

# LIGHTING+SOUND *International*

THE ENTERTAINMENT TECHNOLOGY MONTHLY



THE ANCIENNE BELGIQUE, BRUSSELS

- Jean Michel Jarre: Big Picture in a Small Venue
- Updating the Ancienne Belgique
- The Sound of Speed at the Las Vegas Motor Speedway
- University Challenge: St John's College May Ball
- Behind the Scenes at the Roskilde Festival
- The Charlatans & The Bootleg Beatles On Tour

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**JULY 1997**

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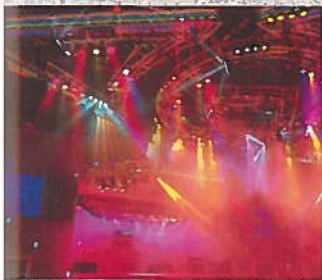
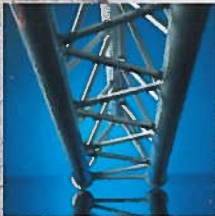
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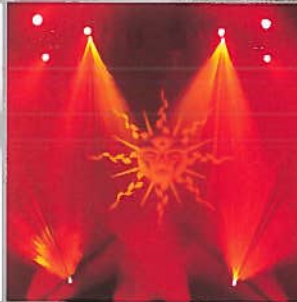
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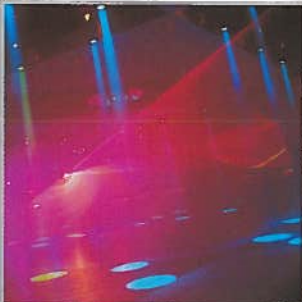
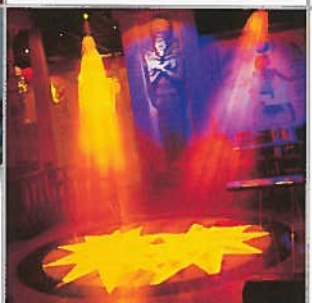
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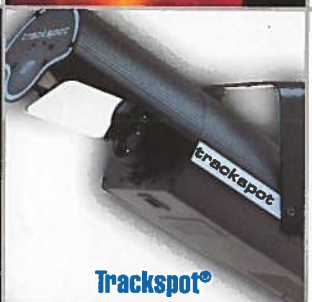
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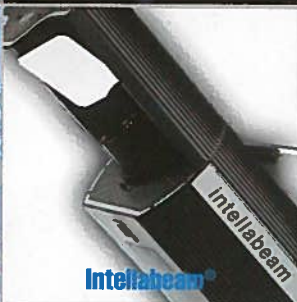
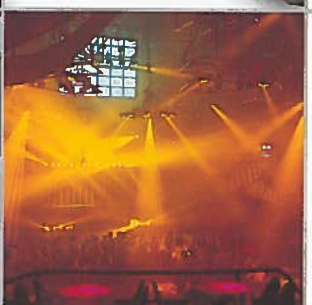
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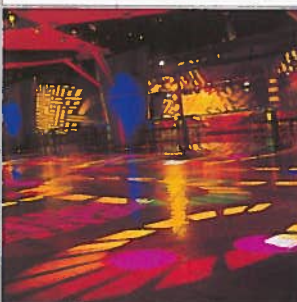
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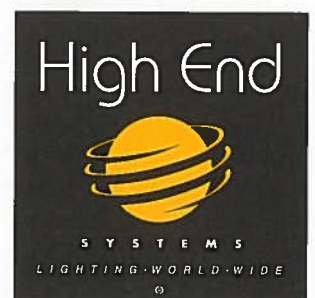
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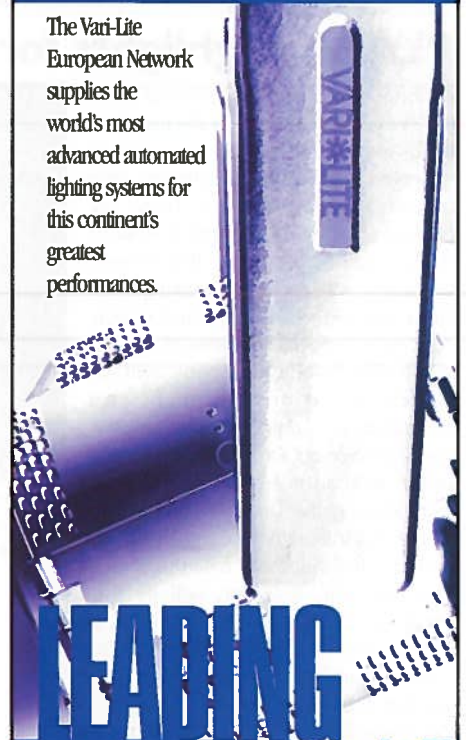
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## PLASA Highlights for London and Shanghai

As the 1997 PLASA Light & Sound Show draws ever nearer, more of the expected highlights of the event are being revealed. Building on 1996's 78% increase in attendance from AV equipment buyers, Unitek Displays, ProQuip, JVC and the Big Screen Company will each be showing their latest state-of-the-art large format display screens in a special comparison area.

The Big Screen Company will be launching the breakthrough third generation LED outdoor video display, the SigmaScreen DCM15. JVC's stand will include an interactive feature area incorporating the latest in lighting and sound, in addition to the European debut of their latest video and data projectors.

The highlight, however, will be the ground-breaking ILA 12K screen, with ILA projectors offering between 2,000 and 6,800 lumens.

In Corradi's Cube Bar, PLASA is bringing together the likes of Screenco, ProQuip, Owl and Electrosonic, who will be demonstrating their display systems for a number of applications on their largest ever PLASA stand. On the Top Deck, Unitek Displays will be presenting a brand new giant video screen to the market - the Megascreeen, utilising the latest LED technology, whilst leading manufacturers of monitors and LCD screens will be pitting their wares against each other in a comparison area set in a 1950's theme cafe bar.

Joining forces with the UK DJ of the Year competition, Clay Paky and Pulsar will be hosting the World Light Jockey Championship at the Hippodrome on the Tuesday night. Contestants will come from France, Italy, Germany, Spain and the UK.

Companies such as TOA Corporation, Meyer Sound, BSS Audio and Whiteley Electronics will be exhibiting on the Top Deck within the Specialist Sound Sector. In 1996, 160 sound companies exhibited at PLASA, and this year the Specialist Sound Sector alone will be double the size of some other specialist sound exhibitions held in the UK.

While things warm up for PLASA 97, plans for the 1998 Shanghai Entertainment Technology



P&O Events host a delegation from Shanghai: P&O's Nicola Rowland, Marcus Bernie and James Brooks-Ward are pictured with Intex sales executive Chen Ai Xin.

Show, which will be held at the Intex Centre, Shanghai from 14th-16th April 1998, are also going ahead successfully. Following PLASA's winning bid for substantial DTI funding, this major boost for the industry will enable UK manufacturers to take advantage of considerable support, including grants for stands and travel, equipment transportation and the services of interpreters, to enter into this vast emerging market.

The PLASA-style event will be organised by P&O Events and around 70 companies have already expressed an interest in exhibiting - applications have been received from a number of leading companies keen to establish their products and services in China. The show will be actively promoted by PLASA and P&O Events to the key tiger economies of Korea, Taiwan, Japan and Hong Kong, all of which are within two-hours flying time from Shanghai.

Sponsorship for the event has already been attracted from important government institutions, including the Shanghai Culture Bureau, the Shanghai TV, Broadcasting & Film Bureau and the Shanghai Culture Development Foundation. Related ministries are also being approached for support.

For further details on both shows contact P&O Events in London, telephone 0171-244 6433.

## Royal Pageant Rained Off

A rather disappointed Unusual Services announced recently that the planned Royal Pageant of the Horse, which was due to take place on Saturday July 5th to mark the 50th anniversary of the marriage between Her Majesty the Queen and the Duke of Edinburgh, has been cancelled following a detailed inspection of the site.

Unusual Services had been building the infrastructure for this event on a site larger than that used for the VE Day celebrations in Hyde Park in 1995. The brainchild of Major Michael Parker, with whom the company had frequently worked, the Pageant was to comprise seven acts and incorporate a complex series of theatrical scenes in which hundreds of horses illustrated their evolving role in society through the ages.

Unusual had pooled together some of the most experienced hands in the industry, including production manager Chuck Crampton, LD Robert Ormbo, show director Dougie Squires and sound designer John Del'Nero. They had already installed over a mile of trackway and 12 miles of electrical cable and had begun erecting 30,000sq.m of tenting before the disastrous weather struck. Managing director, Alan Jacobi, told L+SI: "The unprecedented rainfall has made the safe construction of all the necessary infrastructure and facilities impossible in the time available, particularly as more rain is forecast by the Met Office."

With more than three times the average June rainfall for Windsor Great Park falling in June this year, the production crew were up against forces outside of their control. Chuck Crampton and the team are now putting everything into reverse gear.



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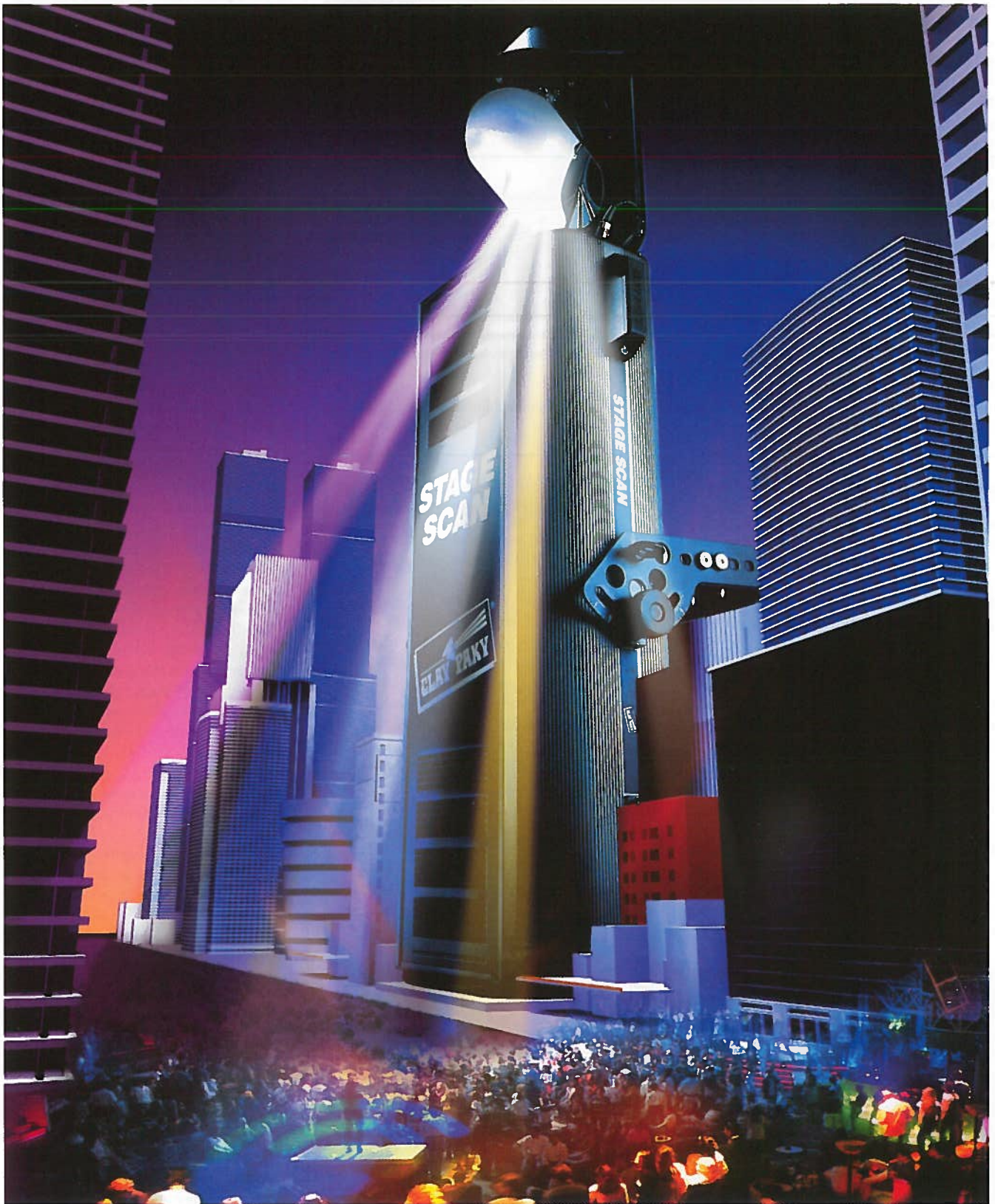
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## Tokyo Forum

The new Tokyo International Forum recently opened its doors in downtown Tokyo, Japan, following more than 10 years of planning and construction.

The acoustic design for the venue was a collaboration between Jaffe Holden Scarborough Acoustics of Norwalk, CT, and Yamaha Acoustic Laboratory of Japan. The stunning new facility includes four theatres, 34 conference rooms, as well as reception and exhibit space.

The largest venue, the 5,000-seat Hall A, includes sound reinforcement systems featuring more than 190 EAW loudspeakers of 11 different models, while nine different models, 100 units in total, are used in the 1,500-seater Hall C.



Hall A at the Tokyo International Forum, with sound systems comprised of more than 190 EAW loudspeakers. Photo: Kawasumi Architectural Photograph Office.

## Brit Row's Pet Sounds

Britannia Row Productions reunited with the Pet Shop Boys to provide the sound reinforcement for the band's recent three-week residency at London's Savoy theatre. The show was designed by BRP's Bunny Warren, in conjunction with the band's FOH engineer Robbie McGrath and monitor man Chris Wade-Evans. All the production was brought in and included a Midas XL4 mixing the auditorium sound and a Yamaha PM4000M handling monitors.

The part-flown, part-stacked Turbosound system included 12 Floodlight 760H and 12 21" lows (TFS 780L) driven by BSS amplification (with a further Floodlight and 21" in each stage wing for sidefill). Graphic equalisation for stage and house sound was provided by the new Klark Teknik DN3600 and Robbie McGrath's FX rack included two Eventide H3000 Harmonizers, AMS RMX 16 reverb, Lexicon PM 70s, Behringer gates and compressors and some JBL Smart processors on vocal monitors.

## TFL Singapore Move

The expected expansion of business activity at Total Fabrication Ltd's Singapore office has resulted in a move to new and larger premises. Clients will benefit from the improved facilities at the new office, from where director Winston Goh will be able to offer smaller items, like CEEP multi-pin electrical connectors.

Following on the established success of TFL's relationship with chain hoist manufacturer Verlinde in the UK, the company have appointed TFL Singapore as their sole distributor for the Far Eastern market. The Singapore office will be carrying spare parts and service kits for the range of Verlinde hoists.

The new address is: Total Fabrications Asia Pte Ltd, 4010 Ang Mo Kio Avenue 10, Tech Place 1, No 07-02 Singapore 569626.



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## People in the News

**Tim Burnham**, who moved from England to Middleton, Wisconsin, in 1994 to join ETC Inc, the American parent company of ETC Europe Ltd, has been promoted to the newly created position of vice-president of marketing.

**Andrew Nikel** has joined the Systems Integration Group of Production Arts, as a project co-ordinator. Nikel joined the company in 1988, and is known for the many rental projects he has managed for the company. In his new role, he will be responsible for specifications, quotations, and project management. **Jessica Franks** has joined as a rental customer service representative.

SCV London have been busy recruiting new staff in order to keep up with their rapid expansion: **Sean Turk** joins as international sales and marketing manager to oversee the worldwide sales of the company's two manufactured lines, LA Audio and SCV Electronics. With 12 years experience in the professional audio field, Turk was most recently with Martin Audio. To head-up the company's new software division, **Martin Norfolk** joins directly from Digidesign where he was responsible for developing international distributor sales. Norfolk will manage the new division which opens for business with audio software-based products from Waves, Opcode, Lucid and Bias. **Claire Hennessy** comes to SCV London as sales administrator and **Pamela Allen** has been appointed as service and purchasing administrator.

Midnight Design welcomes two new members to the team with the arrival of **John Houchins**, previously with Theatre Projects, as hire manager. Houchins' role will be to look after the dry hire and system hire side of the business. **Howard Peters**, previously of Supermick, has joined as control technician within the warehouse, responsible for servicing the extensive range of Avolites desks and dimmers and the recently acquired Clay Paky Stage Scans.

SES Film & Television have appointed **Diarmuid O'Shea**, formerly with Cerebrum Lighting, as sales manager. His role will be to develop the product range and raise the profile of the company.

Woking-based B&H Production Services Ltd has appointed **James Connell**, who has been working with B&H on a freelance basis for 18 months, as sound technician. Connell will work alongside company engineers Matt Barden and Phil Wright.

**Millie Dixon**, formerly director of operations at the Cerritos Center for the Performing Arts in California, has recently joined Theatre Projects Consultants as technical director. Based in Ridgefield, Connecticut, Dixon's responsibilities will include overseeing performance equipment for new projects.

**Ken Mehmed** has joined Vertigo full-time as project manager. He brings with him over 10 years' experience in the rigging industry and has worked with Vertigo on numerous projects. He will continue to co-ordinate large-scale musicals whilst also being involved with the design and manufacture of the 'off-the-shelf' and rigging items in which Vertigo specialise.

Triple E has welcomed **Michael Kemp** as a new member of the company's design team. Most recently Kemp has been involved with the £1.5m contract for the showcase Heron Quay footbridge in Docklands, but it is through his involvement with Nimbus, P E Kemp engineers and his own freelance business that he is best known.



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## More Space for ETC

Electronic Theatre Controls Europe is growing at such a rate that it has expanded across the road! The company has taken a lease on an additional unit opposite its West London headquarters building, giving it a 70% increase in floor space.

The new unit, which will be used for the warehousing of stock, plus demonstration and loan equipment as well as console testing, will allow the company to carry a higher level of stock than ever before, enabling it to speed up delivery times to its distributors throughout Europe. It also frees the whole of the ground floor of the headquarters building for manufacturing, practically doubling the amount of room available for the production of Sensor, Smart Rack and Smart Pack dimming.

The expansion comes at the same time as ETC Europe also takes on yet more staff, with the announcement of Gerard O'Grady as financial controller. Also new to ETC Europe are Gary Lewis and Ivan Mills, who join as wiremen, Lucy Ellison who is the new receptionist and Teresa Connerty as purchasing administrator.

## SBS Wins ROH Order

German company SBS of Dresden has recently been awarded two contracts as part of the complete reconstruction of the Royal Opera House at London's Covent Garden. The orders cover both a stage carriage system and stage podiums with the total cost of the contract expected to surpass more than DM six million.

## Light Jockey 97



1997 looks set to be the year of the Light Jockey. Manufacturers Clay Paky and Pulsar have combined resources to raise the profile of LJs across the world. The two have set up comprehensive training programmes to raise the skill base of all LJs in the hope of establishing a uniform level of expertise. In return for their support of the products, each candidate is awarded a Clay Paky & Pulsar Training Diploma and a place in the Light Jockey contest.

The first ever World Final at PLASA 97 will bring LJs from the UK, France, Italy, Germany and Spain together for the first time to compete for the title of World Light Jockey Champion. Clay Paky and Pulsar hope to expand the scope of the contest by seeking competitors from all over the world.

Pictured above are Domingo Latorre of Stonex SA, Clay Paky's Enrico Caironi, Spanish LJ champion Daniel Cardenas Sahuquillo and Pulsar's Derrick Saunders.

For further information, contact Jane Dorling at Pulsar on (01223) 366798.

## Spicy Snippets

This month Britain's favourite singing strumpets are at the Royal Albert Hall. In front of a live fan-club audience the Spice Girls will record on film two, possibly three new songs. Lighting design is by Steve Nolan, with Pete Barnes invited to consult and contribute to the show (Barnes also looks set to design for the planned full tour early next year). A big TV rig includes 20 Icons, three V-shaped trusses filled with Pars, five Super Troopers, and a 12' by 60' grid out over the stalls that supports an aerial walkway for the girls to strut their stuff upon.

The final show for the current version of Classical Spectacular is taking place in Milton Keynes. The last outing for Durham Marengi's 'Claw' design, the show is outdoors at the MK Bowl. Marengi is already working on the next concept, beginning in October.

The Beautiful South hit their big outdoor shows this month, following a successful Arena tour in the spring. LD Simon Sidi is out with an Icon console, plus the full artillery from the spring tour. David Bowie takes his new 'Dance' show to tour around the festivals of Europe plus a few obscure one-off's here and there. LD Gary Westcott has a rig of Icons, Diversitronic Strobes, Source 4s and Colormags.

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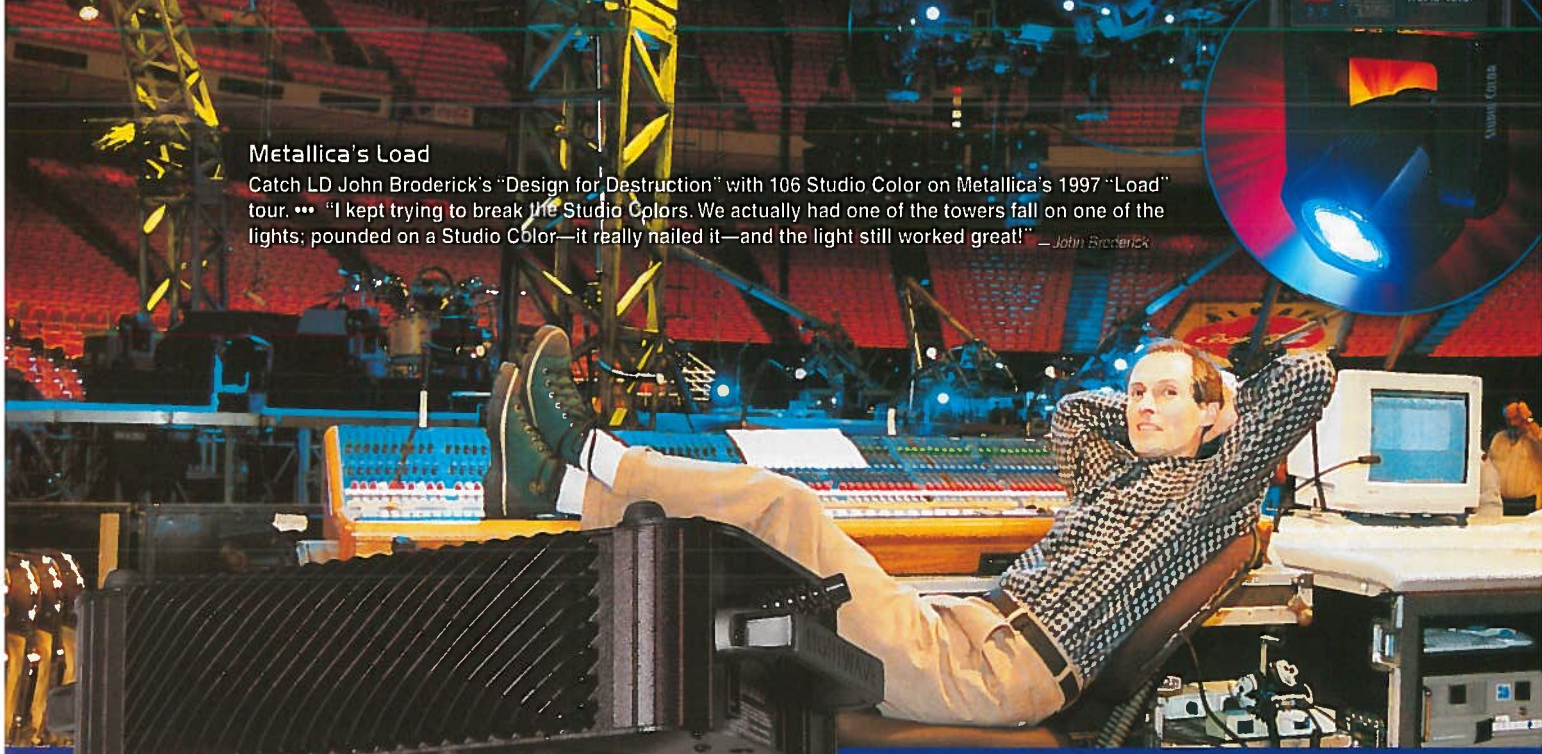


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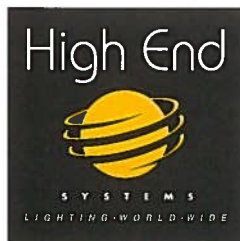
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## Montreux '97 Success

The Montreux International Television Symposium in June completed a successful 20th Symposium and Exhibition with attendance significantly up on previous years, confirming the rising need in the engineering community for information on the new applications of digital technology, such as terrestrial broadcasting, HDTV, post-production and video compression. Over 300 speakers presented papers across the nine different conference streams and delegates from 130 countries attended the symposium.

PLASA members at the show included Canford Audio who, in addition to their usual wide range of accessories, demonstrated their new ISDN Terminal Adapter. Elsewhere in the hall, Clay Paky and Doughty Engineering shared space on their agent's stand, whilst Soundtracs and Artek were also in evidence.

## Fleet of Foot

UK-based location sound and concert recording facility Fleetwood Mobiles has moved its mobile studio and customer support facilities to Bray Film Studios in Windsor. Bray, historically the home of the Hammer horror film company, is now a thriving community of film, video and audio production services.

Fleetwood underwent a £300,000 refit last year, installing a 72-channel Euphonix CS2000 console, along with automated outboard and a custom line-checking system which enables the truck to record rolling events on a continuous basis.

## Flashlight Belgium



The management team at Flashlight Belgium: Gerard Jongerius, Eva Pintelon, Ludo Vanstreels and Frans Van Belkum. Herman Fresen (not pictured) is also part of the team.

In mid-June, Dutch company Flashlight, one of Europe's largest lighting and sound rental companies, opened a new facility in Belgium.

The company will mirror the activities of its parent, so in addition to 'dry hire' facilities, it will also offer specialist expertise in the planning and production of a wide range of events, from concert and theatrical productions to work in the television, conference and corporate sectors.

The company already has an impressive stock-holding, ranging from computer-controlled lighting, to trussing, rigging, audio equipment and a host of accessories. In addition, the company will also offer a comprehensive training facility.

The company can be reached at Centrum Zuid 1054, B-3530 Houthalen, Belgium. Telephone +32 11 52 55 30.

## NJD Lightshow Coup

NJD recently managed to pull off two of the biggest lightshows in their history, by utilising the rig prepared for the DJ Culture show at Manchester's G-Mex, at another two-day trade show in Switzerland, for distributors ASL.

Based on the same theme as NJD's show at PLASA last year, the new show was designed using 65 NJD lighting products, including Predator and Microbeam 100 scanners, Chroma HX colour changers, Datamoon and Blitzer flower effects and the new Xenon 25 strobes, ending with an explosion of pyrotechnics and confetti. The whole show was accompanied by the company's Cobra loudspeaker range.

The show resulted in some promising orders for ASL, with particular interest in the Chroma HX colour changer and the Xenon 25. From Switzerland, the whole rig was shipped back to Manchester in time for DJ Culture.

## Expansion Forces Move at Trantec

Expansion at BBM Electronics Ltd (Trantec) has forced them to move from their Mitcham premises to a new, much larger facility in Morden. The company can now be reached at Kestrel House, Garth Road, Morden, Surrey SM4 4LP. Telephone and fax numbers remain the same.

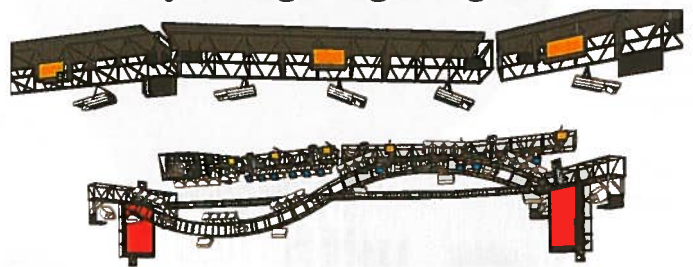
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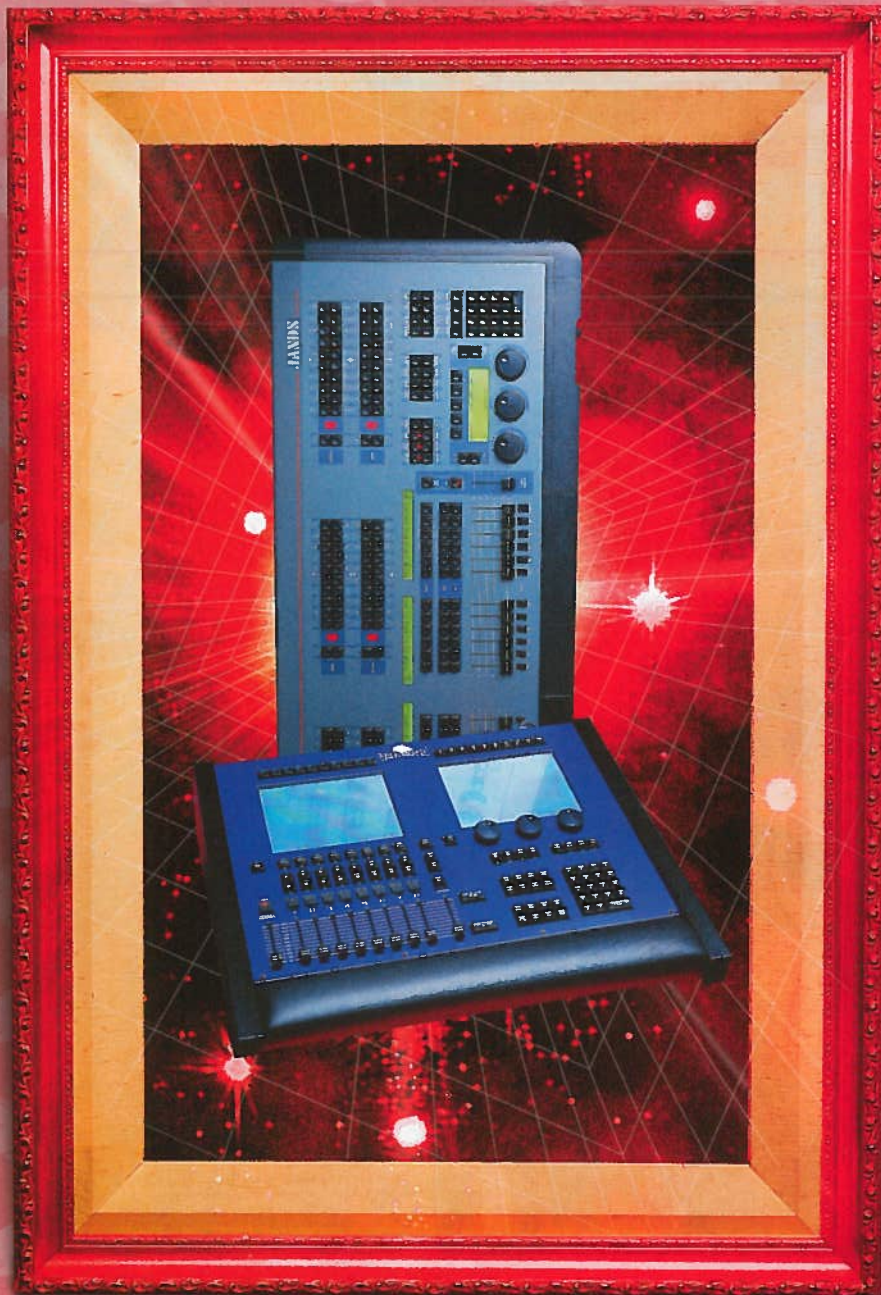


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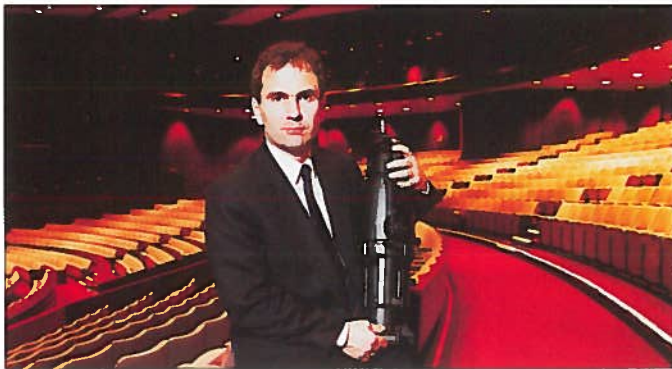
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## First ETC Sensor in UK



West Yorkshire-based Futurist Light and Sound recently installed a Sensor CE dimming system from ETC at the Harrogate International Centre (HIC) - the first to be installed outside of the US. Dr David Wilmore, head of the Centre's technical division (pictured above with an ETC Source Four Jr), chose Futurist as the north of England's master dealer for ETC products.

ETC's Sensor replaced an analogue system installed in the Centre over 15 years ago. Under the direction of the company's project manager Dan Cox, the mechanical and electrical installation took just under three weeks. It was important that the installation did not interfere with the venue's programme, and to this end Futurist provided a temporary dimming system from its hire stocks, carrying out the installation around stage performances.

## EAW: Fresh Start

Eastern Acoustic Works (EAW) has commenced construction of a new state-of-the-art facility for production of its professional loudspeaker systems. The 60,000-plus sq.ft production facility is being erected on the site of EAW's former main production area, severely damaged by fire in October 1996. Providing complete consolidation of the company's loudspeaker and crossover manufacturing operations in one location, it is scheduled for completion in September 1997.

Assembly areas are being designed using industrial design and materials handling techniques and this is expected to increase EAW's manufacturing capacity by 500 per cent.

## Martin Professional Record Profits

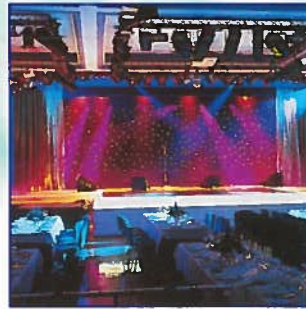
Exceeding their own expectations, Danish lighting manufacturer Martin Professional have announced record profits for the year 1996/97. An announcement released recently states that the group's turnover increased by more than 50% from the previous year, to DKK 428 million. Net profit for the year ended 30th April 1997 amounted to DKK 23.5 million, as opposed to DKK 16 million the previous year. In a year that saw the company launch 20 new products onto the market, general growth in turnover was recorded in both existing and new markets. A further increase of 25% is predicted for the financial year 1997/98.

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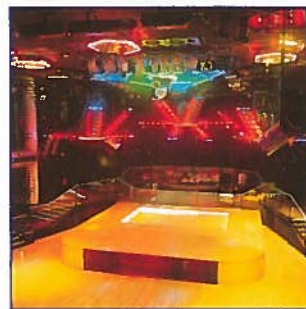
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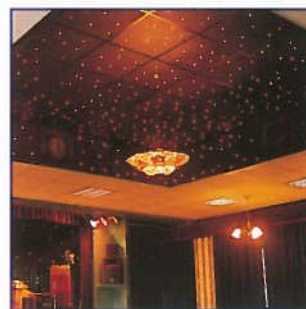
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## Bright Future for Silent Dimmer



Teatro's Andy Collier (left) with Jan de Jonge of IES and the new IGBT digital dimming systems.

A new form of dimming technology was demonstrated by Teatro (UK) in late June in London before an audience of technical experts gathered from the worlds of theatre and television. At the heart of the new dimmer is an IGBT device which represents a key advance in the principle of how dimmers control the electrical supply waveform to allow stage and studio lighting to be dimmed since the advent of thyristor dimmers over 35 years ago.

The IGBT approach neatly solves the problems of noise and mains interference, as well as using less energy and meeting stringent new European regulations. The seminar was led jointly by Andy Collier of Teatro and Jan de Jonge, of Netherlands-based IES, who developed the dimmers.

Teatro (UK) only recently took on the distributorship of IES, which they first demonstrated at the Futurist-organised Light & Sound Fest in Bradford. Visitors to the show were invited to listen to a Par can connected via a relay changeover box to the output of either a conventional high-spec IES digital dimmer or the new IGBT dimmer - the latter removing completely the usual audible 'lamp sing'. Andy Collier is currently setting up a sales distribution network in the UK for the range of IES products.

## Eldon Goes PC

Presentation Consultants have just completed the design consultancy, installation and project management elements for the Eldon Garden Shopping Centre in Newcastle.

The existing single zone of 12 Combicolors has now been increased to three more zones, all of which are individually controlled from four Pulsar Masterpiece Replay units, triggered in real time by a Maris Stinger Multi. All Clay Paky and Mad Lighting equipment was supplied custom painted in two batches via Cerebrum Lighting Ltd, in order to maintain continuity of effects.

All 35 fittings are programmed via local DMX zone inputs using a Masterpiece 108, allowing the environments to be updated quickly. The system controller also takes account of the ambient light levels and will stop a cycle if the centre is too well lit.

As a direct result of their work on Eldon, Presentation Consultants have been asked to look at two similar projects in conjunction with the interior designers, Anderson.

## Patent Office On Line

The Patent Office has launched its own site on the World Wide Web (<http://www.patent.gov.uk>). With over 400 pages, the site offers a wide range of information about intellectual property (IP) and the publications and services of the Patent Office. Developed in consultation with patent and trade mark agents and other interested parties, the site contains a broad spread of information which may prove useful to manufacturers and designers in the entertainment technology industry.

## Aquadisco Splashes Out



Lightfactor Sales have recently completed another project in the Turkish fun-in-the-sun resort of Antalya. The Aquadisco is a 1500 capacity open-air nightclub, complete with stage for live acts, situated in the Aqualand Water Park. The lighting scheme was designed by Lightfactor's Dick Carrier who also oversaw the installation.

The core of the rig is 12 Cyberlights for projection onto the tented ceiling, dance floor and stage. These are joined by 12 Trackspots, 12 AF1000 Dataflash and Penn Fabrications' Raylights - all supplied by Lightfactor, together with the dimming and control which features Light Processor QPacks, a QCommander console and a Q24 for stage lighting control.

The ceiling is pyramid shaped, nine metres high and constructed from locally-built box truss on which all the effects lighting instruments are hung. Also supplied via Lightfactor was a 5W Pure Light Laser with a Laser Studio FX scanning system and control desk.

Closer to home, the company are to run a series of regional open days as follows. These will take place during August and will cover six areas: London and the South-East (Aug 5th); South-West and Wales (Aug 7th); North-East (Aug 12th); Scotland (Aug 14th); North (Aug 19th) and Midlands (Aug 20th). Venues will be announced shortly. For further information contact Lightfactor on 0181-575 5566.

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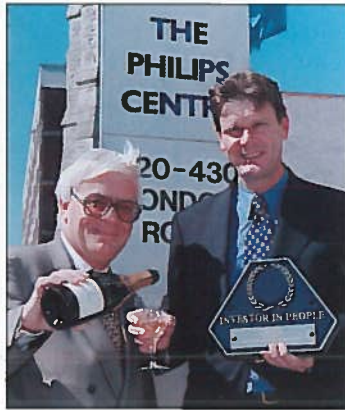
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## Philips Lighting The Way Forward

Croydon-based Philips Lighting Ltd, which has around 8,000 product lines, ranging from the domestic light bulb to major floodlighting systems, has now added the Investors in People National Standard to its list of achievements. Pictured right, John Howell, chief executive of the South London Training and Enterprise Council (left) who worked in partnership with Philips to help them achieve the Standard, presents the award to Peter Maskell, managing director of Philips Lighting.



## Group One Take on MA Lighting

Group One, US distributor of a number of lighting and audio products, has recently entered into a distribution contract with MA Lighting Technology of Germany. The company will now distribute all MA Lighting products in the United States.

MA Lighting, a manufacturer of controllers, dimmers and DMX equipment, including the Scancommander and Lightcommander series, previously ran its own US office in McQueeney, Texas, but has decided to capitalise on the achievements of this facility by linking to the expertise of a respected local distributor.

MA Lighting's Ralph-Jörg Wezorko told L+SI: "Thanks to the efforts of Bernd Knemoeller of MA Lighting USA, we have laid the foundation for a successful relationship with Group One."

## Vision & Audio

Vision, the UK video, film and broadcast equipment show has combined with the APRS Audio show and moved into the modern surroundings of London's Earls Court 2. Vision & Audio '97 takes place from November 4th-6th this year and will encompass the full range of broadcasting, post-production and recording technology. The show will present 6,000sq.m of exhibition stands in four main areas. For further details contact Vision Exhibitions in Richmond, telephone 0181-948 5522.

## L+SI Countdown to PLASA 97

The PLASA Show is drawing ever nearer, and we are working on the final pre-show editions of L+SI. The editorial/advertising deadline for the August issue is Friday 18th July and for the September issue, Wednesday 13th August. Also, the new look, A4 format Show Catalogue, which will feature comprehensive information on both the Show and on London itself, is also well underway and all exhibitor entries and advertising copy must be submitted by Friday 15th August - please don't be late!

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## What a Finalé!

A tightly packed schedule draws to an end the second tour of the rock and roll musical extravaganza 'What a Feeling'. Designed as a fast-moving compendium of hits from the seventies through to the early nineties, the show has taken its lead from such productions as the Rocky Horror Picture Show, where audience participation is obligatory, and can look back over the success of its run with some satisfaction.

Production co-ordinator James Cobb of Flying Music turned to Andy Walmsley to build the set. As both the budget and the schedule were tight, the set had to be simple yet versatile and so Walmsley opted for an eighties-style chrome rig which in truth remains much the same throughout the show, but does lend itself to the quick succession of eclectic hits.

Lighting designer Mark Scrimshaw spec'd an efficient yet effective rig featuring 11 six lamp bars, seven Starlite Mk2Gs and another two six lamp bars. The rig and the 48-way Avolites dimmer rack were supplied by DLD, likewise the controlling Jands Event Plus desk. The cyc lights and floor cans employed colour to great effect and the palette got ever bolder as the hits were racked up. Given the limited scope of the set, there was some clever interplay of gobos to give extra depth to the stage look, whilst a pair of Jem foggers alongside an LE100 cracker created an atmospheric haze.

Colour was intrinsic to the set-pieces, each being separately themed: the Broadway section, for instance, was silhouetted against a red cyc with a projected Manhattan skyline. During the ballads such as 'Kiss From A Rose' the Starlites, considered underrated by Scrimshaw, doused the stage with pastel hues. The 'Saturday Night Fever' set demanded a stronger finish - bright primary colours to denote the heat of clubland.



With each new venue presenting its own problems the lighting rig had to be extremely flexible: the trusses could be split and flown vertically whenever necessary and the design was such that the Starlites and generics were easy to reposition.

Faced with the same challenges and constraints the audio set-up was equally complex, and the rig, supplied by WigWam Acoustics and designed by long-time associate John Sugden, was based around a core combination of Meyer and Nexo speakers working with Soundcraft control and run through Amcron amplifiers. Sugden is actually operating front of house for the tour and his racks are packed with Amek, Yamaha, Behringer, Alesis and Sony effects units. The three principals - Sinitta, Sonia and Luke Goss - perform live using six Sennheiser UHF hand-held mics, but the eight backing singers actually mime to pre-recorded tape cued by the musical director Chris Brooker.

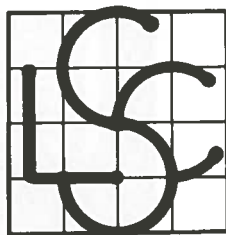
Plans for the future include a worldwide tour. Flying Music Co are currently scheduling autumn dates in the UK, Singapore and Finland, with the possibility of other overseas venues, so if you missed it the first time around, get the loon pants out because all is not lost!

Jo Boyd

## Blackout Head Out

The Blackout head office has moved from its Wandsworth warehouse site to a refurbished customised office and warehouse unit in Wimbledon, London. Relocation was inevitable given the company's increasing project workload, and as a result extra personnel and storage for the sheer volume of drapes now required to be held in stock. The new building offers increased office space, additional warehouse space and an extensive mezzanine floor dedicated to creative services. The company can now be reached at 208 Durnsford Road, London SW19 8DR, telephone 0181-944 8840.

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## Systems Workshop Takes UK's First D.A.S. Rig

Pro-audio supply and installation company, Systems Workshop, has taken delivery of the first ever UK-based D.A.S. PA touring rig. The sale is a major order for the European designed and manufactured product and for Sennheiser UK, which only acquired the UK distribution in March. The purchase of the system by the Midlands-based company was due to a requirement to upgrade its PA hire rig. The 8kW system comprises four ST-218 bass bins and four each of the ST-215 (800W) and ST-110 (400W) hi/mid packs, enabling the system to be configured for a variety of differing applications.

Systems Workshop managing director Phil Beaumont commented: "We've been doing a large amount of club installation business with D.A.S. over the last 18 months, so it made a lot of sense to look at the D.A.S. Touring Series when we decided to upgrade the hire stock."



Sennheiser's area sales manager Andy Turner (left) and Systems Workshop managing director Phil Beaumont with the company's new D.A.S. hire rig.

## MTV Turn On Europe

MTV have embarked on a nine-week European roadshow, backed entirely by equipment from Lamba plc. The Turned On Europe bus left London in June en route for 35 destinations, carrying the new, all-British KAM GMX-ONE, powered by KAM KGA 1500 amps and played back through Cerwin Vega! T36 and T250 loudspeakers, distributed exclusively in the UK by Lamba. The tour itinerary takes in Amsterdam, Prague, Vienna, Milan, Barcelona, Basel, Paris and London and in each of these cities the bus will be parked in a pre-advertised central location with around 500 people expected to attend each event.

## Artistic Hire

In response to customer requests, Artistic Licence are now offering a new Hire Department service which will provide the company's entire product portfolio and will make the hire option more attractive by offering to offset the cost of hire against the price of product on a future purchase.

## High End Open West Coast Office

US manufacturer High End Systems has opened a new West Coast sales, support and training facility in Los Angeles.

Grif Palmer, director of sales, told L+S: "We're delighted with this new opportunity to support our dealer network and work closely with the professionals who use our lights. A new sales, technical and programming staff will be based there but all shipping orders and factory business will continue to be generated from the company's Austin manufacturing site."

Industry veteran John Wiseman joins as director of special projects - West Coast. Wiseman brings 19 years of concert experience to the company, most recently serving two years as the vice-president of entertainments sales for The Obie Company, putting together lighting packages for a number of groups, including Metallica.

The company are planning an Open Day on August 1st at the San Fernando Valley site at 8200 Haskell, Van Nuys, California 91406, telephone +1 (818) 947-0550.

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## Swan Lake's Classical Turn at the Royal Albert Hall

Is Patrick Woodroffe the first lighting designer ever to have used a three step chase for the ballet *Swan Lake*? OK, even in this classical ballet there have been some adventurous effects, but we're talking automated lamps - the ones we normally see thrashing around above AC/DC, not the English National Ballet.

Raymond Gubbay and the RAH have borrowed from an alien presentation discipline to enhance the realisation, which makes perfect sense. This is the first time *Swan Lake* has ever been staged in the round, certainly in the UK, and reputedly the world. It's an audacious step, and although there are undoubtedly commercial imperatives that drive it along, both Gubbay and the RAH are to be applauded for bringing yet another supposedly elitist art form within reach of a wider audience. The shape of the hall puts the majority of viewers in seats close enough to warrant a premium purchase price at a conventional ballet theatre. But that same circularity also presents a major problem, it precludes scenery and strips the classical setting of its familiar frame.

The ENB's artistic director Derek Dean approached the Cameron Macintosh organisation for advice on presentation in such settings and Nick Allet recommended Woodroffe. "The real challenge is that the lighting has to be the scenery," said Woodroffe, confirming the dilemma. "I've done many shows in the round and they're not easy. There's nowhere to put any low light. We did try some VL5s down around the stage but they looked out of place. This is still a classical ballet and you have to be sensitive to that."

The RAH have gone to great lengths to help resolve these dilemmas and for the first time ever have allowed automated lamps to be hung from the front walls of the boxes. (Future productions at the RAH may wish to note that they even made up, and will keep in stock, the special brackets that support the VL5s and VL6s.) Woodroffe chose Icons for their output over long distances, but for the box positions found them too noisy, hence the 300 series Vari\*Lites. The main lighting contractor is LSD, installing a substantial grid directly above the central stage area, rigging lamps on the RAH's own trusses above what is the normal stage end, plus six lamp bars of Pars around the upper



promenade gallery and interspersed with the Vari\*Lites on the boxes. An extensive rig, and unusual circumstances for LSD, but they've acquitted themselves well, said Woodroffe.

As for technique? "I know the Albert Hall very well. I was looking for two things. The big wide look - I wanted to give

credence to the spectacle without detracting from it. For example, a gobo look from 80 Icons is very exciting - but the challenge is then to be able to light the close up, to place light locally and not flood the whole stage all the time."

It's no easy task. In the absence of scenery there's nothing to reflect the light and on a bare stage even the grandest wash can at first look insignificant. When a dancer then appears and breaks the flat image with their presence you are immediately aware of just how much light is beating down upon them. "I've been surprised," notes Woodroffe. "I don't need the level I expected, but if I do want to lift an individual I really have to punch light through to them. This requires some thought - if you put too many lights on them then the lighting itself can become a distraction."

The problems don't end there. A quick circuit of the room from any level above the first tier of boxes reveals how the positioning of light source and the viewing angle are critical. A perfectly acceptable scene from the lighting control position on the first tier can look quite pallid and uninteresting from an upper box barely 30 feet away, something Woodroffe acknowledges. "You wouldn't face that problem in a conventional setting. In a traditional theatre, hardly anyone in the audience is aware of the followspot beam on the stage floor, except the operator. Here, everyone's in the operator position."

No doubt it was the demands of doctoring such anomalies that led Woodroffe and programmer Dave Hill to still be altering scenes and even re-gelling 30kW of Pars between the final dress rehearsal and the opening show.

I don't think we're going to see classical ballet touring the arena circuit in the same way AC/DC might, but there's no doubt that with this method of production they certainly could.

Steve Moles

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## Triple E's Anglo-American Connection with ADC

The consolidation of Anglo-American relations seemed to top a lot of lists at the end of May. Hard on the heels of President Clinton's visit to London was another successful trip by an American president - John Samuels of Automatic Devices Company (ADC), Pennsylvania. ADC is Triple E's newly appointed distributor for North America, Canada and Mexico and Samuels (pictured right) met with David Edelstein, managing director of Triple E in June when he paid his first visit to London since the joint agreement was announced earlier this year.



## Love All at Wimbledon

For two weeks in June, the English love of tennis rates as a national obsession on a par with their love of television. What then could be more natural than to match both elements for Wimbledon's annual extravaganza?

Tried out last year for the first time, a Sony Jumbotron screen from Screenco will be suspended above the tunnel entrance to the re-built Number 1 court from an Edwin Shirley Stages (ESS) Tower System. From this vantage point, the screen relays action to the many hundreds of picnickers enjoying their strawberries on the lawns outside.

In keeping with the elegance of the occasion ESS have gone to great lengths to ensure the structure is as discreet as possible; special 1.3m trusses have been purpose-built to match the horizontal dimensions of the system to the entrance way below. Concrete pads have been laid which mate directly to the foot of each Tower relieving the need for structural outriggers.

## Turkey Source

This year's Istanbul International Jazz Festival, which takes place in July, includes Eric Clapton among its headline performers, and will also feature ETC Source Fours among its lighting hardware! This is the fourth year that the festival has taken place, but the first appearance for the Source Fours, which are being installed by local rental company, Altincizme Elektronik, who were the first company in Turkey to use the fixtures.

## VL For Music Fest

Three companies from the Dallas-based Vari-Lite International group played a part in the Countryfest 97 event at the Texas Motor Speedway recently. Showco, Vari-Lite and Concert Production Lighting worked together to bring the all-day show, featuring Hank Williams Jr, Travis Tritt and Randy Travis among the line-up, to an audience of around 250,000.

In a venue six times the size of the average American football stadium, Concert Production Lighting supplied a Vari\*Lite automated lighting system of more than 200 luminaires controlled by an Artisan Plus console, as well as a conventional system of 360 Par cans, six 3kW Xenon followspots, five Lycian truss spots and two standard truss units.

Showco supplied the largest Prism festival sound system to date, encompassing over 2,000,000sq.ft of audience area, with 14 delay positions in addition to the two towering main arrays. With over 440 integrated Prism enclosures, the system featured again at the venue the following week, for the Blockbuster Rockfest, which included performances from Bush, No Doubt, Counting Crows and Collective Soul.

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## A Wet Party in the Park



The first big outdoor special staged in Brighton is now affectionately known as P\*\*\*\*d Down in the Park. "I've never seen rain like it," said production manager John Probyn of Pro-Productions.

Despite the torrential downpour, it seemed the weather was not going to dampen the spirits of the Brighton populace. Promoted by Capital Radio who own local station Southern FM, the event is one of many planned by Capital across the summer. The line-up included Jimmy Somerville and Nick Heywood for the more mature youth, but what really pulled them in were the performances by 911, Louise (ex Eternal) and Republica, who stole the day.

The show was the first outing for LSD's roofing venture. "We purchased the roof specifically for these shows," said MD Dave Keighley. "Our client had experienced difficulty in the past securing a full-size outdoor roof at the right time and as we already provided the lighting it seemed worth us filling the gap." Purchased from Total Fabrications, the roof is a 10-tower system supporting a 19m x 13m cover than can carry up to 7.5 tons of lighting or PA. The system includes 7m x 7m covered PA wings with a lift capacity of 3 tons each and was erected by a four man team from URC led by Robin Elias. "This is the first time URC have been asked to do something like this," said Elias, "though of course I've put up lots of roofs in the past myself. From our point of view, the event was very successful. Crewed properly, the roof can comfortably go up in a day." And according to Probyn, it will be doing so another eight times through the summer.

## ProQuip Launch Sound & Vision

ProQuip Rentals, the Chertsey-based videowall hire company, has formed a new operation, ProQuip Sound & Vision, which will augment the expansion of the existing sales division. The move is the result of increasing requests from existing ProQuip customers for the company to handle complete sound, lighting and video solutions for permanent installations. The new operation will be headed by David Nibbs, who has over 20 years' experience in the industry.

Recent projects include the installation of a 3 x 3 Pioneer cube videowall at the new Word and the Web theme bar in Aberdeen. The company also supplied Stena Line's first on-board videowall, for the new Harwich/Hook of Holland ferry, HSS Discovery. The Toshiba projection cube videowall has Electrosonic Pic 3 control, together with a Lanetco matrix switcher.

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With the market for its JumboTron video displays in Europe, Africa and the Middle East now on a par with its prime areas of operation in Japan and the USA, Sony JumboTron Europe is undergoing a major expansion to provide a one-stop resource for customers. Pictured above are head of JumboTron Europe, Graham Burgess, now charged with establishing a dedicated new Business Unit at the Basingstoke HQ, with team members Vanessa Moore, Jon Perkins and Dave Gunn.

## Coe-Tech Options

Coe-Tech have designed and supplied a complete new sound and lighting installation for Options nightclub in Kingston.

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## Sennheiser Roadshow

Sennheiser UK has conducted a series of seminars across the country on broadcast sound production. Presented in conjunction with Point Promotions, the seminars were led by Malcolm Johnson, the former head of BBC TV OB.

The presentations covered the differences in sports coverage, from a soccer match to a game of tennis, across to events from the Trooping of the Colour to Glastonbury. Johnson also spoke of the challenges on current affairs programmes which require the use of on-the-spot ENG and studio 'talking heads' techniques, while studio operations can cover everything from the stereo production of drama to audience-participation talk shows.

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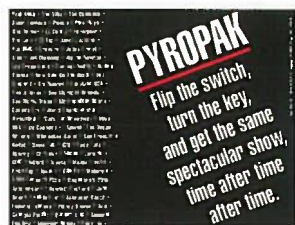
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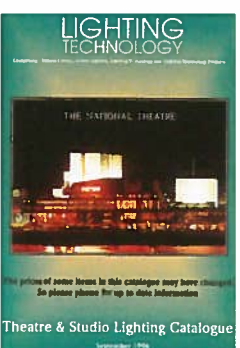
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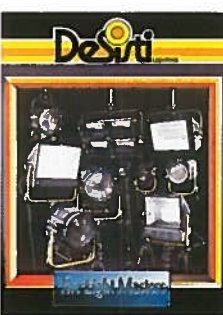
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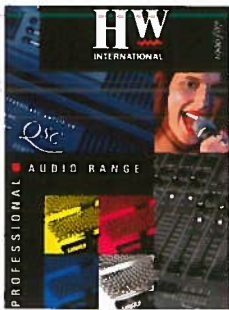


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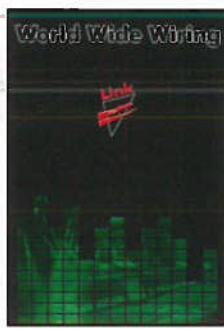


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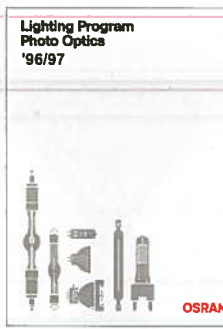
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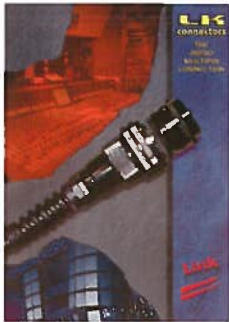
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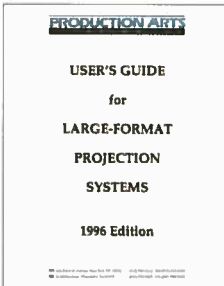
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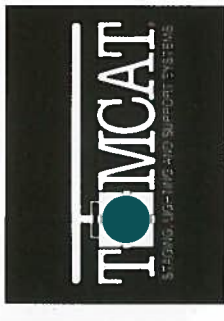
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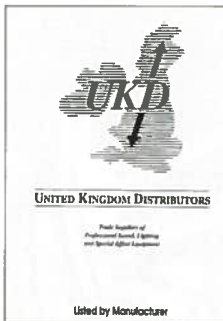
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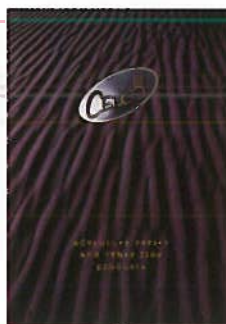
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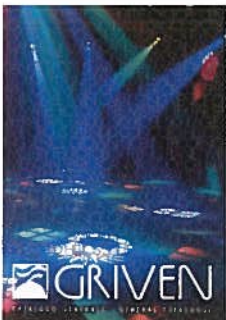
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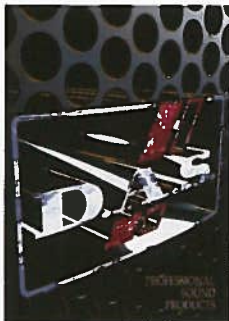
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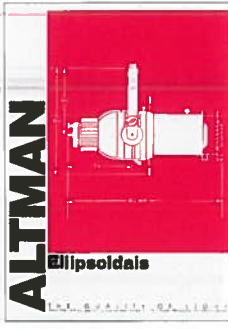
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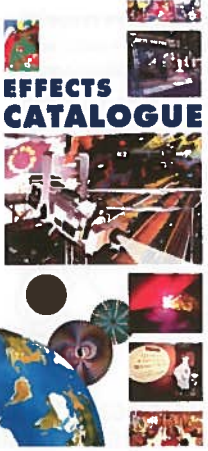


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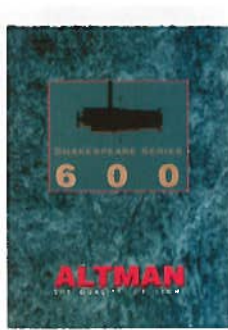


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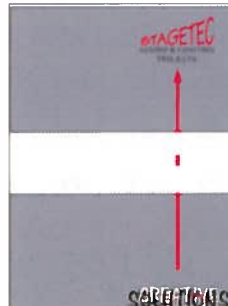
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# Active in the Stalls . . . Ian Herbert

It's a tough life being a theatre critic - out almost every night, no chance to watch prime time TV or go to the movies. A life in darkened rooms, broken only by the occasional escape to darkened rooms in another country. I wouldn't change it for anything. Let's look at a typical month:

May 13: *The Fix* at the Donmar. Howard Harrison and Rob Howell must have been listening to my strictures about overdone technicals. Now they're trying to prove you can waste a Heathcliff-sized budget on a small musical. It's laughable, the amount of kit that's been squeezed into the Donmar, some of it for ten-second effects. Scissor lifts, travelator, enough light curtains to furnish a light palace and neon by the mile. Shame - all that Cameron Mackintosh money might come in useful on a big stage one day.

May 14: *Marat/Sade* at the Olivier. Not a patch on Chalk Circle, which really used the in-the-round space. Mark Henderson's lighting much more workaday than Paule Constable's for *Complicité* (not to forget Kate Slater Jones' projections). Word has it that the Olivier has been sound-enhanced for the season. If so it's satisfyingly subtle. I wasn't aware of it either at stage level or at the back.

May 15: *Beauty and the Beast* at the Dominion. Now here's a show that knows how to spend money. The Busby Berkeley scene with the dancing cutlery is worth every cent of the high ticket price, yet there's also a pleasantly folksy old panto feeling about the earlier scenes, complete with wobbly flats and painted drapes. The pyrotechnics were also more Demon King than Disneyland - a clever marriage of traditions. With so many lanterns in play it's hardly surprising that rather a lot of them spilt on the audience - it was worse at *The Fix*. No doubt the mic crackle has been sorted by now.

May 16: *Steaming* at the Piccadilly. *Marat/Sade* should transfer here immediately and take over Robin Don's amazing bathhouse set. It's far too good for this tiny revival - only the wonderfully oversized Julie T Wallace, awesome in the altogether, fits it.

May 18-27: short break to spend a week at the Istanbul Festival with 20 young theatre critics. Expected highlight, the NT's *Lear*, turns out to be an embarrassment. The intimate Cottesloe show has been plopped down in a huge Byzantine basilica with a football stand at one end, where we sit. Good view of some very fine trussing. And I've been telling the kids that the London critics called this the *Lear* of the century. They look at me strangely. Still, impressive to see how nowadays an entire light and sound control system can fit into a few flight cases.

May 27: straight back to the *Dream* in Regent's Park. David Knapman's simple Gothic set looks as if it has always been there. Leaves more money for some excellent, jokey costumes and more fairy lights in the trees than ever.



**Beauty and the Beast at the Dominion.**

May 28: *The Great Big Radio Show* at the Bridewell. Marvellous: a musical whose characters spend most of their time clustered round microphones - and no assisted sound at all! Takes about an hour to get the plot going, but has enough good numbers to develop into something strong.

May 29: *Closer* at the Cottesloe. Lovely Vicki Mortimer sets and some clever, but never obtrusive, Hugh Vanstone lighting. A hell of a play, too.

May 30: *Amphitryon* at the Etcetera - good to have a night off on the Fringe. All 10 lanterns in working order.

June 1: *Prayers of Sherkin*, Old Vic. That standard set is working well - though Lord knows how they fit the repertoire's variations on it into the Old Vic storage space.

June 3: *Black Dove*, Old Red Lion. A prison cell, a courtroom, a living room, a street all on stage at once - this is Fringe design at its most inventive. Roger Frith knows how to light it too.

June 4: *Oraculos* (LIFT). Enrique Vargas's latest maze comes to London (I wrote about an earlier one in Brazil): an almost spiritual experience. A warehouse full of wonders in shroudy corridors, and every last shred of fabric fireproofed. On to *Elton John's Glasses*, Watford Palace. Brilliantly funny downmarket expansion of the no less celebrated *Nevill Southall's Washbag*. Will tour for ever, and Tim Shortall's superbly grungy set will probably last that long.

June 5: *Winter's Tale* at the Globe for a matinee, followed by *Damn Yankees* at the Adelphi. Both feature folk in baseball caps, the latter more appropriately. Jerry Lewis gets a sound channel all to himself, three notches higher than anyone else's. Very accurate fifties sets, but very bus-and-truck in values. Doesn't West End deserve better? One nineties innovation - surround sound for stadium effects.

June 6: back to the Globe for an evening performance, *Henry V*. At the *Tale*, as several actors risked total vocal collapse, I began to think Bankside might need some discreet sound assistance, like Regent's Park. This time Mark Rylance proves that you can whisper and chat at room level, and be heard rather better than when you're shouting in

the Wooden O. Mind you, voices have to rise above a constant generator hum. Fascinating to see how a show works when you're not allowed a single light change to indicate movement between scenes, let alone emphasise moments during them. A flourish of trumpets, a roll of drums has to suffice for punctuation. The two oversized, rather clumsy columns do at least mark out a whole set of defined stage areas into which you can switch the action. *Tale* took too many risks here, and some major moments were only visible to half the audience, but *Henry* is more careful. Wonderful (real) electric storm drowns the groundlings and starts a brisk trade in plastic macs, but provides great atmospherics for the battle of Agincourt.

June 9: to the NT for Trevor Nunn's announcement of his year's plans. Very exciting plans, less exciting to have Trev recite them for a solid hour and more from his lectern. One very laboured joke. Coffee tastes like Bovril. Perhaps it was? (That's not the joke.)

June 10: *All Things Considered*, Hampstead. Good solid Michael Holt set for a good solid comedy. Features a comic electrician. Unlikely, that. He frazzles the hero, though.

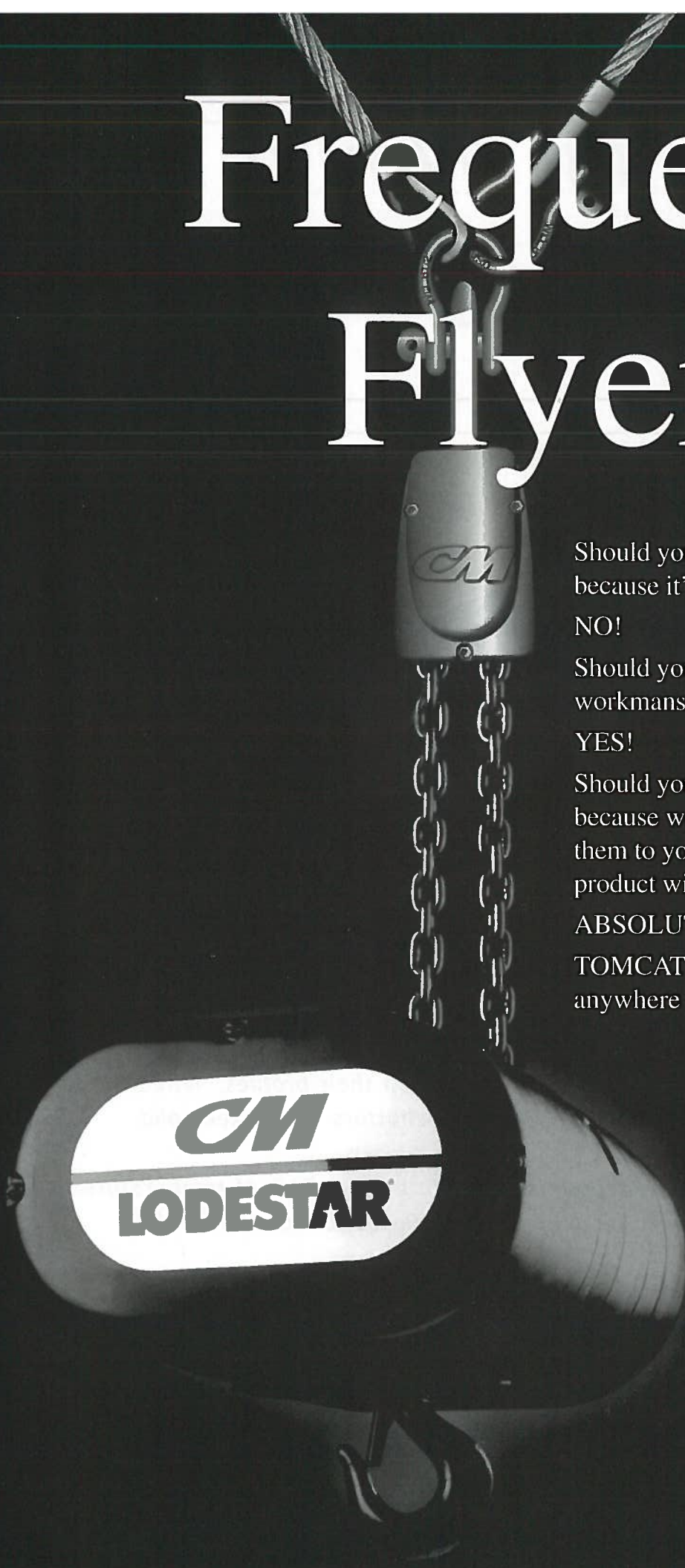
June 11: *Always*, Victoria Palace. 17-piece orchestra gets off to a poor start with a tinny overture and I fear the worst. No - this much abused musical gets better and better, with highly intelligent orchestrations of some fine tunes. Hildegard Bechtler sets feature some fine 3D objects, but rather a lot of black drapes. Last minute budget cuts? Biggest problem is an ugly false proscenium that looks like an Odeon screen surround designed by von Speer and obscures the view of anyone sitting on the side aisles. Peter Mumford's lighting does well to minimise the effects of drape overload. The critics hate this one, but what do they know? They're happier with the third-rate production values and two (count them) tunes of *Damn Yankees*.

June 12: back to the Park for *All's Well*. Ian Talbot's budgets are going up - they even run to a working Citroen van. Lots of designer extravagance can't quite disguise the director's lack of faith in her material, but Jason Taylor's lighting comes good for night scenes after the interval. More starcloth - saves striking it after the *Dream*. Wonder if they can use it for *Kiss Me Kate*?

June 13: QEH - *Stunde Null* in LIFT. Fantastic that Hamburg Schauspielhaus can tour such a complex production - it's come from Montreal. Expunges all memories of the hour-long intervals in Peter Stein's *Hairy Ape* when it clogged the Lyttelton. Beautiful sound, as befits a show which largely consists of lessons in mic technique.

It lied - it wasn't a typical month. But it was a great demonstration of the incredible variety of theatre you can see in London these days - if you're lucky.

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# DOWNSIZED JARRE

Steve Moles catches up with Jean Michel Jarre at Manchester's Nynex Arena

I must say this is the fullest I've seen the Nynex in a while - some 12,000 is no mean achievement - but that pales into insignificance when you consider that, up to now, this artist has only ever appeared in front of audiences that number in the hundreds of thousands.

Jean Michel Jarre is first and foremost a showman; with breathtaking audacity (and not a little Gallic arrogance) he has taken the grand canvas and writ large his name. Whether his music is of any real quality or value was never at issue, so big was the promised spectacle that Monsieur Jarre in concert became a must see experience of almost mythical proportions. But nineties audiences have grown rather jaded: we know U2 talked to the President of the United States live on stage; that the Rolling Stones transported a set akin to a major industrial plant about the globe; why, even 75 year old men go bungee jumping these days, and teenagers of what used to be called the working class now chomp hallucinogenics for recreational purposes just like the children of the middle classes did in the sixties. In the Western world at least, thrill seeking is now an everyday past-time.

The only way for Monsieur Jarre to go was downscale. That can't have been an easy decision - it's certainly a bold step for any artist. The choice that confronted him stood between being remembered for his major outdoor spectacles and confining himself to part of eighties history or taking a chance and possibly being remembered for his spectacular decline in the nineties.

Although music is the glue that binds them, J M Jarre concerts have thus far been first and foremost a visual event. And again the disciplines of set design, lighting and video are in this instance the dominant media. They present an integrated whole bound by the use of the same human sense organ to receive them, and are thus dealt with as such.

## LIGHTING, SET AND VIDEO

Whatever the step down in scale this is still a big picture, the lighting grid alone is over 70 feet wide, the stage almost 100 feet. It's the first thing that strikes you about the show. We've all seen arena shows with productions of this dimension before, but here there is a fundamental difference and you spot it right away.

Where other shows might have a comparable stage set, the musicians usually exhibit a tendency to huddle in the centre ground. For much of the time the peripheries languish unused, only to receive an occasional brief visit from the lead vocalist usually to implore the house left or right audience to get stuck into the general euphoria with the same vigour as the loonies front stage centre. Jarre's band are made of sterner stuff: they're all bound by electronics in the form of SMPTE time code and don't need to see the whites of one another's



Jarre's decision to down-scale was a bold step - though the visual element is still very strong.



eyes to count the beat in. Thus they are spread right across the stage and consequently lighting designer Roy Bennett has been able to match this width with a very wide angle look that dramatically alters the perspective from the usual tightly focused centre ground. The contrast is as marked as the difference between watching something visually monumental - like the spacecraft scene at Devil's Peak in *Close Encounters* - on TV or at a wide screen cinema. This really is the Big picture.

LSD are the main contractor for this show, providing all the truss, rigging and control. Despite the huge grid, the lighting components are relatively modest: 40 Icons, 20 VL5s, 24 VL4s, 20 Diversitronics 3000 with Mini-Mags, just six Molemags, and 20 four-cell Cyc-Mags across the full stage width rear cyc screen (there's also a new lighting ingredient but more of that later). As well as lighting, the grid supports three Barcos from E/T/C Audiovisuel in France, which project onto three 20 feet wide

electric roll-down screens. The screens are backed in black and have an almost transparent top border that makes them appear to be floating when fully descended. It was a nice touch - making them seem detached from the grid - one of the many elements where it was apparent that no compromise was countenanced in realising this show. A fourth screen, imaged by a Unic projector placed backstage left, was a slight oval maybe 10 feet wide, set on a rolling stand that was wheeled out from time to time. Like a huge vanity mirror it was used to provide little cameo close-ups of Jarre beavering away at his knobs.

The set is simple but striking: the musicians with their batteries of keyboards and electronics are nestled in amongst a landscape of sand dunes (the set was also conceived by Roy Bennett). Made from a sewn latex fabric by Atmosphere-Concept in France, the whole set is an inflatable, fast to put up, simple to use and great to light. Bennett has just over half the VL4s beneath it. As show director Wally Lees pointed out, the fabric is totally non-reflective and takes light wonderfully. Bennett chose the VL4s specifically for that iridescent break-up of colours they can put on it. Jarre wanted the stage to look organic and the material lit from inside and from above certainly creates that impression. Further to this, the opaque white fabric of the dunes is joined by red seams, which means that lit from within in open white makes it appear bizarrely akin to human viscera, with fine arteries running through it.

The whole organic concept is what makes Lees' job particularly difficult: not only is this music incoherent in the sense of familiar parameters like verse, chorus and bridge, but Jarre likes a certain amount of improvisation or 'work in progress' as he calls it. "Learning the cues was a nightmare," said Lees. "We were



Barcos from ETC Audiovisual project onto three 20 feet wide electric roll-down screens.

originally going to take them from the SMPTE network (there are displays at every working position on the production), but that clock's about as reliable as a London Bus. It might work for the musicians, but for us . . . well, the idea of running the Vari\*Lites via MIDI was quickly dropped and now between Richard Gorrod and myself, on an Artisan and Icon Show Controller respectively, everything is run manually."

The truth is that despite the one month rehearsals in Toulon much of the time was spent establishing the complex plan needed for the music, stage monitors and sound control, Lees quantifying the actual lighting time as just four days, which may explain why a month into the tour he was still busily programming when I arrived at 6.00pm on show day. "We've just had to learn the cues by ear," he added, "and it's scary. There are points in there you just have to listen for. If you're messing with a light and you miss them then you're sunk for the rest of the song."

Apart from the main system there are two other lighting elements of significance: a couple of Birdies and Source 4 profiles around Jarre's keyboards which provide the keylight for cameras in his field. "We wanted to use AR500s but they didn't think they were ready for touring just yet," said Lees, "which is a great shame as they would have been ideal." True to the high tech futuristic idiom of Jean-Michel Jarre there's a small 360 degree pan robotic camera on his keyboard rack, a mini cam in his spectacles (so we can actually see just how hard he works pushing those buttons and twiddling those knobs!) and a hand-held Betacam in the pit.

However, the star of the show is without doubt the Kino Flos Tubes. Not the moving panels that Bennett designed into last year's Bowie show, but long elegant chains of them which run across the full width of the grid in four parallel strips. Suspended on five wire winches each, and articulated at each point, these delicate looking structures can be made to dance in fabulous geometric patterns. To continue the sci-fi metaphor used earlier, they

*"This is a great visual confection that you could strap onto any instrumental performance and use a variety of different bands' material."*

resemble the lengthy slender arms of the aliens who emerged from the Encounters spaceship - fragile - with that innate ability to charm through their frailty. The Kino's first appearance, a full hour into the show, stunned the audience; their second raised the loudest cheer of the night outstripping even the calls for an encore.

Apart from the close-ups of Jarre's hands on the ivories, the screens were filled with a psychedelic display of visual magic. Belgium-based ArKaos, in the person of Jessie Deep, produced the XPOSE visual sampler software (run on a Power Mac platform) that modified and morphed much of the video material. The software has 20 stock effects with a huge number of variable parameters that make its creative potential enormous. All available to use in real time, Deep assigns effects and parameters to a simple electronic piano keyboard and plays away like another member of the band. Of undoubted power, the image manipulation was very much a free-form art, a bit like sitting at the Icon desk and poking any button you felt like, but like the Icon desk you do need to think about what you're doing ahead of time to have those keys do anything worthwhile. Fun though, and as they say great eye candy (sorry).

#### SOUND

Though dealt with separately, audio is still very much integrated into the whole show and although more subtle and discreet in its influence, it must not be forgotten that without it, none of the other sensory effects would be needed.

The audio set-up is intimidating to say the

least. As Lees already indicated, it took most of rehearsals to set the sound network, but that's only a reflection of its content - it's about routing and control rather than anything contentious on the technology front. Both on-stage and front-of-house is a curious mixture of modern digital electronics and valve antiques from the era of hiss and steam radio. Front-of-house two old Revox reel-to-reels nestle in beside the Midas XL4 and Yamaha O2R, while on stage the keyboards range from state-of-the-art through Mellotron to Feremin.

Audio Rent/Clair Brothers Audio are the main system contractors and the bulky old S4 has two main challenges to deal with. One is the sheer width of the stage, and the second is the very real necessity to maintain sight lines for what is an acknowledged visual performance - a potential source of conflict. The solution, for the Nynex at least, is quite elegant and hats off to CBA for making it so - but certain aspects of the type of band technology used on-stage also help. The main system is two vertical strips of S4s, each two wide - one four deep the other five - hung some 19 feet upstage from the front line and off-stage.

Fortunately, the only microphones - apart from Jarre's hand-held radio for between songs banter - are on the percussion, even the drum kit is all electronic, so the PA is still downstage of all mics. But these twin strips are still some 80 to 85 feet apart, so two further bumpers, three wide with two rows horizontal are rigged in the more traditional location approximately 50 feet apart, though trimmed much higher. These centre bumpers are forced far downstage of the front line by the huge lighting grid, so by the time you've added in the eight Pistons hung front-of-house for delays, the eight subs beneath the stage, and corrected for the eight long throws in the main system, there's five different delay settings (set by TC 1280).

"Coverage is what we strive for," confirmed system engineer Willie Williams. "However, because of the width of the system, we've also turned around some of the cabinets on each side (in terms of signal feed), so a left and right image is discernible from most seating positions in the house."

Although the swirling ethereal stereo imagery is part and parcel of Jarre's music, it's an effect; the pervasive sequencers that underscore much of his oeuvre tend to make the mix appear more generally one dimensional. The other element that reinforces this impression is the lack of any vocals and indeed the general lack of any audio signal in the least bit inconsistent. The odd slur from the Mellotron is a welcome relief.

Renauld Letang is FOH engineer and has worked for Jarre for the past five years. A studio man and producer, Letang is more accustomed, by his own admission, to working with the likes of Aerosmith, Deep Purple and ZZ Top, but he has a good feel for this musical style.

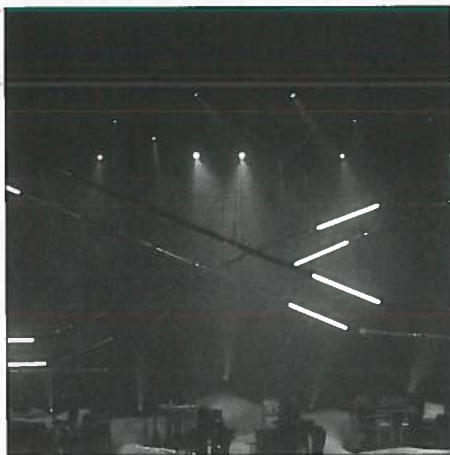
"Everything is electronic," he said, "I have to extract some frequencies to create space and to make the sound more transparent." It's a suitable technique - the mix sounds very House and the various sources of the predominant mid and low end are lightly compressed



(DBX160) keeping a busy zone well defined. This might have been unexpected for some fans - it's certainly a more high-pressure than hi-fi mix, as Williams said: "It's not unusual for a small percentage of the generally more mature audience to leave after the first half hour," but the punchiness of the mix was far from uncomfortable. Indeed, the insistent sequencers made it hard not to continually tap your toe in a jaunty fashion to a musical style of a decidedly cerebral nature.

On the control side, Letang avails himself of the XL4's automation only for the more functional aspects of the show - for example, making sure the right keyboard is routed to the right Revox at the right time (if you're wondering, the two Revoxes are used for that sixties-style tape echo and there are two because they're running at different speeds, and both have little adapter box in line to allow a bit of hands-on vary-pitch). The O2R is used, Williams explained, mainly for the sequencers. "As the show has developed we've over-written cues from the original time code. With the O2R we can just store the re-mix changes in on-board and still run off the original code."

Down on stage, monitor man Xavier Gendron uses two XL3s. "I'm using every single channel with six stereo mixes to the band all of whom are on Garwood in-ear monitors, with lots of effects in the mix and reverbs, etc." Despite the in-ear monitoring there are speakers about the stage. The two main keyboard areas have a pair of ML18s apiece and there is also a pair of ML12s and an ML18 for



The Kino Flos Tubes in long elegant chains which run across the full width of the grid in four parallel strips.

the drummer (rather ironically to give him the feeling of a real drum environment from his all electronic kit), whilst across the front of stage there are four Series 2 wedges from CBA in anticipation of the occasional guest star appearance, which thus far have remained unused.

This mixture of old and new technology is a curious set-up - after all, as Jarre informed us, Leon Feremin first demonstrated his instrument to Joseph Stalin in 1920 - consequently what we end up with is a world of crystal clear digital with occasional visits from these wonderful old analogue dinosaurs full of burps, whistles and squeaks. Still, their charm and audio idiosyncrasies do help to

relieve a largely mechanistic performance.

But remembering the big picture from the beginning, the real reason why this wide screen presentation works is exactly because there is no centre of gravity, no lead vocalist for us to focus on. Jean-Michel Jarre is about as imposing a rock star as Sir Cliff Richard is a great actor. Uniformly bland as a live band, this is a show you definitely go to see for the visuals. It is good, but it's rather like smoking dope without all the potential for lung damage, it lacks that risky sinful element.

Back in early May while still in rehearsal, Roy Bennett described this show as one of the best things he'd done in ages. I have to say I agree with regard to the overall concept, but I think his ardour is slightly misplaced. I've anguished long and hard over this, Bennett is after all one of the highest totems in the concert lighting biz, but this show doesn't balance out. It's not his fault - his lighting, set and the integrated video is sumptuous, but the musical edification is ultimately monotonous in the purest sense of the word. Sure it is a part of the LD's role to help carry the show, conveying visually the drama and emotion that the music exemplifies, but when there's little discernible then the outstanding lighting only serves to highlight the paucity of the music.

This is a great visual confection that you could strap onto any instrumental performance and use a variety of different bands' material. You could even take it one step further, put it in a barn with dancing room for 25,000 and call it a Rave.

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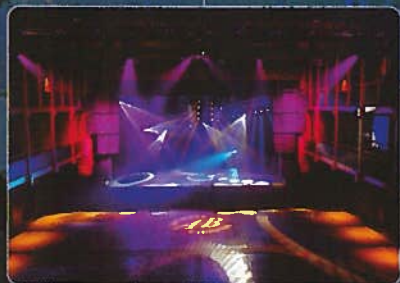
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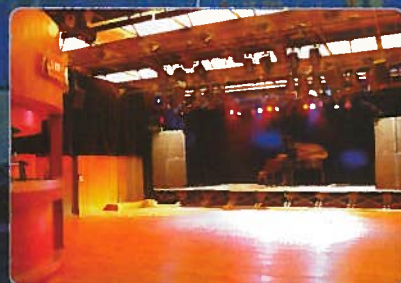
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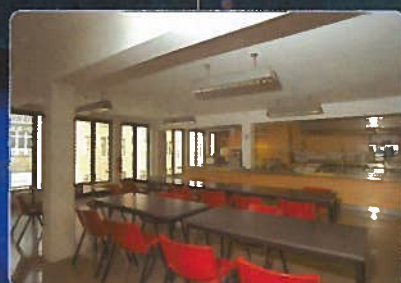
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# ANCIENNE MODERN

*Ancienne Belgique in Brussels has been the subject of extensive renovations in recent years, culminating in its reopening in December 96. L+SI reviews the technical installation*

The Ancienne Belgique has a somewhat unique history: its early heritage is linked to the 'Vieux Dusseldorf' which caused a furore with its German-style interior, cabaret artists and buxom waitresses and was later succeeded by the 'Bruxelles Kermesse' - a kind of funfair which offered much the same style of cabaret-led entertainment. In 1932, the Ancienne Belgique became part of a group of four leading music halls in the country. Inevitably, during World War II it was taken over by the Germans, but after 1945 it entered into what proved to be its golden era. Having developed a successful formula of entertainment involving magicians, acrobats and comedians, alongside top cabaret performers and orchestras, it emerged from the war years with a strong reputation and went on to enjoy two decades of packed houses.

Unfortunately, by the late sixties, its popularity began to wane and in 1971 it was declared bankrupt. When, in 1979, the premises were bought by the government and officially allocated to the Flemish community, a new co-operative management took control. The man appointed to run the venue, Ivo Goris, recognised that the way forward lay in embracing a much wider repertoire and determined that the venue should be able to accommodate any type of project. In order to meet the demands of a broader church, considerable upgrading of facilities was needed, particularly in the acoustic treatment and sound-proofing of the venue, and so extensive building work began in 1982 in preparation for a grand opening in December 1984.

The investment paid off and over the next seven years it attracted some of the top names on the international music circuit. By 1991, it was felt that further restoration and development work was needed and so the city dug a little deeper into the civic coffers enabling the venue to embark on a four-year programme of refurbishment. In addition to the refurbishment, two important new facilities



**The main hall's new lighting rig in action - clusters of EAW speakers can be seen either side of stage.**

were added - a club and a recording studio. The whole technical installation was handled by Belzen-based Amptec, who worked closely with the venue's technical manager Marc Vrebos, to determine the final set-up. By last year, the upgrades were all completed and the venue officially re-opened on December 6th.

At first glance, the main hall might not appear to have changed very much to the average visitor. Nevertheless, important upgrades have been completed here. First of all, loading and unloading equipment has become much less labour-intensive with the installation of a loading bay in the Steenstraat, allowing direct access to the main hall. Simultaneously, the fixed upper balcony has been reoriented and enlarged to give a total capacity of 252 seats as opposed to 120 seats previously. The total capacity of the main hall is now 2,000 people standing or 750 seated.

The stage has been completely refurbished:

it is now wider, deeper and higher, and equipped with state-of-the-art theatre mechanics, such as 26 manual flybars, capable of holding up to 250kg each and eight electric flybars holding up to 400kg each. Furthermore, there are 12 Columbus McKinnon Lodestar hoists above the stage and another 12 in the hall itself, each capable of lifting a ton of speakers, trusses or curtains, which are controlled through a Skjonberg computerised controller.

The lighting cabling system consists of 12 motorised reels, each equipped with 14 2.5kW dimmer circuits, allowing channels to be placed anywhere on stage. The backstage area is now on the same level as the stage itself, and features two new production offices equipped with phone and fax machines, allowing tour managers and promoters to continue their work whilst at the venue. Artist's dressing rooms fully equipped with TV and video are located on the first floor, which will also



**The Yamaha PM4000 at the front-of-house position in the main hall.**



**The stage has been extended and the fixed upper balcony has been reoriented. New followspot positions have been created.**



The Ancienne Belgique's recording studio, showing the Raindirk Symphony LN2 console.

provide for a gymnasium in the near future. Backstage, there is now an elevator which allows equipment to be transported to the dressing rooms, catering area and the recording studio.

The club is aimed squarely at smaller, less mainstream concerts, in a wide variety of musical genres. The previous ballroom, an experimental stage for young talent, is still a major function of the club, while a wide range of other activities such as folk, jazz, radio talk shows and press conferences are now part of the venue's diary. Critically, the club has its own lighting and sound equipment, allowing the main hall and club to function independently. In order to give the necessary flexibility, the stage is modular and can be removed through a large capacity elevator, accessing the venue's cave. At full capacity the club can accommodate 100 people seated at tables, or 250 standing. One of the key features of the club is its acoustic treatment: the walls consist of triangular 'periaxials', each side of which is covered with a different acoustic material, creating the ability to tailor the club's acoustic properties to suit the type of event programmed.

Some performances aren't limited to the stage area, so the whole ceiling of the club has been equipped with a grid with electric contacts. The grid above the stage area is fitted with electric flybars, each capable of carrying 400kg.

The lighting facilities of the Ancienne Belgique have been purposefully designed to meet the needs of a wide variety of musical genres and presentational formats, ranging from rock to dance to theatre. The grid in the 25m high theatre tower includes 25 electrically motorised reels, each one provided with 14 2.5kW dimcircuits, allowing easy access to dimmer channels for flybars and trusses.

In total, 252 2.5kW dimmers and 54 5kW dimmers are available, divided over the five catwalks and the stage. A network of DMX cabling was installed, linking points throughout the main hall to a central patch, utilising ADB boosters to ensure a clear signal.

The available combination of PCs, Fresnels, profiles, Pars and strobes, as well as the Studio Colors and Cyberlights from High End Systems, amply covers the needs of most bands. In control of this equipment is an Avolites Diamond II console for the conventionals and a Wholehog II from Flying Pig Systems for the moving fixtures, while an ADB Tenor is also available. Flying Pig's WYSIWYG system also gives the opportunity for designers to prepare a show in advance. The club has a total of 90 2.5kW dimmers, controlled by an Avolites Rolacue Sapphire. As one would expect, the lighting equipment for both the main hall and the club are fully compatible, and therefore interchangeable.

The EAW speaker system in the main hall consists of eight KF850EF speakers flown on each side of the stage, allowing an evenly spread sound throughout the hall. A further pair of 850s is set on stage as in-fill, while six EAW SB1000 subs on each side of the stage take care of the lower end of the bandwidth and two delay clusters, composed of two EAW JF560iRs, reinforce the sound for the upper balcony. The amplifiers driving the system are Amcron's (1200, 2400, 3600 and 5000), all racked in a constant-temperature cooled 'cave'.

Unlike a touring show, it's important for a venue whose facilities are used by a wide variety of productions to provide a range of equipment that is both compatible with all types of productions.

The FOH-console is a Yamaha PM4000 44"/8 stereo, and the equalising is achieved through a TC Electronic's system with remote controller. The inserts racks and outboard effects have been equipped with state-of-the-art gear from the likes of Lexicon, TC Electronics, Eventide, Klark Teknik, BSS, Drawmer and Yamaha.

The stage is linked to the FOH console through a 48-channel multicable, which allows bands and their support acts to use the same console without their respective engineers getting in each other's way. The monitoring section is also amply provided for: a 52-channel Yamaha PM4000 console and 14 TC Electronic

equalisers with remote control. Insert racks feature a TC Electronic M5000, Yamaha SPX990, three BSS DPR402s and three Drawmer 201s.

The Ancienne Belgique has chosen two-way active monitor speakers, which Amptec equipped with a 15" JBL woofer and 2" Electro-Voice tweeter, with Martin MX4 crossovers and Amcron amplifiers. The drum fill sub consists of two 18" woofers. Two EAW 695 ISRs with EAW 528 sub sidefills complete the system. The entire system is driven by Amcron amplifiers.

The available microphone range will cater for all preferences and applications, and includes Shure SM58s, 57s, 98s, 91s and Beta series, Sennheiser 421, 409, EV408, AKG C414, CK91, CK93, C309 and Neumann KN184. Sound reinforcement for the club comes from two EAW 850s and two SB850s on each side of the stage, again with amplification by Amcron.

In the club, the set-up is slightly different: the FOH console is a Crest Century 32, sided by an effects rack (including Lexicon PCM70, Yamaha SPX990 and REV5, Roland SDE3000 delay and dbx compressor/limiter). Another Crest Century 32 console is used for monitors, aided by Apex stereo graphic equalisers, driving Martin Audio LE400 monitors.

The audio linking throughout the whole venue has been very carefully thought out: all the microphone inputs on stage, either at the main hall or the club, can be linked to a central patch with a single multicable, and from there routed to the studio using BSS active splitters, with a maximum of 48 channels. This enables a clean and separated signal path, ensuring a recorded sound that remains unaffected by FOH treatments.

The same central patch is also the junction for all the audio and video tielines that run throughout the venue, enabling sound, video, timecode and intercom to be flexibly routed to almost any room, either through balanced audio lines, or BNC-type video connections. Finally, a ClearCom eight-channel intercom system, aided by a two-channel wireless intercom system, allows for dedicated communication lines.

How this works in practice was demonstrated at the recent recording of the Indochine concert, where Canal+ took care of the video recording. The 32 stage microphone channels were routed to the studio, from where a live mix was sent back to the videocar via the tielines. These same tielines were used to send the timecode from the videocar, as well as a blackburst clock for the multitrack recorders and the DAT in the studio.

Four ambience microphones were connected through tielines to the central patch, fed phantom power by the BSS splitters, routed to the studio for recording, and sent back separately from the live mix to the videocar. Another stereo mix was sent back to an MCM reporting crew operating on stage.

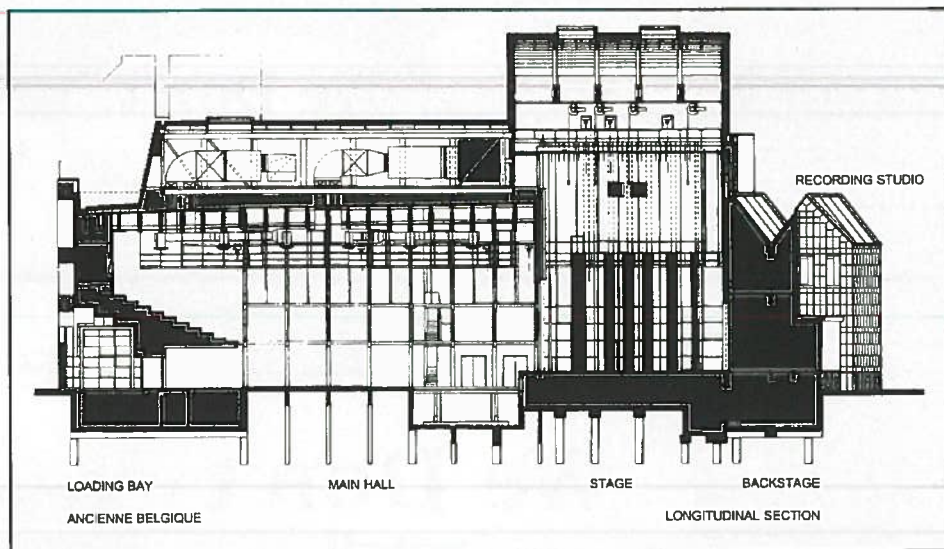
Apart from the already noted mixdown equipment and facilities, the Ancienne Belgique recording studio can also be used independently from the stages. To this end, there's a separate 50m<sup>2</sup> recording room and an excellent choice of microphones, ranging from Neumann U87i and KM184 through AKG C414 and Crown PZM microphones, to Sennheiser

and Shure dynamic microphones. If a larger recording space is required, either of the two stages can be used as a dedicated recording space, outside concert times. The adaptable, rotating acoustic wall panels mentioned above make the club especially suited for this purpose.

In addition to the fully-updated main hall stage, the 1997 Ancienne Belgique now boasts a 40-track digital recording studio, designed primarily for live multitrack recording of concerts, either in the main hall or at the club. In the first few months following the reopening, bands such as Faithless, Tricky, the Tragically Hip, Morphine, Machinehead, Indochine, Axelle, dEUS and many others have made use of these facilities.

The core of the recording system is a set of five linked Tascam DA-88 digital multitrack recorders, offering a total of 40 tracks. The choice of the Tascam format was based upon three factors: the maximum continuous recording time of 113 minutes (very important for live recordings), the proven reliability in transport and sync and, lastly, the worldwide acceptance as a professional studio standard, enabling mixdown in a large number of studios around the world.

The recorders have also been equipped with an SY-88 syncboard, allowing perfect sync for video recordings. The recording console is a Raindirk Symphony LN2, featuring 56 channels and 48 busses and an Optifile Tetra VCA automation. The desk has proven reliable and all involved have been very impressed with the sound. Another advantage is the routing



Longitudinal cross-section of Ancienne Belgique.

system, which allows quick changeovers when recording several bands during a single session.

The studio also features all the necessary outboard gear for sound treatment, so that recorded concerts can be mixed for CD or for live broadcasting. A wide range of effects are available, including two TC Electronic M5000s and two 2290 delays, an Eventide DSP4000, Lexicon PCM80 and two Yamaha SPX1000s, as well as a Roland Space Echo.

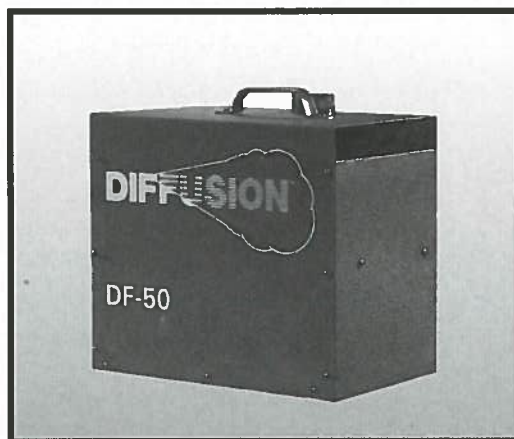
Dynamic processors include five dual Klark-Teknik DN500 dual compressors/limiters/expanders, five dual Drawmer gates, three dual TLA C1 valve compressors and two TLA EQ1 valve equalisers. A separate M5000

equipped with an MD2 mastering module and a Soundscape eight-track hard disk recorder are also available for mastering purposes.

Although the equipment is a key selling point, the technology is backed by a very experienced in-house crew. Marc Vrebos heads a team which includes sound engineers who all have touring experience, and are therefore very aware of what being on the road is all about.

Hopefully, Ancienne Belgique can now put its chequered history to one side and concentrate on the future. Flanders has not wasted its money and now has within its midst, one of the key international performance venues worldwide.

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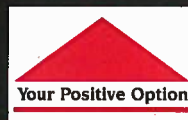
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# THE SOUND OF SPEED

*A computer-controlled audio system at the Las Vegas Motor Speedway brings 'showroom sound' to the racing circuit. Bruce Borgerson investigates*

A dozen miles north-east of downtown Las Vegas, the glitz fades and desolation begins. Welcome to the high desert of the Great Basin - home to sagebrush, jackrabbits and underground nuclear tests. It's vast, empty and still, save for the regular deafening roars rolling across the desert as B-1B bombers and fighter aircraft lift off from Nellis Air Force Base.

Right next door to Nellis, a group of Las Vegas entrepreneurs decided to pour \$200million into constructing the world's largest (and most expensive) auto racing complex: the Las Vegas Motor Speedway (LVMS). When completed, the 1,800 acre facility will comprise 24 tracks to accommodate everything from BMX bicycles to Formula One racing cars. The jewel in the crown of the complex, a 1.75 mile tri-oval with grandstand seating for 102,000, made its debut with a 300-mile Indy Racing League event in September last year. The inaugural race thrilled fans with speeds of up to 229 mph, and chilled them with 10 of the 28 cars crashing on the fast track.

That same day, the powerful, computer-controlled sound system at the LVMS tri-oval produced levels of up to 117dB SPL - without crashing. But the race to get it designed, tested and installed was a thriller in itself - complete with unprecedented performance expectations, difficult working conditions and a frenzied construction pace typical of Las Vegas mega-projects.

The initial sound system design was assigned to Ron Sauro of Northwest Audio and Acoustics (Tacoma, WA), who had been referred to the LVMS owners on the basis of a system he had designed for the Hollywood Park horse track. Sauro realised that he would need help in order to complete a full system design spec in the required time. He decided to concentrate on challenging specifics of loudspeaker coverage, turning over the task of overall systems integration to Brian Gross of A-Com (Chantilly, VA). In the early stages, Gross called on his friend Neil Shaw of Menlo Scientific Acoustics (Topanga, CA) to serve as a key technical advisor. After A-Com was awarded the contract to supply and install the system, Gross enlisted the aid of Josh Thompson of Point Source (Las Vegas and Nashville) to serve as installation supervisor, with Chris Potter working as primary on-site co-ordinator.

The sprawling LVMS complex is the brainchild of owner/operator Richie Clyne, with financial backing from owners of two prominent Las Vegas casinos. In Las Vegas, the line between sports and entertainment is a fuzzy one at best, so it's no surprise that the LVMS owners insisted on 'concert quality' sound as a prerequisite for all spectator areas of the track. That previously unheard-of requirement eliminated the traditional approach of using large, limited bandwidth

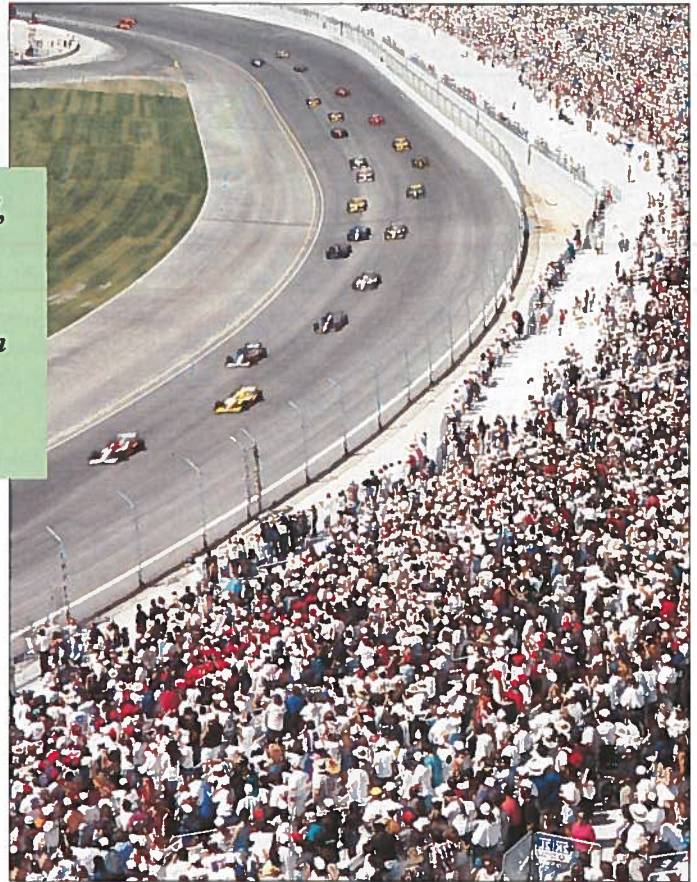
horn arrays. Also, ever mindful of income sources, the ownership wanted a system that could be heard through-

*"The race to get it designed, tested and installed was a thriller in itself - complete with a frenzied construction pace typical of Las Vegas mega-projects."*

out the entire race, so commercial announcements could be clearly audible even during races - something virtually impossible at most other tracks. Since the ambient noise level in the stands during a race nears 115dB, the system (even with optimum equalisation and processing of the source) must offer uniform coverage at the same levels or higher.

One more detail: The owners didn't like the way loudspeakers and light poles obscured spectator sight lines at other racing facilities. So, for most main grandstand areas at the LVMS tri-oval, all light poles and speakers would have to be placed behind the spectators - which means the sound had to be thrown even further.

Several other complicating factors had to be considered early in the design phase. Cable runs would be very long, with the extreme end loudspeakers for the tri-oval as much as three-quarters of a mile from the main control booth. Ambient on-site temperatures during the summer of 115 to 120 degrees F are not uncommon whilst wind gusts of 60 to 70mph are regular occurrences, making wind loading on speaker mounts an overriding concern. Frequent windstorms churn up the surrounding desert floor, depositing layers of dust and sand on anything not sealed against the elements. To further complicate matters, no landed electrical power was available on the construction site, and there would not be any until a few hours before the inaugural race. Finally, to design, supply and install the system for the main tri-oval only - covering 102,000 spectators plus pits, garages, concession areas, corporate pavilions, luxury suites and the backstretch RV park - the owners had budgeted \$1.5million. Money was tight, and the schedule even tighter. Could it be done?

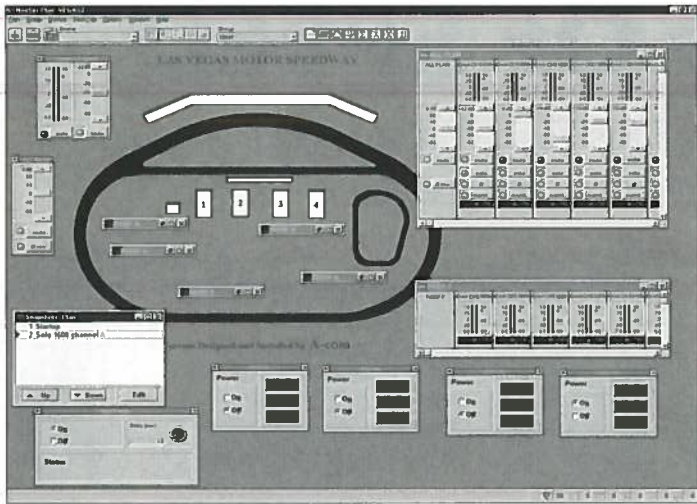


**The world's largest (and most expensive) auto racing complex: the Las Vegas Motor Speedway.**

In the early morning hours of September 17th, 1996, landed power arrived at LVMS. Finally, the entire sound system - previously tested piecemeal using generators - could be fired up and tested for a race that was only hours away. The Peavey Media Matrix computer came to life, mixing and processing audio sources before routing them to the appropriate fibre-optic interfaces. A second computer running Crest NexSys came on-line, configuring the system, setting levels and monitoring key amplifier and speaker parameters. Miles of fibre-optic cables lit up, carrying mused audio signals via Telecast Fiber Systems interfaces and NexSys data through Fibre Options boxes.

Finally, 77 Crest CKS/CKV Series amplifiers delivered 171,000W of power potential to 129 Renkus-Heinz CoEntrant loudspeakers. Up in the control booth, A-Com's Brian Gross popped a Rolling Stones CD into the player, cued *Start Me Up*, pressed play, and brought up the levels in Media Matrix. It was time to fine-tune the system. Out in the stands, Point Source and A-Com personnel reported the results back via two-way radios. Everything was up, and the sound was clear, full and undistorted. Success - but the road had been long and rocky.

Because of the owners' insistence on clear sight lines, Sauro's design employed speakers mounted behind the grandstand seats - except



Left, a screen capture of the NexSys configuration system and right, Chris Potter of Point Source with the Crest CKS Series amplifiers.

in the 'B' stands where (to the owners' chagrin) the light poles had to be put in front in order to get enough light into the backstretch of the Legends Track - a small oval integrated into the larger tri-oval. Sauro quickly realised no single loudspeaker cabinet could do the job. He would need a very high Q long throw cabinet to throw sound to the front rows, a lower Q cabinet to cover the closer back rows, and a separate bass cabinet.

Using the EASE electro-acoustic simulation software, Sauro modelled dozens of different approaches using a variety of loudspeaker cabinet combinations at various spacings and articulations. "I could not have done this job without EASE," he maintains. "I had enormous areas to cover with dozens of speakers, and I needed to know precisely what the interference patterns would be. Also, I had to take into account the fact that such powerful speakers would project sound over great distances, and I needed to know precisely where we would need to delay the sound, particularly in the pit areas, but even all the way across the track in the backstretch RV area."

Sauro soon discovered that speaker combinations from only two manufacturers met the requirements for bandwidth and SPL. "The basics were dictated by the distances we were throwing and the levels required," says Sauro. "We had to get above the levels of the cars, and with NASCAR races we actually did measurements at Charlotte and Daytona and we were getting levels of 115dB in the stands. To throw that power from a distance, we needed a speaker with a vertical pattern of about 20 degrees, and either a 60 or 90 degree horizontal pattern. Only a few companies had large format, powerful boxes with that kind of tight pattern control."

However, other considerations narrowed the options even further. Although roughly half the speakers would be mounted on the front fascia of the skybox suites overlooking the grandstands, the others would be mounted on the light poles. "Now we were getting into power-to-weight ratios," notes Sauro, "and we also had to look at size. The engineer for Musco, the lighting contractor, told us we had a limited amount of space, weight and wind loading to work with."

In the final analysis, maintains Sauro, the only loudspeaker systems able to meet the stringent specifications were the CoEntrant models from Renkus-Heinz, which employ multiple drivers

coupled to a common horn throat to achieve very high broadband power within precisely defined coverage patterns. Sauro's final design - for the main spectator areas only - employed 51 Renkus-Heinz long-throw cabinets, 51 short-throw cabinets and 27 low frequency cabinets. The speakers were laid out in 'pods' of five, with a low frequency cabinet hung with alternate long-throw cabinets at the upper pole or fascia position, and the short-throw cabinet at the lower position. Renkus-Heinz X24 electronic controllers provide crossover, parametric EQ and limiting functions.

Sauro then used EASE modelling to tweak the design for optimum coverage and intelligibility, and to minimise interference patterns. Essentially, the speakers are laid out so that all significant cancellation effects fall into the aisle stairways, with full bandwidth and SPL maintained in virtually all seating areas.

To keep within the budget, the wide-bandwidth RH speakers were specified for the main audience seating areas only. Other areas covered by the overall system-pit row, garages, concession areas, backstretch RV park - would receive high intelligibility but more limited bandwidth coverage from a total of 116 Atlas/Soundolier and University horns.

Sauro's design now had scores of power-hungry loudspeakers spread along an arc nearly a mile long. Powering in direct drive (low impedance) mode from a central amplifier location would be impossible, but a 70V distributed system would probably require massive transformers and compromise fidelity. The only workable solution was to distribute amplifier racks around the track, placing amplifiers as close as possible to the loudspeakers. The final design specified 24 amplifier sites, with the worst-case run of 12-gauge cable less than 160 feet. Computerised control and monitoring became an essential design element. The final specifications focused on the Crest NexSys system, with all control and monitoring circuitry integrated into Crest's new CKS/CKV amplifiers.

"We were set on NexSys because of the kind of topography it offered," says Brian Gross. "We wanted a Windows-based system that would be complementary to Media Matrix, and at that time NexSys was the only serious contender using Windows. We wanted a parallel-based architecture to protect the network if one node goes down. The final factor in our decision was

the willingness of the people at Crest to jump on the bandwagon, particularly the way they took the initiative in adapting NexSys to operate over a fibre-optic token ring, something which had never been done before."

As configured for the LVMS system, NexSys control features include amplifier sequential power on/off, input level setting, and real-time monitoring of temperature and clipping for each channel. The LVMS system also incorporates the optional Load Monitoring, a feature that performs remote and automated analysis of the connected loads by plotting impedance curves and then checking for any deviations that might indicate problems.

"NexSys is extremely powerful in the way it lets you set normal criteria for each amplifier," says Gross. "It polls each amplifier as it wakes up and goes to an assigned volume, then checks the speaker impedance and sets off an alarm if the impedance drops below the danger threshold."

In addition, the NexSys 'snapshot' feature allows fast reconfiguration of the audio system to accommodate different racing events. The main tri-oval also incorporates four racing configurations, each of which may utilise different seating arrangements. With NexSys, the operator simply clicks a mouse to select the appropriate audio system configuration, automatically turning on and setting levels for amplifiers that are required for the event, and turning off those not needed. In the central grandstands - those backed by skybox suites and press boxes - the amplifier racks were placed in the centrally located audio control booth and also in small enclosed spaces inside restroom facilities spaced across the rooftop.

The real problem concerned the 'B' and 'C' grandstands, stretching out on both sides. No suitable enclosed spaces were available anywhere nearby. The only possible solution was to place the amplifiers inside 'environmental housings' at the foot of each pole. The enclosures (devised by Brian Gross) consist of a sealed NEMA 4-rated Hoffman rack cabinet with powder-coat finish, each equipped with a compact 3500 BTU air-conditioning unit. Each enclosure contains a fibre-optic LIU (light interface unit), demuxers for audio and NexSys network data, a loudspeaker controller and the requisite Crest CKS amplifiers.

"They tested these enclosures at A-Com in Virginia on a 98-degree day in August," says Chris Potter of Point Source. "They drove the



amplifiers flat out, but the internal temperature stayed at 65 degrees." But what if the AC fails? "We open the door and put a fan on it," says Potter.

The only feasible way to carry the audio signal to the distant amplifiers was on fibre; conventional copper lines would cause unacceptable deterioration and would also be prone to RF interference and lightning-strike damage. Fortunately, like any new sports facility, LVMS is interconnected by a web of fibre-optic communication lines. The multimode fibre backbone carries data, telephone communications, video and audio - not just around the tri-oval, but to and from all tracks throughout the LVMS complex. In most cases, the audio system 'piggybacks' on existing fibre cables, though in some cases special fibre runs were specified. Four strands are dedicated to audio throughout the system: network data send, data return, audio and a spare.

Since each fibre carries up to 16 channels of full bandwidth audio, each amplifier can be assigned to any one of 16 available 'virtual zones' simply by selecting a channel with a selector switch on the fibre interface box for that node. In combination with Media Matrix mixing and routing, this feature of fibre-optic distribution opens up intriguing system configuration possibilities that have yet to be fully utilised at LVMS.

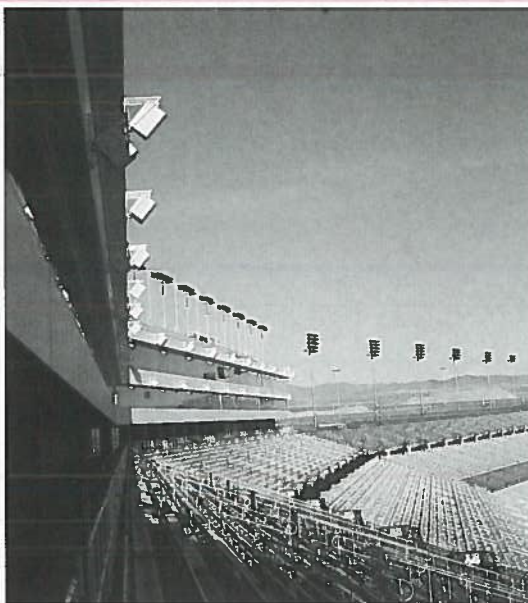
The NexSys network is a two-way system operating with distinctly different protocols. At LVMS, for the first time anywhere, NexSys rides on fibre-optics in a multiple token ring topology. Once again, the sprawling size of the system demanded a fresh approach to familiar problems.

"There was no way we could afford to have separate fibre runs back and forth from each amplifier location as you would with a star topology," says Gross. "Fortunately, Fiber Options and Crest jumped to the plate and helped us develop this elegant token ring topology. The system goes out, finds the proper node, talks to it, then sends the signal along in a designated packet, and at the end of the loop it all comes back to the NexSys hub. We have about 80 different nodes broken down into five rings."

The LVMS audio system serves basically four purposes: foreground music entertainment before and after races, together with race, commercial and emergency announcements. A fundamental guiding principle behind the system dictates that everything should be accessible and operable by one person with only a modest level of technical expertise. Consequently, the audio control room displays a minimum of accessible control functions.

Inputs are provided for headset microphones, wireless microphones and for pre-recorded source material from analogue cassette, DAT or CD. Additional auxiliary inputs are provided for more microphones, or for plugging in electronic instruments or any other audio sources. Most inputs pass through a Mackie CR-1602 mixer, which acts as a microphone preamplifier and local fixed equaliser. In normal operation, the Mackie is locked in a cabinet, to be used for dynamic mixing only in an emergency.

All audio sources then feed into a 24 x 24



**Renkus-Heinz co-entrant loudspeaker systems on the fascia of the main grandstand.**

Media Matrix system for mixing, signal processing and signal routing. The system, maintains Gross, is the keystone element that makes the front end function efficiently and with remarkable simplicity. Media Matrix can quickly reconfigure the whole park with the click of a mouse and also allows the team to establish snapshot programmes optimised for each type of racing event. It also handles front-end compression functions, useful for incoming or outgoing broadcast feeds.

The preceding is a simplified summary of the system as presented to the LVMS architects in an 84-page design document early in 1996. The subsequent solicitation resulted in five competitive bids - all in the \$1.5 million neighbourhood.

In April of 1996, Brian Gross was given a verbal commitment to proceed as primary supplier of the sound system. "Sometimes you have to be careful what you wish for," muses Gross, "because you just might get it."

Even before the signed contract was in hand, A-Com started ordering equipment - essential to meet the September deadline. All equipment, with the exception of speakers and mounting brackets, would be assembled and pre-tested at A-Com's Virginia facility before shipment (in eight semi-trailers) to Las Vegas. Conduit work and wire pulling was assigned to the primary LVMS electrical contractor, since A-Com was not a licensed Nevada contractor. Summer arrived, and the heat was on. Literally and figuratively.

"One of the biggest problems we faced was that the overall facility design had not been completed by the time we needed to finalise our design," laments Gross. "Rooms designated to house amplifiers suddenly disappeared. Or we would get word that they needed conduit layouts that night because they would be trenching for it the next morning. It was a very aggressive pace, and we had to do a lot of engineering on the fly. It was absolutely insane for about three months."

As the summer blazed on, the steel skeleton of grandstands, luxury suites and press boxes gradually emerged from the desert floor - weeks behind schedule. As soon as the 40ft long prefabricated concrete fascia panels were

in place, Point Source started the speaker mounting procedures. For safety margins, each of the three hanging points was designed to hold 10 times the weight of the speaker, the mounting brackets were engineered to hold at least 3,300 pounds (the RH cabinets weighing around 200lbs each), and the suspension brackets for the fascia speakers were mounted to the concrete with eight Hilti chemical expansion bolts - which had to be kept in an ice bucket to set properly. "Each bolt has a pullout rating of 10,000 torque pounds," says Gross, "so these speakers are never coming down unless the whole fascia comes with them."

In mid August, as soon as the first complete 'pod' of speakers was in place, Point Source rented some Crest amplifiers in Las Vegas, powered them with a generator, and hooked up a CD player. The LVMS architects and owners were invited to the site for a preliminary audition. According to Gross, "they were grinning from ear to ear - it sounded like a huge home stereo."

A good sign, but the final laps would push the limits of everybody's endurance. The inaugural race was only weeks away and the audio control room was merely a frame of metal girders, the fascia wasn't complete, and most poles were still flat on the ground. But somehow it came together. With bare metal roof overhead and temporary flooring underneath, the audio control room was assembled. "Every piece of equipment was burned in, tested, wired, crimped and ready to go," says Gross. "We were confident that when it all landed five days before the race, it would go up on the roof and it would work. It had to. Clark County would not allow a race of this size to go on without a working PA system."

There was also no landed power, so the system was tested zone by zone using generators. All equipment cooked in non air-conditioned confinement, continually assaulted by the drifting grit from construction work. When full power was finally available, the A-Com team had only a few hours to do a temporary commissioning of the system.

The crowds arrived, the stands filled and the system made its debut. By all accounts it performed flawlessly, with clearly intelligible sound delivered to every spectator. The owners were suitably impressed, and decided to install similar Renkus-Heinz systems at the 1/4-mile dirt oval (completed in October) and at the dragstrip. A-Com's Brian Gross plans to continue A-Com's development of sound systems at LVMS and some other venues under discussion. For now he's pleased that the initial phase of LVMS job is complete, with performance meeting or exceeding all expectations.

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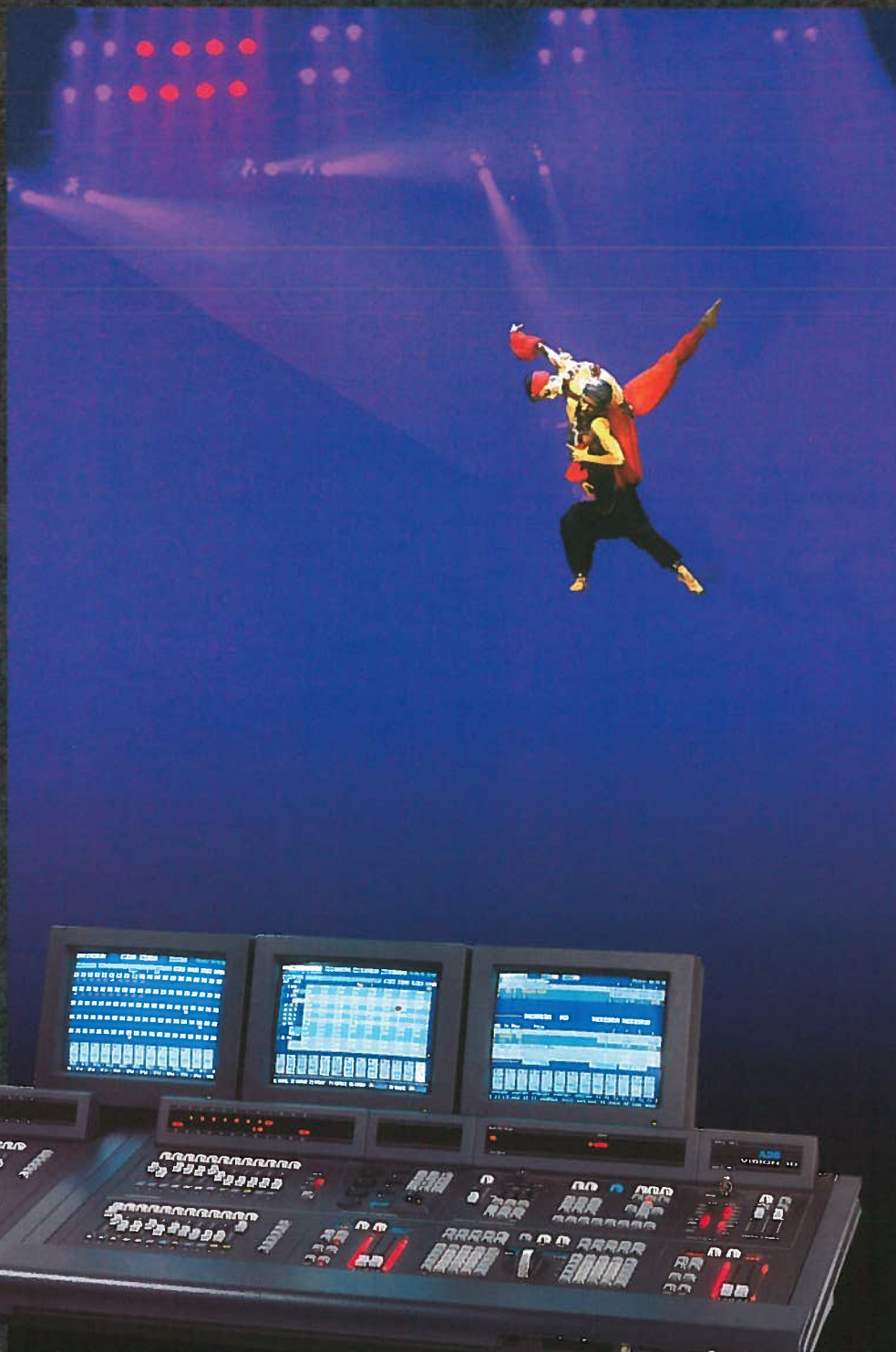
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# ADB

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# UNIVERSITY CHALLENGE

Steve Moles visited Cambridge to see the result of the collaboration between SpotCo and audio rental company Will Power for the St Johns College May Ball

As I stepped down off the train in Cambridge I was greeted by the incongruous sight of a young woman, perhaps 19 or 20, dressed in a full length gold lame ball-gown. It was noon. On her arm was a drunk, a dishevelled young man in a DJ (wing collar, bow-tie, patent leather shoes, dribble-stained chest) his speech slurred but stentorian. "Had a good time?" I ventured. "Bloody marvellous dear boy," said the drunk, sounding like the Lord Charles ventriloquist dummy. "Christ, you should have seen the bloody lights." I pondered these statements as I walked into the city and down to St Johns College. Could that chap really become a future Prime Minister?



Hellfire at St John's College. The walls are decked out in flames by Optikinetics 575s with gobos from Clay Paky HPEs.

"It's just a trashing of heritage," said Duncan Du Kane of the band Beautiful People referring to the assembled melée that night. Well, the singer/guitarist might have had a point, but the walls of St Johns have been there long enough to have seen it all before; they were not going to be phased by a bunch of lamps, lasers and a ton of PA. I was though.

Between Downing College, St Johns and Magdalene (apparently the last remaining genuine White-tie college ball regularly held in the UK) this is the largest assembly of gear you're likely to see outside of a pop festival. If there's a manufacturer whose advertisement you've seen in these pages, then they probably had gear at one of the Cambridge college balls.

It would appear a common perception that college balls are a licence to print money for the service industry: what, after all, could be easier than to take advantage of such a situation? In a nutshell, what you have is Ball Committee Presidents with large budgets, little or no experience of staging a major event and a general inclination to 'trust the experts'. 'What can you give me for 10 grand?' is essentially the approach. I attended the middle of the three balls mentioned, St Johns, one of the flagship

events of the season, but I was also able to talk with Andrew Aitken, Ball President of Downing College, whose event had taken place the previous night, and asked him what guidelines people in his position use.

"Normally, the committee approaches a local lighting company. We discuss ideas - they make suggestions - we counter them - they say that's not possible/affordable/practical (delete according to taste) and offer us their solution/compromise/the last light they have left in the warehouse."

You will have discerned by now that Aitken does have a greater grasp of the realities of the situation than we might imagine for the average student. He continues: "They end up offering a package deal comprising everything they have available, priced at a rough equivalent to what they have deduced as our total budget."

Yes, Aitken has promoted the odd gig here and there - for Downing he even arranged for a top DJ to be helicoptered in from Bristol, but that's another story. The thing is, he does know that a Pars can hanging from a wire bond blowing in the wind is not a moving light. "What you generally end up with is a lot of Pars in very

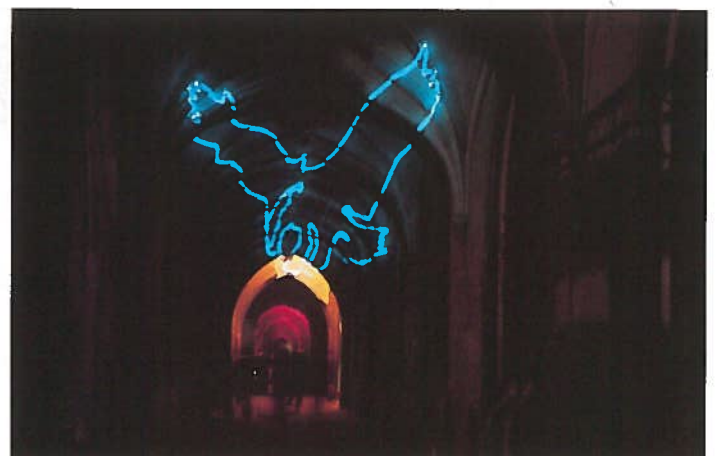
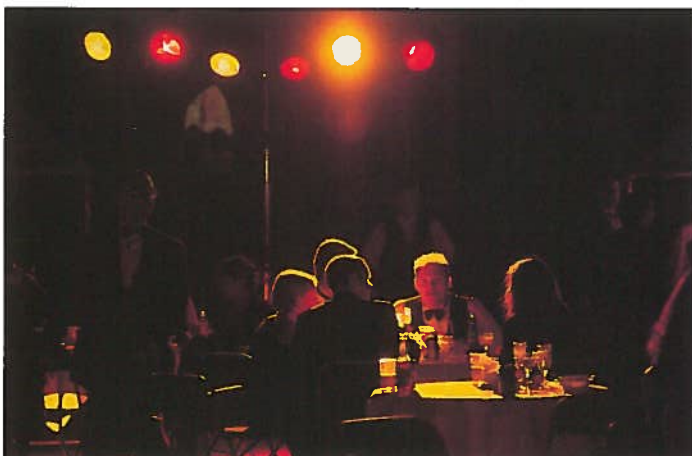
obvious architectural lighting mode, simple stage lighting and an empty bank account. This year has been different," he said emphatically, and as if to back this up, the Varsity magazine had that very day devoted almost its entire back page to Aitken's Downing College ball of the previous night. That might seem small beans for the readers of this magazine, but in terms of the Cambridge season this is the equivalent of a banner headline in The Times.

Aitken is in his fourth year of a Law degree, he interns at Goldman Sachs during the vacations, a pretty worldly-wise scholar, yet there was no denying the hubris he felt at gaining such prominent press coverage. "We

worked very hard for this, breaking from the norm, but it's paid off. We ended up using SpotCo for lighting, not because I'd ever used them before, but because I'd read about them in L+SI and knew they were more suited to handling the needs of a big one-off event like ours. What was different was the input they made to the event." Not having seen what took place at Downing, I can't comment, but because of their 'input' as Aitken has it, SpotCo also became involved at Magdalene and St Johns.

"They wanted to theme the event to Gothic Horror," said Mick 'Jaggy' Scullion of SpotCo. "The St Johns buildings made the perfect setting." Basically, this was 15th century splendour cloaked in 20th century technology. The College comprises four quadrangles, three to the East of the river Cam linked to the fourth in the West by the famous copy of the Venetian 'Bridge of Sighs'. Each quad had a tented enclosure with lighting and PA - two with live stages and one with a large cocktail bar, while the West quad housed the Techno tent.

All the audio came from London-based Will Power PA Systems. EAW systems were the



Left, red and yellow-gelled Pars gave the fire to the cocktail tent, whilst 5W Argon lasers were set up in one of the longer cloistered walks.

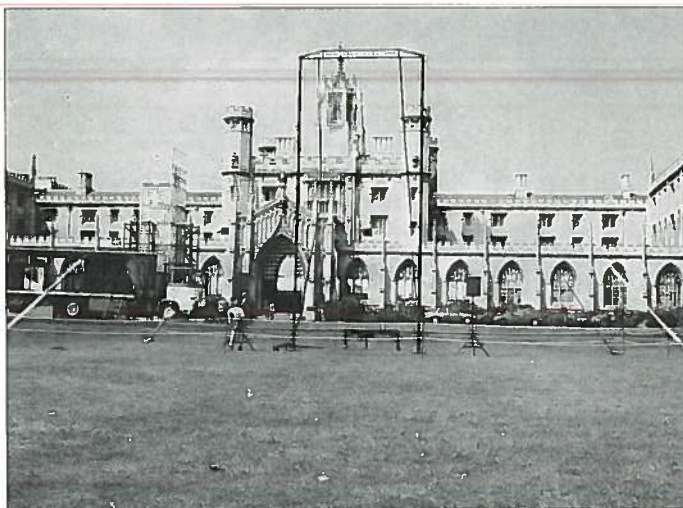
order of the day, mainly of the 850 series. Of the two live tents, that in 'Dr Seward's Asylum' (some arcane horror reference I was unable to fathom) was the largest and typifies Will Power's approach. A large tent approximately 70ft by 120ft had four stacks of KF and SB850s placed in each of the four corners and run in dual stereo. The roof was relatively low, as were the stacks on the stage wings, so the additional stacks on the floor at the rear made a welcome addition to a tent that was never less than packed.

Bands appearing included the aforementioned Beautiful People, an excellent ska band called Colonel Hathi, Bucks Fizz (yes, *that* Bucks Fizz) and The Divine Comedy. As broad a musical delectation as you could wish for and, with members of the Ball Committee ruthlessly self policing dB levels all night, an altogether pleasant and well-balanced sound reproduction for all. The tented enclosure seemed to lift and contain the bass end within so that even Colonel Hathi's heavy ska rhythms sounded thick and authentic inside, yet barely carried beyond the quad.

Bucks Fizz, you may be interested to learn, provided the high point of the night, receiving repeated calls for encores, which says a lot about students and may even help explain the Gary Glitter phenomenon. The Techno tent used slightly different tools, but in a similar array. "We've put in stacks in each corner again," said Ed Derby of Will Power. "A sub (SB850), a BH852 beside it, and a KF1000 - basically a pair of KF850s packed into one box - on top. The 1000 does work as a long throw but the oblong of the tent (approximately 100ft x 40ft) needed that extra carry."

This tent did not have the walls of the live stage tents and required some harder driving to maintain the required atmosphere, but I visited the adjacent free champagne bar (purely in a professional capacity you understand) repeatedly throughout the night and found the waiters there could always hear precisely what I wanted, yet were still able to bop along with the vibe.

The dance-floor was lit from opposing trusses at either end of the tent, each carrying two UV guns, two Strobe Flowers, four Track Spots and a ZR31 smoke machine with oscillating fan. Nothing unexpected there, and so too the live tents had rigs much as you would imagine with representatives of most manufacturers products, trussing of all sorts, lots of Pars, Golden Scan 3s, Cyberlights,



Preparations underway at St John's West Quad.

Intellabeams - if it had a moving mirror then SpotCo had provided it. What was less conventional was the treatment of the buildings and grounds: "Four HPEs in the right place can be devastating," said Jaggy, explaining his approach. "I find a space and just put in a couple of lamps capable of really powerful effect. It's not just about lighting the buildings - that's obvious - let's give them something to look at."

Thus Newcourt Quad, which housed the dance tent had its walls (50ft high, 200ft wide) totally covered in flames by Optikinetics 575s, while HPEs tucked into cloistered arches tracked a host of varying gobo images across them. The West entrance to the Bridge of Sighs had a chamber blacked out and filled with Emulators and smoke, while to the opposite shore a huge Devil's mask (built by the students) hung high above the portal to 'The Cemetery' with glowing red eyes and snorting dry ice.

Although out in the grounds there was simple up lighting and floods on the building exteriors, thought had still been given to effect. Some were straightforward - pairs of red bulkhead lights in trees on a chase to make winking devil eyes, while back at the main entrance a 1.2kW Hardware Xenon projected a more sinister pair of giant red eyes up onto the main clock tower. Neil Irwin of Amazing Lasers had a 5W Argon set up in one of the longer cloistered walks, while elsewhere seemingly every threshold had been given some treatment, Arcline, Solar Projectors, Death Star Strobes and Mirror Balls.

The upshot of all this gear was an extensive mains and control system that required

scrupulous routing and constant monitoring throughout the night, producing one of the more surreal sights of the evening.

While the Veronicas and Godrics disported in their Sunday best, small groups of furtive creatures, attired in baggy shorts, grubby t-shirts and lumpy hiking boots, scuttled about making sure that everything was taken care of. As the doors opened, Theo 'Spunky' Cox, SpotCo's head electrician, was deluged

with eleventh hour requests for 'Power for a fridge?' 'A light at the cloaks?' 'Where can I plug in my video?' - even a hurriedly-rigged followspot on a tower (well actually a 1.2kW Vision profile on a stand) to use as a security device to spot all the gate-crashers who swim or punt the Cam to avoid the £110 per head entrance fee.

By 3.30am or so it had all largely deteriorated into a snog and grope fest (the ball started at 11.00pm and ended at 6.00am), with the exception of 400 or so die-hard ravers who were intent upon trashing their frocks in the Newcourt techno tent. When they're all mildly drunk - and how refreshing to discover that alcohol was pretty much the only mind-altering substance in use on the night - then you could get away with a pair of Par cans and a couple of old rinky-dink speakers, but there is always that lingering doubt in the back of your mind that the slobbering lout you're speaking to really is the future PM of England and you know damn well that if he's of that calibre then he has a vice-like memory.

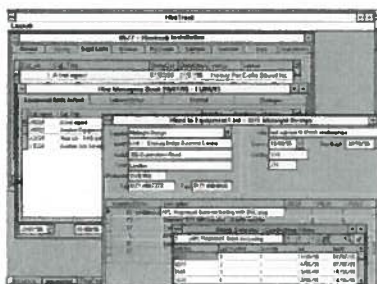
Of the 2,500 or so party-goers there, many were third and fourth year students who'd seen it all before. Talking to several on a random basis throughout the night they all declared it the best ball ever and, significantly, they all singled out the quality of lighting and sound unprompted. Some of that may be the end-of-term euphoria talking, but there's no doubting the genuine pleasure in the massed ranks of first year plebs. Well done Spot Co and well done Will Power. If we can remember, we'll see you next year.

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# ROSKILDE ROCKS ON

The Roskilde Festival is one of the key events in the Danish calendar.

L+SI talks to the main players behind the scenes



The massive Orange stage - the main open-air stage which played to audiences of 50,000.

photo: Rikke Steenvinkel Nordenhof

For 27 successive years, the Roskilde Festival in Denmark has been one of the largest open-air rock festivals in the world. Running for four days at the end of June, it attracts 90,000 people per day, mainly from Scandinavia and Germany. Remarkably, tickets for the 1997 festival were sold out even before the line-up of acts was announced - a measure of the confidence in both the organisers and the technical crew shown by the paying punters.

The festival is organised on behalf of the Roskilde Charity Society, an organisation which actively supports worldwide humanitarian and cultural work. Amnesty International is just one recipient of the \$US 20 million donated by the festival since its inception in 1971. Apart from a full time staff of 11, the whole event is organised by unpaid volunteers; 130 people working on various committees throughout the year and a further 10,000 when the event starts.

This people's army run every aspect of the festival from sanitation and cleaning of the site (incidentally, the whole site is cleaned at around 5am every day) to security, camping, parking and transportation for the many visiting bands and crews. With the exception of the professional sound and lighting crews, the whole event is run and staffed by amateurs who have a unique enthusiasm for the festival and what it represents.

Roskilde is an event with a social conscience: the organisers are constantly working to improve conditions and facilities at the site. In 1992, after a very wet and muddy few days, they spent £2.5 million on drainage, an investment which certainly paid off this year as the heavens opened for one of the wettest Junes on record. Glastonbury was also a victim of the weather, of course.

In response to complaints from parents whose children had returned home with hearing problems, the festival also now sells ear plugs around the site. Around 30,000 were sold this year with profits going to Tinnitus research and other similar organisations.

So to this year's festival: there were seven main stages at Roskilde, in addition to several other performance areas for cabaret, theatre, film and performance arts, as well as sites for sculpture and art. The key stages were the Orange Stage (the main open-air stage with a capacity of 50,000), the Green Stage (a tent with a capacity of 18,000), the Red Stage (11,000), the Yellow Stage (8,000), the DeeDay Stage (5,000) and the Blue Stage and Roskilde Ballroom (3,000 each).

Technical manager Paul Jensen was the unlucky bloke charged with the task of bringing the massive lighting, sound and AV inventory, not to mention the crew, together. To assist him

he turned to two key Danish companies - Paradise Tour Production and Dansk PA.

Paradise are probably the largest lighting rental and production company in Denmark. This year at the Festival they celebrated their fifteenth year of design and equipment supply for the Green Stage and also their fifth year on the Orange Stage. They had around 30 lighting crew on site looking after 800 conventional lights hung on 300 metres of truss on two stages. Control was provided by a massed rank of Avolites Diamonds with back up and audience lights controlled from Jands Events consoles.

Fourteen months ago, Paradise recognised the need for a moving light supplier in Denmark and set up sister company Pan & Tilt in a neighbouring warehouse. Pan & Tilt are the only Vari\*Lite series 300 dealer in Denmark and also have a wide range of other moving lights. The company supplied moving lights to no less

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than five of the seven stages at Roskilde: 129 VL5s, 36 VL6s, 24 LP1200s, 12 Studio Colors and eight Cyberlights. They also have a stock of Golden Scans, Super Scans and Telescans. For these, control was provided by four WholeHog IIs with three Wings and WYSIWYG systems on the Green and Orange Stages.

The sound set-up was handled by Dansk PA who got involved with the festival two years ago when Brit Row, who formerly supplied the Turbosound rig, found themselves with just too large a workload. Because the festival organisers were keen to ensure continuity of system, Dansk agreed to specify a Turbo rig and actually bought the system from Turbosound in the UK.

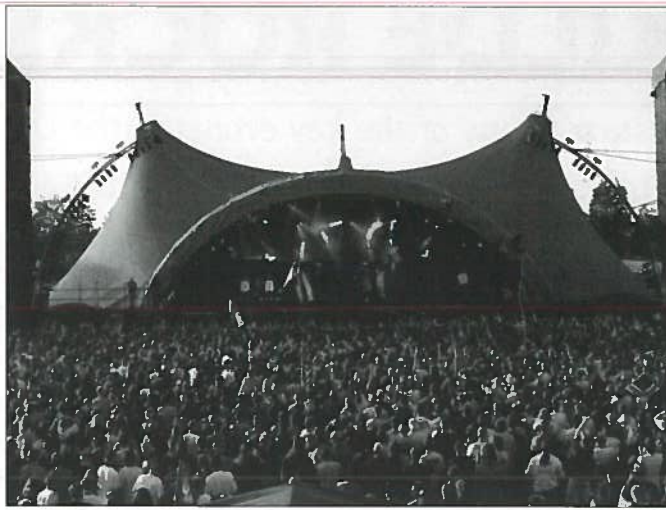
To put the Roskilde festival in context (it draws some of the top performers from across the world, including Suede, Kula Shaker, Erasure, David Byrne, Isaac Hayes, Pet Shop Boys and Supergrass), the audio rig supplied by Dansk for the Orange stage involved 32 stacks in total - the same size as the rig which Pink Floyd went out with on their last world tour.

In a sense, the equipment suppliers consider Roskilde as something of an examination, as Paul Jensen explains: "They know that at Roskilde they have to produce something out of the ordinary. Many of them say that it is a kind of annual review, which will show whether they can perform amongst the best and whether their equipment and know-how is still up to date."

The main focus of the festival - the Orange Stage - has seen some of the biggest names in music perform for capacity audiences. The stage roof, originally designed for The Rolling Stones in the early 1980s has become an icon for the festival, but is now severely restricting in terms of available height and weight loading. There are several plans afoot to raise the roof onto the stage itself giving an increase in height of about two metres, but most systems will still have to be ground supported. For the lighting crew, this has created extra challenges. Because of the roof problems, bands are not allowed to hang any extra lighting equipment or move existing equipment, although some compromises have been made in the past. Coupled with the fact that it gets dark at around 10.45pm and dawn breaks at about 3.30am, the job of the festival designers and visiting LDs is made much more difficult, so this year the decision was taken to introduce a WYSIWYG system backstage to help in pre-programming at least the moving lights. Moving light designer Patrick Murray and WYSIWYG operator Sean Burke were enlisted to programme alongside the posse of LDs working at the show.

The WYSIWYG show file and WholeHog II files were uploaded onto the Internet prior to the festival so that lighting designers could then download all necessary information and programme their shows at home. Then, with a WholeHog II and extension wing on the mix tower and a second Hog with the WYSIWYG system in a cabin backstage, visiting LDs could comfortably programme during the day and then simply load their show disk into the Hog front-of-house and run their show.

This approach removed a lot of the



Over 90,000 attend Roskilde every day.

photo: Patrick Murray

headaches: even those bands who wouldn't normally use moving lights were able to take advantage of the system and could still get a reasonable show without having to stay up all night programming. Virtually all of the headline bands used WYSIWYG to some extent, either programming themselves or, if not familiar with the WholeHog, Patrick Murray programme and operate for them.

As it was the first time Murray had used the system, he was interested to see how programming 'virtual lights' in the comfort of a quiet, warm room compared to sitting up all night in a cold, draughty mix tower. No contest really. He quickly discovered that with a system comprising 34 VL6s and 28 VL5s on stage as well as 48 VL5s in the audience, the computer monitor was all too soon cluttered with light beams so it became necessary to focus the lights in small groups. All that remained was a little tweaking once he got into the real world with real lights - virtual lights, of course, never blow a bulb or develop stuck colours!

The system was actually widely employed across the festival. For Suede, LD Jan Pieter Nipius added 12 Studio Colors to the festival system and spent about eight hours programming backstage. Elsewhere, Pet Shop Boys' LD Jon Polack used the festival system and programmed for about four hours. Lighting designer Ian McEwan working with the Prodigy also used the festival system and actually programmed blind on the Hog and on WYSIWYG for about two hours.

Smashing Pumpkins LD John Broderick is an old-hand at using WYSIWYG after having problems with the set being late on the Metallica 'Load' tour. He spent three weeks programming for Metallica and first saw his work in real life during the first show of the tour. For Roskilde, he spent about two hours programming for Smashing Pumpkins and was reportedly very happy.

Interestingly, Finnish band The Leningrad Cowboys were the only band to take advantage of downloading the WholeHog and WYSIWYG show files from the Internet and their whole show was actually programmed before they arrived.

The Turbo rig supplied by Dansk PA for the Orange Stage consisted of 32 Flashlight highs and 32 Flashlight lows, with six Floodlight highs as nearfill. Amplification for the main system was from BSS Audio. Presiding over front-of-house was a Yamaha PM4000 console,

with a comprehensive range of effects which included TC Electronics M5000, Lexicon PCM 70 and 440 reverbs, a number of Yamaha SPX multi-effects, an Eventide H3000 Ultra-harmoniser, DBX 160 and BSS DPR404 compressors and six Drawmer Super Gates. Two BSS Varicurve units and a BSS FCS960 were used for EQ.

The monitoring was from 16 bi-amped Turbosound TFM300 monitor wedges (2 x 15") - the first time these units have appeared at Roskilde - two MSL3 full range speakers and a 650R2 from Meyer Sound for sidefill with a pair of JBL 4773s for drumfill. A Midas XL3 was in control, with EQ from Klark Teknik, DBX and Drawmer compressors. All the amplification for the monitors here was from Macrotech and Crest Audio.

In addition to the audio gear supplied by Dansk PA, Danish rental company Duch Sound Aps supplied a d&b 402 system for the 'DeeDay' Techno arena. This consisted of flown left and right arrays of 402 tops and subs - a total of 22 cabinets. Beneath the arrays, adding their rather substantial weight to the proceedings were seven twin 18" B2 subwoofers, plus a belt-and-braces contingent of six extra 402 subs. The main stage system was by no means the full story. Deployed around the audience on a pan-pot controlled feed from the desk were six pairs of the latest wide-coverage d&b 702-LS cabinets. The software thread binding the whole system together was d&b's own ROPE (Remote Operating Environment) package. The controlling PC and the system controllers communicate through a hub device called a RIB (Remote Interface Bridge), three of which were used in the Roskilde system.

Paul Jensen said of the DeeDay Stage: "DeeDay is the most demanding stage at the festival for the lighting and sound crews because of the complicated technical set-up - surround sound, DJs, 'Rave' lighting and live video. It takes 25 technicians to keep the programme running. DeeDay is the festival's 'experimentarium', where new ideas are born and tested. The artists playing here often tell us that there is no place like it on earth, and that's definitely how it's meant to be."

The other stages were all variations on a theme and featured differing combinations of JBL and Meyer speakers, with Yamaha, Soundcraft, DDA and Ramsa systems handling front-of-house control.

The final word must go to an increasingly common sight at festivals and major rock concerts these days - the massive screens relaying images to the furthest reaches of the audience. At Roskilde, a Jumbotron JTS 80 supplied by Screenco, was fixed to the back of the mixing tower for the Orange Stage.

Roskilde it seems is just getting better and better all the time. The headline acts are a measure of its reputation on the international circuit (over 150 bands performed this year) and the fact that the tickets are sold out long before the line-up is announced is proof of its determination to be viewed as something other than just a string of concerts designed to sell the latest CD. Who can argue with that?



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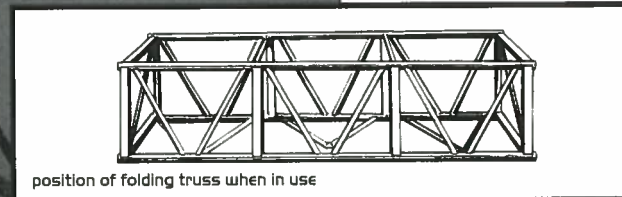
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### The Charlatans

Doncaster Dome

**LD: Paul Normandale**

**SD: Kevin Pruce**

It's been a lengthy absence for the Charlatans. This is their first UK tour since 95 and, in a way, they've lost their place in the growing clamour of new British music because of it. To lose a band member, especially when so very young, takes the wind from anyone's sails, but though we might not have seen anything of them for a while the Charlatans are still a potent force. Three consecutive number one albums is more than enough to ensure every venue on this relatively brief

excursion is sold out. Whatever the anxieties of getting back out on stage after a bereavement it's also a very necessary step for them.

Being unheard for so long might have meant a resort to their well-known earlier material, but not in this case. Out of a 17 song set, nine are new numbers from their latest album. It's an unpretentious production - funny too. The band, while recording at Monnow Valley Studios in Wales were smitten by the Christmas tree lights festooned about the control room window: "They said 'That's how we want the stage to look'," reports production and tour manager John Gibbon "and that's what we've given them."

#### LIGHTING

There are some 20 strings of festoon-style lighting draped recklessly about the three lengths of trussing that enclose the back and sides of the stage, which include perhaps 400 assorted domestic bulbs in a confusion of colours that changes daily. "They don't tour very well," was board operator Dave 'Banana' Gibbon's dry understatement and seeing as he doubles up as the stage manager, he should know. We lose between 10 and 20 bulbs a show and I just get the runner to go out and get whatever colour and bulb type he can."

It's a random approach, as is the way they're strung-up - great swags hanging down almost to head height, making the stage look like it is home to some crazed electric spider. The strange thing is that you quickly become accustomed to their presence and are pleasantly amused when they finally get used for the first time in the sixth number. The lighting design is by Paul Normandale and naturally the equipment supplier is his own company, Lite Alternative. Normandale had clashing commitments (with Placebo) so after seeing the tour on its way, the band took the initiative and appointed Gibbon as their preferred board-op. Normandale's design appears spartan - just three six-lamp bars of Pars, six 2kW Fresnels with colour changers (three up, three on stands), eight Source 4 profiles, nine VL5s on the floor, five Svobodas and a pair of Pani soft beam spots - but it's a busy little collection.



For the Charlatans, LD Paul Normandale used 400 domestic light bulbs of various colours festooned above the stage.

"I find having just six 3kW washes on the front truss (all the Pars are 240V, hence 3kW) a bit limiting," said Gibbon, "and I'd like to see the VL5s up in the trusses. But it does work and the festoons look great." With the exception of the Pars and three profiles, all the lighting is to the back and the sides, which allows a very distinct approach. The Pars are all down on the forestage and do nothing more than colour the band whilst the rest of the system is then used to great effect, perhaps just three or four elements at a time, to give spatial effects in the smoke-filled atmosphere above.

Despite Gibbon's protestations about lack of front wash, the show is almost always pleasing to the eye, which is a relief from the very demanding musical style. Much is made of partial fades; changes are subtle through that verse, chorus, bridge routine we all know so well, so when a bold splash of light does come, it's all the more effective. Gibbon reads the music well and works his Avolites Pearl as if he'd been doing the show for months. I particularly liked his use of smoke - I haven't seen a real pea-souper like that in ages.

#### SOUND

"This is full-on," said Tim Burgess, the band's lead vocalist - and this was in the eighth song when we'd already been aurally assaulted. The Charlatans are a loud band; they generate a high energy musical style, delivered in a casual way. Like, the Rolling Stones, they appear to produce the music effortlessly. Job of the night must surely go to Billy Ellison on monitors who has to rein in some unbridled power. Ellison runs his system from a new Yamaha PM4000 monitor board (18 sends, plus two stereos with EQ on all) which was bought for the tour by Wigwam. (In fact, company director Chris Hill was there on the night, still unable to stop himself smiling about Barnsley's recent promotion, or maybe it was a lingering rictus from having driven over in his new soft-top Mercedes 500SL).

There's almost enough system on stage to leave the PA in the truck: 14 Nexo PS15s, two stacks of d&b 402s each side and a pair of Meyer USW subs for the drummer. Fortunately, Ellison did a number of one-offs with the band last summer

when they were dipping their toes back into live performance, so he knows them well, but with Burgess frequently marching towards forwards, fader riding must have been the order of the day. Front-of-house Kevin Pruce (who readers may remember from Björk last year) also has a PM4000 and a broad array of stacked 402s with a couple of d&b Maxs as in-fills to cover this wide room.

On the control side, there's a lot of XTA products: analyser, system graphics and delay processor. Effects include three SPX990s and a Behringer bass effect, plus Pruce has a twin channel TL Audio valve pre-amp compressor across

Burgess and the other vocalist Rob Collins (who is also the replacement keyboard player). This latter item was a tool Pruce resorted to increasingly during the show, as Burgess's vocal in particular became harsher and harsher.

Talking with John Gibbon afterwards it would appear that such distressed vocals are not the norm - just a slight summer cold. Despite increasing levels and some nastiness at the very high end from the guitars, there was plenty of headroom left in the system. You can tell when a system is straining to put it out, and this wasn't. A cracking drum sound, modest but always audible bass and the delightful tremolo of a Leslie cabinet. A proper band really. And that was my lasting impression, having never heard their music before, except perhaps the odd single on the radio, I went away pondering just how many songs that night were more than adequate. Beside which, you can't knock a band that have a good lighting idea.

### The Bootleg Beatles

Doncaster Dome

**LD: Richard Hutton**

**SD: Alan Lynch**

I was in two minds about whether or not to see this show. Tribute bands are all very well, but it's hardly innovation. While bands like the Charlatans and Oasis might pay lip service to the groups of the sixties, the Bootleg Beatles revivalist adoration is of another magnitude. 'Tribute' is one way of putting it, 'parody' is another, more dangerous tag that must be constantly looking over this band's shoulder.

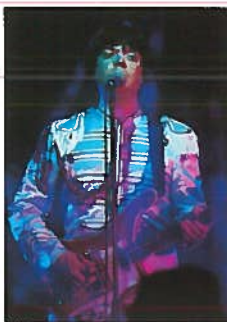
However, when I learned that they had been given a double dose of approval by both George Martin, who gave them a 'yeah' after being dispatched by the remaining Fabs to their show at the Albert Hall, and no less a figure than George Harrison, who gave them a 'great' when he attended David Gilmour's 50th birthday party at which they played, then perhaps one has to bow to superior judgement.

## SOUND

Alan Lynch has been mixing for the band for two and a half years now and has a pragmatic approach to a rather unusual job. The band do around 10 shows a month, all year round - a mix of proper gigs like this one, private functions and corporate shows, but they do constantly re-examine what they're doing, even after 18 years together.

Alan uses a system from, appropriately enough, Liverpool-based Adlib Audio, who produce their own range of cabinets. In this instance, the DF2 series, a twin 15" (RCF L15s) low end cabinet, the high pack comprising a 15" (JBL 2226), a 10" (RCF L10) and a 1.5" neodymium (2451 from JBL) mated to a 60 x 40 degree JBL horn flare. The construction is curious in that the box is built and then sealed, once component failure occurs, the only thing to do is destroy the cabinet and salvage the remaining speakers. There are obvious savings in the construction which make this feasible, like the 10" and 15" in the high pack mounted to a single moulded plastic compound horn, and once assembled the entire enclosure is filled with chemical foam, but faith in components is more the argument: "Much of this system is actually owned by the band," said Lynch, and we haven't lost anything yet.

FOH finds a modest array of kit alongside Lynch's Midas XL3. "I don't really use any effects at all. I think 90% of the authenticity is coming from the band - it's in the way they play their instruments. For the first set, I just take most of the top end off the snare and the rest of the kit and just leave the high hat in. That might sound a little odd, but when you hear it in performance it makes perfect sense." When they took Lynch on, the



band went out and bought him all the Beatles albums and said 'That's how we want to sound'. The harder you listen during the show, the more you realise how authentic such an approach is.

Lynch also goes to great lengths to reproduce the right look with the mics - almost everything on the kit is concealed: SM91 shock-mounted within the kick, AKG451 tucked in under the hi-hat, the SM98s on the two toms and SM57 on the snare neatly hidden, the only one visible being the SM58 overhead for vocals.

It's a low level mix: four subs and six high packs a side, floor-stacked, amply covers most of the room, although the extremities of this wide venue lack a little high end. Lynch mixes in three layers: vocals on top (always), guitars, then drums. It's something you notice most with the early Mop Top era songs - there are discernible holes where there's just no music, but as the songs progress and you witness the Beatles' evolution compressed into 150 minutes, you hear the musical texture enrich and grow. From four-track to the full Phil Spectre, it's an interesting exposition of technical evolution.


## LIGHTING

The band also own a fair bit of lighting, pre-rig truss and Pars, though on this occasion they've done a deal with Entec, who are using the Bootleg's trussing for Sisters of Mercy while LD Richard Hutton takes an Entec system of A Type, 94 Pars, ACLS and six Golden Scan 3s run off an Avolites Sapphire. There are some obvious demands upon Hutton's show, but he manages to insert the odd deft embellishment here and there.

The first set is done almost entirely in open white - just a hint of colour added near the end as we stray towards hippydom and the Rubber Soul, Revolver era. The band come on to some lovely archive B&W slide projection that sets the scene, and Richard has added a Megastrobe front of stage to mimic the popping of flash bulbs as the band first appear.


Set two sees the band resplendent in the satin garb of Sergeant Pepper and Hutton makes full use of the GS3s to provide the required rich colours and swirling beams. However, by the time we reach Magical Mystery Tour, this is wearing a bit thin - a little interplay with the Pars wouldn't go amiss. It's not long though, before relief arrives with a quick costume change for Abbey Road and Hutton resorts to, shall we say, more contemporary lighting. The performance was never trite, and often spookily accurate.

The audience I saw were a broad range of ages and they'd all come along for an experience they'd missed out on before. Witnessing a trans-generational happening in 1997 is, upon reflection, a unique experience. Don't confuse it with the real thing, but it's well worth a sip at the cup of history.



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RADIO MICS & IN EAR MONITORS

# EQUIPMENT NEWS

## A Hot New Arrival Comes On Line From Trantec

At the recent Mad About Music show in London's Docklands, Trantec launched their latest, and possibly smartest offering to the music industry since the company was founded back in 1985. This is not some revolutionary innovation or sudden shift in use of technology, but it does address a great need. Trantec (BBM Electronics) have taken a very hard look at their core products (namely radio devices for microphones and specifically the S5000) and asked 'What would make this more usable?' The answer is flexibility.

The programmable, variable synthesised tuning technology radio systems - systems that can be easily reconfigured through software alone - come in three versions, the S3000, S3500 (both VHF) and S4000 (UHF). Re-programmable frequencies is an obvious solution to the variable needs of the touring musician. In essence, Trantec have developed three new radio rigs that allow for a practical number of frequencies - in most cases up to 32, in four groups - to be programmed in, and in a way that allows the operator a degree of choice previously unavailable. What's more, because the selection of frequencies is software-controlled, not only do you have a wide choice of on-board frequencies, but also the device can be re-programmed to other frequencies at your local Trantec dealer without any changes to the hardware.

"This system gives you total flexibility," said the company's Chris Gilbert, "especially if you're going somewhere like Germany, where permitted frequencies can and do vary from city to city. We learnt a lot about synthesised tuning developing the S5000 and have taken that knowledge further, employing software developers to make this new range as simple to use as possible."

By employing technology used in mobile phones (PLL chips), which by dint of the ever-expanding scale of that market are mass-produced, Trantec have been able to pitch the three new units at extremely competitive prices. For further details contact Trantec in Morden, telephone 0181-330 3111.



Trantec's S4000 (UHF) system.

## ARX's Powermax I

ARX Systems, the Australian-based manufacturer of audio equipment, have released an updated version of their PowerMax 1 full range processor controlled loudspeaker.

The PowerMax 1 features sculptured radial front steel mesh and trapezoid angled sides for easy arraying and placement, with 3-pin XLR or Neutrik Speakon input and loop-through connectors. Low frequencies are reproduced by an upgraded 12" low frequency driver whilst high frequencies are handled by a new Ferrofluid cooled throat aluminium diaphragm compression driver, loaded onto a Noryl resin constant directivity horn.

Frequency management has also been upgraded with a new phase aligned 24dB internal crossover. For further details contact ARX Systems' European office in London, telephone 0181-742 0350.

## Peavey Power

Peavey has released the CS 3000G, a professional sound reinforcement power amplifier for which the US Government awarded Peavey engineers a patent on the circuit design. Capable of 3000W RMS into 4ohms bridged, its harmonic distortion from 20Hz to 20kHz remains less than 0.04%.

For further details contact Peavey Electronics in Corby, telephone (01536) 461234.

## Titan Goes Gold

The Titan DJ console from 3G has undergone a major facelift following end user and customer requests for a more stylish image.

The front panel design was specially commissioned and will be shipping within four weeks. The design will apply to the Titan 60 and Titan 100 DJ consoles, while the Titan Pro, aimed more at the club installation market, will retain its current look. The electronics and interior design remain unchanged and the first 50 off the production line have already been earmarked for 3G's distributor in Italy.

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

## TFL XO Truss

Total Fabrications Ltd (TFL) has developed an entirely new trussing system aimed at theatre, TV and presentation use.

Although of comparable dimensions, TFL claim that the XO Truss is 25% stronger than the published figures of its nearest rival and yet in square format has a self weight of just 4.20kg/m. Also available in triangular cross-section, both XO Truss formats have a side dimension of 305mm and use easy to locate fork-end connectors welded directly into the chords.

Meeting BS8118 and fabricated by coded welders, XO Truss is made using a special high strength aluminium alloy which is not only durable and gives higher load capacities, but also retains its shiny lustre for years, making it an ideal tool where presentation really counts.

For further details contact Total Fabrication in Birmingham, telephone 0121-772 5234.

## Sennheiser Introduce ENG and MD 425

Sennheiser has introduced an ENG RF receiver kit, comprising four of its EK-4015 UHF miniature diversity receivers in a special operational flightcase. The package incorporates a mains power supply for the four receivers and an input socket for external DC supply. Also built-in is a passive antenna splitter, splitting a single pair of antennae to all four receivers.

Also new from Sennheiser is the MD 425 high performance stage microphone, which bears a strong resemblance to the company's award-winning 5000 series professional radio mic. The super-cardioid capsule design provides a high degree of clarity and power. The capsule is shock-mounted on a rubber membrane and features an integrated impact protection shield, while the acoustically transparent stainless steel inlet basket incorporates an additional protection lining, resulting in minimal handling noise. The mic features a noiseless on-off reed switch.

For further information contact Sennheiser in High Wycombe, telephone (01494) 551531.

## Spirit's Monitor 2

Spirit's latest addition to its range of mixing desks is the Monitor 2, aimed at front-of-house or theatre mixing applications.

Available in 24-, 32- and 40-channel frame sizes, the Monitor 2 has 12 monitor sends including two stereo pairs specifically for in-ear monitoring. All monitor sends are pre/post fader switchable and, in addition, each input has a built-in mic splitter, negating the need for dedicated splitter boxes on stage. The Monitor 2 has an improved 4-band EQ section with two mid-swept frequencies on very input, plus EQ in/out switches. Other features include a dim switch which alleviates feedback problems, two dedicated effects returns and two house mic feeds, allowing performers with in-ear monitors to hear the audience as part of their mix.

For further information, contact Spirit in Potters Bar, telephone (01707) 665000.

## Leisuretec Minim Plus

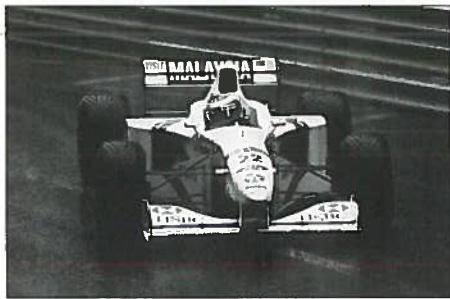
As most in this industry will appreciate, under strict environmental Health legislation it is becoming common for local authorities to clamp down on noise nuisance.

A new product from Leisuretec seeks to address this issue. The Minim Plus is a sound-activated switching device which interrupts the mains supply to amplification used by performers. The use of such a product is particularly relevant to venues which regularly have visiting live acts, bands and mobile discos.

The system consists of a control panel, a 'traffic light' warning display unit and a microphone to monitor the noise level in the performing area. The unit will activate if the level exceeds a selected pre-set condition. All operating parameters are variable by the key holder.

For more details contact Leisuretec in Leighton Buzzard, telephone (01525) 850085.

## Spider - From AV to F1



Stewart Grand Prix and Bridgestone F1 have both turned to Spider Cases for the protection of their cars and equipment. The Warwickshire-based company have been making a wide range of high quality flightcases and soft bags for the lighting and AV industries for nine years, with the Gearhouse Group among their main clients.

For further information, contact Spider Cases in Atherston, telephone (01827) 720623.

## NJD Strobe In

**NJD have introduced the new Xenon 25 intelligent DMX strobe, which boasts an output of 500W peak mains power.**

**Eight internal patterns are stored and the units can be linked together to run synchronised stored patterns or strobe at any speed from 1-10 per second.**

**For further information, contact NJD in Nottingham, telephone 0115-939 4122.**

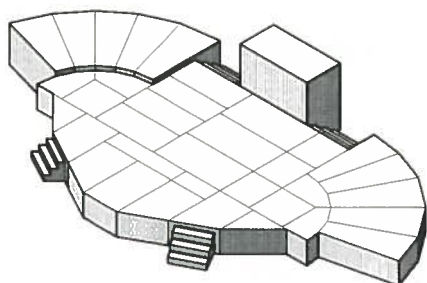
## Morpheus Automated

*Morpheus Lights has released two automated products to run from DMX control.*

*The BriteBurst effects features 360 degree pan and 270 degree tilt with variable beam size from spot to flood and a fast dowser system and comes standard with XLRanger 12 frame colour scroller. The FaderBeam wash light features onboard dimming, 360 degree pan and 270 degree tilt with variable beam size from spot to flood.*

*For further details contact Morpheus in Santa Clara, USA, telephone +1 408 567 0660.*

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## Newdeck from ESS

Edwin Shirley Stages have produced a new decking system. The ESS Newdeck encompasses all the criteria established by the Tower systems. It is lighter and faster to deploy, with an improved top surface, yet still retains the strength of its predecessor. Made from Finnish birch with a phrenoelic resin coating, the surface is waterproof, non-slip and durable, able to withstand even the heaviest of castors.

For further information, contact ESS in London, telephone 0181-522 1000.

## Tough Berlins

*Technomad loudspeakers has introduced the high-performance, high-fidelity, military specification, ATA III rated Berlin 15/H loudspeaker. Combining rugged, US army road case technology with a number of acoustic innovations, the Technomad Berlin 15/H is a compact and durable, self-casing loudspeaker that is powerful and musically accurate. The Berlin 15/H loudspeaker is designed to be used in the most abusive applications.*

*For further information contact Technomad in Goshen, USA, telephone (1) 800 464 7757 or Fuzion in the UK, telephone (01932) 882222.*

## Starlite International

The success of Starlite Systems Technology's Stardraw 2D CAD package for lighting designers has now spread overseas, with the launch of international versions in German, French and Italian, which are available from Starlite's latest overseas distributors - Theatre Service Nord in Germany, ESL in France and Link in Italy.

The latest version of Starlite's Stardraw 2D comes with many useful features, notably compatibility with external databases including Hire Track and ShuttleCAD 4, drag and drop for symbols, drawings and OLE 2.0 objects from other applications, instant start-up, fast and easy reporting, multiple Undos and Redos, dockable and sizeable toolbars and support for thousands of symbols.

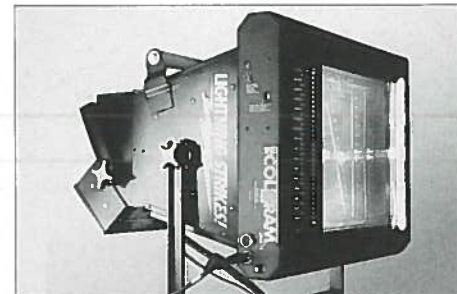
For further details contact Starlite in London, telephone 0171-511 4400.

## 3D Scenery

*Ultra-violet visual effects specialists UV/FX Scenic Productions of Los Angeles are launching 3D Scenery. As a result, it is now possible to make stock or custom-designed scenery glow under UV (Black Light) illumination and with the introduction of 3D glasses, create a look that includes complete depth perception and colour separation.*

*For details contact UV/FX Scenic Productions in California, telephone (1) 310 392-6817.*

## Lightning Strikes



Cirro Lite now stock the new 40,000W Lighting Strikes with optional colour changer. This new unit has been fitted with a customised Wybron colour changer using several heat reflective layers of glass to protect the gel. The performance of the light has also been enhanced by a more efficient reflector. For more information, contact Cirro-Lite in London, telephone 0181-964 1232.

## Renkus-Heinz SR

**Renkus-Heinz has introduced the SR6 and SR7 three-way loudspeaker systems. At the heart of the models is the new CDT-1 CoEntrant Driver, providing the output of an 8" mid range and a 1" high frequency driver in a single device. Mounted to a 2" Complex Conic horn, the result is true point source performance from 500 Hz to 17 kHz with a program power handling of 350W.**

**For information contact Renkus Heinz in Irvine, USA, telephone +(714) 250 0166.**



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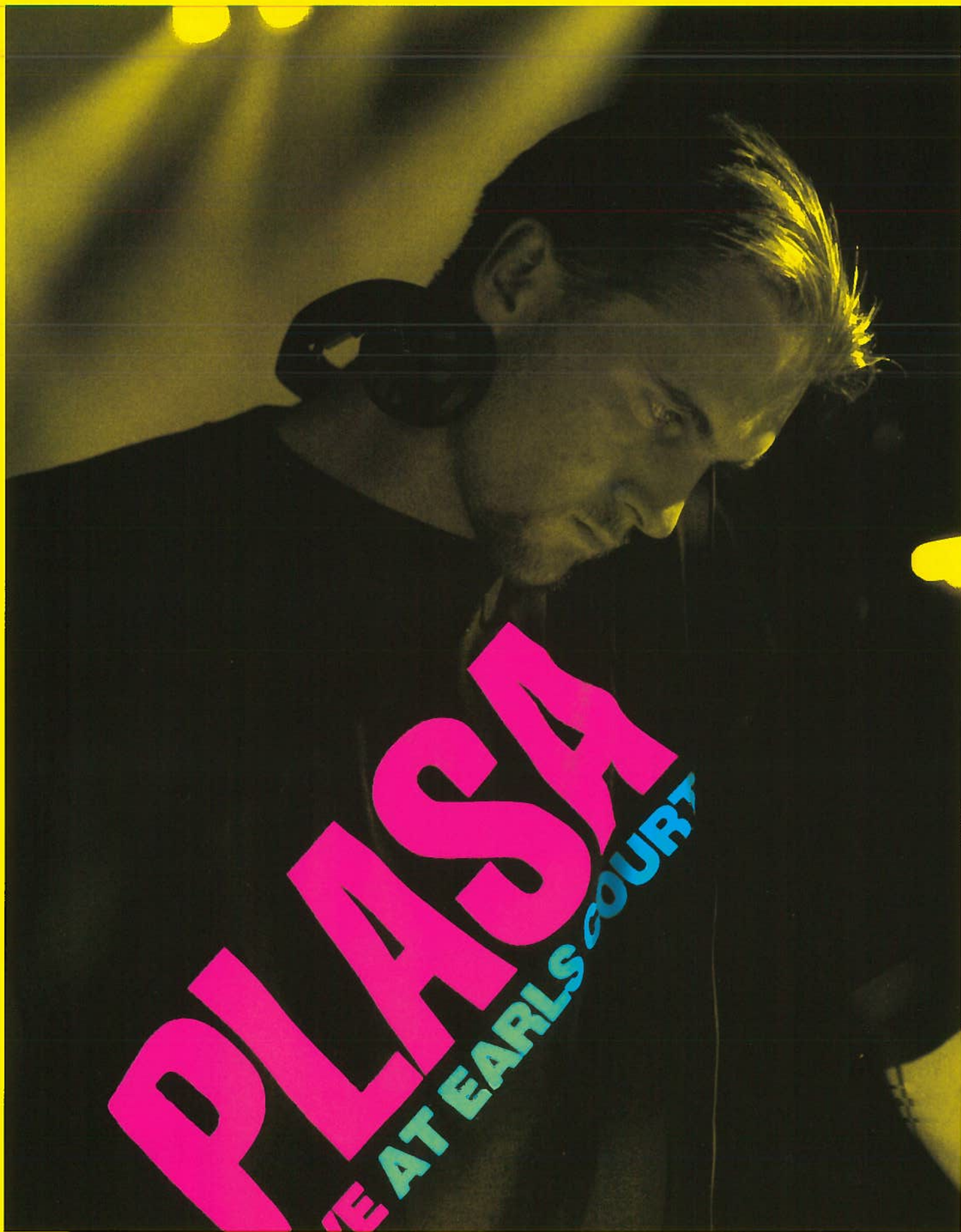
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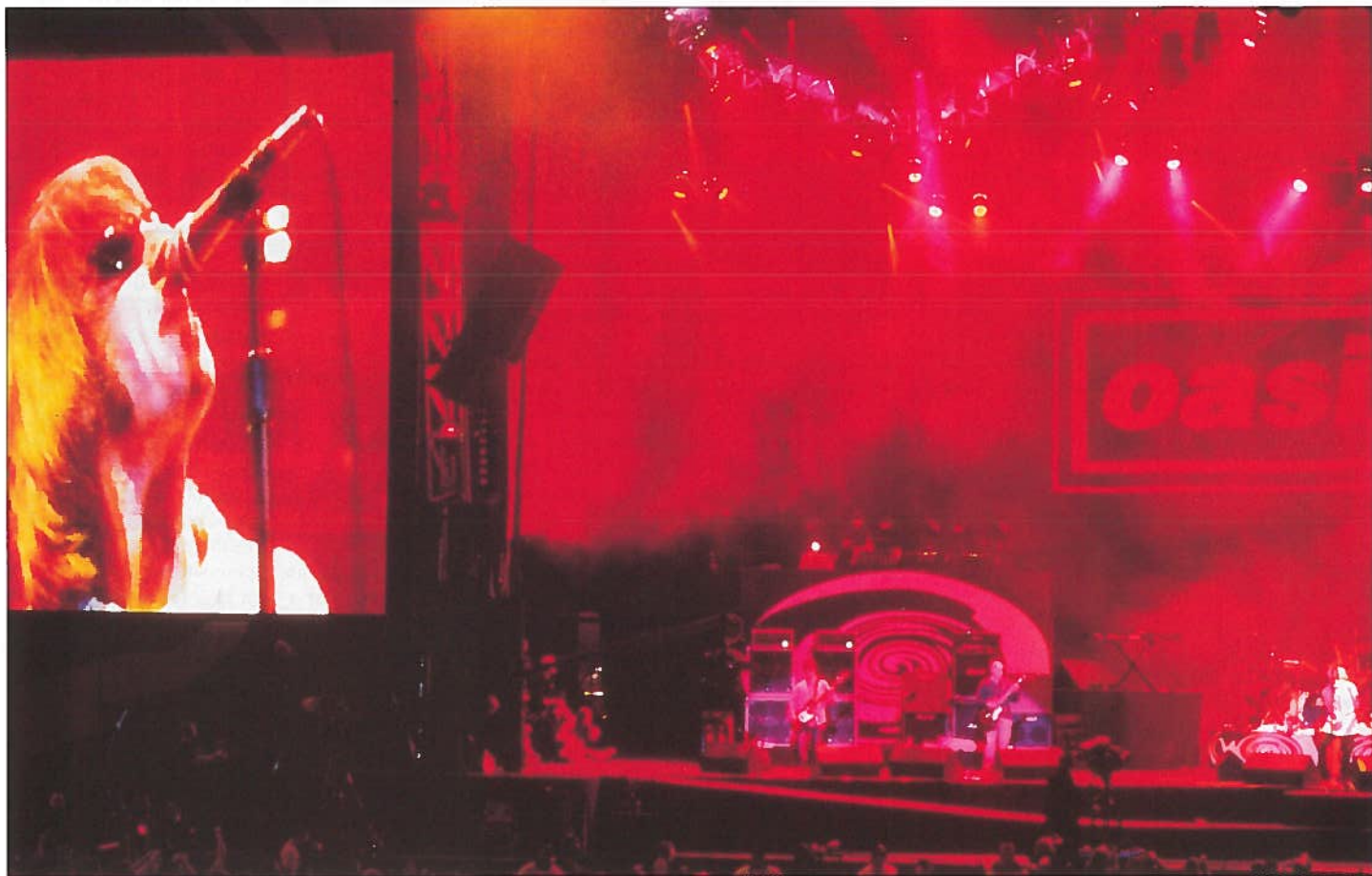
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# THE BIG PICTURE

*Screenco has played a key role in revolutionising the art of concert production with the development and increased use of the video screen. Mark Cunningham reports*



If you're planning to attend a major live music or sporting event this summer, the chances are that your view of the action will be greatly enhanced by video screens. And it is even more likely that the supplier of this equipment will be Screenco, the company which has grown over the last 12 years to become the leader in its specialist industry.

Anyone who has been backstage at the hundreds of concerts where Screenco's presence is blindingly obvious will instantly recognise the contented grin on the face of David Crump - the man whose infectious enthusiasm and faith in the future of video screen technology has taken the Eastleigh-based company to unprecedented heights. His introduction to the video art came in 1981 whilst employed by a small equipment rental company in Covent Garden. After about 18 months he moved to the UK's largest broadcast television manufacturer, Link Electronics in Andover, where he became involved with its specialist division's rental of large screen systems for conferences and music events.

At the time, Link was the only UK company using the General Electric and Eldophor-manufactured projectors, and had little competition around the world. As well as being the rental outlet, Link was also the distributor and it established a substantial market for the GE Talaria projector - the industry standard for large screen displays operated by the likes of Samuelsons, SPS and Creative Technology.



**Top: Oasis on screen at Knebworth in 1996. Above: Arsenal FC provided the breakthrough for the Screenco/Sony relationship.**

Crump was only at Link for two years before being headhunted by Richard Murray, now the chairman of Avesco plc, and Steve Lakin, who was then the chairman of Viewplan plc and is now chairman of the Gearhouse group, to run their new joint venture, Fineplane Ltd, which had purchased the prototype Starvision screen manufactured by Chelmsford's EEV (English Electric Valve Company).

## VISIONARY

Crump joined Fineplane on June 14th, 1985 and Screenco as we know it today evolved

following the outright purchase of Fineplane by Avesco and the doomed Trilion Group's acquisition of Viewplan. Screenco was initially based at Avesco's headquarters in Chessington and it soon found itself working alongside Creative Technology, Dimension Audio and Fountain Television as its parent company expanded its portfolio.

During the first few years of 1985-88, the company developed rapidly but suffered its first catastrophe when the Kreon screen in which it also invested proved

to be a disaster. "It was quickly scrapped and superseded by videowalls and projection walls which were operated by numerous companies," explained Crump. "Meanwhile, Starvision went from strength to strength and established itself as the definitive daylight video screen, appearing at major events around Europe and throughout the rest of the world as it replaced the Mitsubishi Diamond Vision screen which had opened the market in the early 1980s on tours by Bruce Springsteen, David Bowie and Bob Dylan."

With the need for additional space, the

company (which actually began trading under the Screenco banner in 1989) relocated to a new warehouse facility in Eastleigh, Hampshire, and whilst Crump was originally reluctant to move away from outer London, its offices were based in Alton, near Basingstoke. By 1993, however, Screenco finally took the plunge and moved its entire management and administration team to the Eastleigh base where it increased its square footage.

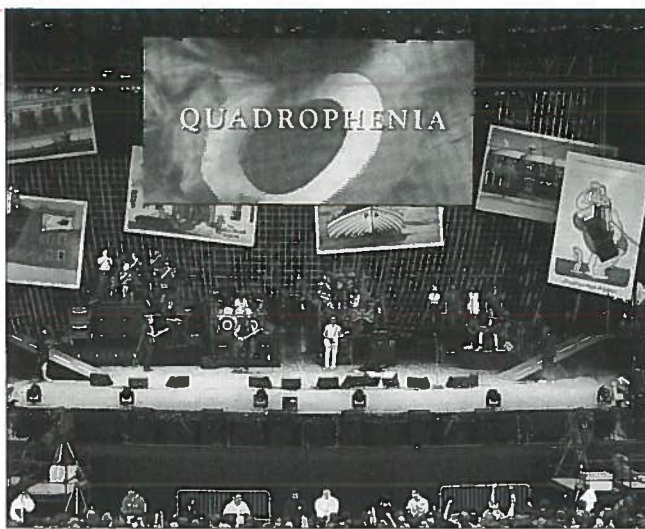
Compared with today's standards, the screen technology of the mid-1980s now appears rather primitive. The products were low in brightness, had low resolution and the screens were generally packaged in giant, hydraulically-operated mobile frames which, although were quickly deployed, were limited in their applications. At the landmark Live Aid and Nelson Mandela benefit concerts, 20 ton-plus video screens had to be craned into position at either side of the stage. Nevertheless, the people who controlled the budgets were quick to acknowledge the increase in performance power over and above the projection method.

Although Screenco was not involved in the Live Aid concert at Wembley Stadium, it did contribute to the cause in other ways. "At the time, we only had one Starvision screen and were completely unknown in the music business," Crump recalls. "Surprisingly though, we became inundated with phone calls from people wanting to hold a parallel Live Aid event elsewhere in the UK. It was a real dilemma because we wanted to be involved with this and hundreds of people wanted our help, but we only had the one screen. Eventually, I was so taken by what one man was trying to do in the Pennines that I agreed not only to let him use the screen, but also organised for someone to supply a PA rig.

"Once we really got the business going, artists rapidly accepted that any concerts or indeed any major event where there are crowds in excess of around 20,000 trying to get a glimpse of the action had to have giant replay screens to enable an increasingly demanding audience to be able to enjoy a fulfilling experience. But as time has gone on and technology has progressed, bands and designers have found much more creative applications for screens other than using them for visual amplification."

Whilst artists have regarded screens as a means of allowing them to interact more closely with the audience by effectively giving everyone in the stadium a front row seat, some others have claimed that screens turn the audience's focus away from the actual stage performance. Crump responds: "I have no doubt that to some extent this is true, but in a stadium the screens are just a part of a huge spectacle. I don't think you can top the atmosphere created by 70,000 people cheering when a band comes on stage. The economics of large scale touring dictates that the venues will be inherently less intimate than places like the Royal Albert Hall, and so anyone hoping to get so close to the artists that they can almost touch them should not buy a ticket for a stadium show."

By the close of the 1980s, Screenco had established a trading division in Australia and New Zealand to overcome quiet periods during the European winter. "We've built a thriving business there over the last seven years, initially



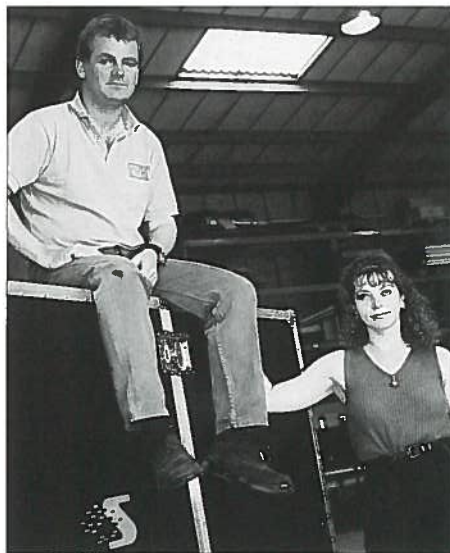
**The Who perform Quadrophenia on the big screen for the Prince's Trust Concert at London's Hyde Park, 1996.**

through an agent, but through a joint enterprise we now have a company called Screenco Pty based in Sydney, in which we have a 50% stake.

"For some time, they were primarily running Starvisions, but this year has seen the introduction of JumboTrons in that territory. The screens there are rarely used for music events. There aren't that many big outdoor shows and the ones that do exist have tended to use projection screens because it gets dark relatively early and the curfews are later."

The supply of equipment to Calgary for the Winter Olympics subsequently led to the opening of the North American operation in San Francisco in 1988. Such activity contributed to an impressive growth period which was capped by a phenomenally successful 1990 season as the supplier to the Rolling Stones' Steel Wheels and Urban Jungle tours, Tina Turner's Private Dancer tour, many European Grand Prix and a whole clutch of horse racing, athletics and corporate mass communication events.

But as we all know, the recession was just around the corner and along with numerous service companies in the leisure market, Screenco took a severe beating. Probably more than most, as the crisis coincided with most of the businesses within the Avesco group being adversely affected by a reduction in capital expenditure by broadcasters, and production and leisure expenditure by the general public.



**David Crump and Anita Page at the company's Eastleigh headquarters.**

Needless to say, Screenco defied the odds and made an heroic comeback, but for some time the future looked extremely bleak.

## THE JUMBOTRON

With good reason, Crump prefers not to remember the lean years of 1991 and 1992, and most probably neither do the people at EEV who were unable to fund further development of their Starvision product. Detecting a prime opportunity, the Japanese took up the baton of technology and both Sony and Mitsubishi introduced highly refined and improved performance versions of products originally designed

and crafted in the UK and Europe.

When Sony's JumboTron first entered the marketplace in 1993, the recent economic problems initially prevented Avesco from investing in this new technology for Screenco, and the two major touring artists of the year, Genesis and Michael Jackson, resorted to buying their own JTS80 systems.

Such decisions only served to demonstrate the need for a high quality modular solution. Without an alternative option, Screenco struggled on with its Starvisions which by that point were losing their dominance in the market and many opportunities were falling by the wayside.

The turning point came in late 1993, when Screenco entered into a joint venture with Arsenal Football Club to purchase two modular JumboTron JTS80 screens and operate them on a revenue-sharing basis to maximise utilisation. "Arsenal wanted to install the screens at Highbury, but they could not justify the expense of buying them outright. Through long negotiations, it was acknowledged that both parties would reap significant benefits by sharing the cost and we agreed to give Arsenal a percentage of revenue against a guarantee. We designed with Arsenal's architects the housing of the screens installed in the stadium, and although they look like permanent fixtures, they come in and out for external rental during downtime, of which there is much during the summer.

"The deal enabled us to relaunch ourselves, and also demonstrate to Avesco and our shareholders the potential in the new technology and modular screen development. It was clear to them that we could make it all work and get the healthy return that had eluded us for so long. Since the end of 1994, having enjoyed our first full season with the JumboTrons, we have worked on our own designs of modules, refining the earlier products that were built for Genesis and Michael Jackson. Having proven to Avesco the potential in the business, they saw fit to invest enormous sums in modular JumboTron systems which are now an essential part of virtually every stadium concert, major sporting event and large gathering where it is difficult for people to gain a close-up view of the action."

The JTS80 was quickly superseded by the JTS35, purchased by Screenco in May 1995, which offered considerably enhanced



brightness, reliability and much simpler controls and software configurations. But even these improvements were developed further with Sony's introduction in 1996 of the JTS17 screen which boasts a 400% increase in resolution whilst maintaining compatibility of control and mechanical configurations. In the world of live music, this system made its first appearances last year with M People and on Tina Turner's Wildest Dreams tour, while at February's Brit Awards, Screenco assembled its largest JTS17 to date, measuring 11.2 x 6.5m and weighing 14 tonnes.

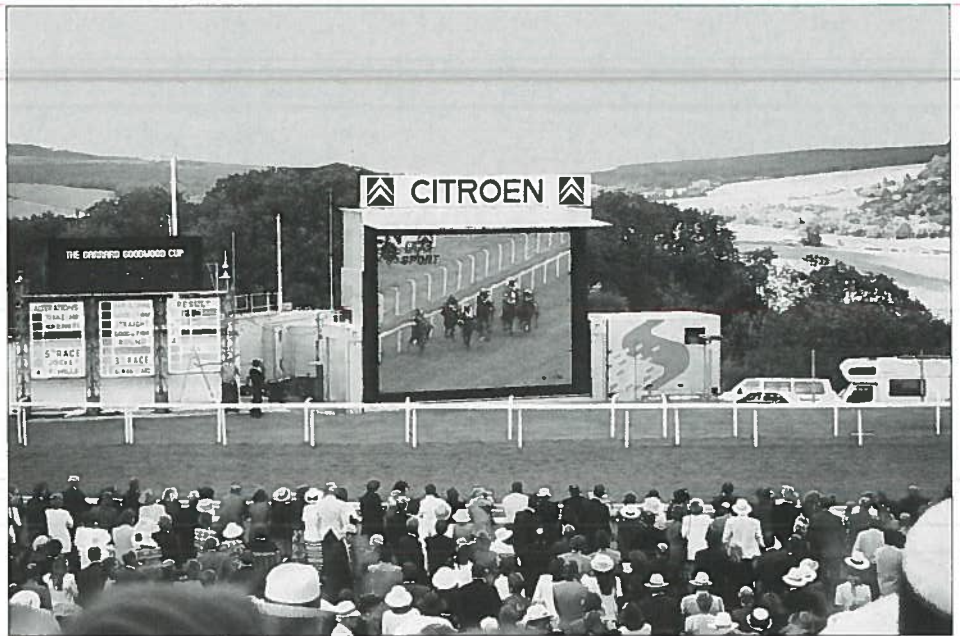
"The volume of equipment that we are now operating and producing has led us to establish our own manufacturing divisions, and whilst much of manufacturing is sub-contracted, we have retained design consultants, structural engineers and all of the other essential expertise to take a simple Japanese sub-assembly and transform it into a flexible touring package.

"Through our associated companies in the Avesco group, such as Creative Technology, the service we provide has been extended to include not only the basic video screens but also cameras, production and graphics as part of a whole range of ancillary services. As wide screen aspect ratios become more commonplace we are witnessing more regular use of digital video units to manipulate pictures and add digital effects to further enhance the audience's enjoyment."

Its unswaying commitment to furthering the video cause has propelled Screenco to the forefront of the major events industry. Casting an eye over a list of the leading events of the past two years, the extent of Screenco's penetration quickly becomes apparent. Whether it be the VE Day and VJ Day celebrations, tours by Michael Jackson, Oasis, Tina Turner, Bon Jovi and Rod Stewart (the first UK stadium show in the round, with four screens), motor racing championships, Wimbledon, football matches, trade union rallies, fashion shows or papal masses, Screenco's presence now seems to be diversifying at an incredible level.

"The success rate has been phenomenal," says Crump. "We have been able to fly these screens around and get them into places that people had been unable to get into before. It is a little known fact that live music only represents around 30% of our activity and like large scale concerts, sports promoters cannot stage a vast proportion of events anymore without screens.

"Whereas we used to run one screen at a



Screenco add their weight to another sporting event - Goodwood racecourse, 1996.

Silverstone Grand Prix it is not uncommon for up to 10 screens to operate at the same event these days. We have also recently increased our business in cricket venues. It started when Citroen UK sponsored a screen that went to a number of events throughout the country and also had a screen installed at the Oval. But if you can crack Lords then you are in with everybody because it's the jewel in the cricketing world's crown. We managed to get into Lords for the first time in 1995, again sponsored by Citroen, and we finally managed to get the MCC to accept this new-fangled technology. As a result of that we were commissioned for all the test matches in 1996 and also the Benson & Hedges and Nat West Trophy finals.

"By 1996, we were confident that Screenco had a very healthy future ahead of it and we needed to buy some more equipment, but the capital cost was so astronomical that it all hinged on getting the best possible deal from Sony. The way forward was to buy a large quantity, so we made a commitment in early '96 to invest £7 million in JumboTron equipment. The original intention was that the delivery would be staggered over 1996-97, but ever since making that commitment, we were constantly ringing Sony to bring forward deliveries because of our workload. We've gained a lot of support from Sony and now feel better placed to satisfy market demand."

### THROUGH THE CRYSTAL PIXEL

The next phase in the short history of the video screen in live rock and roll is set to feature LED technology and whilst the initial systems offer little in terms of performance, the various R&D experts are sure to be working hard at eventually delivering extremely high quality products which may lead to shows of greater sophistication. Certainly Crump has been eating up the air miles of late, investigating the potential of this new technology, and he expects Screenco to incorporate LED screens in its portfolio sometime in 1998.

Crump believes that these advances will ultimately encourage a closer interaction between the screens and the stage itself. "In the future, I think we will see video screens playing an important part in stage and event design. In the last few years we have gone from being an ancillary service which is tacked on to a show, to becoming a major part of the production. I believe giant screens will be used more and more by stage and lighting designers, and the artists themselves, to create a totally interactive visual experience. It's already beginning to happen.

"We may have seen our technology improve beyond our wildest expectations, but above all I hope that we will continue to see audiences packing stadiums to see their favourite artists because without them everything that we do will seem a little pointless."

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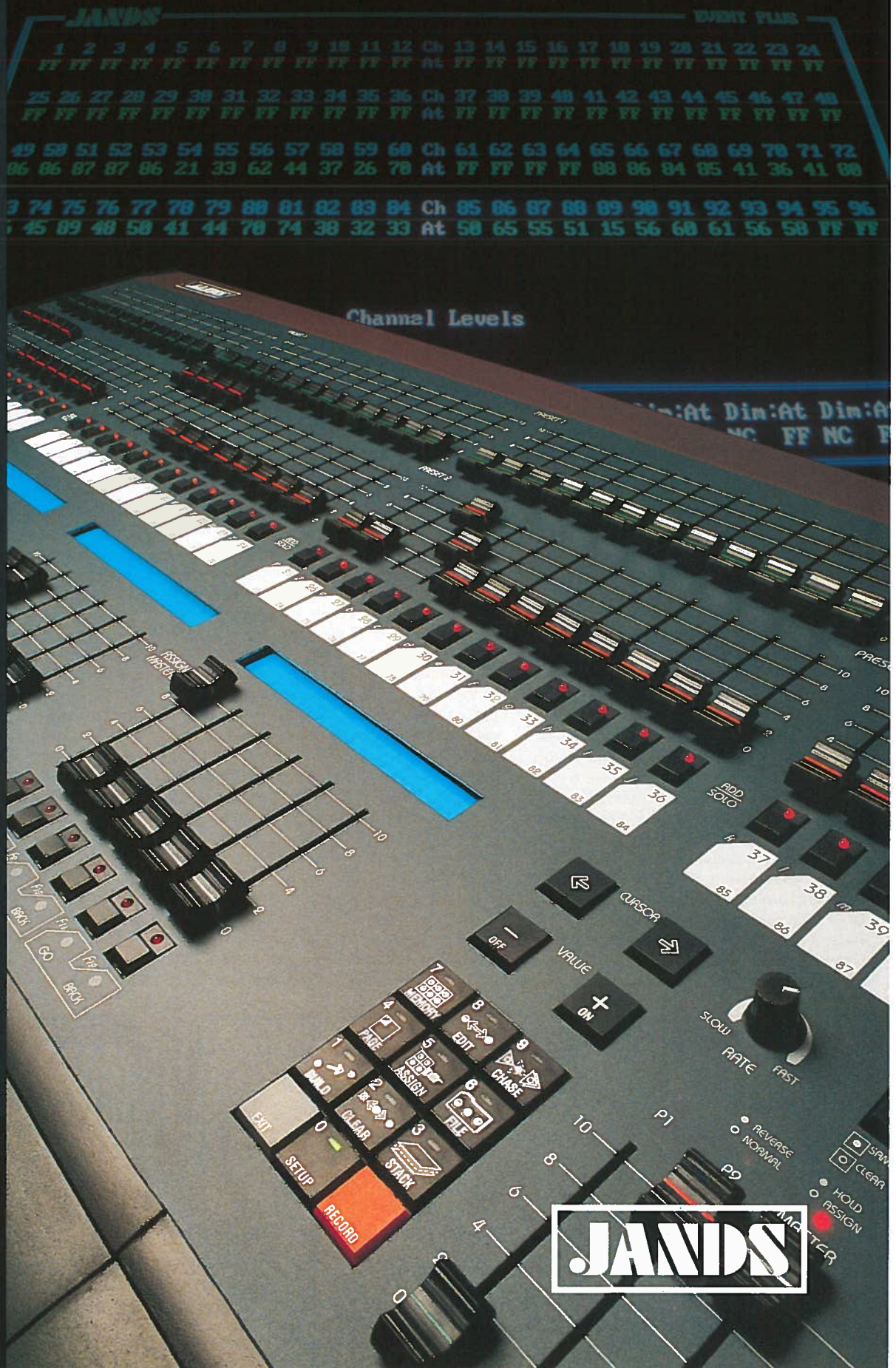
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# JANIDS

# Second Take . . . *John Watt's view from beside the camera*

Anyone for tennis? Well yes, me actually, since Wimbledon is upon us once again as I write and I have been invited to light a small studio for an American Network. As some of you will know, the media circus which assembles at Wimbledon each year has grown and grown. It was always a great place to stumble on old friends as you wandered through the maze of scanners and generators jammed together amongst portacabins and links towers assembled with gay abandon in a higgledy piggledy mess, but not anymore.

Wimbledon are now attempting to bring order out of chaos and have built a pretty substantial Media Centre where broadcasters can lease space, with a studio, control rooms, offices, power and cable ways all provided, loading bays for trucks, unfiddable security (there's a challenge) and a canteen. The BBC occupy the biggest 'quarters' and seem to have influenced the design of the rest. I won't be forgiven for daring to suggest that Auntie doesn't always know best, even if much of what's on offer is a big improvement on what went before. The studios, which are basic four-wallers with a pipe grid and minimal power, feature large plate-glass windows which overlook minor courts. So close is the play to the glass that the authorities have insisted on .6ND (neutral density filter) as a permanent feature to avoid distracting the players. On a gloomy day it will probably prevent the viewer being distracted by the players too as they will be near invisible in the apparent murk.

However, it's not all bad news, as when rain threatens, as it certainly has so far, a huge tarpaulin cover is hauled over the court and then inflated. As the air is pumped in, a swell and even waves develop, providing a credible sea effect until, after five minutes or so, the pressure is sufficient to create a dome which deflects the rain from the sacred turf and almost completely obliterates the view whilst bouncing about 90% of the light that falls on its pale green surface, casting a bilious backlight over cast and set alike. Auntie decided vertical glass was best so we're all stuck with it. I'm not so sure. All I know at the moment is I can see reflections of my fill long before it's low enough for my 'talent' to feel wrinkle-free. Yes, try telling Billy Jean King and Martina Navratilova that they can't have an eye light.

My usual ploy of fixing reflections in shop windows by getting the designer to stick up a poster in the appropriate spot saying 'Sale ends Friday, everything must go' may not go down well with the Strawberry brigade. Air conditioning is provided and, thank goodness, rumbles

away like a good 'un, which makes the hum from my dimmers and chokes pale into insignificance. The designer has presented me with what feels like half an acre of BP material to backlight (it features a London skyline) for our evening round-ups and it has the translucency of good quality lino. At the time of writing, 30kW of groundrow and cyc lights are proving about equal to the task, but I am fresh out of power. The good news is that upstage of the backing we can warm through enough oven-ready meals for the entire crew if the weather turns cold. So watch this space for further details of the hitherto unknown sporting life of yours truly.

Meanwhile, the trusty Citroen whisks me back to Maidstone for one of my regular gigs. This is old-fashioned TV, a studio with a proper grid (well not monopoles, but you can't have everything), a professional crew who know what they are doing and a production team who care about production values, plus a presenter who stands on his marks and doesn't wear black

*"My usual ploy of fixing reflections in shop windows by getting the designer to stick up a poster saying 'Sale ends Friday, everything must go' may not go down well with the Strawberry brigade."*

or white. I think I just defined Utopia and, please note, no snide remarks. Pretty remarkable that, given young Simon Jago has designed a completely circular set with no visible means of escape. Cameras poke in at all points of the compass and so my well-honed technique of lighting it like a boxing ring (learnt at my mother's knee, or in some other low joint, tee hee) is brought into play.

Question: how do you key it nicely without that terrible pair of crossed shadows under the chin (so much the signature of the newer fellows) when you are driven to use four lights 90 degrees apart? The only way I know is much cunning 'riding' to let one lamp or another dominate as the action demands with the essential 'kit' being a good console op' who never sleeps - Messrs Hogg, Rose or Place would do (sounds like a firm of solicitors, although the thought of any of this bunch appearing in court as my defence seems unlikely). I may as well give them a deserved credit as Channel 5 won't. This scenario assumes there is no proper fill as two wide high cameras 180 degrees apart drive the whole rig skywards to the point where I am getting

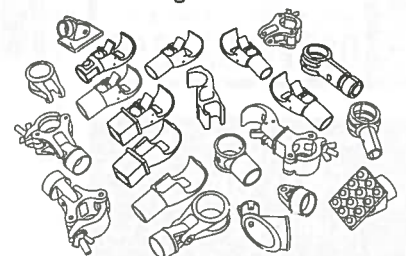
complaints from the RSPB for disturbing protected birds' nests.

One of the best aspects of the fragmentation of the TV industry is the endless opportunities it provides for bumping into old friends as we all criss-cross the country chasing work. Only recently, at Central Studios in Nottingham as I waited for the traditional bacon butty at breakfast time, I discovered the reason for the hold-up was John Pomphrey trying to lift an overloaded plate of hash browns and eggs. Two minutes later Mark Kenyon showed from the big city, just ahead of a truck-load of moving lights. If we three can't finally blow up that suspect substation then it won't be for the want of trying. In fact, we were considering forming an exclusive club for those that qualify, the Blow Out Main Breaker club or BOMB for short.

In spite of laudable New Labour efforts to persuade us to use public transport, New TV Labour can only function with the aid of a fast car. I shared a London control room last week with two vision guys, one from Mid Wales and one from Ipswich. I suppose Maggie thought all this through as she handed over a diverse and creative mix of TV companies to a few conglomerates run by, and for, accountants. This week sees yet another death - Yorkshire TV becomes part of Granada - will it result in larger budgets, more ambitious productions and minority interests being catered for? I doubt it. I shouldn't knock Granada - they do produce *Stars in their Eyes*, the nearest thing to light entertainment on TV, lit beautifully by one of a dying breed, staff man Tom Bardsey whose lighting budget might have been worse spent on three series for Channel 5.

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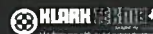
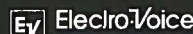
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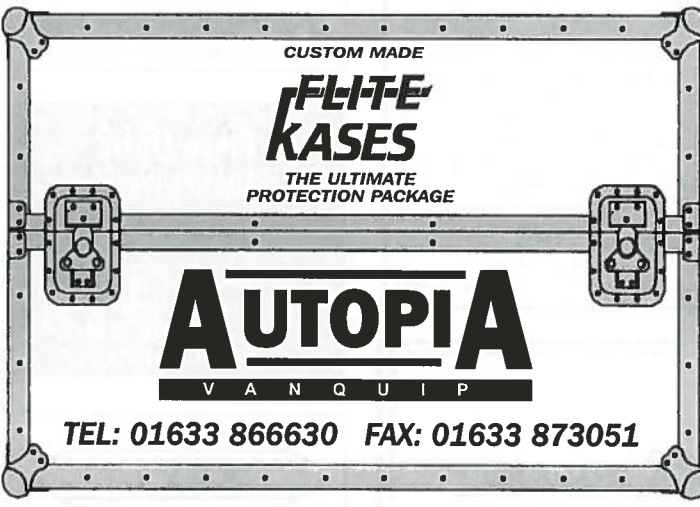
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## L+SI talks to lighting designer John Sinden

For lighting designer John Sinden life began in Durban, Natal Province on March 1st 1954, the son of a New Zealand couple. In 1961, by which time the family had also lived for spells in the USA and Canada, his father had attained a position as a copy writer with Reuters in London, and the family moved to Britain.

Sinden stayed at the Bancroft School in Epping for the duration of his secondary education. As the sixties drew to a close and the hippie era with it, he, like so many of his fellow teenagers, was at a loss for direction and, in the vernacular of the time, bummed around for a couple of years. Unskilled jobs were plentiful and easy to come by, so life was easy if a little unrewarding so at the age of 18 he took his first steps into the realms of the performing arts.

"I went to the London School of Contemporary Dance, just behind Woburn Place. I went to study ballet. I was long legged and slim, which seemed appropriate, but I had no sense of rhythm. I knew I wanted to be in the theatre and this was a start, but the theatre appeared to be a closed shop."

Luckily, the Roundhouse, a converted railway engine shed in the Chalk Farm district of London, was just emerging as a trendy new venue, known for its risqué stage productions, playing host to a variety of fringe theatre.

"They were desperate for people to work there. The money was rubbish of course, but it was fun. I got to do a bit of everything - usher, carpenter, lighting and sound. It was theatre shows during the week and rock at the weekends. It was also where I met Paul Turner and got my first big break."

Paul Turner was the founder of Zenith Lights, one of the dozen or so fledgling lighting companies that had sprung up in the early seventies. At the time, rock and roll touring was just starting to take itself seriously - it was no longer acceptable for a band just to turn up on stage and play under whatever lights the venue had - atmosphere was demanded.

Ironically, since those early days, Zenith has been swallowed up first by The Samuelson Group and subsequently by Theatre Projects, part of Vari-Lite Europe. Ironic because now 25 years later and after a fairly circuitous route, it is through Theatre Projects that Sinden does the lion's share of his work.

His first break was with Bad Company touring the UK and Europe throughout late '73 and early '74. Working as part of a four-man crew, he learnt the basics of the roadie's trade:

spend all day fixing lights which would break each night in the truck between gigs, be rude and arrogant to everyone, and learn to survive on four hours sleep per night on the cold and draughty floor of a minibus. "God it was fun," he says.

By 1976 Sinden had learned enough to become a lighting designer in his own right and worked for both T Rex and a band who at the time broke new ground by marrying rock music with the mores of theatre: Stomu Yamashta and the Red Buddha Theatre.

"Poor Marc Bolan (T Rex) wrapped himself around a tree after I'd done just one tour with them, but Stomu was around long enough for me to learn a lot about presentation - using darkness, just uplighting, that sort of approach to create strong dramatic effects. Until then all I'd seen and done was based on chorus, verse, chorus, verse, bump and flash. It was quite an



successful years, John became discouraged and decided a change was in order. He shifted his allegiance from Zenith to a New York-based lighting company, See Factor. Although the shift initially meant returning to being just a lighting technician, rather than designer, it did give him access to a much wider range of artists and some of the latest technology.

"I worked with Neil Diamond, Richie Blackmore's Rainbow, Simon and Garfunkel, ELO - all sorts. I also got to work with Billy

Joel whose lighting designer Steve Cohen did the most wonderful shows with the simplest of control boards."

It was the control systems that were to prove a spring-board for Sinden's relaunch into designing. In the early eighties, the Vari\*Lite hit the stage - at the time a ground-breaking concept in lighting. An automated lamp that could re-position, change colour and produce a whole range of special effects, all remotely controlled.

As the Vari-Lite established itself in the UK and Europe, Sinden became one of the first freelance operator and programmers for the new system. Starting with Dire Straits in 1985, he has worked through to become one of the most respected and workman-like automated lighting designers in the business.

These days, he doesn't find himself touring as much as he used to. Working with companies like Theatre Projects gives him access to a large and varied range of lighting jobs, not just rock and roll. Today he finds himself in demand from the latest genre of bands like M People, or running the show for Classical Spectacular, but he is equally at home with a high-profile car launch.

There is much debate in the lighting industry at the moment about new technology and its use. Manufacturers are falling over one another to produce new gadgets; they might do worse than to consult a designer like John Sinden. He claims only to have one item on his wish list for the future, but it is a big one.

"As an operator I'd like to see all the control system builders get together and standardise. Even simple obvious things like Dipless Cross Fade are only available on some desks. Not having it just doesn't make sense." Those who believe it is technology that pushes along development would do well to listen to the likes of John Sinden.

***"As an operator I'd like to see all the control system builders get together and standardise. Even simple obvious things like Dipless Cross Fade are only available on some desks."***

experience working for Stomu. Apart from myself, all the road crew were Japanese and Buddhist, so I learned a great deal about alien culture, how to tolerate and gain from it."

Just as Sinden settled into his new role, producing subtle and emotive lighting, the whole industry was swamped by the onslaught of punk: "I became the Jam's lighting designer. Like many of their contemporaries they had strong ideas.

"They were very anti anything that reeked of what had gone before. They wanted only to be lit in white, no colour, just harsh white light. Some of what I'd learnt with the Red Buddha Theatre paid off with the Jam - I was able to play with shadows and diffusion to give some dimension to their shows."

When the Jam split around 1980, after three

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