical connections". Wrong animal I think - we use croc' clips (as in, get me a crocodile sandwich and make it snappy) for fixing a wrap to the doors. Sadly,

temporary electrical connections made with these clips also run the risk of making your life a temporary affair too.

**I DIDN'T KNOW** about 'apple boxes' or their precise sizing - I just thought they were all pancakes of differing heights. He's missed two four sixes which are equally essential precision instruments - are you still with us Bill Gates? I always think of a 'basher' as "a camera or eye light," which is shown separately. The late Bob Gray once told me that a basher was an LD's admission of defeat, so I've only ever used them as a last resort, well second to last, the last last resort being Eastbourne on a wet Sunday.

**ACCORDING** to the book a 'blade' is "a narrow flag". But to me, it's a Charlie Bar - don't ask me why. I've never heard of a "Branchaloris - a branch of a tree held in front of a lamp", but have never failed to get what I want when asking for tuppenny-worth of mixed Dingle. The author also attempts to explain the doughnut effect, but doesn't cover the use of a doughnut to cure it. The inclusion of the definition for "a gnat's" is brave indeed, but avoids the sub divisions of 'alf a gnat's, a smidgen and a hair (which from a distance looks like a rabbit). It's all a very interesting read, with the usual Fitt technical substance to be found throughout.

**DO YOU SUFFER** from substitution? I do. I try to supply a well-specified list to hire companies to avoid confusion, but some seem to have staff who think they know better. Either that or they try to palm me off with whatever is left on the shelf or, perish the thought, plug the manufacturers who give them the best discount - 'no, surely not' I hear you cry, but they do you know.

**IN THE 'what's left on the shelf' category,** I've recently had egg crates that must have been rescued from a skip, soft lights with all the switches wired in different ways, and the usual

crop of Profiles with two shutters missing. Before substituting one perfectly good lamp for another, the hire companies really should check. I was stuffed recently because the substitute lamp only had a single 16mm hole in the mounting block instead of two at 90 degrees to each other. This was compounded by the supply of 'K' or 'Superclamps' similarly with only one 16mm socket. Of course, my pernicketyness has been known to rebound; I once ordered a theatre groundrow and emphasised that it must be delivered with 150W lamps. Unfortunately, I missed the figure '0' off the order and the hire company dutifully supplied 50 feet of groundrow lamped up with 15W pygmies. Even by my standards, with a bit of 119 in, it wasn't very bright. In fact, before I discovered my gaffe some fairly impatient exchanges took place between me and the console operator:

"Can you fade up the groundrow please?"

"I have faded up the groundrow."

"Well fade it up some more."

"That's it, there isn't any more."

"Well check the fuses."

**FOR MY SINS,** I've been nominated Chairman of Showlight. This is essentially a four-yearly conference which covers all the lighting disciplines - TV, film, theatre, concert, event and architectural. It has a unique format and will be staged in Edinburgh at the Festival Theatre in May 2001. Past delegates from around the world have found it a special blend of information, education and conviviality, attracting as it does the broadest range of men and women involved in all aspects of lighting. With the fragmentation of our business the opportunity of sharing experiences and ideas is becoming more important and this is very much the theme of Showlight. End of commercial.

**PROBABLY** some weeks behind the rest of the world, I have had the opportunity to 'fiddle with,' I won't say 'evaluate', Strand's new 600W profile - the SL 15/32. I'm not going to make comparisons because my tests were pretty unscientific, but suffice to say it appeared to be an excellent lamp which could become a tool of the trade providing it's not changed for a new model every year. The blurb lists some 18 attributes and buried in amongst them is a feature I believe to be unique. The entire lamp rotates within the yoke so that the shutters can be positioned absolutely at will and with no obvious limitations. It says it will rotate 360 degrees, but, in fact, I think you can go on rotating it as much as you like until the cable gets in a knot: like chromakey, it's a good idea and, unlike chromakey, it seems to work!

"I once ordered a theatre groundrow emphasising that it must be delivered with 150W lamps. I missed the figure '0' off the order and the company dutifully supplied 50 feet of groundrow lamped up with 15W pygmies."

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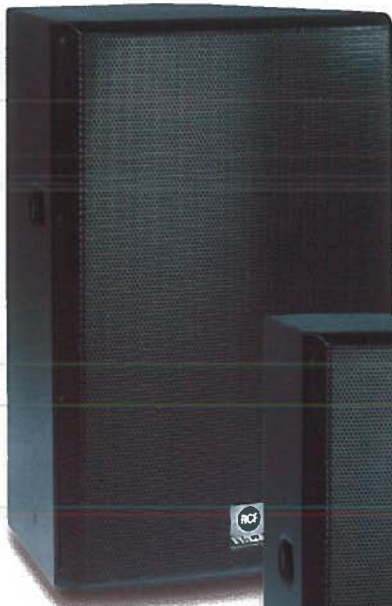
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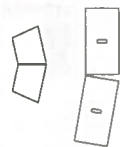


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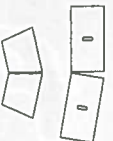
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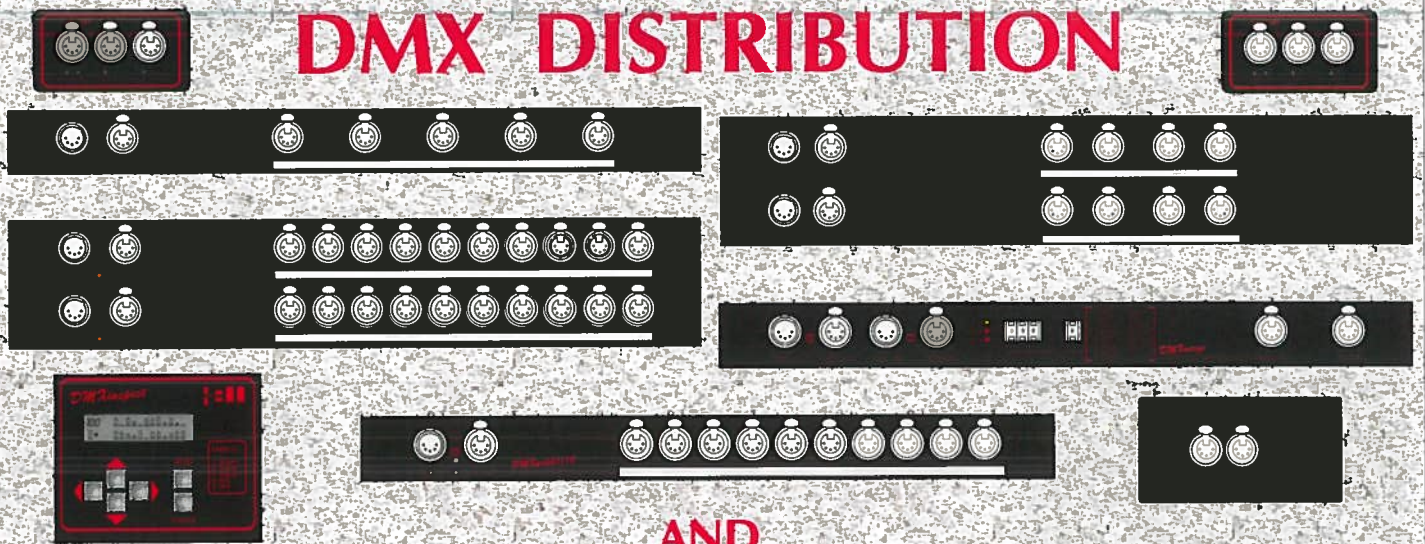
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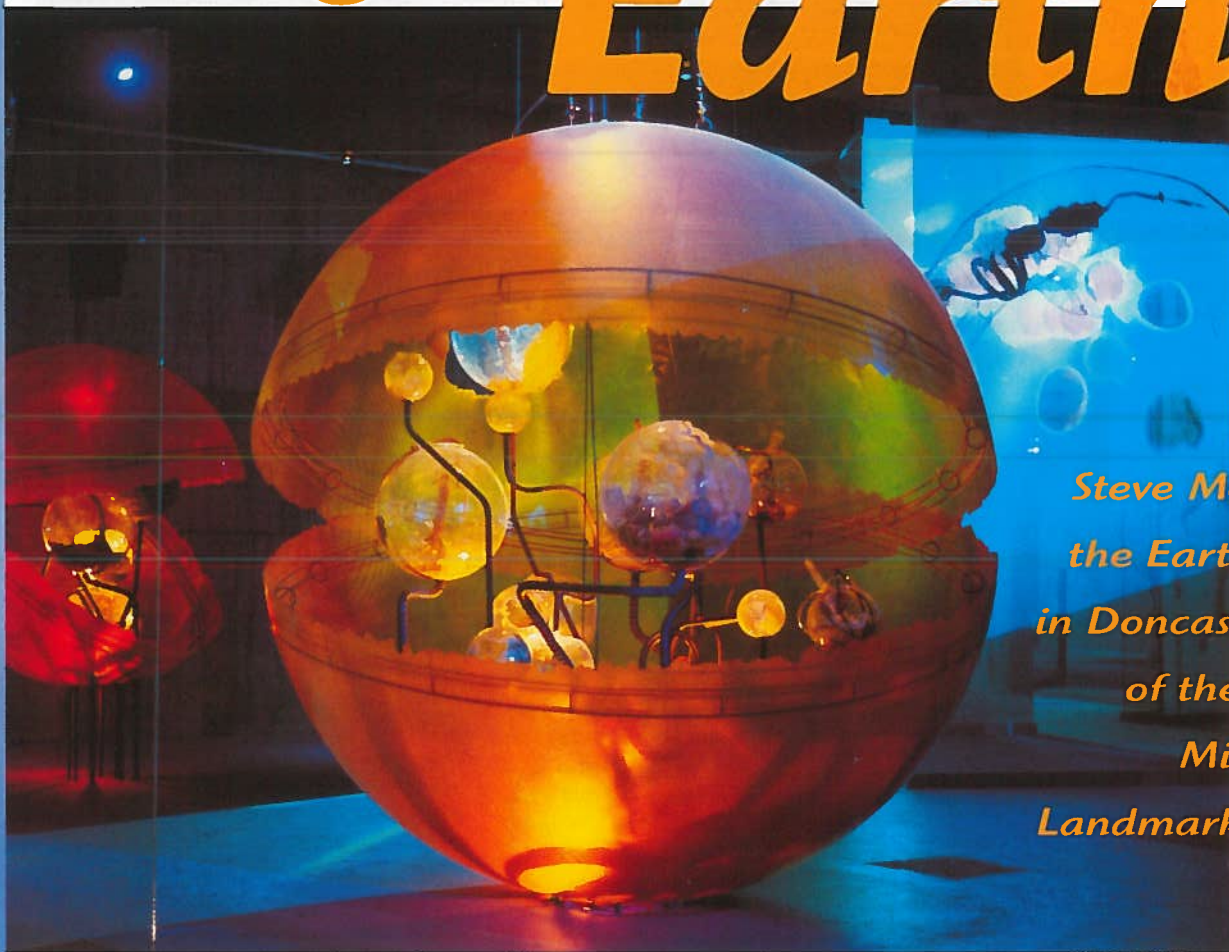
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# Fragile Earth



*Steve Moles visits the Earth Centre in Doncaster - one of the first UK Millennium Landmark Projects*

**A** portentous title, and a quirky location - The Earth Centre - you can almost hear Jules Verne, replete in tweed jacket and plus fours with some complex brass measuring instrument in one hand, saying "Welcome to my journey into the mysteries of the World."

Most people know Doncaster as the Carlisle of the East, the rail network's main switching station for the east-coast line. So far so unglamorous. But here it is, 400 acres of reclaimed coal tip alongside the river Don - and as reclamations go, this is a beauty. I like a good park me, nothing gives me greater pleasure than to wander along the hills and dales of some English beauty spot. But this is no ordinary park. It's like a collision between Greenpeace, Lewis Carroll and Alan Titchmarsh. I kid you not - the theme is ecology; the theology is planetary responsibility, the presentation is pure Alice in Wonderland. When the site opened on April 2nd there were no signs anywhere. Visitors were obliged to wander about and 'discover'. Wanderland indeed.

I was first invited to visit the Earth Centre by Charlie Kail of Brilliant Stages. "It's one of those Millennium project things," he explained succinctly, putting his finger firmly on the national pulse when it comes to the Millennium. Why is it that nothing concrete in terms of definition seems to be forthcoming? Millennium-speak is a new amorphous language; like New Labour, obfuscation seems to be the key. "So what exactly are you doing?" I asked. "Well it's hard to say exactly. It's quite different for us. In simple terms we're putting in some turntables for an exhibition gallery." Nothing unusual there then? "Well, the biggest turntable is 40ft across and weighs 30

tons, that's unusual. We seem to be doing more and more of these permanent installations. What I can tell you is that there are huge glass panels mounted on the turntable - 16 sheets of glass weighing half a ton each. They're big - five metres tall and one-and-a-half wide. They're so heavy we've had to reinforce the floor. Now that's a first for us."

Kail now held my attention, I let him proceed. "The design is by George Tsybin, he's a Russian opera designer. And Peter Erskine is involved." Should I know him? "Why don't you go and take a look?" he said. "The installation is almost complete." So I did.

Now I've passed this place every time I've caught the train down to London over the past two years. I've seen the old Denaby Main and Cadeby colliery slag heaps adjacent to Conisbrough station get transformed by an armada of yellow earth movers. You too may be peripherally aware of the site; the Earth Centre project has one striking image which has made its way into the pages of most Sunday colour supplements. The Ark appears, when viewed from the air, like a giant fly's head, two compound eyes flanking a complex set of mechanical mouth parts. Decidedly sci-fi in appearance, it's scheduled for Phase 2 and work should commence before the end of this year.

When complete, the Ark's two vaulting glass domes - the eyes - will house beneath them 9,000sq.m of exhibition and event space. 'Space that will be a showcase for sustainable products, technologies and ideas supplied by the world's most forward-thinking companies, universities and research bodies', says the press release. The roof structure itself will contain a honeycomb of photovoltaic cells to optimise the sun's energy.



MULTI-MEDIA

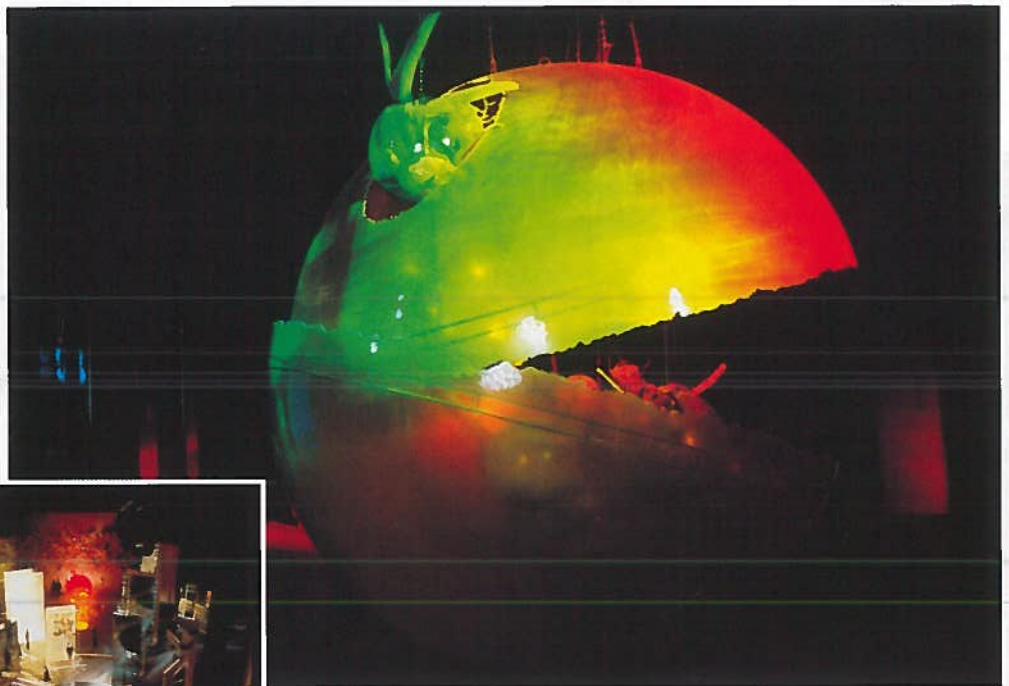
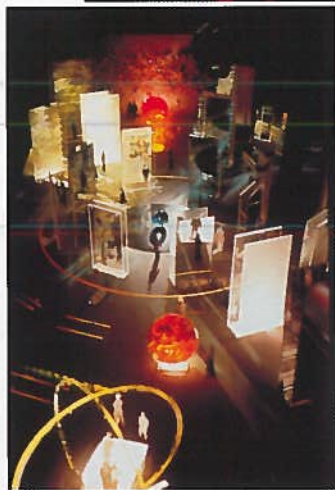


I describe the un-built as a reference - one for its familiarity, two because the Ark is representative of everything that occurs here. The site is peppered with devices that harness natural energy, and it's not just solar cells. They have a machine here that digests and cleanses human faeces and the water that flushed it away. And it's all done by nature. Like David Bellamy's fantasy hothouse, The Water Works is a glass house fitted with cascading tanks filled by lush green vegetation (and a few micro-organisms), and there's not a whiff of the noxious to be sniffed.

Now I'll get to Charlie Kail's rotating glass monoliths in a while, and believe me they're worth waiting for, but it would be unfair to ignore what else is on offer. In fact, I feel compelled to urge you all to come see. Millennium project or not, this is a fascinating place to visit. Compared, say, to the National Centre for Pop Music, or Rock Circus, this has them beat. It's on a par with an Efteling or Euro Disney, great for kids and adults alike, but it's educational rather than thrill-fulfilling. And the educational angle is all based on that 'discovery' ethos mentioned in the beginning. None of this holier than thou, ram it down your throat stuff, if you don't look and think about what you see, you won't get it. But you'll still enjoy it.

**"What we didn't want was for the space to be composed of closed rooms. It's become a kind of Stonehenge-cosmological clock. That's what pulls it together. That brings it alive."**

In the press pack the Centre is defined as "addressing one of the next Millennium's key issues - how to live and work sustainably in a developing world." For the completed Phase 1 (Phases 2 and 3 are due to be open by 2002), some £41m has been spent, 50% from the Millennium Commission, the rest from an amalgam of bodies - Regional Challenge, English Partnerships, the European Regional Development Fund - and over £5m from more localised funding, corporate partnership initiatives, trusts and the like. Apart from landscaping the two coal-spoil tips, they've specifically developed 26 acres for the Phase 1 site and planted some 60,000 trees across the rest. The pathways are marked out by solar powered lighting. The buildings - what few there are - tend to timber exteriors. The



restaurant (organic of course) is typical. Clad in oak, from sustainable managed forest, the wood is slatted to allow light in but provide insulation from hot sun (yes, even in Yorkshire), and cold wintry weather. There's 'Nature Works' that explores

aquatic habitats, 'Wilderness' (needs no explanation), and 'Earth Arena', something we can all relate to, a performance zone. The 'Rokkaku Trail' was my favourite, featuring weird-looking, brightly-painted, snaking trumpets! They're part of it. This is a small area featuring what could best be described as 'toys'. Toys that invite you to explore the senses of touch, sound and smell. All very weird, very wacky and great fun. Did I learn anything from them? Yes, but you'll have to find out for yourself. Also, be seduced by the 'Water Piano' close by, the vibration of your close proximity produces eddies in the water and thence music. More spine-tingling is the 'Kaki Tree', a sapling Persimmon tree grown from a cutting from one of only five trees to survive the atomic bombing of Nagasaki in 1945.

The 'Planet Earth Gallery' itself is buried into a hillside presenting a discrete exterior for what lays within. Its walls are built of Cadeby Limestone (local), the hillside and grass roof providing thermal insulation. Ventilation comes via a subterranean tunnel labyrinth based on the old Roman-designed hypocaust. It's this hollow substrata that forced Brilliant to reinforce the floor. You enter the Gallery in darkness - it takes a while to adjust to the reduced light levels. Glass monoliths, described very accurately as a henge (as in Stonehenge) populate the room, some static, others on turntables. The spheres, weird fractured globes of opaque polycarbonate filled with disturbing objects. Why are they here? What does it all mean?

Title page and above, the spheres - weird fractured globes of opaque polycarbonate filled with disturbing objects. Inset, an overview of the Planet Earth Gallery and right, an abstract from the Gallery.

There is one other significant object - the key to a striking finale sequence - but I'll come to that. Besides, it's what you can't see that makes all this work. Up in the ceiling is a profusion of lighting, sound, video and other electrical devices. When I visited Gareth Williams, Brilliant's motion control expert, he described it to me and I think this is as succinct as you can get. "What happens is a sort of abstract story. The monoliths and other objects are representative of the four arcane major elements of the world - Air, Water, Fire and Earth - and the way they are affected by man's interference with nature. As people walk through the Gallery, their presence begins to affect all the AV devices. There are some 40 or so PIR motion detectors scattered about, each triggers something on its own. Together they cause a variety of changes. What's been programmed up is akin to a series of macros within macros. Depending on how you walk through, which route you take, and how many people are in the room at any one time, determines what will occur."

Now the designers may not be comfortable with that description, but as a relative layman's assessment it stands scrutiny. So what changes are triggered? Well, in essence, changes occur at two levels. Individuals can influence small micro climates within the room, walk between two sheets of glass for example, and highly directive AV changes take place within that space; walk around the room and your movements contribute to the changes at a 'global' level. This is all starting to sound a bit out in the ether. How's it done?

The complete concept and realisation is by 30/70 Productions Ltd, a rather amorphous organisation which specialises in new and



original methods of presentation (see side bar). Bruce Odland is the key figure, inasmuch as he's the artistic director. What's actually running all this is a software control called Conductor from Avenger Systems: "It's an unusual piece of show control software," explained Odland. "We chose it because Avenger are interested in pushing their own technology. That gave us the possibility to create a non-linear show. We have something that can change immediate events, and at the same time, as a whole, could influence the timing of global events. The point is, it's not just push button, step by step control."

Together with Sam Auinger, Odland composed 'soundscapes', the aural compositions that underscore the physical events within the Gallery. They also co-designed the audio environment (with Atelier One). "The Earth Centre first approached us to develop something for the Millennium Cities show," Odland explained, "but this concept was cancelled. Because of the preliminary work we had done we were subsequently invited to contribute to the Earth Gallery. I originally came with Peter Erskine (a solar spectral artist) whom I'd worked with before. I was challenged and intrigued, especially by the aspect of sustainability. I shared their vision about wanting to build such a space. George Tsy-pin (architect and opera designer) and I then spent

turntable moves slowly, one revolution every 23 minutes, almost undetectable to the naked eye. So it is that Odland's reference to a 'cosmological clock' is enforced at a subliminal level by this slow motion. It only really becomes apparent when you notice the interaction between reflections off the glass, and off the water. But the changes are subtle: as with everything in the room, it depends where you choose to focus your attention.

No acoustical treatment was attempted on the Gallery: "There wasn't the budget," Odland explained. "To have tried would have eaten all the finance." So they turned the room's natural resonance to their advantage - hence the cathedral metaphor. Speakers dot the walls and ceiling, sounds emerge sometimes in a unified fashion from all sources, sometimes selectively. Most interesting are the highly directive speakers. "We first developed this idea of using small clear Perspex parabolic reflectors with a transducer for another project," Odland explained. Like a domestic satellite TV dish, the parabolas are perhaps 0.5m across, the sound beam they produce is highly confined. By the time it reaches head-height from their location in the roof space, it's only one or two metres across. Fall off is acute - take one extra step and it becomes inaudible. The speakers did present one small difficulty for 30/70: "We found the confines of



about half a year working on 'Cities' before we transposed some of that to the Gallery. We had this idea to present a buried cathedral, a labyrinth for discovery."

That is certainly the case: one of the strongest impressions when you first enter the Gallery is that you've entered into a temple, perhaps the crypt of a large church. "What we didn't want was for the space to be composed of closed rooms. It's become a kind of Stonehenge-cosmological clock. That's what pulls it together. That brings it alive." What is not possible to convey with photographs is that eight of the large glass monoliths sit upon a large turntable some eight metres across. The centre half of the 'table' holds a lagoon of water, flush to the turntable deck. The

Millennium Project funding to be off-putting." A reference by Odland to the need for a 12-year warranty on installed equipment. "So although we had developed them ourselves we turned to Museum Tools in San Francisco - who had already developed something similar of their own - and asked them to make the dish speakers for us."

Lighting, or often the lack of it, makes a subtle contribution to this experience. LD Don Holder (of Lion King fame) has gone to great lengths to avoid making this a light show. Instead, lights caress the objects, or direct delicate changes to our perspective or perception. There are moments of great ferocity - the musical crescendos are particularly startling - where lighting has a big

## 30/70 Who They?

So what is 30/70? 30/70 is the brainchild of Bruce Odland. "Society is informed 70% from visual information, 30% by other sources. 30/70 seeks to turn that perception on its head using audio and other forms. We produce large-scale public audio works, holographic sound images if you like." His wife Sally runs the business side and for the sake of argument the base is Croton-on-Hudson, New York, though the diaphanous internet world is where they exist.

The Earth Centre is their second major project - the first was a new Arts Centre in Berkfield. The 30/70 team are currently working on the Field Museum of Natural History in Chicago.

And what of the Earth Gallery? "This is not 'exhibition design'. This is a place to go and discover emerging ideas. We knew this would be a tough one, so we brought in all our tough soldiers." Those 'tough soldiers' being:

**Bruce Odland** - artistic director, producer, and sound design. Odland has more than 20 years experience as a producer, sound artist, and composer, working in theatre, film, exhibits and festivals.

**George Tsy-pin** - overall visual concept and installation design. Tsy-pin is an architect, sculptor and set designer who studied architecture in Moscow and set design in New York.

**Donald Holder** - lighting design. Holder is known for both his theatrical lighting and architectural lighting designs.

**Sam Auinger** - composition and sound design. Auinger is an Austrian composer and musician known for his cutting-edge work in sound design, psycho-acoustics and interactive installations.

**Chris Salter** - interactivity design. Salter trained in economics, philosophy, theatre sciences and computer-generated sound at Emory and Stanford Universities.

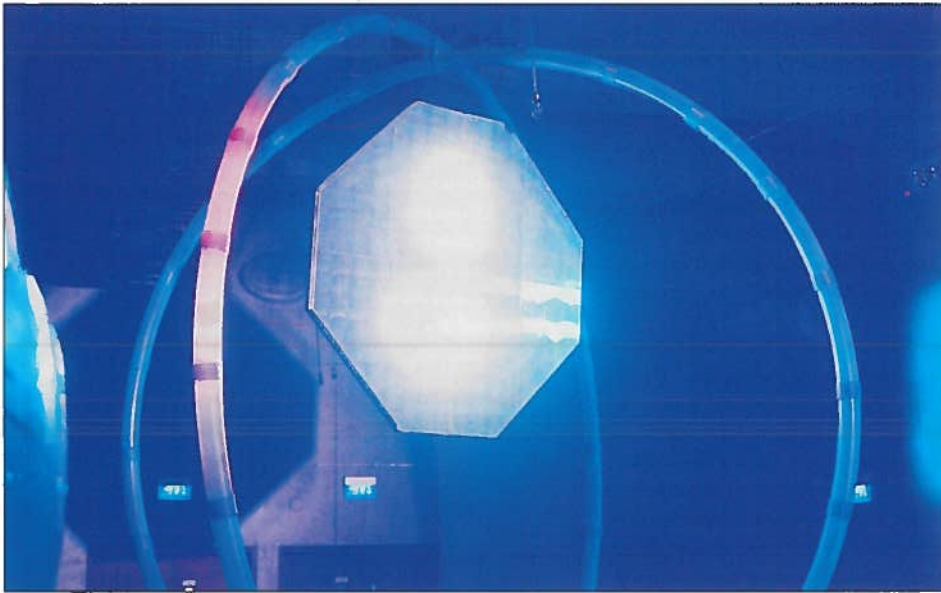
**Peter Erskine** - solar spectrum design. Erskine is a sculptor and solar artist from Venice, California, whose signature pieces involve creating solar spectrum light designs for unusual architectural settings.

**Rachel De Boer** - video artist. Dutch video artist Rachel DeBoer is well known in the live video and art installation scene in Europe. Since 1993 she has worked as a video jockey.

**R. Michael Blanco** - production manager/technical director. Blanco has over ten years experience as a production and stage manager.

**Gerald Schalek** - technical systems design. Schalek specialises in the technical design and programming of complex electronic and computer systems.





The central hexagon - a large coated defraction grating. It is this that casts a rainbow across much of the room for the 'Erskine sequence'.

role, but only as a part of the whole. "The space was always intended to be a high contrast, theatrical environment, with carefully controlled lighting," Holder explained, and moved succinctly to perhaps the biggest problem he encountered. "The presence of video projection systems (which weren't bright enough to compete with even the relatively low levels of lighting I employed) also required that the overall level of illumination be minimal."

It is certainly the case that video projection is not as powerful, in pure lumen terms, as it could be. A close-up of sunlight dancing on ripples of water for one sequence, at first appeared to me to be an out of focus rotating gobo/diffusion overlay projection, typical of any number of modern automated lights. But then a quick call to White Light (the installers) revealed no such lamps were used. Truth is the video could be brighter, but by the same token forcing the lighting to use complementary levels does help sustain the dark shadowy magic of the environment. "I did indeed spend a lot of time trying to find ways that the lighting and video could coexist in the

same space," continued Holder. "Our initial approach was to reserve blocks of time for 'pure' video sequences, where lighting would be excluded. We quickly discovered this had a flattening or deadening effect on the space."

Holder persevered, Bryan Raven of White Light was particularly flattering of his efforts: "Don is a charming man, a delight to work with. He put more sense into the project in one day, than a week of other input." Which draws attention to an issue no visitor will ever be aware of. Because of the diaphanous nature of 30/70 as an

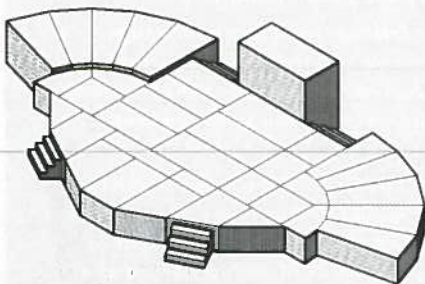
organisation, and the need to keep parameters open and unconfined (to avoid inhibition of creativity) this installation is by its very nature unco-ordinated. But that's another story. Besides, it may be important to get your schedules tightly co-ordinated for a theatre fit up, but when it's going to be there for the Millennium, a little chaos must be worth the price?

There is a point in the passage of events within the Gallery when a climax is reached, that's when Peter Erskine (mentioned by Charlie Kail right at the beginning) shows his hand. An artist of solar spectral light, his coup de théâtre is striking. Upon the hillside above the Gallery is a Heliostat (a mirror which tracks the sun) reflecting its light down onto a rooftop portal over the Gallery. When events within the Gallery reach a cataclysm, they trigger the opening of the portal. A second mirror reflects the sun's rays down onto a flat hexagonal panel covered in diffractive prismatic material. It sends a powerful shaft of light, suffused by all the colours of the rainbow. The hexagon is motorised on two planes of axis and gradually scans the shaft of light across the room. Seemingly, the coloured rays of the sun restore calm and tranquillity, the cacophony of sound dies away, peace and balance is restored. Tempted?

#### TECHNICAL EQUIPMENT SPEC

For the Earth Centre in Doncaster, White Light supplied 50 ETC Source Fours, 300 other assorted architectural fittings, 150 ways of Strand LD90 dimming, and an ETC Express 250 lighting desk as specified by lighting designer Don Holder, who will return to the UK later this year to re-create his Tony-award winning design for the musical *The Lion King*. White Light carried out the installation and commissioning of the entire lighting rig for the exhibition gallery that forms the heart of this £42m Millennium Landmark project, which opened to the public in April.

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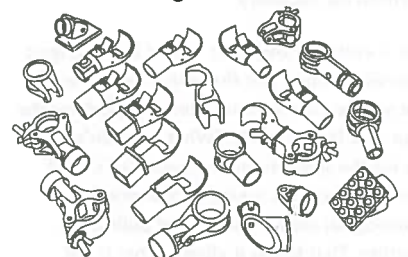


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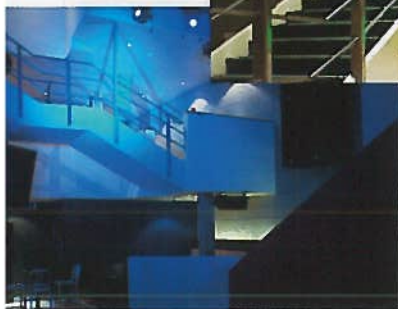


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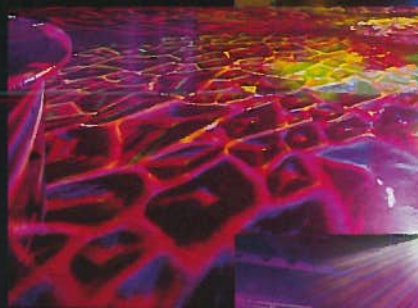
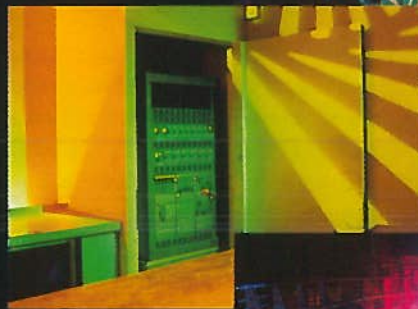




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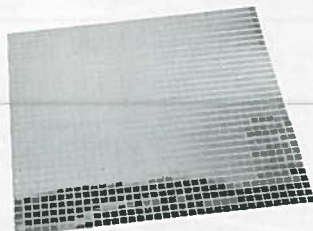
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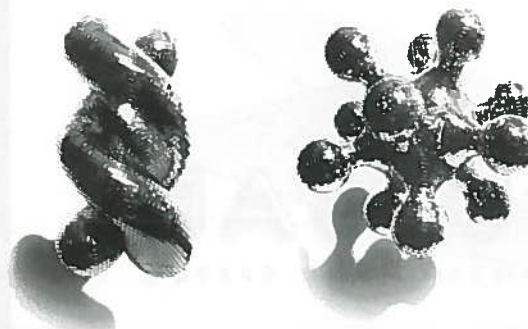
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THEATRE

# Design Themes

**S**o the Brits went to Prague and did rather well. The Quadrennial has become an important date for our designers, because they have developed a tradition of winning rather more prizes than most. Since this is a competitive event, it's difficult to avoid talking about it in terms of prizes, but it is, of course, much more than a glorified school speech day.

If anything, it's more of an old lags' reunion. As the one international show of its kind, it's a wonderful opportunity for designers from 50 or so countries to get together for a really good gossip and a fruitful exchange - with maybe some gentle borrowing - of ideas. Add to this the presence of a gaggle of student designers from almost as many countries, and you have a pretty lively occasion.

As always, the choices facing participating countries are not simple ones. They will be dictated by geography as well as sheer money. It was great, for instance, to see exhibits from places like Argentina and Australia, Mexico and Egypt, South Africa and Hong Kong, regardless of their quality, simply because they were able to get there. Some countries were obviously well supported by state funds, others had had to scrape around for sponsorship.

These extremes were most evident in the National sections. The British exhibit was only a fraction of the magnificent Time + Space show I reviewed at the Royal College of Art, with a correspondingly diminished impact. Its builders had chosen to look inward, with a plain white exterior decorated only with Pippa Nissen's storyboards for the Mark Ravenhill *Faust*, a display which frankly wasn't strong enough for this kind of treatment and would have been far more effective if kept together. The main entrance led immediately to Liz Ascroft's *Alice in Wonderland* corner (which won a promising artist award from the UNESCO jury), while other openings gave the passer-by a glimpse of big pieces like Marie-Jeanne Lecca's superb costumes for *Katya Kabanova* and Sophie Jump's billowing silks for *Trainstations*.

Once inside, the visitor got some idea of the breadth of the original exhibition, with regional designers like Fred Meller and Martin Morley

rubbing shoulders with the big guns - apart from Stefanos Lazarides and Paul Brown, who both won set design silver medals, Richard Hudson and Alison Chitty made strong showings.

The British design schools also chose an inward-looking approach to their exhibit, surrounding it with a black box and hiding the displays in a series of anally-retentive cupboards and drawers. The unwelcoming exterior was cheered up pretty quickly by some well placed chalks and an invitation to add graffiti which was immediately taken up. Inside, there were gems to discover. Some schools displayed great ingenuity in cramming lots of material into their small allocation of space, but the exhibit that sticks in the memory is that of Wimbledon School of Art, who simply gave up trying and installed a gleaming white shower cubicle. Pamela Howard's European Scenography Centres got a space of their own, another (ungraffitised) black box where the students' scrapbooks and storyboards were laid out within on music stands, a treat for anyone with the time to examine them.

The British architects, shown last time in the British Council exhibition of theatre spaces, had got it together well with a clean, highly informative ABTT exhibit conceived by Nick Thompson and Tim Foster and 'curated' by Sir John Drummond, no less. They gave a good account of 14 theatres, from 14 different architectural practices - like Time+Space, this is an exhibition that should be widely toured. It was clever of the Quadrennial judges to pick out Michael Hopkins and Partners' new Glyndebourne for a special gold medal in the architecture section, if only for the delighted reaction of Iain Mackintosh who picked it up on their behalf.

The UK's contribution to the thematic section was the splendid Ralph Koltai retrospective seen at Central St Martins, which had a gallery to itself in the middle of Prague. The thematic gold medal went to the distinguished German designer Achim Freyer, who was present not only in this section, with an inviting maze of his hugely varied and inventive sketches, photographs and storyboards, bound in by a good poster display, but also in a pavilion of his own as the







Cover page, *Turandot* staged in the forbidden palace of Beijing

Left, Miodrag Tabacki's design for *Confiteor* which appeared at the National Theatre of Yugoslavia in Belgrade

Final Page, *Don Giovanni*, one of the Czech Republic exhibits

German national exhibit, where you could sit on tiered steps and watch a wall of videos. Freyer merits this kind of attention: a student of Bertolt Brecht, who worked with directors such as Klaus Peymann in the seventies, he started to direct for himself in the eighties and has worked on everything from Mozart to rock opera via Philip Glass.

The thematic section was described by one of its participants as 'the graveyard', and it's true that it received less attention than other parts of the exhibition, but there were some very striking things to see here – such as Poland's tribute to Wyspianski, the great innovator, and Kantor, the great ego. Sweden's homage was to Lennart Mork, another giant of stage design who has worked at the Dramaten since 1957 for Ingmar Bergman and others. The Swedish national exhibit could easily have been in this section, too, a quietly magical corner devoted to recent productions of August Strindberg's *Dream Play*. Since those included ones by both Bob Wilson and Robert Lepage, they can hardly be called parochial, but the local versions were just as interesting. Above all, the stand featured some of Strindberg's own technical ideas, way ahead of their time, on how his play might be lit.

The UK's contribution to the thematic section was the splendid Ralph Koltai retrospective seen at Central St Martins, which had a gallery to itself in the middle of Prague.

Various other favourite sons were celebrated in this thematic section, including the much-loved Chilean lighting and set designer Bernardo Trumper and Israel's Arieh Navon, both of whom died recently. Russia had a minimalist stand for the great David Borovsky, Lyubimov's house designer at the Taganka. New names to me were the Yugoslav Miodrag Tabacki, who showed a wonderful sense of colour and pattern in a fine series of works both indoor and outdoor, and the young Estonian Vladimir Anson, another UNESCO prizewinner, whose set of rather glamorous packing cases displayed some fine models and looked as if it could transport the whole exhibit.

The students were playful, resourceful and in several cases more interesting than their adult counterparts. No need for this kind of comparison for Australia, since the students of NIDA (the National Institute of Dramatic Art) in Sydney were the only Australians to exhibit. Their little red figures processing across the stand were rather more interesting than the actual display. Two Austrian schools presented a contrast: Salzburg's Mozarteum had built a disciplined, beautiful exhibition of historical model-building around the *Magic Flute*, while

the work of director-designer Rieks Swarte, including the entire performing space for his production of a rare Wedekind, *Mine Haha*, which had several performances during the exhibition. A less enjoyable feature was Sjoerd Wagenaar's pots and pans carillon, which rang out over the national exhibit hall at all too regular intervals.

You can of course make a very strong statement with a single-theme exhibit. The Norwegian entry was a minimalist set by Erlend Birkeland for a Tarsei Vesaas adaptation. A waist-high white rostrum fronting a white backcloth doesn't seem much, but its production photos revealed just how inventively it had been used to place actors and lighting states and make a real theatre achievement. It made you wish you'd seen the show. On the other hand, Iceland's team from the Hafnarfjordur Theatre chose to make a big statement, entitled *Anti War-holes*. Their 15 minutes of fame showed an artist's dressing room, with peep-holes on to the stage through which you could see pictures of Kosovo victims and hear an extract from a solemn Clinton speech followed by hearty canned laughter. A visitors' book full of enthusiastic comments showed just how politically naïve some designers can be.

The beauty of the New Zealand exhibit almost obscured the quality of the seven designers gathered there. A smooth wooden table showed tokens of their work, inviting you to take a seat and a closer look. Although the concept demonstrated ideas rather than describing performances, it deserved its UNESCO prize – my favourite was Tolis Papazoglou's whale back carved in relief on the actual table surface; most poignant biographical note – Diane Prince, 'currently unemployed.'

The Far Eastern contributions to the national section were uniformly excellent, with the Chinese showing a spectacular *Turandot* staged in the forbidden palace of Beijing, the Koreans a couple of fine models and the Japanese a varied exhibit of the traditional and modern, including a fascinating set of materials from Noburo Watatani for a show called *Supreme Express* set on a futuristic train.

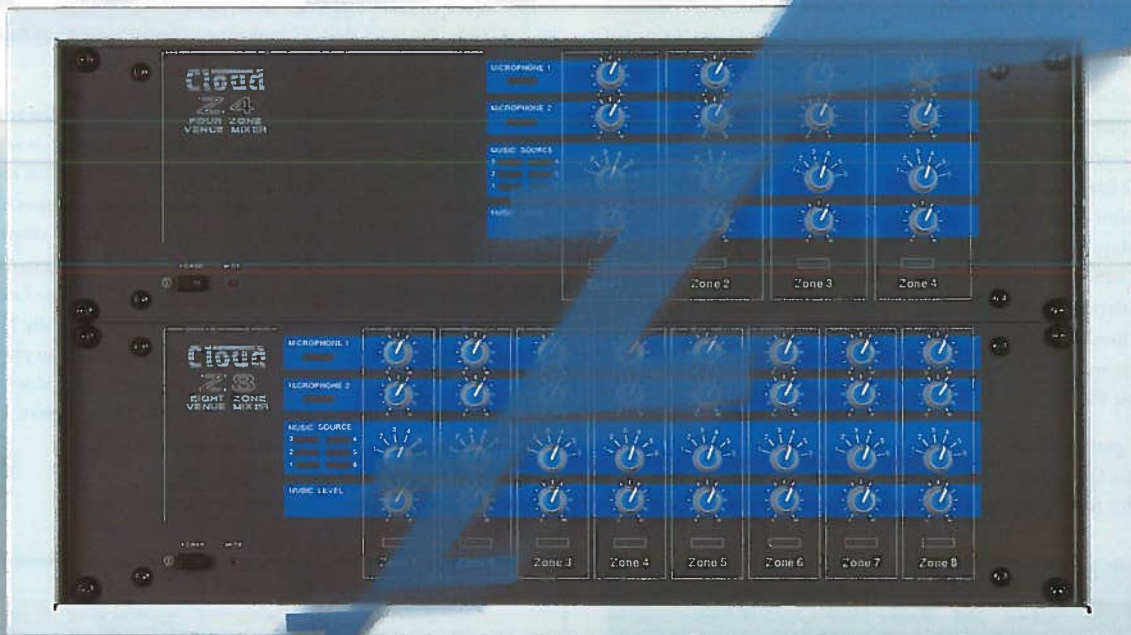
Hungary and Poland offered their usual stylish exhibits, with Maria Ambrus's costumes displayed on a mini-auditorium in the former and Elzbieta Terlikowska standing out (and winning a special mention) in the latter with her costumes for *The Old Woman Broods*, for which she also supplied a very good set design. The Polish architectural exhibit, featuring some wonderful site-specific solutions, won a deserved silver medal.

There are a number of countries who can always be relied upon to deliver the goods. The brilliant Israeli national stand featured Rakefet Levy's diploma-winning designs, larger-than-life mannequins modelling *Sabotage Baby* for the Bat Sheva dance company and some fine prints for the Habima's *Beheading*. Inside you





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could see some exceptionally good models, including one from Geshen theatre's Alexander Liviarski for *Village*, a London hit last year. Another Habimah show, *Medea*, stood out for both Miriam Goreckiova's set and Anna Khruceva's costumes. It amazes me that Belarus has not figured in this year's medals – the work of Ludmila Goncharova and Zinovy Margolin is outstanding in anyone's terms, and the thematic exhibit devoted to Dmitri Mochov showed the strong tradition in which they follow. As for Brazil – what can one say? Jose Carlos Serroni's set designs won the Golden Triga last time, and this year he was responsible for stunning displays in the national, thematic and architectural sections. The national exhibit featured more of his own adventurous work: his bin-bag installation for Harald Mueller's *Totenschiff* gave the stand its theme, but there was also room to admire the excellent models of Gringo Cardia and Marcio Tadeu's spectacular designs for the Arena Theatre in Sao Paulo, particularly in *Antares* and *Homeless*.

It was a very good year for the Catalans, reflecting the growth of street theatre groups Comediants and Fura dels Baus into companies providing the settings for fully-fledged operas. Comediants designer Joan Guillen

picked up one of two costume gold medals for *The Book of Beasts* (shades of Julie Taymor's *Lion King*) and *The Magic Flute*, while in set design, as well as a diploma for Jon Berrondo, with his great sense of acting space, there was a gold medal for Fura's Jaume Plensa for three operas. Maria-Elena Roque, whose work displayed a sizzling eroticism, was unlucky not to share in this glut of Catalan prizes.

Traditionally, the Czechs, as hosts, have held back from entering for the prizes in the Quadrennial. Persuaded to take part this time, they walked away with the supreme prize, the Golden Triga, for an exhibit which dominated the national section. If you don't have to transport your stand and its contents very far, you have more to spend, and there was an irony about their scaffolded stand, with corrugated iron surrounding a half-finished classical building, its columns and pediment marked out in clear plastic. Creating this 'poor theatre' display must have been very expensive.

Once inside, passing a couple of striking costumes from Simona Rybackova that flank the entrance, you found yourself in a warren of individually designed settings (reminiscent of the US exhibit in 1991) for some excellent work by young designers, each given the space of a small national stand to make their own statement. Their only common denominator was the use of lots of video. Apart from the costumes of Jana Prekova, which won a silver medal, the work of Peter Lebl's costume designer, Katerina Stefkova (most of them casually hung on a rail in a dressing room, its walls decorated with production photos, occupied by a live actor in costume and – of course – a TV set) stood out. The whole stand was a deservedly prize-winning effort, but perhaps the Czechs, having made their point in a big way, should now go back to staying out of the competition. Roll on the Quadrennial of 2003!



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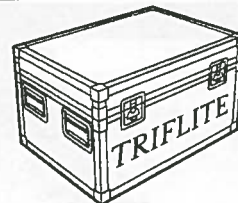
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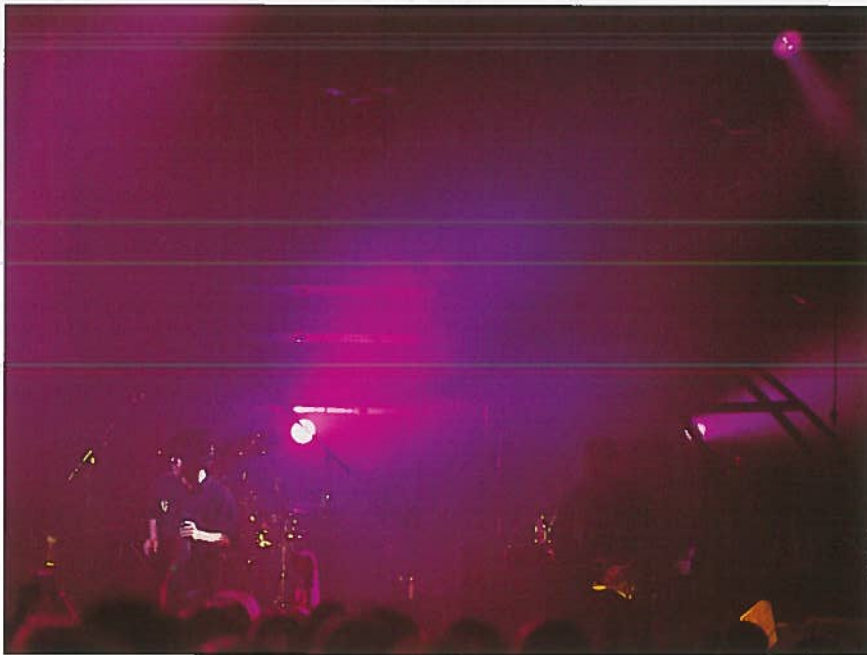
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# Shifting into Top Gear



*Steve Moles  
witnesses  
Jamiroquai's  
return to the  
stage and  
takes in a  
vastly  
improved act  
from Shed 7*



CONCERT/  
TOURING

**A**n auspicious gig for the band, on the day the new album was launched, and what better than to play the smallest gig on the current leg of the tour? Hull Ice Arena is not only small, it's a bit of a khazi really. Like a dog turd on the pavement of life, it's not great to step into. Frankly, the kids of Hull deserve better, and so do the bands who are obliged to play there. This is the third time I've visited and I'm still amazed by how small it is as ice rinks go, and how unbelievably low the ceiling is. (Bear this in mind when you view the letterbox photos.) Still, Jay Kay liked it, there was a good vibe going, and gigs less than half the size of the NEC do at least give the chance for a bit of audience contact.

Jamiroquai are a big band, with 11 people on stage. In performance, they bring to mind Mr Kay's beloved Lamborghini - lots of moving parts all thrashing along at an incredible peak, and all beautifully synchronised. Even if you don't like the jazz funk groove, you can't help but admire the engineering. There have been some changes since they toured two years ago, and not just within the band, both lighting and sound see new hands at the controls front-of-house. Did this affect a change in presentation?

Ian McEwan did effect change, but he is, in fact, a returnee, having worked for the band several years ago. His more recent absence only came about as he rode the comet-tail of Prodigy's meteoric career curve. What is instantly apparent is the band's willingness to let their LD have his head. While this is not a profligate rig by arena tour standards, McEwan was permitted everything he wanted to paint in. "Jay drew me a picture. He knew roughly what he wanted, a spacey, lunar base type of thing." This instantly presented McEwan with a challenge: "I'd never done a set design before," despite which, he wasn't lacking for ideas. There are some simple, obvious allusions, like a small planetary cluster of mirror balls of different sizes, but if they're so obvious why haven't we seen them before? McEwan, by his own admission drew heavily on sixties space age kitsch; I particularly liked his self-deprecating comment about the design for the truss borders. "I wanted them to look like the panels

on the outside of a space ship," referring to the simple rectangles of pastel pink and green. "Instead they look like kitchen formica."

For a first set it's ambitious. Perry Whittaker (PW) built or sewed most of it. The dominant stage feature is a cut-away space frame dome that looks for all the world like a longitudinal section through the temporary storage structure that gave birth to the Orbit roof. "I started out wanting a Geodesic, but it just proved too difficult," said McEwan. But this didn't stop him toying with the idea of buying a Geodesic Greenhouse and cutting it in half. Other props include a beautifully painted star-scape backdrop with RP panels cut in: "I haven't found a stage deep enough to back project anything onto them yet," he observed ruefully. And there's a huge planet ringed by space rock debris. "That's the only thing that isn't from PW, it's by Geraldine Inflatubbles. Lit from within by two Leko bulbs, it's the Earth, but then I've got a red sharks-tooth stretched over the outside so lit externally it becomes a Red Dwarf. 'Smeg?' No, not TV's silliest sci-fi comedy spaceship, the type of star.

With the dome structure flanked by curved sections of truss vaulting up from either side and around the back, there's plenty of shiny metal to light. McEwan has chosen LSD as suppliers (another change from the last tour) but despite an admitted urge to use Icons he has resisted this time due to lack of rehearsals. "I only had one day to light the show. I'd spent so much time concentrating on the set design that I went for what I knew." Irrefutable logic, especially when you take into account the two albums' worth of material he also had to catch up on. "I knew I needed about 40 moving lights. I made a choice to go with old favourites - High End Cybers and Studio Colors. I'm using a Hog II for control, so I did think about using VL6s as well, but I've ended up with Martin MAC 500s, which are essentially just the same, if not so many great colours. But then they're great value for money."

Added touches include Arcline and Egg-Strobes outlining the aluminium structures, and McEwan has put a row of Martin Pro 400s across the top of his front truss for





audience abuse. Leko bulbs apart, I didn't see a conventional light in there. Even the backdrop is up-lit by DHA Pitching Light Curtains: "I'd seen them used on Culture Club and thought they were fantastic," says McEwan, obviously enthused. "I use them for backlight on the band as well." Which about sums up the rig. Not cheap, but then nor's a Lamborghini, and we are talking performance. This is a heavy beam show, lots of saturates, especially at the red-hot end of the spectrum. Now there's a reflection of the performance.

There was no video for this show - the ceiling's too low. PSL are, however, supplying two Optiscreens for the tour. Rigged either side of stage in portrait orientation 12ft x 16ft, the image comes from a five-camera team, via a 16-input vision mixer.

Rick Pope's arrival at the XL4 front-of-house is similar to McEwan's in that he has a long association with the band: "I'd been baby-sitting the previous engineer for quite a while," he explained. "Then I built his (Kay's) studio for him at his Chillington home with



AI Smart. I spent eight or nine months engineering for him there as he wrote the new album. In fact, including my time baby-sitting I've worked exclusively for this band since '94." With the 11 band members it's no surprise to find 54 inputs on the board, plus a Yamaha 03D alongside, subordinated for the effects returns.

"Even then the two keyboard players have their own mixers on stage (Yamaha and Mackie)," Pope

*"This is a heavy beam show, lots of saturates, especially at the red-hot end of the spectrum. Now there's a reflection of the performance."*

explained. "I just take a stereo mix from them."

Which has its advantages for Pope.

"Yes, it does make them more disciplined. They have to balance their own stuff a lot more."

Pope is also experimenting with Sennheiser gear - in-ears for three band members,

"Drums and Bass because their monitors used to give the greatest

level problems on stage." "And percussion," added monitor man Chris Barton. "He wasn't really loud but he tried them in the studio and liked them." Barton was relieved to get the drummer on the system: "He used to want wedges all around him, plus a big fill set-up and would come off stage at the end of the night rubbing his ears. Not good."

Kay is also using a radio mic for the first time (a Sennheiser SKM 3070), something both engineers were a little wary of. "He wanted to use one for the freedom of movement," said Pope, "but his voice isn't that strong so high input gain is needed." Kay also grooves about a lot, shaking his head as he sings which must



double the capture problems for monitors and house alike.

However, both were happy with the results, though Pope said he

had to crunch a couple of frequencies, 1.6kHz for example, because gain is so high that finger tapping on the mic body becomes audible in that area.

Pope has compressors on everything: "... even the kick and snare, and I use Neve 9098 EQ on them as well. The band tend to be very dynamic in performance." Not hard to imagine, and not hard to see why he'd have compression everywhere. But it's light, so when the groove lays back into a more balladic vein, the sound opens wide. Otherwise, Pope leaves what he's presented with pretty much untouched, concentrating instead on balance. The system is a Turbosound Flashlight/Floodlight PA from Brit Row, with a big pat on the back to their crew for an awkward and enormous stack for the Ice Arena (no flying, and not enough height anyway). Particularly effective, the placement of low end above head-height paid big dividends once the crowd came in. I made a point of listening hard to the first few numbers and was able to pick out every band member, and that's through a very present and hard bass line. It was also nice to see Pope push away his comfy office chair after two songs and spend the rest of the evening bobbing up and down onto a 12" flight-case to get above the crowd and check what was happening in the room.

This piece can't pass without mention that Chris Barton was using the new Midas Heritage desk: however, his family hail from this part of the world so we should be grateful he gave us any time at all on a busy family evening. "The EQ on the Heritage is lovely," was his solitary comment on the desk. "I've got 17 mixes to provide, but that is all about care in setting up. Most of the time I'm riding faders for Jay, he likes keys to pitch off. Also he likes a lot of top end for his own voice, and the new radio mic is good for that. A full vocal sound is 'woolly' to him. But I

*Inset, Jamiroquai experimenting with Sennheiser in-ear equipment at Hull Ice Arena*

*Above and opposite, a renewed and revitalised Shed 7*

have to be careful, because when he's dancing the mic can go straight in a wedge." Which sees Barton spending a lot of time with his eyes avidly glued to Mr Kay.

Which is about what the crowd do. A compelling figure Jay Kay, he manages to stand out in what is a busy show, both musically and lighting-wise.

**I**t was April '96 last time I visited this band. They've come a long way since the Tower Theatre Hull, not all of it easy travelling. Back then, the music press were hailing them as the next Oasis, a stupid label and, as is so often the case, a hell of an encumbrance. Three years later they have barely gone up a step in terms of concert circuit, yet they have produced a consistent string of pop hits - middling maybe, but they have always charted. When earlier this year their name somehow became accidentally enmeshed with several other bands unceremoniously dropped by Polygram, it looked like the Sheds would return to the allotment. But they are out the other side of that now, a new album was released in May, and they have just one hurdle left to jump. The 'Sheds' are renowned for taking out support acts who go on to become bigger than them, most famously Catatonia and also Mansun, but on tonight's showing - Vomiting Goldfish - they need have no fears. This is a home-town jubilee and the only band anybody wants is the 'Sheds'.

Lighting is a refreshing visit to a past age, four straight trusses filled with 130 Par cans. "The



design is just for this show," admitted LD Richard Larkum. "For most of this tour, I've been using a little 36kW rig," but then some of the venues Larkum has had to work have been less than auspicious. Such is the price for climbing out of a mistaken rumour.

Larkum was rigger last time we saw the Sheds - now he's a lighting veteran, an LD who not only likes to revisit old lights, "I just like 'em for their response speed," but also harbours a passion for the obtuse. "I've got eight MAC 500s on this - they're not really a light I'd normally choose," not that he dislikes them, you understand. "No, it's just that I've been using Super Quarks from Genius. They're a type of disco Strobe Flower lamp with a really wide angle beam. They might be fixed focus, but you can get over that."

Someone else at Prism Lighting (the supply company) must like Quarks because Larkum had no choice when it came to putting the rig together. "It's John Mellon's fault. He let all the Quarks go out, and I had to take the Macs." For a one-show busk, he doesn't appear to lack ability, whatever he might say about having "little experience with Macs".

Larkum uses nearly all narrow beams - I didn't ask but I'd guess at least 85% of his Pars are #1 bulbs - plus he has eight four-lamp strings of ACLs run as single sets from a 110v transformer. The show is thus very beamy, and in that classic fashion he goes for, lots of overlapping fan patterns. He's the most animated of operators, jiving between two Jands boards (an Event and an Event Plus). He's almost more exciting to watch than the band. His show predominates alternating bump cues with the fans of light; it could be Iron Maiden circa 1980.

At first this seems a little incongruous, but then these punters are probably too young to have seen the ageing metal funsters. The Sheds, by contrast, have all the power and volume of a



metal act with a much more melodic theme, so Larkum's efforts pay off.

Sound, from an EAW KF850 system, is provided by Yorkshire Audio (YA) as is only right and proper for a band who hail from York. David Leaper is their front-of-house engineer and, in the mould of Lars Brogaard, he also doubles as tour manager. This being the official last night of the tour, and it being home-town, Leaper spends much of his pre-show time dealing with an exponentially expanding guest list.

It's a mark of the maturity that this band have gained over the years that we find little in the way of treatment in the front-of-house racks (or the monitors, come to that). What they play is what you get. Leaper uses a Soundcraft Vienna II, no off-board EQ, and the most noticeable thing he does is some delay from Roland SDE330 on the lead vocals. And there's another thing; Rick Witter on vocals has lost the urge to shout his lyrics and as such delivery is not only strong, but now pleasant to hear.

There are the occasional visits to some doubling effects on the vocals, normally done through an old Drawmer Doubler that Leaper owns, but in this instance produced again by the Roland. True to the band's recorded sound, these are just quirky effects, like Witter's resort to a walkie

talkie mic for the opening song (he normally uses a Shure SM58a). The only question this raises is, 'does he have to throw the damn thing at the floor when the song ends?' Most unpleasant. There are a couple of SPXs (900 and 990) for drum reverb, giving quite a big tom sound to compete with the kick, and apart from the compulsory gates and compressors that completes the picture.

Monitors are looked after by Bob Collinson (owner of YA): a set of Martin Audio LE400 wedges all round and a pair of EAW LF3000 side fills. He runs the system from an Allen & Heath GL4000:

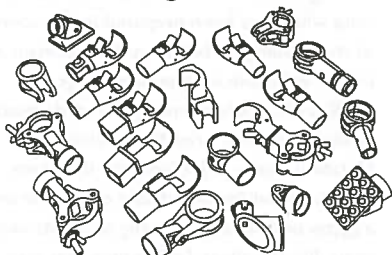
"It's a budget-level board, but it performs really well. Being able to switch all the Auxes to Groups means it's equally useful for monitors or front-of-house work. I'm very pleased with the EQ and the desk is quiet. I've used it for the Australian Pink Floyd, a band with some massive input signals, and had no problem with over driving."

Collinson runs each band mix through KT DN3600s. "It's more like a front-of-house mix on stage," plus the inevitable sting, "with their own instrument laid on top extra loud." The stage sound is loud - very loud, and as such there are some hefty chunks cut out all over the frequency spectrum on the KT graphics. We can only imagine the band members are doing some severe damage to their hearing, but Collinson has tried persuading them otherwise. It's not as if there's a massive back line to overcome, the biggest set up is for guitars, two Marshall Bluesbreakers and two 4 x 12"s, used individually for clean and dirty sounds.

Whatever the environment, they all perform, and do it well. This is a vastly improved act from last time. They're using almost exactly the same PA system with the same operators, yet they sound 10 times better. If the album sells well, then who knows?

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# Ian Herbert, Asleep in the Stalls...

A visit to Prague for the Quadrennial (see page 69) involves more than several days gazing open-mouthed at the exhibits. This year the organisers made sure there were plenty of side-events, including some live theatre.

**IN THE** exhibition itself, visitors could take the weight off their feet and watch one of the sessions of Lightlab, a project organised by the Moving Academy for Performing Arts of Amsterdam to encourage a more imaginative approach to stage lighting in the Czech Republic. It was born out of the fact that the Czechs have no university courses for lighting designers, and a parallel realisation that the country was lagging behind much of the rest of Europe in site-specific lighting activity.

"Paris must have been having a thin time of it, for this art-school waste of two valuable hours would insult the intelligence of audiences in any other city."

**AN UNEXPECTED HIGHLIGHT** of the first week was a discussion between three giants of stage design, in which local hero Josef Svoboda (inventor, among other things, of the Black Light Theatre and the Light Curtain) swapped ideas with Ralph Koltai and Ming Cho Lee under the incisive chairmanship of Pamela Howard. The State Opera House was packed with aspirant designers, who heard the trio talk of their successes and occasional failures. Both Koltai and Lee mentioned shows where they judged their success by the lack of applause, rather than its presence. For Koltai, it was the RSC production of Rolf Hochhuth's *The Representative* in 1963. The script called for a number of naturalistic, representational scenes in Germany and the Vatican, but he chose to set this play about Pius XII's alleged collaboration with the Nazis in a

concrete box which had the unmistakable air of a gas chamber. The naturalism lay in the costumes, and in a series of projections from war archives, the last so horrendous it silenced the usual curtain calls. Ming Cho Lee had the same experience in a recent modern-dress production of *Othello*, 'the most disturbing play ever written', for the Actors Theatre of Louisville. He set it in what looked like a Holiday Inn, but the real image was of a US Embassy - 'they all look like Holiday Inns'. The final death scene, a strangulation, took all of five minutes, and again the audience was too shocked to applaud.

**ALL THREE** were concerned about the lack of money which is now strangling theatre. For Ming Cho Lee, the dangerous plays were no longer being written: 'Eight is now a large cast - nobody wants to stick their neck out any more.' Josef Svoboda thought that opera was in special danger - 'Once, we didn't need sponsors.' And while Ralph Koltai wasn't personally affected by the trend - 'mine has always been a poor theatre' - he worried that every co-production meant a loss of more jobs.

**THIS LIVELY SESSION** was followed by an historic performance, a recreation of the State Opera's 1947 production of Puccini's *Tosca*, which featured sets by a 27-year-old Svoboda. With their sharply angled perspectives and daring tilts on Piranesi-like views of Rome, those sets still looked ahead of their time after more than 50 years. The rapturous reception they received probably didn't affect their creator. As he said before the performance: "I can't be bothered to look back, I'm far too busy with new work."

**I HADN'T EVEN REALISED** that State Opera, another imposing auditorium, existed alongside the magnificent National Opera and the charming Estates Theatre, where *Don Giovanni* had its premiere. And there is now yet another Prague opera house, a tiny new one hollowed out of the eaves of the Kolowrat Palace, opposite the Estates, where the National Theatre has its offices. Here I saw a delightful

double bill of chamber operas, in which Michael Nyman's *The Man Who Mistook His Wife for a Hat* was preceded by a version of Kafka's *Report to an Academy*, with music by the Czech Jan Klusak. There was a surprisingly good acoustic in the low-ceilinged, 60-seater room, even with the chamber band directly behind the singers.

**CLOSER TO PQ**, on its doorstep in fact, was the Encampment, a collection of temporary spaces housing some way-out entertainment from around Europe. Every evening, exhibition-weary folk could drop in on French avantgardistes in The Tent, Czech puppeteers in The Hut, more Frenchmen in The Barrel, Germans and Poles in the open air and jazz groups from all over in The Canteen.

**IT WAS MY BAD LUCK** to start in The Tent - Stan in Czech, which meant I harboured a grudge against a quite innocent Belgian group by that name for some days. The real object of my bile was the Theatre du Radeau, a group led by Francois Tanguy whose *Orpheon* was described by Le Monde as one of the best productions of the Paris year. Paris must have been having a thin time of it, for this art-school waste of two valuable hours would insult the intelligence of audiences in any other city. Half a dozen possibly capable actors spent the time declaiming chunks of Shakespeare, von Kleist, Nietzsche, Kafka and a bloke I'm sure you know called Giorgio Colli in a random variety of languages which suggested that they weren't expecting anyone to understand them fully, at the same time lugging old scenery flats, life-sized puppet figures and one another about the vast, junk-strewn acting area. Lighting was largely from fluorescent tubes, sound was a collection of Classic FM's Greatest Hits played as randomly as everything else, and the chief interest of the show was in betting on which member of the audience would be the next to walk out.

**IT WAS A RELIEF** to progress to the Hut, which has no pretensions and lots of cheap beer. I think I've told you about it before: it's the creation of film director Milos Forman's twin sons, who supervise an evening of incidental pleasures leading to the mass feeding of the audience on a delicious onion soup which has been prepared in the course of the evening. In between, the Formans and friends entertain with puppets large and small, while a whole menagerie of domestic animals and birds - not to mention a Marabou stork - is let loose on the space, and an almost imperturbable chanteuse and a gypsy orchestra play grimly on. In its two years' life the show. *Le Baraque*, has seen some changes of personnel and inevitably lost some of its original spontaneity, but it still makes for a gloriously unpredictable evening. What a pity the quarantine laws almost certainly rule out a visit to the UK.

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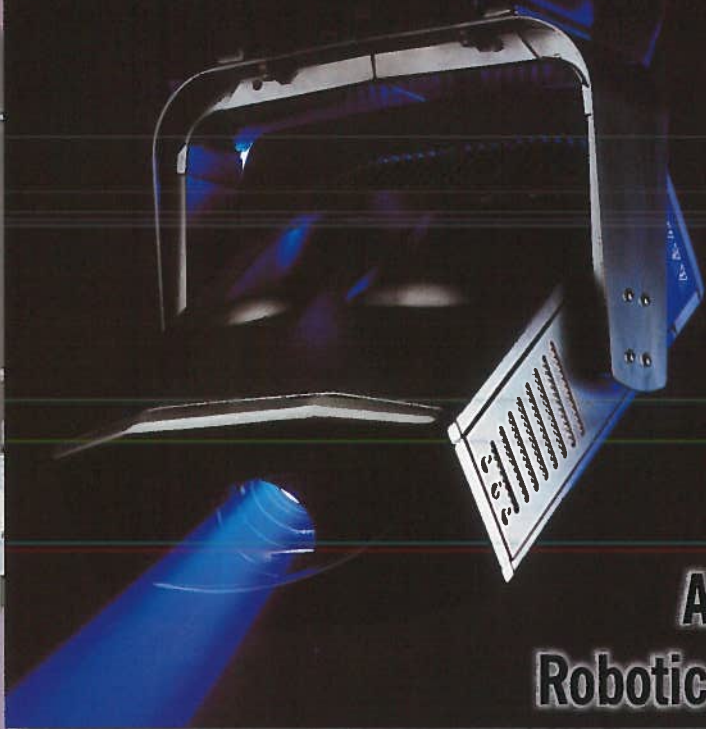
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# Pest Control



The 'millennium' or 'Y2K bug' is as much of a bug as the broken braid on mic cable could be called a 'noise bug': everything goes along working fine until a fault condition arises and then you've really got troubles. It's origins are very similar to the 'braid bug' in that it also comes from lack of planning, maintenance and due care.

The millennium problem is, in fact, a collection of problems and potential problems which need to be identified, evaluated and if necessary, remedied. The problems stem from devices and systems which assume that it is always the twentieth century. The major offenders are:

Computer Operating Systems which can't deal with dates later than 31/12/99.

Computer applications which can't deal with dates later than 31/12/99 - this not the same as the previous problem.

Embedded microprocessors which can't deal with dates later than 31/12/99.

There are also some minor problems associated with assuming it's the twentieth century: these include such annoyances as adjustable date-received stamps which only let you set the last two digits of the date, through to various forms which, like my chequebooks, have 19\_\_ for the date entry.

How, if at all, do each of these problems affect the way that we operate?

## COMPUTER OPERATING SYSTEMS

The date functions on a computer are based on interactions between the computer's on-board clock, which generally runs whether or not the computer is switched on, and the system software usually referred to as the

***We all want to move on into the next millennium with the minimum of distraction as we go about our business. Andy Ciddor tracks down the bug and the ways in which it might disrupt our operations***

Operating System. Windows 95, Macintosh System, BeOS, MS-DOS, Linux, Unix are some of the better known operating systems. When a computer starts up, it usually reads the date from the on-board clock using some built-in process and then goes about keeping track of the current date and time. This information is then provided to programs which require it for such purposes as dating a document, time-stamping an edit or maybe for calculating whether an account is sufficiently overdue as to require a solicitor's letter.

Some computer systems have on-board clocks which only provide the last two digits of the date, which shouldn't present too much of a problem because, as computers have only been around in the latter part of

this century, it ought to be pretty safe for the built-in start up process to assume that any year before say 50 refers to the 21st century. Unfortunately, this problem slipped past some computer manufacturers until quite recently, but can be overcome in a number of ways:

If the built-in start up routine (BIOS) is stored in rewritable memory, a Y2K compliant version of the BIOS may be installed.

A whole new four-digit clock and BIOS can be installed on a card which plugs into one of the computer's expansion slots.

A software 'patch' can be installed which runs immediately after start up to correct the date before any program gets to use it.

Even if your computer's clock knows about the 21st century, there is a possibility that the operating system, or one of its components may not be fully Y2K compliant - e.g. there are problems ranging from the trivial to quite serious with all versions of Microsoft Windows, including Windows98. There are, however, fixes and work-arounds now available for almost every known problem. If you have an Apple Macintosh you needn't worry about this particular type of problem as all versions of the Macintosh System correctly deal with dates beyond 1999. Users of MS Windows-based computers will need to test them with the appropriate software to verify their readiness for the new millennium.

## COMPUTER APPLICATIONS

This is the area where much publicity has been generated about banks, airlines and insurance companies having to spend squillions to fix their problems. Today, hard-disk storage costs work out at around five cents per Megabyte, but in the



sixties each Megabyte cost thousands of dollars, so every byte of disk space saved was worth real money. Programmers who only used two digits for the year were therefore saving their employers extremely valuable disk space, besides the 20th century still had decades to run and as computers were being improved every year, it was obvious that the programs would be replaced long before there was a date problem. Programmers were so confident of the replacement of their software that they even used the 9th of September 1999 (9/9/99) as a special date in a file to mark the end of a batch or some other function totally unrelated to dates . . .

Cut to 1999 and check out the software being used by those same big institutions who could afford computers back in the sixties:

Most application software was developed without any particular regard for post-1999 dates and may not be Y2K compliant in all versions.

Many desktop accounting systems have only recently released fully Y2K compliant upgrades which you may be charged for, or at the very least, have to make a request for the upgrade.

Custom written applications may use two digit dates or may not have taken post-1999 dates into account when doing time-related calculations.

User-developed applications like the MS Excel spreadsheet you use for the crew pays or your Filemaker Pro effects library database

may only use two digit dates, or may not use valid post 1999 date arithmetic, even if the underlying program is capable of doing so.

If you aren't sure whether any of these

problems may be lurking in your computers, it's not too late yet to have them checked or to inquire from the supplier regarding Y2K compliance.

#### EMBEDDED MICROPROCESSORS

These are the controller chips inside a multitude of devices; everything from your microwave oven and CD player to your motor car's ignition system and from your building's air-conditioning system to the traffic lights on the corner and the pumping stations in the water supply network. Some of these systems are so clever that they remember the last time your car was serviced and remind you when the next service is due and if, due to bad date arithmetic, they think you haven't serviced your car for 99 years, they may not let you start the engine. One model of Ford motor car reputedly has (or had) just such a controller under its bonnet.

Then there's the multi-campus university which, on checking for Y2K compliance amongst its embedded controllers, has discovered that on every campus the sewerage pump control systems which track all manner of maintenance and usage parameters will not operate after 31/12/99 - potentially a very shitty situation.

If you have computer-based lighting desks, edit-controllers, lifts, energy management systems, large air-conditioning plants or a microprocessor-controlled anything ranging from a mobile phone or VCR to automated stand-by power or an uninterruptible power supply you should ascertain from the supplier or manufacturer whether or not the device uses dates or date calculations and if so, is it Y2K capable or can it be made so?

#### NO MAN/PERSON IS AN ISLAND

Even if you keep your accounts in a ledger book, type your cue sheets and letters on a manual typewriter, cook all your meals on a wood-fired stove and run your shows on Mackintosh valve amplifiers you still depend on a vast network of suppliers of goods and services to survive.

Even if you have tests and guarantees of the 21st century survival of everything in your venue, office or studio you are still vulnerable. Now is the time to look over your operations and check for suppliers of goods and services on whom you are seriously dependent, then verify either that the supplier is going to be able to continue without interruption or that you can find a genuinely alternate source of supply.

#### SURVIVING AND PROSPERING INTO THE 21ST CENTURY

The actual problems posed by devices and systems which don't deal correctly with dates in the next millennium are mostly quite trivial to remedy and, if found in time, pose no real threats to our survival and prosperity, but we must acknowledge their existence and deal with them before any damage is done.

## Even if you have tests and guarantees of the 21st century survival of everything in your venue, office or studio you are still vulnerable.

they're still running much of the same software which doesn't know what to do with dates after 31/12/99. The problem is to find programmers who can modify software written in computer languages which are now either defunct or very rare, hence the high cost of remediation. Banks, of course, actually noted these problems during the seventies when they started writing mortgages with terms extending beyond the end of the century and consequently haven't been caught out as badly as some other institutions.

That may all be very interesting, but what has it got to do with the desktop systems you use in your business to do your books, schedule your bookings, track your consumables or edit your tracks? There are software packages in use all over the place which may not be entirely capable of supporting you all the way to the next millennium:



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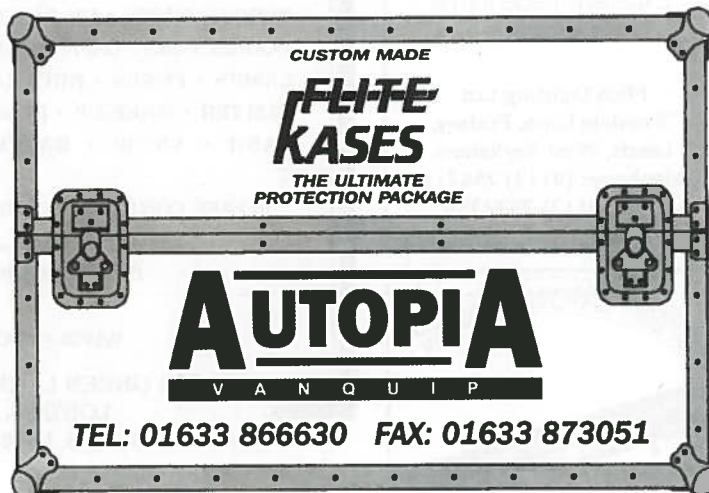
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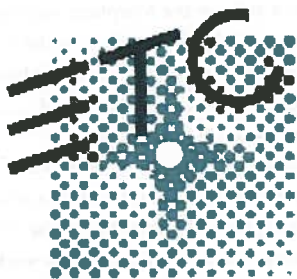
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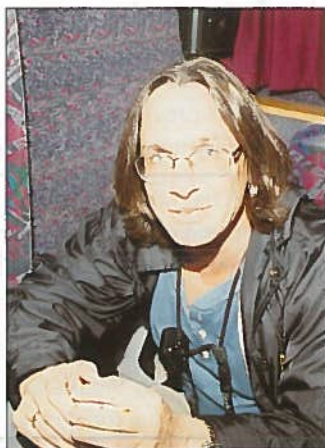
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# In Profile...

L&SI Talks to the Industry Trend-setters

**M**ichael Keller is a man I've counted a friend for more years than I care to remember. Strange then that I should discover how little I know him. As you'll see below, he's a man of modesty. With the roots he has in rock and roll he should be there with the Woodroffes and the Morses of the world. He's certainly not without the talent - as any who've seen Lionel Ritchie can attest - yet he languishes in their shadows. Maybe he should speak out a little more and with a little more level.



he continued. It was not to be a happy experience. "I was already into lights - I had lots of coloured bulbs in my room and was experimenting even then with colour and mood. A school band needed

ready to do the George Harrison tour for Bill (Graham) when suddenly they decided to make me house LD." Staying a further two years he got to light some of the most famous names around - "Jefferson Starship, Santana, Mott the Hoople - a great live band - there were too many drugs around to remember them all."

Santana finally plucked Keller away: "The Evil Woman tour. A truss and two Genies," he recalled with some relish. For the rest of the decade he spread himself between Santana, Starship and Lynyrd Skynyrd, but he'd already had a brush with the future. "Morpheus were just around the corner. Once I'd seen their moving light I knew this was going to be it." 1982 proved to be both the apogee and nemesis of his career. Lionel Ritchie went out with the 'Can't Slow Down' tour. It was to be a monster. Keller was designer working with a Morpheus moving light rig. "Ironic really. One of the first bands I ever lit back in my days at the Winterlands was the Commodores. Now here I was lighting Ritchie."

The tour, album and lighting proved a spectacular success: "I was nominated for LD of the year in Performance mag. Even though I didn't get it, it was a big thing to be nominated." A comment he passed without a hint of self pity or regret. Keller had programmed and run the Morpheus moving light system from a Kleigl Performer - and he was damn good at it. When Ritchie's career stumbled over the next couple of years, Keller found himself more and more in demand as a programmer and board operator. Now he's a firm favourite with Brickman, Woodroffe, Morse et al, but sadly as a designer finds himself sidelined. "I'd really like to design more." Having seen his work, I can only agree, and not because he's a friend. Go check out Lionel next time, you'll see. ■

Born in San Francisco in '53, Keller was almost immediately adopted by Dorris and Russell Keller and whisked 100 miles inland to Modesto, California. "My dad was a Porsche dealer when I was younger - why didn't he stay that way?" A typical comment from an untypical American, Keller is fully conversant with irony and possesses an impeccable sense of timing. There are moments when Steve Martin springs to mind. "Instead he became a public accountant." Not many clues there to Keller's future as a lighting designer. In the

absence of inherited material, you have to look for cultural and social influence, but there's none he recalls.

His sister Melissa, for example (also adopted), is a cattle rancher with 1,200 acres in northern California. Keller has been known to release a yippee-eye-oooh when he lets his alter ego 'Iggy' out to play. But the family resemblance ends there. "I did my first light show at high school,"

lighting, a friend said 'I have the equipment. Let's form our own company and do it?' OK I said. We were arrested immediately after the show. My friend forgot to mention he'd stolen the gear from the high school." Lincoln High at Stockton has never forgotten him.

From high school Keller went on to college and took Stage Lighting as a Master: "I lasted two weeks. I drew up a 700 lamp plot for Macbeth. My tutors said: 'we don't really think you're grasping this'. I knew then all I wanted to do was lights for rock bands." Luckily, fate intervened. A promoter knew of Keller's aspirations (and his high school prowess) and asked him to light a band at his club over in the East Bay area of San Francisco. "I stayed two years, eventually lighting a band called Stoneground. Their manager really liked my work and recommended I call Rico Miller who worked for Bill Graham at FM Productions. I must have called everyday for a month before finally they gave me a job; as a security man at the Winterlands." Arguably the most famous venue in US rock folklore, Keller landed there at the start of the seventies. It was a heady time, in every sense of the word. "After two years I'd gained enough experience to be considered for an LD position. I was just getting

Steve Moles

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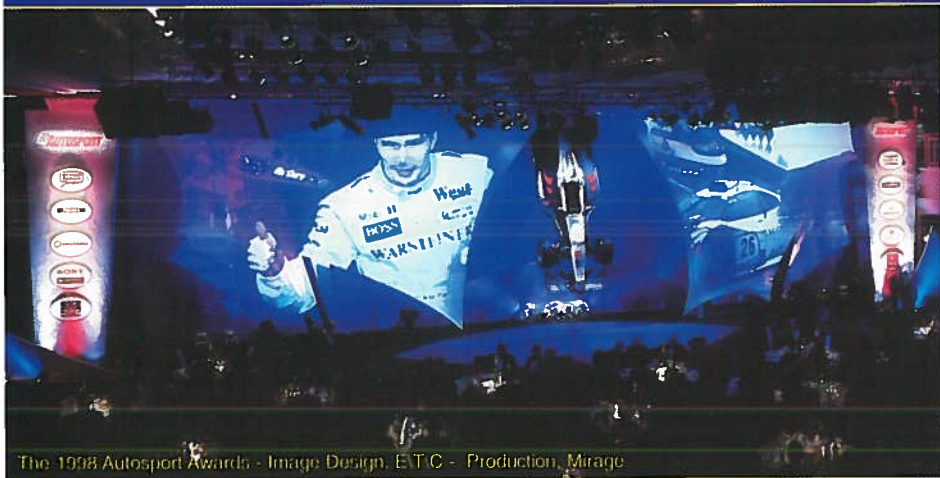
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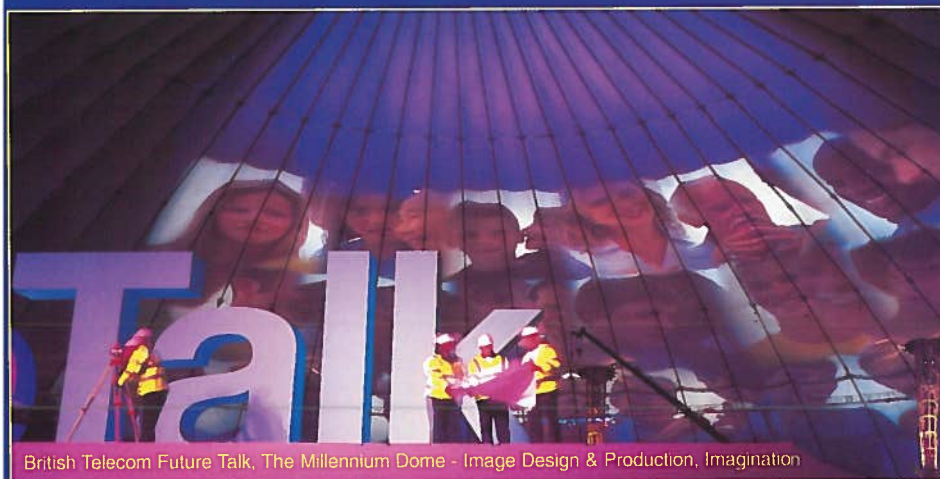
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