

Lighting & Sound INTERNATIONAL

September 1999

The Entertainment Technology Monthly

Island Life

- Universal Studios Islands of Adventure, Orlando

Small is Beautiful

- Barrage and James Taylor

Audio Analysis

- live sound mixing consoles under review

Opel Live

- Opel's themed environment in Germany

Scanning the Laser Market

- UK laser companies

AJS in Profile

- 25 years in the business

@ Home in Sydney

- Big Beat's venture Down Under

Bravo Brunei

- South East Asia Games

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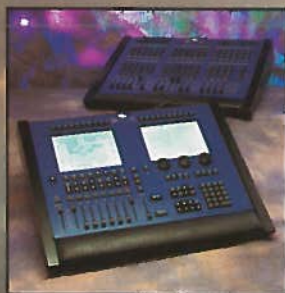
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124 MANOR WINDOW

*Moonlight patterns the flagstones
of the Great Hall.*

Dusk falls softly through the aged panes.

130 HALLWAY WINDOW 1



Hot mediterranean sun

dapples the cool tiled floor.

125 VENETIAN ARCH

*A pool of early morning light
breaks through the gloom of the attic.*

128 ROUND WINDOW



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EDITOR Ruth Rossington - ruth@plasa.org
DEPUTY EDITOR Lee Baldock - lee@plasa.org
ASSOCIATE EDITOR Tony Gottelier
ADVERTISEMENT MANAGER Barry Howse - barry@plasa.org
PRODUCTION MANAGER Nicola Evenden - nicola@plasa.org
SUBSCRIPTIONS Sheila Bartholomew - sheila@plasa.org
ADVERTISING CO-ORDINATOR Jane Cockburn - jane@plasa.org

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

Published from the PLASA office: 38 St Leonards Road,
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Telephone: +44 (1323) 642639 Fax: +44 (1323) 646905
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Glantre is Placed in Hands of Receivers

Early August brought the shock announcement that Glantre Engineering was placed into Administrative Receivership on August 12th.

Many will want to know how a company of Glantre's stature, which appeared to be successful in its field, could arrive at a situation where receivership became necessary. Unfortunately, the answer would appear to be all too simple - bad debts and, in Glantre's case, substantial ones.

The company has cited two key factors, the first, the refusal of the company's export credit insurers to pay out on a substantial claim on a contract with the Amedeo Corporation of Brunei. Glantre had worked with Amedeo on two contracts - the design, supply and installation of stage machinery for the theatre attached to the Jerudong Park Hotel, and the design, supply and installation of a theatre lift in the Darul Hana Memorial Museum - together worth in the region of £1.5million. Only part of the payment was made before Amedeo was itself placed in Administration. The company has subsequently been liquidated with reported debts of US\$6.25 billion. Although Glantre has carried export insurance for over 20 years, the insurers rejected the claim on the grounds of technicalities arising from mistakes in Glantre's documentation, despite the relevant premiums having been correctly paid.

The second reason given by the company was the delay of a major Italian shipyard in making payments in respect of work completed by Glantre

on several cruise ships. In Italy, the legal process for debt recovery can take several years, and the chance of some eventual recoveries through credit insurance payments, is possible, but by no means a certainty.

Glantre's directors are co-operating with the receiver in introducing entertainment contracting companies to submit offers to complete contracts in progress and to take over the necessary staff members to achieve this.

Amongst these is a £715,000 contract to supply and install audio-visual, lighting and associated mechanical systems for the new Convention Centre in Newport, South Wales, plus a role as a key contractor for Royal Caribbean's Voyager of the Seas. There is hope that some recovery can be made for Glantre's creditors, but as receivership often involves significant discounting of debtors and asset sales, as well as the payment of large fees, there seems little chance that these will amount to anything substantial.

The ripples of Glantre's demise will be felt throughout the industry and the immediate concern is whether others will go down as a consequence. From our conversations with several creditors it would appear that most can

"Glantre's directors are co-operating with the receiver in introducing companies to submit offers to complete contracts in progress and to take over the necessary staff to achieve this."

weather the loss, although not without some serious belt-tightening.

The joint managing director of Glantre Engineering, Derek Gilbert, told L&SI: "Where possible, we are doing everything feasible to minimise the inevitable disruption that this will cause to our customers by finding companies which will take over the contracts in progress. I am well aware of the domino effect which may result from this and on behalf of all the directors of Glantre I would like to say how bitterly disappointed we are at having to take this course of action."

Glantre was formed in 1974 and steadily earned a reputation for offering a wide range of multi-disciplinary skills to many market sectors. Its client list included major international performing arts centres, as well as some of the world's leading cruise operators and shipyards. Glantre was one of the few companies to be given the Queen's Award for Export Achievement twice. Over 85% of the company's work was carried out overseas, with projects spanning 33 countries. These embraced some prestigious venues, including the Lisbon Coliseum, Athens Concert Hall, London's Royal Albert Hall, the National Theatre, Oslo, and the Edinburgh Festival Theatre.

The official receivers are Baker Tilly who specialise in this sector having several clients in the entertainment industry.



Micro-Scope 3 by Artistic Licence

Micro-Scope 3 is the most powerful DMX512 tester available. In addition to the features expected in a product of this calibre, Micro-Scope 3 provides a sophisticated lamp personality library which allows all types of moving lamp to be calibrated, tested, focused and patched. Key features include:

Moving Lamp:

Micro-Scope 3 is supplied with over 120 pre-programmed lamp personalities. Simply select the lamp and start address, the lamp immediately goes to home position in open white. A single key press is all that is required to cycle through all of the lamp attribute tests. The off-line editor *Mic-Edit* allows further lamp personalities to be created or downloaded from the Internet. The revised library is then sent to Micro-Scope 3 via the Pc's serial port.

Winner of the ESTA Honourable Mention Award '98

DMX512 Test:

- Display received DMX512 in bargraph, decimal, percentage or binary
- Timing analyser shows invalid data
- Flicker-Finder hunts for flickering channels
- Four separate transmit modes allow testing of any DMX512 equipment
- Fifteen preset memories can be recorded from received DMX512, Mic-Edit or the keypad. Presets are used for both test patterns and lighting console backup
- Double and single ended cable test
- MIDI receive capability
- Rechargeable battery with low warning
- Backlit lcd display

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The Ultimate DMX512 Test Tool

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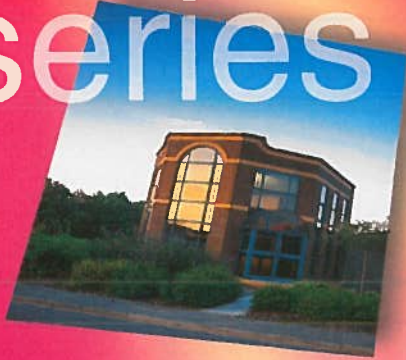


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The 700 Series

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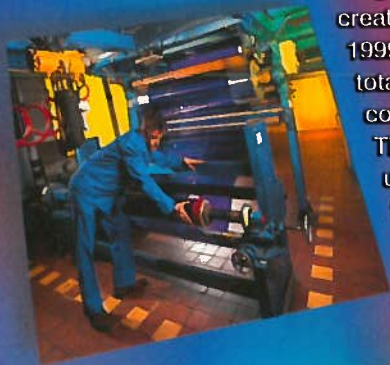
Combine the technical skills of the UK's leading filter manufacturer with the vision of some of the most talented lighting designers and you have the exclusive 700 Series from Lee Filters - now extended with over 20 exciting new colours for 1999.

The 700 Series represents a new approach to lighting design. We have invited a select group of top designers to create a whole new range of colours, never available before. The only limit was their imagination and the challenge for Lee was to turn concept into reality. As the leading manufacturer producing professional lighting filters in the UK, the technical skills of our research and production teams could be harnessed to the creative input of our designers to develop a unique selection for stage, screen and film use.

Each designer was invited to our Andover laboratory to mix and test colours; looking to solve a problem or create a specific mood or effect. The Lee Research and Development team then took those ideas forward into samples for testing and field trials and ultimately into full production.

Following the success of the initial launch, six more top designers have been working to create the new collections for 1999 presented here; bringing the total range to 35 exclusive colours.

The Lee Filters 700 Series - a unique collaboration of art and technology from the lighting professionals.



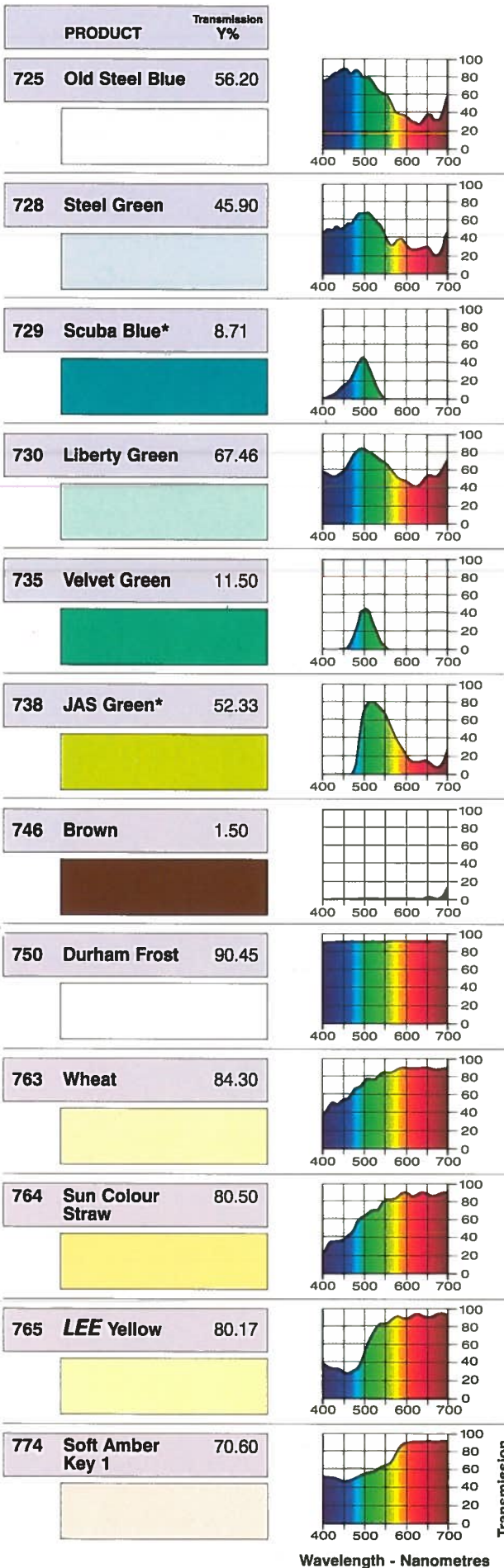
"Sun Colour Straw, a victim of chinese whispers, was actually meant to be called Some Colour Straw"

David Hersey

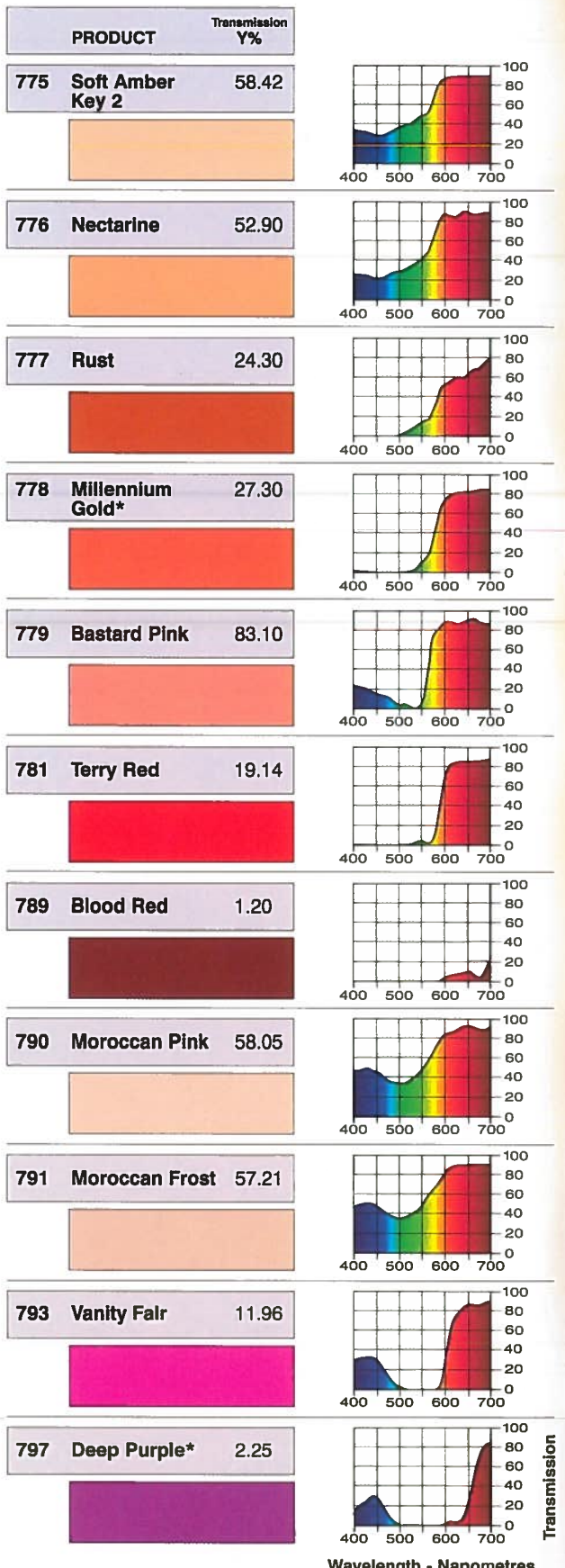
PRODUCT	Transmission Y%	
702 Special Pale Lavender	54.08	
704 Lily	40.00	
705 Lily Frost	38.47	
707 Ultimate Violet*	2.03	
711 Cold Blue	14.40	
713 J. Winter Blue*	1.07	
715 Cabana Blue*	6.76	
716 Mikkel Blue*	3.94	
719 Colour wash Blue	19.30	
720 Durham Daylight Frost	32.29	
721 Berry Blue*	6.46	
724 Ocean Blue	36.20	

"Night blue, blurs the sense of depth of the stage"

Jakob Holst



Wavelength - Nanometres



Wavelength - Nanometres

*Also available in High Temperature (HT) version

"A rich Blue/Green works as a good contrast to the other strong colours without being too green"
Peter Barnes

"I had a fascinating time at the Lee factory. It was great to get my hands dirty - quite literally - with what is, in essence, the most basic element of our world - colour."
Patrick Woodroffe

LEE Filters

Designer Colours - 1999 *The 700 series*

Peter Barnes Collection

707 (+HT)	Ultimate Violet	Used in musical performances for general colour washes and set lighting.
721 (+HT)	Berry Blue	Used in musical performances for a rear colour wash, or set lighting.
729 (+HT)	Scuba Blue	Used in musical performances for a rear colour wash, or set lighting.
797 (+HT)	Deep Purple	Used in musical performances for general colour washes and set lighting.

Rick Fisher Collection

728	Steel Green	Approaching storms. Overcast days. Cold steely light. Malevolent moonlight.
735	Velvet Green	A beautiful background colour. Victorian melodrama. A night time green.

Mark Henderson Collection

711	Cold Blue	A cold/grey/HMI effect from a tungsten source. Will also help blend when using both tungsten and HMI sources.
719	Colour wash Blue	To allow low intensity tungsten to hold a cold/blue feel.
746	Brown	To give a murky, dirty feel to tungsten. A darker, less pink chocolate.
777	Rust	A vivid rust colour effect.
789	Blood Red	For a deep saturated red effect. Used when a strong vivid red effect is required.

David Hersey Collection

724	Ocean Blue	Useful for low levels of light. Dull skys. Moonlight
725	Old Steel Blue	Cool wash. Useful for highlights.
763	Wheat	Adds warmth. Sunlight.
764	Sun Colour Straw	Adds warmth, bright colour.
776	Nectarine	Romantic sunset. Period pieces.
779	Bastard Pink	Deep sunset. Useful on dark skin tones.

Jakob Holst Collection

716 (+HT)	Mikkel Blue	A romantic blue to produce a night effect.
774	Soft Amber Key 1	Used for producing a warm key light.
775	Soft Amber Key 2	Used for producing a warm key light.

Jesper Kongshaug Collection

730	Liberty Green	A good green for creating mystery and suspense.
765	Lee Yellow	Useful for producing a strong sunlight effect.

Andy Liddle Collection

713 (+HT)	J. Winter Blue	A very dark blue with a high UV content. Good when used in high concentrations for a moody and powerful stage colour wash.
738 (+HT)	JAS Green	A rich yellowish green: useful as a concert stage wash where darker skin tones, costume, and set are a consideration.
781	Terry Red	A strong amber red that works well used against deep reds, and dark ambers, in wash combinations, and on cycloramas.

Durham Marengi Collection

702	Special Pale Lavender	A cold lavender when used with full tungsten source, but warms as the source is dimmed. Good as a fill for slow sunset fades.
704	Lily	A cool lavender with little red content. Good for romantic evening exteriors.
705	Lily Frost	Smooths PR or flood washes of large areas. Useful for houselights; a good colour wash for evening events.
720	Durham Daylight Frost	Smooths PAR or flood washes of large areas. Useful for houselights; good for entrances from natural light.
750	Durham Frost	A frost that almost completely softens shutter edges and removes hot spots.
790	Moroccan Pink	A rich natural pink, good for producing late afternoon sun effects.
791	Moroccan Frost	Smooths PAR or flood washes of large areas. Useful for houselights; good for interior colour washes.

Patrick Woodroffe Collection

715 (+HT)	Cabana Blue	A deep blue that still has enough transmission to work encouragingly well on television.
778 (+HT)	Millennium Gold	Useful for lighting architecture: it produces a rich amber when used on a tungsten source, or a much cooler effect when used on a HMI lamp.
793	Vanity Fair	A rich glamorous pink, good for use on special occasions.



If you would like to find out more about the new 700 series of filters contact:

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Obsession II



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PLASA 99 - the Heart and Soul of Light and Sound

With PLASA just days away now, this is a last chance to check what's new on the show floor. In this issue, we've concentrated on those exhibitors that are launching new products, but a full list of all exhibitors appears in the Show Preview mailed with the August issue of L&SI and there are further details on the PLASA website - www.plasa.org

Apologies for the spartan details but with just so much to get in, it's nearly impossible to approach it any other way. There will, however, be a comprehensive review in our October issue.

5 Star Cases - C33/B41 - new improved Eurotruck road trunk. **Abstract AVR Group** - F56 - launching new range of club lighting effects and AVR colour master downlighter system. **AC Lighting Ltd** - G20/G18/H6 - 10 brand new products promised, plus kit from Jands, Spotlight Milano, Cast Lighting, Manfrotto, Diversitronics and Reel EFX. **Adam Hall Ltd** - E32 - new additions to 19" rack accessories, flightcase fittings, plus new Palmer amplifier. **Adastra Electronics Ltd** - K16 - launching CD

mixer/amplifier and composite amplifier/column speakers. **ADB** - G16 - second major upgrade to ISIS software and launch of Minou 2 and Minou 5 metal halide spotlights. **Allen & Heath** - H30 - launching flagship ML5000 sound reinforcement console and first club mixers - the Xone:464 and Xone:62. **Andolite Ltd** - G6 - new Rack Box patching range of 19" modules with cage units, plus new audio and control boxes. **Antari UK** - H52 - Z-300 Fazer fog machine and new foam cannon. **Anytronics Ltd** - G10 - launch of 192 and 194 D610 dimming packs, together with new versions of Prodim single-channel dimming packs. **APS** - G4 - upgrades to existing Windows-based RMS system - new features include visual plan-boards and multi-warehousing Inventory tracking. **Arbiter Pro Audio** - G30 - new wireless microphone systems from AKG, plus new Control contractor speakers and SRX speakers from JBL. **Artistic Licence** - G24 - launching Colour-Fill digital luminaire and No-Worries TC DMX512 recorder/player with timecode capability. **ARX** - H36 - SPL 10 integrated powered loudspeaker and the D1 PLUS 2

stereo direct box. **Audio Design Services Ltd** - J32 - launch of new Aerobic units and Lingualink systems. **Audio Technica Ltd** - H16 - launching three microphones - the AT4047/SV studio condenser mic, the AT849 stereo boundary mic and the PRO45W suspension mic. **Autograph Sales** - B4 - two new speakers from Meyer, loudspeaker rigging hardware from ATM Fly-Ware and new products from Clear-Com and Lab Gruppen. **Avollites** - C4 - two additions to its range - the ART 2000 range of dimmers and the Azure Shadow console.

Baldwin Boxall Communications Ltd - K10 - revised Adept 2000 and updated versions of Mitre, Maxim and Europam amps. **Batalpha Bobach** - R24 - new Q-book easy-to-operate control system and Modular motion control system. **BBM Electronics** - D14 - debut of S400F low cost, fixed frequency UHF radio microphone system. **Behringer** - H38 - new studio monitor - Truth B2031. **beyerdynamic** - E40 - launch of SHM88 micro-shotgun microphone, XTA's DP224 loudspeaker processor and ASL's new

cue light system. **Black Box** - AV7 - debuting the Eclipse range of amplifiers, plus Envoy range of messaging systems. **Bretford Manufacturing** - C5 - new electric projection screen, plus new fully-adjustable LCD projector mounts. **British Harlequin** - E30 - launch of the Diva Acoustic Shell for concert hall installations and the Vision staging system. **BSS Audio Ltd** - B30 - new FDS366 Omnidrive Compact and Soundweb 'Jellyfish'. **Bühnenbau Schnakenberg** - D2 - new generation of NIVOflex platforms. **Buster Cases** - A26 - launching 2040 range of flightcases.

C-Audio - S30 - additions to new Pulse lightweight switched mode power supply range. **Canford Audio Plc** - J28 - several new products in range of items essential to riggers, audio engineers and video engineers. **CCT Lighting Ltd** - F34 - Updates to Freedom range of luminaires and modular dimmers. **CEEP** - E17 - new connectors. **Celco** - F44 - launch of Fusion DMX splitter 1.5.1 and advanced Fusion DMX splitter 1.5.2. **Celestion International** - G34 - launch of CX1 821 two-way compact full-range loudspeaker.

TOOLS FOR THE TRADE

dbx dynamics processors have graced the racks of live sound professionals for decades. Classics like the **160A** and **166XL** and the **120XP** (Boom Box) have become so familiar that adjustments are made by feel rather than sight, and reliability and sonic quality are taken as given. That's why you'll usually see dbx on any successful engineer's rider.

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From top: • **120XP** Subharmonic Synthesizer • **20 Series EQ**: 2231 (pictured), 2215 & 2031 also available • **160A** Compressor • **166XL** Stereo Compressor/Gate • **1066** Comp/Lim/Gate • **DDP** Digital Dynamics Processor • **166XL** Comp/Lim/Gate

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STAND G46 is the only place to be at this year's PLASA!



Clay Paky and Pulsar have joined forces with the Ministry of Sound at this year's PLASA, to bring you a stand environment that cannot be missed. The Ministry bar will provide

a stunning meeting point for all our guests to enjoy, and of course provide

a lively atmosphere making it

the only place to be!

Be our special guest at this year's **World Light Jockey Contest Final** – for **FREE!**

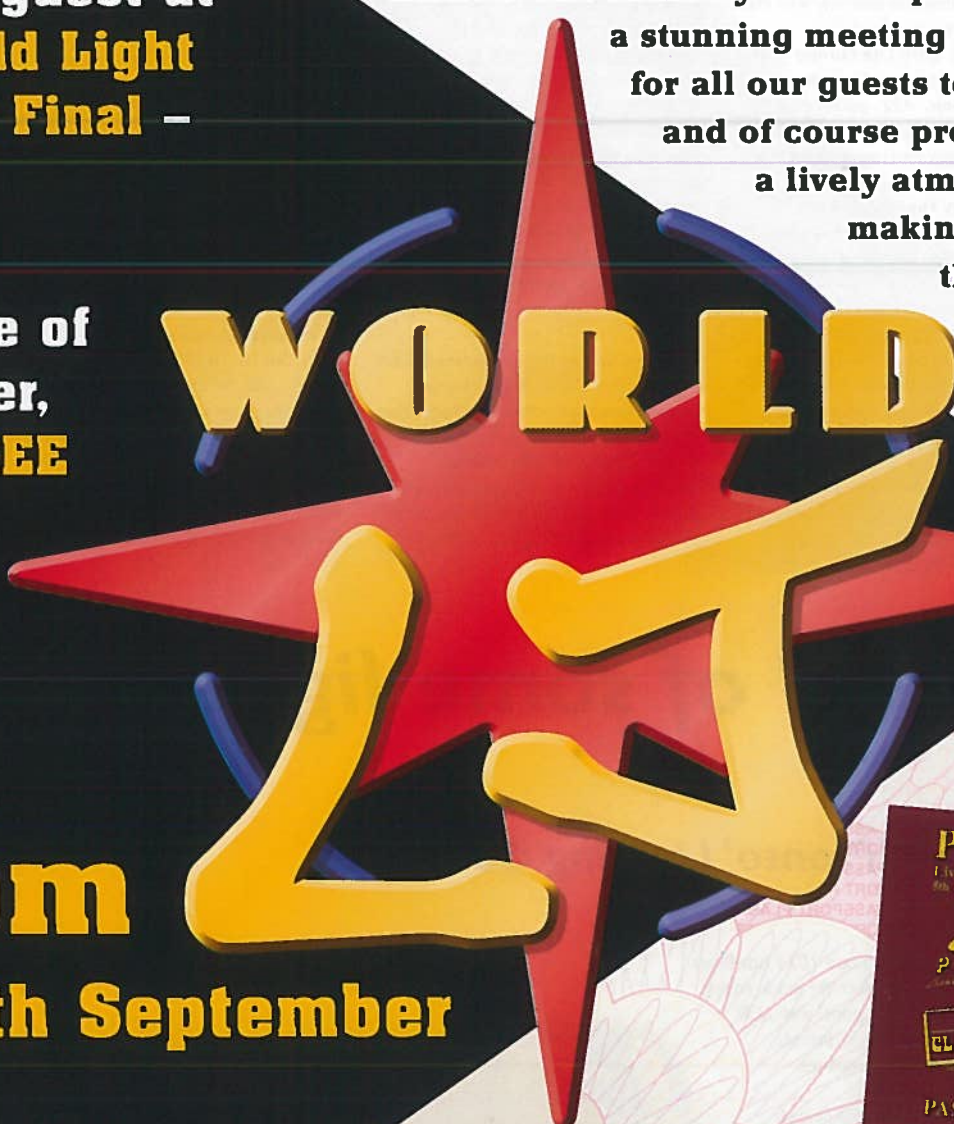
Take advantage of our special offer, collect your **FREE** drink voucher at our stand and come and party with us!

9.00pm
Tuesday 7th September

at the London

hippodrome
the home of the
UK's biggest lightshow

This event will be co-hosted by



Clay Paky and Pulsar have designed the ultimate guide to visiting this year's PLASA.

Packed with general show information, and an all important schedule of aftershow social activities! Collect one from Stand G46 and make your PLASA a special one!

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News Round-Up



Cerebrum Lighting - J8 - new products from Clay Paky, Labino, Litestructures, MA, Nocturn, Powerdrive, Rainbow, Show Magic and Strand Lighting. **Chainmaster** - R58 - launch of VBG70 chain hoist enhanced with Jam-Free technology. **Chevin Research** - N14 - new additions to amplifier range. **CIE Audio** - C24 - new products from Inter-M, Atlas Soundolier, Wharfedale, Chiayo, IC Audio, Switchcraft and new NXT Flat-Panel speaker company Amina Technologies. **Cirro Lite Europe** - D4 - new Soft Sun 50K from Lightning Strikes. **Citronic** - A22 - additions to the Z Series of zone equipment, the MM1 Mic and background music mixer, the Z5DM 5 zone mixer and 100V line solutions. **City Theatrical** - EP12 - launching DMX-controlled Autoyoke. **Clay Paky** - G46 - additions to range of intelligent and conventional lighting. **Cloud** - G11 - new Z4 and Z8 zone mixers, plus a redesigned CPM-4 microphone, all-new CPM-8 microphone and MPA-626 integrated amplifier. **COEF Srl** - C32 - introducing new moving fixtures - the MP250 and MP250 Fresnel. **Coemar/Coe-Tech** - F40 - Panorama Cyc 1800 architectural washlight, plus launch of TAS TX-360B Mini NAT moving head fixture. **Color Kinetics Inc** - EP32 -

launching iColor MR - the first digital colour-changing lamp that plugs into MRI6 fixtures, plus iColor Cove digital colour changing cove light. **ColourLite Co** - H14 - UltraColour lighting filters and the Ultra2000 strobing UV System. **Columbus McKinnon** - E2 - new submersible Lodestar. **Compulite** - C3 - latest version of 3D design package CompuCAD, plus new FX software. **Concert Systems** - R45 - new CS152 and CS252 loudspeaker enclosures. **Connectronics** - H36 - new Digiflex and Ultraflow audio cables. **Constella** - K26 - Chameleon 3 budget lighting effect, together with Astra DMX512 range of effects lighting. **Court Acoustics** - H44 - launch of two-way version of the LX3, the new C Series cinema speaker system and a new 21" bass bin. **Cronshaw Warren** - S6 - new VaryColor 6 range of moving head projectors, plus Vision-Peg digital music systems.

Dare Pro Audio - D36 - new range of flat loudspeakers - Wafer Series. **David Brown Associates** - P40 - products from Cameo, Communication Technology and Golding Audio. **David King Technologies** - R14 - showing Avenger control system, CCTV security systems, controllable digital satellite decoders

and Multimedia in a Box solutions. **Decoupe Ltd** - G14 - additions to Robert Juliat range and MDG fog generators. **Denon** - H42 - first showing of Rane's new DJ scratch mixers. **DHA Lighting** - F14 - compact architectural gobo projector, plus The indexer - indexing version of the gobo rotator. **DIAP Assistance** - H24 - special format scrolling projection films for wide range of projectors. **Doughty Engineering** - D10 - new range of stands.

Ecler - E58 - Introduction of Enviro PA system, developed to serve the industrial sound market, plus new Hak 320 mixer. **EDIROL** - S8 - two new Roland products - the V-5 video mix/tile processor and the A-6 audio station. **Electronic Theatre Controls** - H8 - complete range of architectural products, plus new Unison dimmers for budget installation dimming. **Elektronikkakeskus Oy** - S22 - MusicBox NG DJ 2010 DJ deck using MPEG audio file format. **ELX Ltd** - E15 - Selecon's range of new Aurora and Pacific luminaires, plus DIPlane low voltage lighting panel. **Eminence** - D26 - launching PSD 3003 2" compression driver, plus new products from revamped Pro Series. **EMO** - H18 -

launching E450 cable tester for 8- and 4-pole Speakon connectors, plus new 32A mains distribution panel. **Enliten** - F5 - new recessed projector series. **Entertainment Technology** - A28 - new G-series of bi-polar power amplifiers and new Titan 5 and Titan 10 DJ mixers. **ESP (UK)** - H44 - new products from RVE and Mobil-Tech. **ETA Systems** - EP6 - new conditioned AC power distribution sequencing and regulation products, lighting controllers and dimmers. **E\T\VC Audiovisuel** - H12 - enhanced PIGI high power projection system. **Event Rigging Services** - R66 - new radio-controlled device for motor hoists. **Flying Pig** - B24 - new show control/backup version of Wholehog II. **Formula Sound** - E26 - latest version of Guardian CX4 fire alarm interface unit, plus prototype of new modular mixer. **Freestone Enterprises** - P38 - proprietary Laboratory Series technology. **Futuraneon** - R16 - launching Rox-Plasma. **Fuzion Plc** - F32 - new products from InnovaSon, Nexo, Crown, Symetrix and Sabine. **GAE Sales UK** - R34 - new sub miniature PA system, optical digital multicore system and Paragon monitor console. **GALA** - R52 - launching Vertilift hybrid

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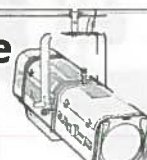


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News Round-Up



controlled rigging system. **GAM** - B14 - launching Gamtorch flame torch. **Gemini Sound** - F58, G36 - new CD-240 anti-shock CD player with updated versions of virtually entire range of mixers, CD players and turntables. **Griven srl** - G42 - launch of Kaleido ultra-compact outdoor projector, plus first showing of Acrobat and Acrobat F moving washlights.

Hacousto - D32 - new Accent 8x8 digital audio routing and processing unit, along with RS485 data controlled multi-zone paging microphone consoles.

Hardware - E38 - debuting 77m OLS high definition lens and internal projection sphere. **Harkness Hall** - E28 - launching System 2000 side and top masking system and an extruded aluminium curtain track. **Hayden Laboratories** - S1 - latest versions of Rolec's DHD-300 HardDisk music system, plus new Rane multiprocessor. **High End** - E7/B24 - new ColorPro HX and Studio Spot 575 CYM. **Hire Point** - R40 - new software for AV, lighting and audio equipment. **HW International** - E20 - range of new products including Shure mics, QSC amps and Phonic mixers, amps and turntables. **Hz International** - J60 - new range of

lightweight and high power speakers and amplifiers.

IES - F16 - new lighting control and dimming equipment. **Indu-Electric** - F12 - new range of power distribution boxes for film, TV and event applications. **International Hardware Systems** - J30 - new range of flightcase components.

James Thomas - E24 - updated versions of truss systems. **Jem Smoke Plc** - E54/E56 - new Roadie X-Stream, CM-1 (Cold Module) and Techno-Fog FX-2 fog effects. **John Hornby Skewes** - E46 - HK Audio's new Classic Premium, ELIAS and LUCAS speakers, plus MiXX mixers, Get Yourself Connected connectors and Scanner radio mic systems.

KAM - F54 - expanded range of professional audio and lighting products. **Klark Teknik Group** - B10 - new DSP product promised from K-T. Also on stand Midas and DDA desks, EV speakers (Telex Shuttlesound), Dynacord mixers and speakers. **Klotz** - R64 - new Omni-Trans OTW204 digital cable, plus Supereor 24, 48 and 56-channel stage box system. **Kupo** - J4 - new Par cans, clamps, connectors, fog and haze machines.

L' Acoustics - R2 - launching dv-Dosc sound system and lightweight, high efficiency power amplifiers. **LA Audio** - D31 - new signal processors. **Lamba Plc** - F54 - several new additions to the ranges from Kam, Stanton, Cerwin Vega, Next!, Vinyl Touch and Geni Lighting. **Lampo UK** - P8 - new colour change systems and range of luminaires. **Lane Lighting** - H6 - Starlite Mk5 - new retrofit available using 1200W HMI short lamp. **LCA - Lights Camera Action** - T36 - launching Cinespace multi-purpose HMI, Purelite flicker-free ballasts and Variable Friction Arm. **LDR/Lightfactor Sales** - E9 - launching LDR Canto Series of powerful followspots. **Le Maitre (Sales)** - F8 - Bubble Dragon bubble machine, Pro Sno snow machine, Newt and Hercules fog units, G150D dry ice and upgraded Neutron Pro Hazer. **Le Mark** - B14 - additions to tape, flooring and masking foil ranges. **Lee Filters** - H4 - brand new range of glass dichroic filters, plus extension to 700 series of lighting filters. **Light & Sound Design** - C19 - new automated light. **Light Engineering** - D9 - new lighting and sound products. **Lightfactor Sales/High End** - E7/E9 - High End's latest additions to its family of moving luminaires - the Studio Spot 250 and the

Studio Color 250. **Lighting Technology Group** - G8 - lots of launches of new lighting and sound products. **Lightmaster UK/FAL** - A23 - new range of FAL effects lighting. **LightProcessor** - E8 - new 19" rack-mounting OBuffer DMX distribution system. **Lightstorm Trading Ltd** - F44 - range of new kit from Celco, PCM, Anytronics, Amptown, James Thomas, Lee, Rosco, Le Maitre, Porterman and MEC Trussing. **Link srl** - F10 - new components for audio, video and lighting inter-connection. **Lite Puter** - H62 - launch of new lighting control systems. **Lite Structures** - R41 - new trussing systems and products from Sergio Cazzolaro (TeaTrart). **Litec** - J26 - range of lightweight and heavy duty trussing systems. **Litton/Veam** - R36 - new connectors and cabling systems. **LMC Audio** - E14 - new products from all areas of live sound reinforcement. **Logic System** - J20 - new compact full-range monitor-style cabinets - the CM12 and CM20 - plus LS115 600W bass enclosure. **Ludwig Pani** - R30 - enhancements to large format projection equipment. **LX Designs** - P28 - new software for the design, control and monitoring of theatrical lighting via DMX. **Lycian** - EP14 - promoting latest xenon followspot.

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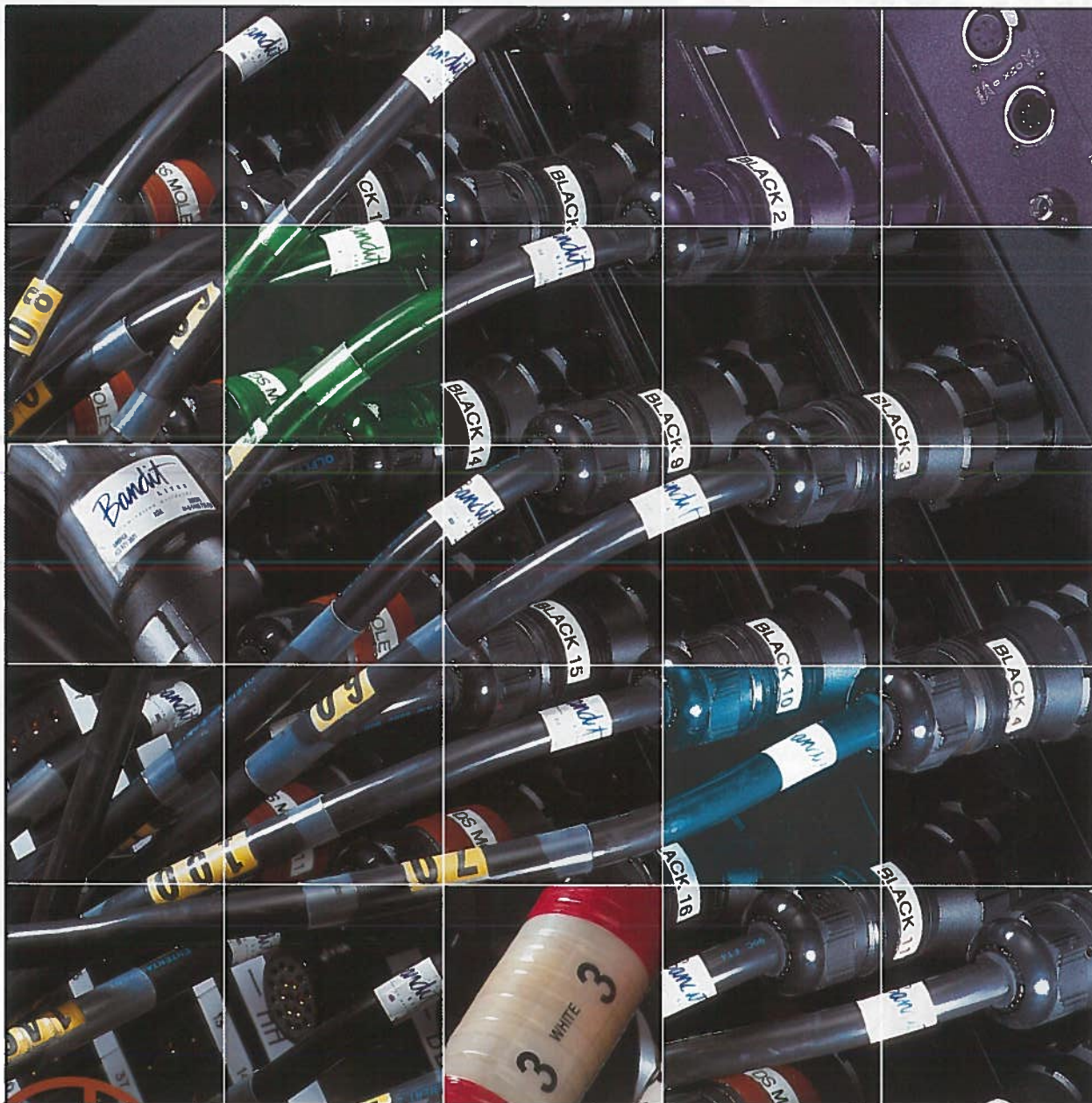
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News Round-Up



M & D Design - AV3 - new distributed digital audio systems for wide range of applications. **MA Lighting** - J12 - launch of grand MA multi-purpose lighting console. **Mach Systems** - E54/E56 - new professional loudspeakers. **Mad Lighting** - G8 - launch of new AXIS moving yoke system, two new scanning projectors and the Opti-Colour 2 fibre optic light source. **Mainstage** - H3 - new aluminium framed medium-duty stage platforms and flame retarding liquids. **Maltbury** - D6 - launching Ambideck staging with ladderbeam design. **Manfrotto** - J26 - together with new subsidiary Litec, showing new range of truss systems, tower lifts, winches and windup stands. **Marquee Audio** - J31 - new audio and visual equipment from a number of manufacturers. **Martin Audio** - F64 - launching new speakers for the mobile and installation markets, plus new Wavefront Theatre series. **Martin Professional** - E54/E56 - new MX series of scanners and CX series of colour changers, plus new Exterior 600 compact. **Matrix** - R22 - extended ranges of pro audio amplifiers. **MC2 Audio** - E13 - improved range of amplifiers for studios and fixed installations. **Meteor** - A24 - launching new Omni effects light for multiple

applications. **Metro Audio** - D32 - PMZ88 programmable digital mixer zoner. **MILOS** - G45, H60 - new trussing and structural systems. **Mipro Electronics** - S38 - launching a series of portable wireless amplifier systems. **MiRep / Yorkville** - N2 - new power amplifiers, power mixers, powered subs and Performance Series enclosures. **Mode Lighting** - A20 - launch of TigerPack, new concept in dimmable power packs. **Monacor UK** - D38 - new range of power amplifiers, lighting effects and club mixers. **MTR** - J22 - new range of amps, speakers and mixers from McGregor, plus new mixer from Dynamics Pro-Audio. **Multiform Lighting** - A24 - launch of a new range of electronic processing and control systems, a wall-mount power pack and range of DMX decoders. **Music Factory** - C30 - new computer-based DJ packages - Dancestation Lite and Dancestation Pro. **Musicalement Votre** - J52 - new sound systems and lighting effects.

Navigator Systems - B16 - launching the HireTrack Eclipse software. **Neutrik (UK)** - D27 - launching range of quality latch-lock BNC connectors for digital broadcast use. **Next!** - F54 - new DJ mixers. **NJD Electronics** - E62 - several

new launches, including Chaos 2000 with a 28-colour kaleidoscopic beam effect, Event Projector and Raptor effects light. **Nocturn** - EP4 - state-of-the-art DMX-controllable backlight fixtures, plus high-intensity UV-A lamps. **Northern Light** - R44 - launch of Touch Screen Programmable SM desk, plus Inno-four 575 HMI profile spotlight from Lighting Innovation. **Nu-Light Systems** - G32 - launching new range of lasers, plus Airoamer for the dispersion of scents into the atmosphere. **Numark Industries** - G38 - new additions to existing range of DJ products.

OHM Industries - C28 - launching range of small, high-powered sub speakers from Moon, and the FL Series II of amplifiers. **Omnitronics** - J40 - new range of lighting equipment. **[Opti]** - B22 - launching two new products - the GoBoShow and GoBoPro with HOi150 and HSD250 lamps respectively. **Opus Audio** - R72 - new system components for the Opus integrated system, including a 5kW HD amp module and a building block speaker. **Outboard Electronics** - T38 - TiMax DSP-based audio level and time delay matrix system, plus Octopus sound effects console.

Par Opti - H2 - enhancements to fibre optic lighting materials, parglass cables, harnesses and conduits. **PASO** - J32 - new Modular Sound System and Innovative Intercom 2000. **PC Werth** - P22 - new products to improve the listening environment for the hearing impaired. **PCM/Pfaff Silverblue** - F18 - launching fully weatherised submersible Lodestar from Columbus McKinnon. **Peavey Electronics** - D28 - complete new range of MediaMatrix systems and new CobraNet audio digital distribution. **Penn Fabrication** - A4 - updates to range of trussing. **Penton UK** - K2 - launching new ceiling speakers, background music systems and loudspeaker volume controls. **Performance Light and Sound** - C20 - launching new range of Strong moving lights. **Philips CSS** - S2 - new Profecta audio processing system. **Pioneer** - D40 - new line-up of DJ equipment, including mixers, CD turntables and accessories. **Pixelite** - T48 - new generation of indoor and outdoor LED video screen technology. **PJ Lighting** - H54/H56 - new lighting and stage equipment aimed at mobile performance, plus Rollight Theatretechnik equipment. **Porterman Systems** - F44 - updated trussing systems. **Precision Devices** - S36 -

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launching PDC1 and PDC2 compression drivers, plus Series 900 full range drivers. **Prolyte** - D10 - new safety device for the S Series ground support and roof systems. **PROEL International** - B30 - launching TFL speakers and power amplifiers, FBT Predator speakers and three new products from Selenium. **Promo Only** - B34 - subscription service providing tracks for professional DJs. **Pulsar** - G46 - launching Masterpiece 216 desk.

Ra'Alloy - R20 - new range of aluminium non-slip ramps. **Rane** - H42/S1 - new range of products aimed at clubs and DJs. **RAT** - E4 - new range of music stands with integrated lamps. **RCF Electronics/Mackie** - E52 - multi purpose music system Sound Palette - first major co-operation between RCF and Mackie, plus new Cinema Sound System. **Roland UK** - J59/S14 - launching VM-7000 digital mixing system for live mixing and studio use. **Roscolab** - E10 - range of glass gobos and Colorizers for multi-coloured projection. **Ryger** - A2 - TinyColour, carrying many of the design features of the TinyScan, but prepwired to a T bar.

Sagitter - A24 - range of new retail lighting units. **Sam Woodward Pyrotechnics** - P20 - new pyrotechnics for range of events, including FXMPro fully programmable pyrotechnic firing system. **Samson** - S12 - new wireless microphone systems. **Scanlite Electronics** - S40 - new electronic moving message displays, launching true colour video board. **Schulz** - P34 - new audio cable connectors. **Screenco** - T48 - repackaged 15mm LED system incorporating numerous modifications. **SCV** - D31 - new LA Audio signal processors. **Sellmark** - T16 - new range of electromechanical components. **Sennheiser UK** - F26 - world launch for new range of sound equipment, plus new EK 3053 in-ear monitoring receiver. **SES Film & Television** - C6 - new distribution units for studio, OB and location filming. **Set Lighting & Sound** - B42 - new range of technical equipment. **SGM Elettronica srl** - I37 - range of new products including moving head projectors, scanners, followspots, desks. **Show Connections** - AV1 - launching range of projection units and system control products. **ShowCAD** - F40 - launching Artist show control system. **SignET** - S10 - new Integrity life safety voice alarm system. **Sky High** - H3 - amalgamation of Sky High Pyrotechnics, Jem Pyrotechnics and Blakes Fireworks launching new pyrotechnics system. **Skytronic** - K16 - new electronic and audio products - sole UK distributor for Zeuz speakers. **Slick Systems** - E16 - specialist manufacturer of modular aluminium truss systems. **Smoke Design** - B33 - new range of fragrance dispersal units and smoke machines, plus new range of hazers. **Sony** - R1 - new MDS-E11 and

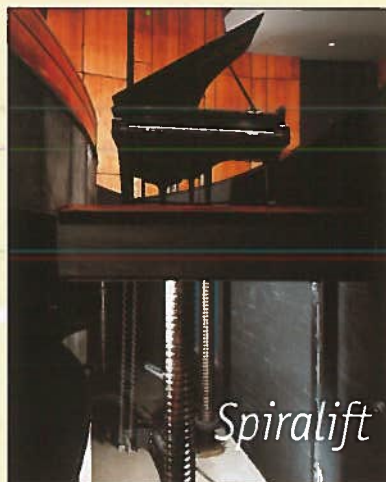
CDP-D11 rack-mount MiniDisc recorder and CD player, plus MDR-7505 and MDR-7509 headphones. **Sound Dept** - R80 - new products from EAW, Crest, Community, Ashly and Sound Advance - major new launches from Community and EAW. **Sound Ranger** - P2 - new cordless public address systems. **Sound Technology Plc** - S12 - new Samson wireless microphones. **Soundcraft** - G22 - pro mixing desks. **Soundlab** - J38 - new speakers, mixers and power amplifiers. **Soundtube** - S28 - new range of audio equipment. **Space Cannon** - H26 - enhanced versions of xenon luminaires. **Spektronic UK** - J58 - division of Perfect Acoustics, new range of effects lighting for the retail and installation market. **Spirit By Soundcraft** - G22 - enhanced audio mixing consoles. **Stage Accompany** - H51 - new sound systems. **Stage Electrics** - I7 - extended range of lighting and sound, plus new Martin fixtures. **Stage Technologies** - E12 - launching Solo hand-held or wall-mounting controller. **Stageline** - EP42 - new addition to the SAM Series - 24ft PA wings. **Stagetec** - C3 - new 3D lighting design package. **Stanton** - F54 - expanded range of products for DJs. **Starlite** - H32 - new versions of automated lighting equipment and custom design software. **Steeldeck** - F6 - new products from Nivoflex and Stagebase. **Steinigke Showtechnic** - J40 - new products covering lighting, sound and AV. **Steljes** - T18 - launching Fujitsu Plasma Vision screen technology, plus low-cost LCD projector. **Strand Lighting** - K8 - launch of SL Series Cool Beam spotlights and Quartz Color HMI Par, Studio and Bambino family of luminaires. **Stravens Audio** - K21 - new range of audio equipment. **Studio Due/Lumenation** - D34 - new Citybeam - similar spec to CityColor but with very narrow beam angle. **Studiomaster** - S18 - new power amplifiers and upgraded versions of the Glub2000, plus new range of speaker cabinets. **Studiospares** - B19 - Esmono sound acoustic isolation booth and MasterMic microphone clamps. **Swefog** - C35 - the Optima Whisper hazer with 'whisper' technology and the Ultimate II high-output 'cracker' hazer.

Tannoy - D30 - launching i6AW - the latest addition to range of point source, dual concentric, installation loudspeakers. **Teatro** - C2 - new stage lighting products promised. **Technotronics/Ultrak** - J56 - additions to range of lighting effects and control equipment, plus new BST Silver range. **Telex Shuttlesound** - B10 - launching Electro-Voice Eliminator speaker system. **The Smoke Company** - C34 - new range of haze generators. **TMB Associates** - EP36 - new range of lighting, rigging and power distribution equipment. **Toa** - S32 - launching HE Series speakers, plus the ix300-500

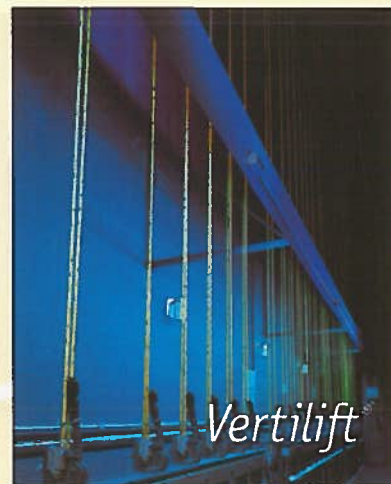
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News Round-Up



digital mixing console. **Tomcat** - EP30 - launching Intelligent Truss (IT) system. **Total Fabrications** - F24 - expanded range of lighting and support systems. **Totally Brilliant Software** - P14 - customised rental booking software, plus new recording studio bookings application software. **Trifibre Containers/Triflite Cases** - A14 - new custom-built flightcases, polypropylene cases and padded bags. **Triple E** - F20 - launching versatile track system designed for corded and motorised applications, plus new UniTruss system. **Turbosound** - G40 - UK debut of no fewer than 21 new audio products. **TW Electronics** - C14 - new electro-mechanical components for the audio and lighting industries.

UKD - E62 - new Event projector moving beam effect developed in tandem with NJD. **Ultimate DJ Accessories** - H58 - specialist DJ products and audio accessories. **Unitek Displays** - T46 - third generation of Megascreeen - the giant LED screen system. **UV Light Technology** - P36 - new Firefly range of high performance UV blacklight fixtures.

Verlinda - E6 - new range of lifting equipment for the entertainment industry, including Stagemaker electric

chainhoist. **Vestax** - F48 - ASTS (Anti Skip Tone-Arm System), plus DJ mixers, turntables, CD players and signal processors. **Vinyl Touch** - F54 - new DJ mixing equipment. **VLPS/Vari-Lite** - F28 - launching Virtuoso control desk and VL6B spot luminaire. **Voit** - D16 - high performance drive units for professional PA/studio markets.

WA Professional Audio - K24 - launching W12X three-way co-axial system and W15XB, its dedicated sub-bass counterpart. **Wembley Loudspeaker** - G44 - updated range of speakers and dedicated sound reinforcement enclosures. **Wharfedale Pro** - A10 - recently extended LiX loudspeaker range aimed at high power/high performance applications. **White Light** - F4 - new range of products from Strand Lighting, ETC, The Moving Light Company and HTS, plus new Resource Pack and DMX test tool. **Wintonfield Systems** - R10 - new CINetracker system for audio description in cinemas. **Wormald Avalon** - R18 - new voice alarm and PA systems. **Wybron Inc** - EP35 - launching CXI colour fusion colour changer which uses just two colour scrolls to create virtually every colour in the spectrum.

Xenotech-Strong - EP4 - new Pattern Profile Projector and 1.2kW Truss Trouper. **XTA Electronics** - T14 - new analogue and digital audio signal processing equipment for the live and studio markets. **XTBA** - J6 - new products include the Smart Splitter 10i - a 1U fully isolated data splitter and the Focus DMX radio remote unit. **Xtra Music** - S16 - digital quality professionally programmed music.

Yamaha Kemble Music (UK) - D35/B37 - launching F Series range of speakers, CDR1000 CD recorder, D24 multi-track recorder and MSP10 speakers. **Yorkville** - N2 - launching power amplifiers, power mixers, powered subs and Performance Series enclosures.

Zero 88 - F2 - launching illusion 120 theatre desk based on original CueLine system from the Sirius 250/500.

Don't forget to visit the stand of **L&S**, **S&CSI** and **PLASA** - F1. We look forward to seeing you there.

The PLASA Show runs from Sunday 5th September through to Wednesday 8th September at Earls Court 1 in London.

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All the major events, including the Show Awards, DJ competition, etc, were covered in the Show Preview. We also outlined all the key seminars, but one was a little short on details which we now have . . .

Universal Show Control Systems

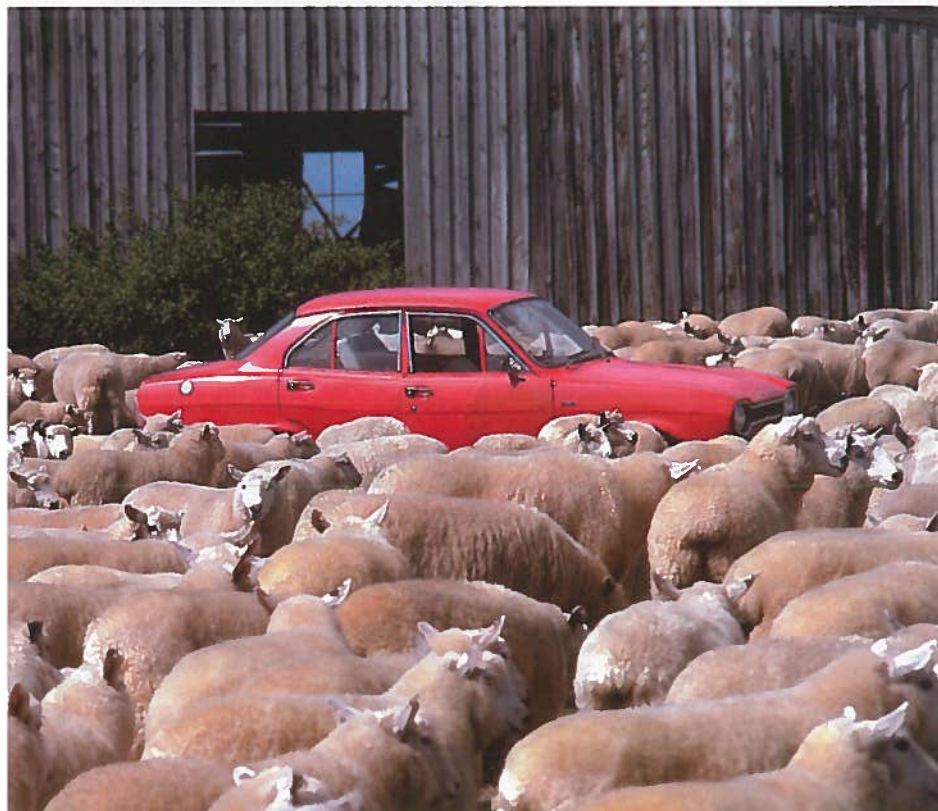
This two-day course is designed to give each delegate an in-depth knowledge of the main show control systems available today. This course is for key staff involved in any aspect of Pro Multimedia contracting or system design and attendees will get a valuable insight into how the companies who win the major contracts get their business and the products they use.

These may be familiar to some, Alcorn McBride, AMX, Avenger, Crestron, Dataton, Electrosonic, but it's unlikely that key staff know them all, their strengths or their weakness. The course will redress that situation by providing access not to only the equipment, but also to the master contractors who are skilled at implementing it.

The course runs on Saturday 4th and Sunday 5th September.

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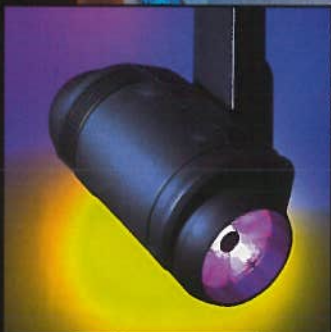
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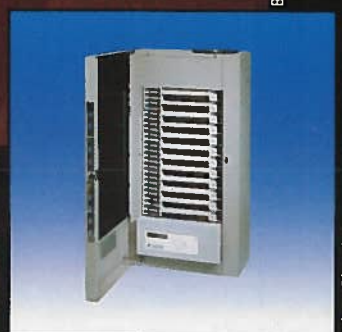
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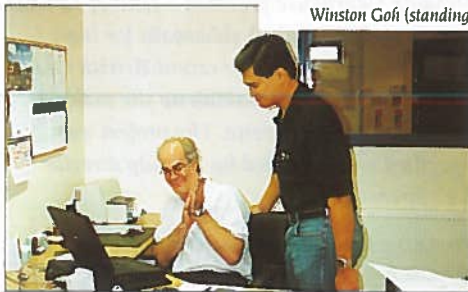
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Total Fabrications Expand

It's been just five years since Total Fabrications Ltd (TFL) bought itself out from an uninterested conglomerate. Five short years in which to rebuild a reputation during the most testing business conditions for UK manufacturing in 30 years. A strong pound, sickly European market, and the financial implosion in the Far-East have all conspired to make this a particularly tough period. Yet last month, TFL chose to almost double the size of their premises.

TFL's Peter Hind and Winston Goh (standing)



Where does this confidence come from? Can they really be that busy? "The company has not expanded solely as a response to increased workload," said director Karen Cronin. "We've deliberately increased our capacity because TFL offers distinct services beyond fabrication, including training, engineering and design." So how does that distance you from other truss builders? "Well that's exactly the point, we're not just truss builders. In simple terms, customers come to us with an idea. We design it for them, build it, and then teach them how to use it."

FEATURES IN THIS ISSUE

"A world first in the 3D cinema was the creation of a pre-film gobo wash on the screen, treated using Lee Polarising Filter (used to reduce flare on the TV cameras), and installed on both vertical and horizontal planes in alternate Source Four profiles."

Louise Stickland - Opel Live - page 95

Chris Higgs runs the training operation side of TFL: "Contrary to popular belief, rigging is not just truss and motors. Although we can never cover every subject in as much depth as we'd like, our training workshops achieve a benchmark standard across all aspects of rigging." Peter Hind, TFL's structural engineer, continues that company ethos, having contributed to the development of both ESTA and BSI standards, the Pop Code revision, and the recently-published Temporary Demountable Structures document from the ISE. He can be unashamedly outspoken. "I believe that this industry needs to grow up in terms of its professionalism."

Gary White is head of sales. As the newest member of the TFL management team he has a unique responsibility: "It's my role to ensure the client gets the right product for the job. Having worked extensively in theatre, television and rigging myself, I can advise in situations where a client may only have a peripheral awareness of what it is they want." As part of the strengthening of that 'advisory' process, White will be joined each month in Birmingham by Winston Goh, TFL's director for the Asian/Pacific region.

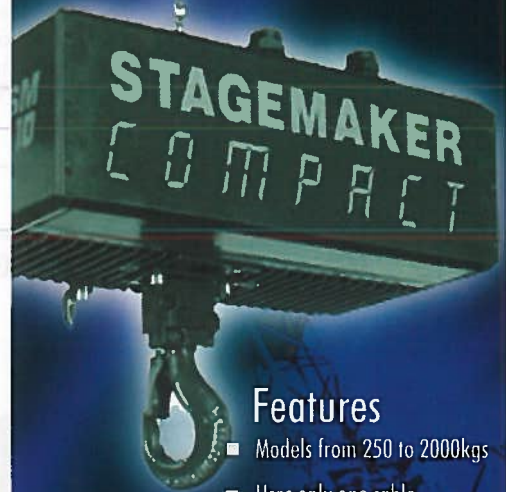
Company founder Chris Cronin, the design talent that underpins TFL's position as an innovator, sees even bigger things for the future. "At a functional level our experience means we have an innate understanding of the presentation industry and all its needs. Routinely, we tailor special projects around standard components. More fundamentally, we've grown the company at a phenomenal rate over recent months. There will be more in the future."

Steve Moles

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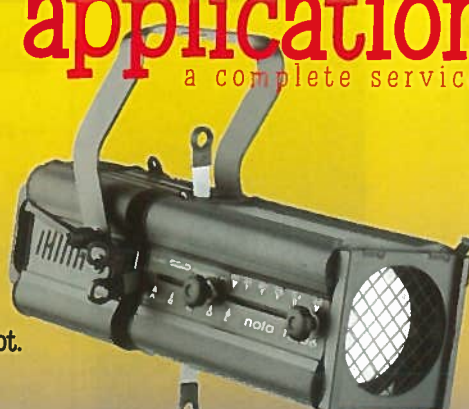
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ADB Customise Racks in a Flash

Flashlight in Belgium has taken delivery of four 36 x 36kW Memorack touring racks from ADB. The racks were custom-designed to meet Flashlight's specifications, by using a combination of standard ADB Memorack building blocks.

The racks are equipped with output indicators and feature a Wieland series patch for dimmed circuits, a Wieland parallel patch for direct outputs, all fed into Harting multicore outlets. On the safety front, there is a Powerlock mains feed, MCB + RCD protection per Memorack and independent MCB + RCD for the auxiliary outlets and the direct inputs on the patch. The first rack joined the highly popular Samson Zomertoer, the live version of the TV show for children, whilst the other three racks saw their first action in tropical temperatures on the additional stages and dance marquees of the Action Beach Rock Festival in Zeebrugge. Five more ADB touring dimmer racks were to be found in 'Dimmer City' on the main stage, where sound and lighting was supplied by VLPS Brussels/EML.

Silverstone Screens



Proquip Gearhouse provided a total of 13 LED screen systems and 12 videowalls for the 100,000 audience at the recent British Grand Prix at Silverstone - making up the majority of the screens on the site. The project was specified and managed by Proquip director Lee Spencer.

The LED screen systems included five 40sq.m screens, five 30sq.m screens, two 11sq.m screens and a 5sq.m screen providing coverage at various points around the track. More traditional videowall systems were in use with corporate hospitality and tertiary areas of the Silverstone site, including a 3x2 Toshiba system with Vector control in the Saatchi & Saatchi enclosure and two 3x3 videowalls on both the B&H Jordan and Scuderia/Ferrari/Marlboro stands.

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The Association of Lighting Designers has published the first edition of its Professional Members' Directory. Over 100 lighting designers located throughout the world are listed, with details of their recent productions, specialist fields, references, location and contact numbers. The pocket-sized directory will be a valuable resource for producers, directors and designers and includes a comprehensive cross-index to different categories of lighting design from drama, dance and opera, to industrial presentations and architectural lighting. Copies are available free from the ALD office.

E-mail - office@ald.org.uk

FEATURES IN THIS ISSUE

"Still there been a number of musical evenings since we last looked at the West End, all of them offering some interest to the middle of the road audience, and most of them dismissed pretty quickly by my critical colleagues. The biggest, I suppose, was *Boyz n the Band*, a bold attempt to do for the pubescent what most musicals do for the menopausal."

Ian Herbert - Asleep in the Stalls - page 128

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The 400-capacity Javanese-style venue, owned by Rory Keegan and John Stephen and designed by Cara Satmoko, has already staged a variety of celebrity parties since its opening and regularly plays host to leading Hollywood stars. It hit the headlines when it famously turned away Robbie Williams and later Chris Evans.

The club has a sound system installed by Birmingham-based The Cloud One Group, and featuring one of Martin Audio's flagship PA systems. The main system reinforcement is via Martin Wavefront 2s - part of 10 enclosures specified by Paul Stratford's company when they won the contract to supply the audio. The Wavefront 2s are fed from Denon dual CD player and Technics SL1210 turntables and powered by Crown amplification. The system has been designed into four sound zones with three of the rooms interlinked.

Chinawhite is the latest celebrity nightclub on the London scene.

Situated beneath London's famous Cafe Royal, off Regent Street, the Oriental-flavoured club boasts a number of exclusive private and VIP rooms.

Chinawhite

In terms of lighting, there's very little in the

club, just a pair of Martin Lynx 100s. However, because the management are keen to encourage others to make use of the venue, in particular video directors and the like, they hire in additional equipment as required.

Proquip Under PSL

Proquip Gearhouse has become a division of PSL...

Proquip will move into the PSL building in Cricklewood later in the autumn, whilst Gearhouse LED screens, Gearhouse's large outdoor screen division, will remain in the Chertsey premises it previously shared with Proquip. Gearhouse Presentation Management also becomes an operating division of PSL, as does PPL Event Services, which is being merged into PSL's exhibition division. Irene McLean, formerly a director of PPL, now becomes exhibition director of PSL. Gearhouse Reading, which has a large client base in the London area, will also be merged into PSL.

Hawthorn Expansion -

Following a period of rapid expansion, Hawthorn Theatrical has moved to new 30,000sq.ft premises in Old Dalby, Leicestershire. The new building houses new office space, a dedicated moving light service workshop, new shop and demo area and large storage and despatch area.

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News Round-Up



Lenny - Projection Magic

The new PW Productions show, *Lenny*, which has recently opened at The Queens Theatre, is based on the life of controversial US comedian Lenny Bruce. Bruce changed the face of comedy in the fifties and sixties, paving the way for a new generation of socially-aware stand-up comics to follow two decades later.



The show is directed by Peter Hall, stars Eddie Izzard in the lead role and features a set designed by Bill Dudley which relies heavily on projected images, for which Production Arts Europe supplied two Pani BP4 Compact Projectors with AMD-32 slide-changers and 18cm lenses. Dudley wanted the show to have a cinematic feel and an ambience evocative of a hazy, jazzy high. The result, he feels, is "The best theatre slide projection I have ever seen."

Among the projection challenges was the fact that the rear projection space was just five metres - to fill a 10 x 5 metre screen. Throw distances were further reduced to 3.5 metres to fit in the five-piece jazz band. Thus, positioning of the projectors and sizing of the artwork was crucial. The formula was arrived at after two meetings between Production Arts, Wyatt Enever from DHA (who produced the slides) and Bill Dudley. The solution was to place the projectors just offstage in the wings, pointing towards two 3.2sq.m mirrors supplied by set builder Victor Mara. The mirrors are angled at 30 degrees and bounce the images back on to the BP screen - producing the required image size to fill the area.

Custom prepared slides were supplied by Enever working with Bill Dudley. The trick was to produce two halves of each image with a seamless overlap, without image degradation or keystoneing. Each 'side' of the image had a 10% - optimum - overlap and Enever then photographed these precisely in 5 x 4 inch Ektachrome. These masters were then

used to print the Cibachrome material that forms the slide. The result was a perfect and impressive image. Others involved in this technical achievement include Production LX Tony Simpson.

The lighting was designed by Rick Fisher and programmed by Rob Halliday, with equipment supplied by White Light. The projectors are controlled via DMX from the Strand 520 lighting console which also controls a rig of over 100 generic and 18 moving fixtures (Martin's Mac 500s and 600s). Also used was the new Color X Infinity (CXI) colour-mixing scroller from Wybron, which uses two gel strings of graduated frames of cyan, magenta and yellow to produce virtually any colour of the spectrum.

Sound design for Lenny is by Rick Clark, with equipment supplied by Orbital. The system is based around a Yamaha 02R console, running McKenzie control software to a Midas XL88 matrix, with sound effects stored on a new Akai S6000 sampler. The speaker system grew from the originally-specified 12 EAW JF60s to incorporate d&b speakers and EV S40 delays. While it was hard to mic the performers for much of the show (especially when Izzard is sitting naked on the toilet), some Trantec S5000 radio mics are used, while Sennheiser MKH 70 and Neumann KMR 82 gun mics and Shure SM55 prop mics were used elsewhere. For the 'performance' scenes, specially-chromed Shure SM57 mics were used.

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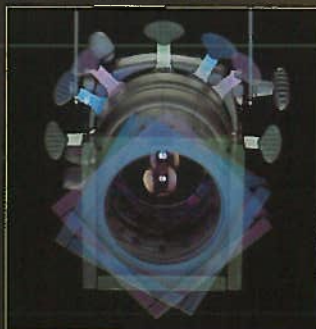
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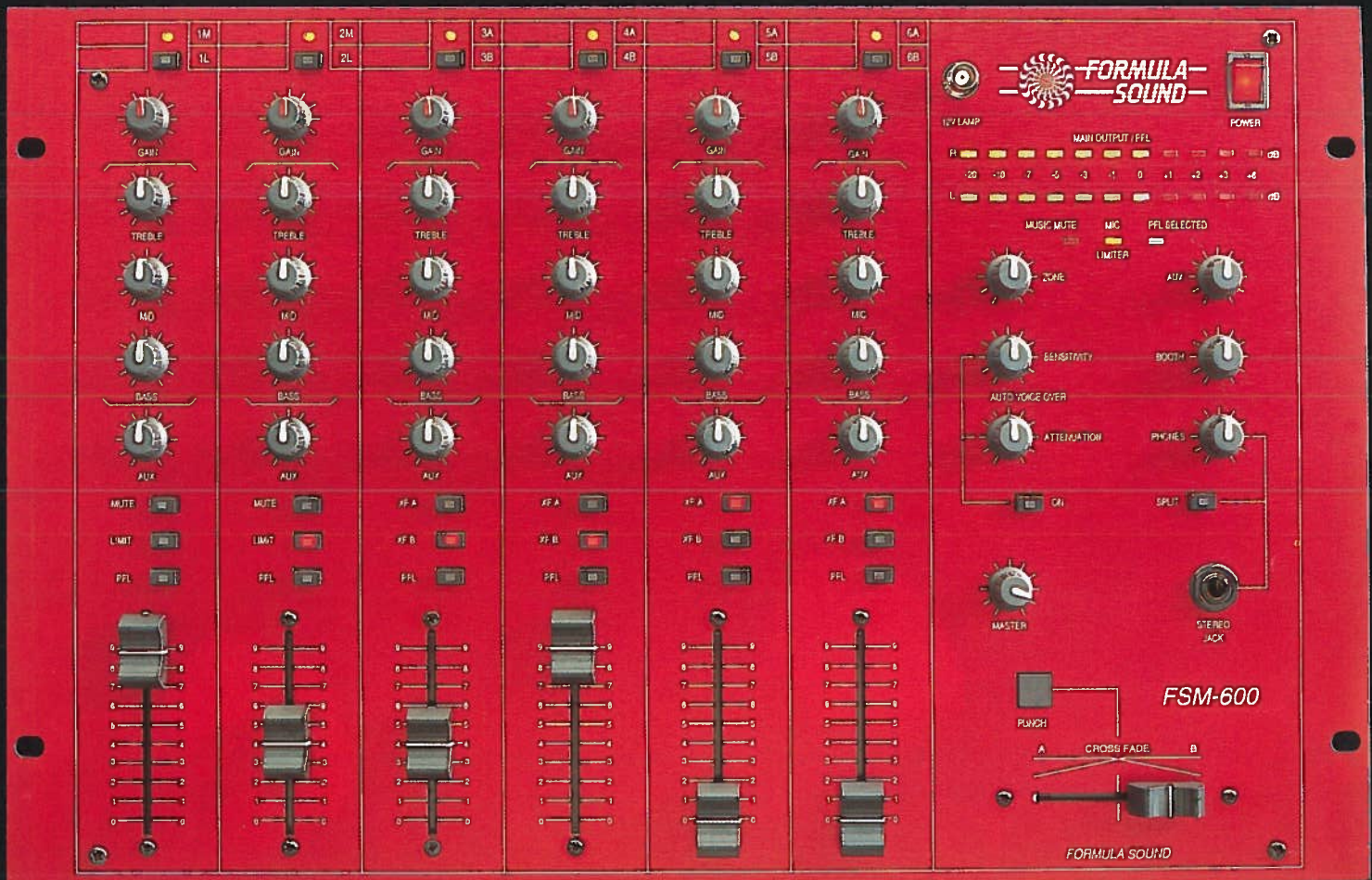
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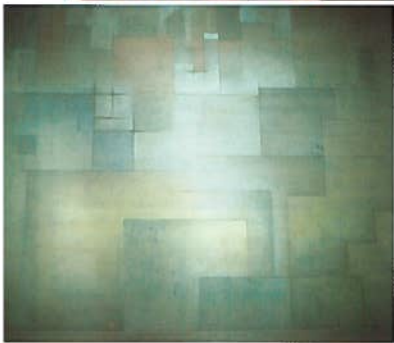
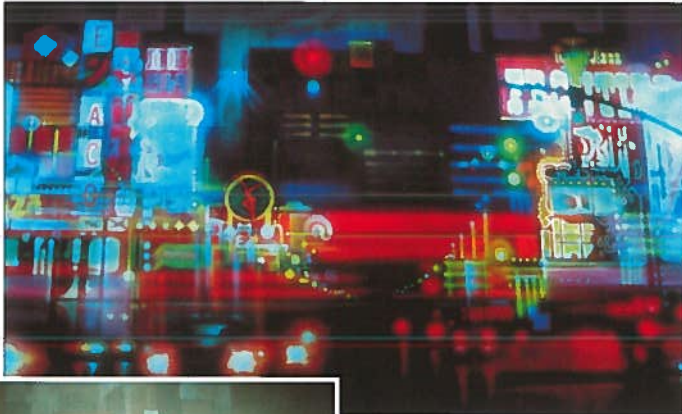
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UV/FX Create Invisible Backdrop



Los Angeles-based blacklight effects specialist UV/FX has reached new heights in the creation of dual-image scenic backdrops, with the development of its first invisible 28ft high, 60ft wide backdrop for the world tour of The Dave Matthews Band.

Under normal lighting conditions, the backdrop appears as a Mondrian-style abstract cityscape painting (inset), but under UV lighting, the same painting becomes a highly detailed and colourful painting of the Las Vegas strip in the early 1960s (main picture). Kent Mathieu, creative director of UV/FX, told L&SI: "Until this backdrop, it was not possible to create clear, totally invisible scenic paintings. Now it is, and we are excited because our UV scenic possibilities just expanded tenfold."

Working with lighting designer Fenton Williams and Dave Matthews, UV/FX was able to not only create a new scenic effect, but carry it out with its new Lightweight Touring Scenic System, which allows for UV activated scenic images to be painted on very lightweight scrims which are quick and easy to set up, while being resistant to crease lines.

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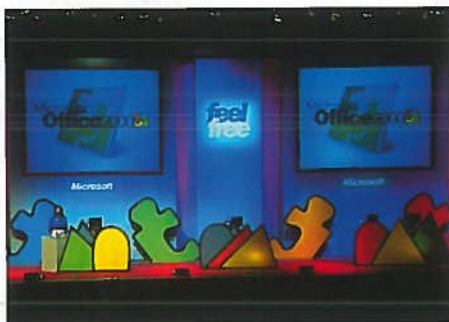


SPS Goes for Growth

Following a successful year, which has seen significant growth, leading audio-visual equipment rental company, Show Presentation Services (SPS), has announced its demerger from the Brewton Group which originally acquired it in 1996.

For SPS, the resumption of full operational independence represents part of an aggressive growth strategy. As a first step, in tandem with the demerger, the company is currently in the process of acquiring Blackout Ltd, suppliers of drapes and rigging in the live event market. Once the agreement is completed, Blackout's owner and founder, Steve Tuck, will join group chief executive Robin Coles on the new operational board of SPS.

Meanwhile, to underline its plans, SPS has opened a new office at the Business Design Centre in Islington, where the company has won the contract to be the in-house AV supplier for the next three years, and has also recently sold its 20,000sq.ft site in Brentford and moved to new



SPS handled the audio-visual elements for the recent Microsoft 2000 Press Launch at Wembley Conference Centre

65,500sq.ft facilities nearby. This now gives the company the largest single operational audio-visual rental site in the UK.

"The demerger followed a recent review of group strategy and was designed to realise optimum shareholder value," commented Robin Coles. "It will also enable us to continue to grow the business both in its own marketplace and in a series of complementary market niches."

Live Life to the e:max

Walk into any disco, fashion shop, keep-fit studio or anywhere else young people gather in Germany and the chances are you'll see a new, free Tele-service projected on monitors, screens, walls, and ceilings.

The new Tele-service - called e:max - was developed by the Pro Sieben Group in Germany, and shows music clips, 3D animation, cinema previews, comics, music, movie news and more. At the heart of the projection system is a range of Sony LCD projectors, monitors and LCD screens.

One of the reasons e:max is predicted to become popular elsewhere is that the programmes can be individually compiled. For example, a DJ can call up the e:max website and choose which items he wants to show. Programmes are sent weekly by satellite and taped onto the e:max workstation's hard disk. From there they can be played as required and be varied to suit the venue.

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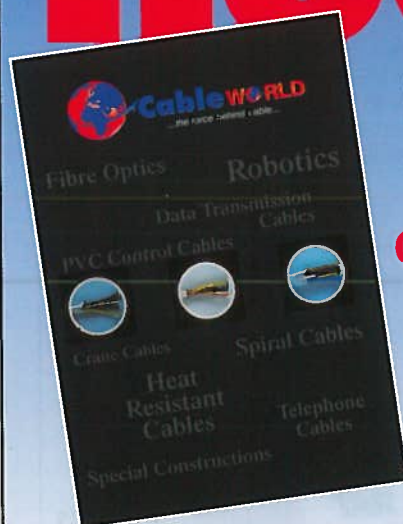
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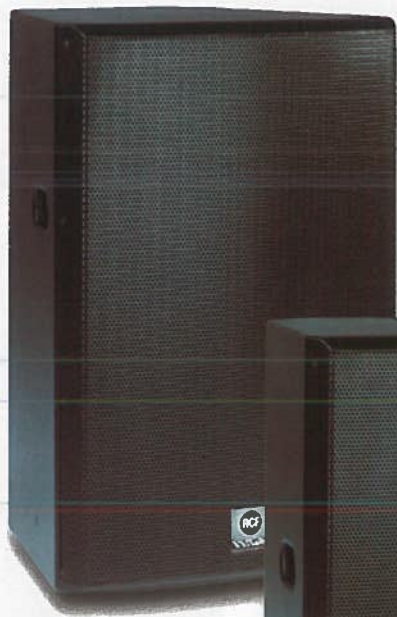
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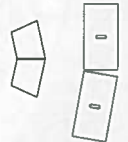
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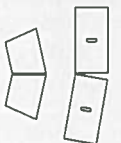
specifically developed for the contracting market. It is

composed of six bass reflex speaker systems (including one subwoofer), all featuring high efficiency and intelligibility. All

speaker systems are equipped with specially designed transducers and LICC™ crossover networks to ensure the maximum intelligibility, an essential feature for installations requiring speech and music reproduction in large closed spaces, especially those with poor acoustics. To help you select your system requirements, we offer 'EASE'™ simulated acoustic design for specific projects.

The speaker cabinets are made of multi-layered plywood. All VISION enclosures can be easily suspended via the incorporated M10 inserts and metal hardware reinforcement.

At the core of the VISION Series are three unique key features: • **Quality and Clarity of Sound** • **Compact and Aesthetic Appearance** • **Ease of Installation**. Truly, a sound pedigree that is second to none.



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 Totalisant 60 années de métier à eux deux, Christian Brean et Jacques Rouveyrollis, ces deux grands complices, ont brouillé a travers le monde pour apporter leur touché de la lumière à la Française. Ils ont ainsi éclairé des Opéras, des Ballets, des scènes de Music-Hall, des Evènements, du Sport-Spectacle, des pièces de Théâtre. Le monde de la Télévision comme celui de la Vidéo ne leur sont pas étrangers non plus. Au-delà des grandes productions pour lesquelles ils sont si souvent appelés, ils aiment apporter leur expérience à des spectacles peut être moins prestigieux mais tout aussi intéressants.



 Gianni Mantovanini nato a Milano, dal 1963 al "Teatro alla Scala". Nel 1975 firmo per la prima volta le luci di uno spettacolo messo in scena nella allora "Piccola Scala"; dove dal '75 all'80 ho svolto il ruolo di Lighting Designer. Nel 1981 passo a collaborare alle produzioni del "Teatro alla Scala", affiancando il lighting designer e mio maestro Vania Vanni, assumendone il ruolo nel 1991.



 Max Keller hat sich in Deutschland stark für den Beruf des Lichtgestalters eingesetzt. Mit seiner Bildersprache, die sich vor allem in einer Kombination

von Lichtquellen mit unterschiedlichen Farbtemperaturen vermittelt, prägt er die Aussagekraft des dramaturgischen Lichts. Er entwickelte seine Lichtgestaltungen für das Schauspiel an den Münchner Kammerspielen, aber auch für Opern an anderen Bühnen, vor allem in Europa. Als Autor des einzigen deutschsprachigen Fachbuches über Lichtgestaltung im Theater trug er viel dafür bei, dass die Arbeit mit Licht stärker als künstlerisches Gestaltungsmittel akzeptiert wurde.



Hans-Åke Sjöquist has worked as a lighting designer in his native Sweden for almost 30 years.

From 1978-79 he studied in the USA at the Yale University School of Drama. He worked at the Royal Opera House in



Stockholm for six years as Resident Lighting Designer from 1980 to 1986, lighting over 20 major productions during this period.

For the past 13 years he has run his own lighting consultant company, Candela Design Limited, designing numerous drama, musical and opera productions in Scandinavia and throughout Europe. Mr Sjöquist also designs architectural lighting for indoor and outdoor environments and has just lit two major permanent exhibitions at "The Museum of Natural History" in Stockholm, introducing the largest fibre optics installations ever made in Scandinavia.

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Widely regarded as the dean of lighting designers for both the West End and Broadway, Richard Pilbrow also heads Theatre Projects Consultants. His second book "Stage Lighting Design - The Art, The Craft, The Life" was named LDI Product of the Year. "When I began lighting only about fifty shades of Cinemoid were available. I



often used them two and three to a frame seeking new possibilities. Then I discovered Rosco and first brought this wonderful range to Britain. Now the possibilities are almost limitless. Colour brings life, texture and vibrancy to the stage. I love it."

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These are interesting times for London's West End - an unusually prolific summer season has seen an eclectic mix of new shows open and many of the long-running musicals are being put out to grass in favour of fresh blood.

Face of West End Changes

Doctor Dolittle, the first casualty, has finished its run, as has *Beauty & The Beast*, and *Miss Saigon* will also shortly say goodbye to the Theatre Royal, Drury Lane. The *Lion King* is imminent, and in its wake we have a whole posse of productions, including a new version of *Martin Guerre* and *Spend, Spend, Spend* - a new British musical based on the true story of Vivian Nicholson. Meanwhile, the US award-winning *Fosse*, has jumped the queue to get a West-End venue and seems likely to open in the UK early next year.

So much for front-of-house changes, but there are also significant developments going on backstage. SFX Entertainment has coughed up £160m for the Apollo Leisure Group, which amongst its portfolio

of over 20 theatres across the UK, counts four of the key theatres in London's West End - the Lyceum, Apollo Hammersmith, Apollo Victoria and the Dominion. This comes at a time when Stoll Moss Theatres is also looking to sell 10 Central London theatres - Drury Lane, Garrick, the Apollo, Cambridge, Duchess, Gielgud, Her

Majesty's, London Palladium, Lyric and Queen's - expected to go with a price tag of £100m.

And that's not all, as we reported last month, the Associated Capital Theatre Group, with interests in eight West End theatres - the Donmar, Albery, Comedy, Wyndham's, Phoenix, Piccadilly, Criterion and Whitehall - was recently put on the market for £20m. Whoever buys, they may well catch the eye of the Office of Fair Trading, for if their slice of the West End action is significant enough, the sale could be referred to the Competition Commission.

Against this backdrop, we also have the ongoing redevelopment of several of our major performance venues - Sadlers Wells, National Theatre and the Royal Opera House.

Audio Associates and studio bau:ton

Los Angeles-based studio bau:ton, specialist in the design and construction of buildings with unique requirements for acoustic performance and media technology, has formed a strategic partnership in Asia with Audio Associates of Singapore, in order to offer the company's award-winning consultancy to a broader customer base.



Audio Associates, George Leong, a well established figure in the recording industry in Asia

studio bau:ton takes a holistic approach to projects, and has designed facilities for 20th Century Fox, La Face Records and the Margarita Mix, and has also recently completed David Lynch's Asymmetrical Studios. The partnership with Audio Associates will enable studio bau:ton and sister company TEC:ton, to expand their Asian client base.

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New York's Rainbow Room, situated on the 65th floor of the NBC building in the Rockefeller Centre, is now enjoying the sounds of a QSC-powered EAW sound reinforcement system.

Over the Rainbow



The famous Manhattan club has undergone extensive renovation over the past months, part of which involved the installation of the new system, carried out by New

Jersey-based Boulevard Productions, who were contracted by New York-based CitiView Audio & Visual.

The system includes four EAW JF 290Zs, two JF 260Zs, two SB 180s and a BSF processor, with amplification from three of QSC's PLX3002s and one PLX2402. The 7,000sq.ft space was divided into four zones to ensure even sound coverage.

Industry Training Continues to Develop

As was widely reported in the trade press earlier this year, the BTEC training initiative developed jointly by Loughborough College and the PSA (Production Services Association) was officially launched to the industry at the Live show in February. Since that announcement, there has been an important development at Loughborough.

Dr Daniel Clarke, who presented much of the information at both the PSA Conference and Live press launch, has decided to leave the college and move on to pastures new. He will be succeeded as project leader by Stephen Moore who has been

involved in the project at Loughborough for some time and has already taken over responsibility for it. Dave Crump and Simon Whittaker (chair and vice-chair respectively of the new PSA Council) met last week with Jim Mutton (Principal of Loughborough College) and Dave Smith (PSA Training and Qualifications committee chair) to discuss the future of the project.

At the meeting it was agreed that the course development programme would continue and, in fact, be expanded to accelerate the curriculum development programme. Additional industry experts would be recruited as soon as possible to develop course notes for all of the key subject areas.

HFM Move In

Newly-formed company HFM Lighting has moved into a new 10,000sq.ft warehouse facility in West London. Headed by Hugh Frazer-Mann, the new company will use the site as the centre of activity for its lighting hire operation.

HFM Lighting offers a one-stop service for concept, design and installation, and holds an extensive range of conventional and intelligent lighting products, including 12 Starlite Mk 5s recently purchased from Lane Lighting, and eight new GoboShow projectors from Opti.

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Audio at the Movies

design director, Vincent Rice. "The company wanted to differentiate their foyer using the Warner Bros cartoon character properties - Bugs Bunny, Daffy Duck etc - that everyone knows and loves." VRD developed an audio-visual concept involving the complex synchronised operation of lighting, video and, of course, sound.

The Warner Cinemas foyer systems are unusual in that not only are normal 'background music' levels required, but for late, teenage-orientated presentations, the cinema managers like to crank it up to dancefloor levels.

In addition, there are speakers locally associated with large glass-fibre Loony Tunes characters throughout the foyer. "The choice of speaker was straightforward. I had known Martin Audio since the days of Dave Martin and they were offering the range of outputs and dispersions that I needed, at a cost I could justify," explained Rice. A typical foyer sound system consists of four- or six-box clusters of Wavefront 1s, 2s or 3s,

depending on the size of the space; and up to 16 EM15s for delay fills and "Toon speakers.

"We have a bunch of cartoon voice sound clips on hard disk and every now and then the characters will shout their particular catch phrase. Rice admits that in the early days controlling all this via multiple bits of analogue kit and a dedicated computer was "a bit of a nightmare" - but today the entire control is under the command of a pair of BSS Soundweb 9088 digital processors.

The 9088s are installed in each system and these take care of the main speaker cluster, the delay fills and the "Toon speakers. Each processor is providing multiple delays, compressors, EQs, duckers, switchers and mixers for what has become a complex system. Unusually, Rice doesn't provide the local management with a continuously variable volume control, but eight discrete volume levels, each with a different set-up.

After 50 installations in the UK, Germany, Italy, Spain, Portugal and Japan, Rice is happy that he has his sound specification nailed.

While the battle rages for supremacy in the expanding cinema screen sound market, a number of sound companies have found an additional niche in cinema foyer sound systems, thanks to the efforts of entertainment technology consultants, VRD.

"We established a relationship with Warner Bros. International Theatres nearly five years ago as they planned a roll-out of new multiplex theatres across Europe and Asia," explains VRD

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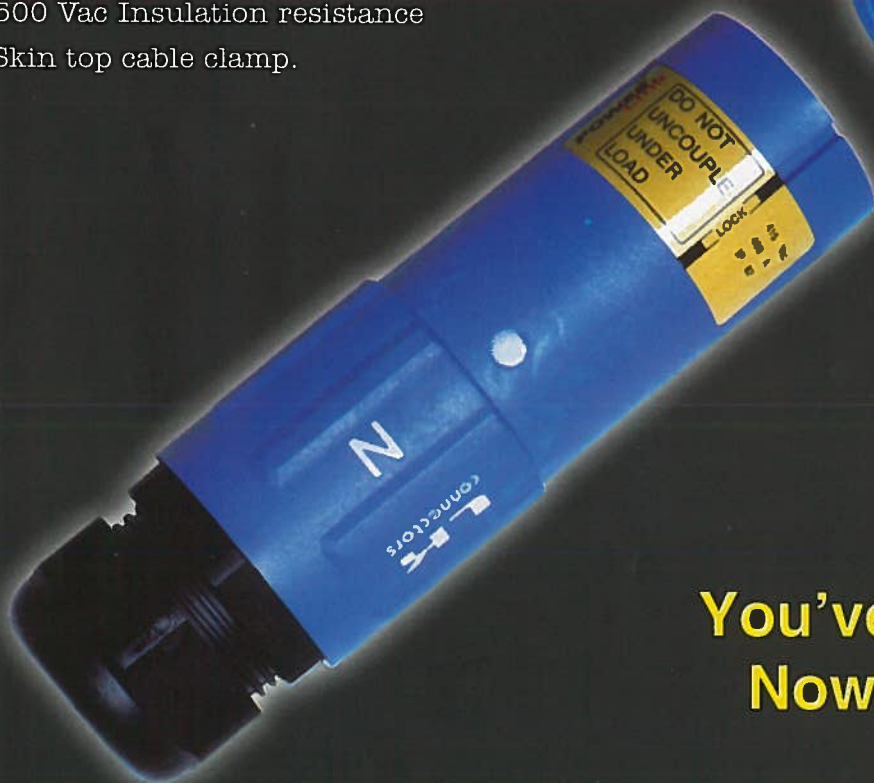
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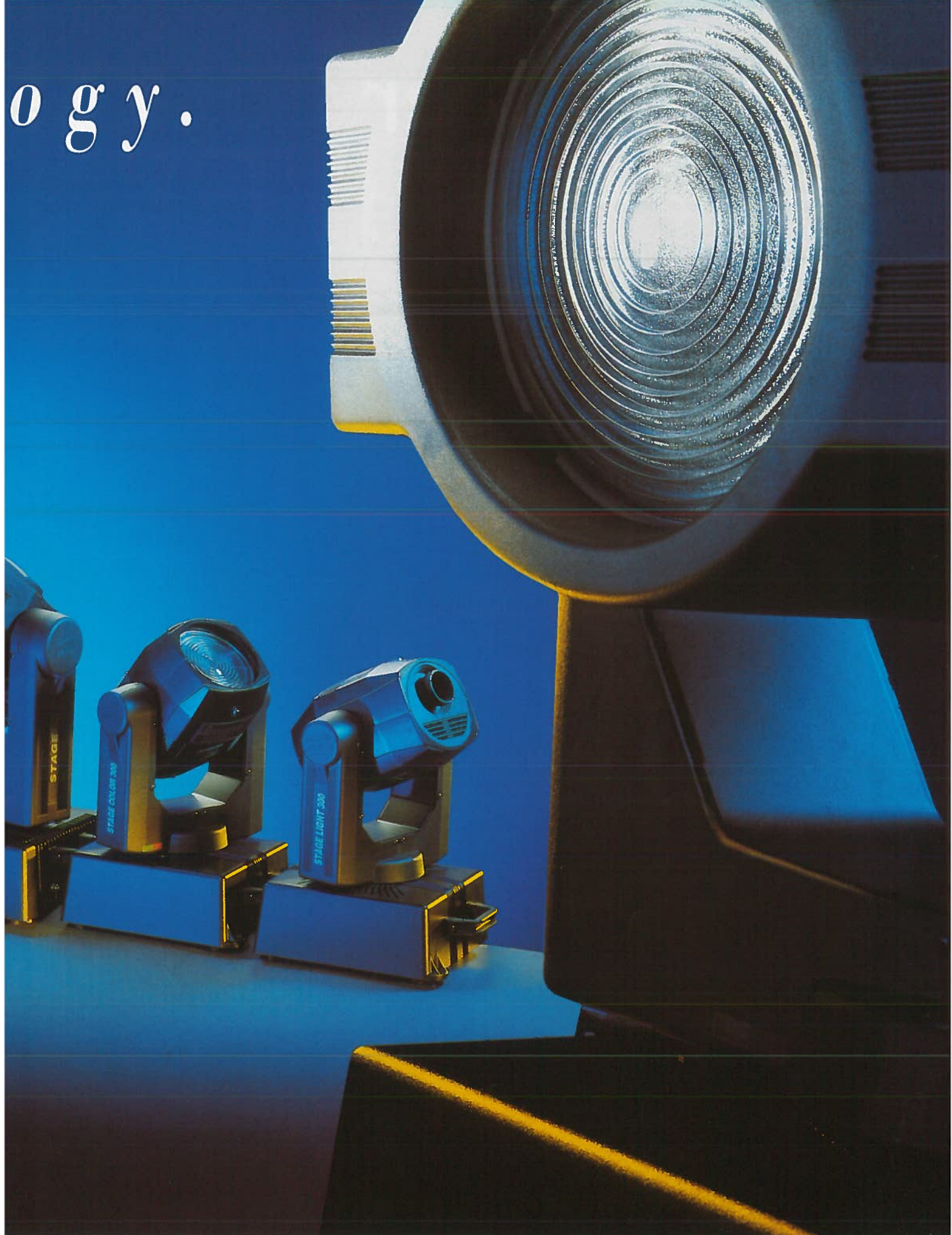
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PCM Completes First Rigging School



PCM has completed its first full five-day Rigging School, attended by 58 individuals from across the industry, ranging from industrial scaffolders to professional freelance riggers and from entertainments managers to house riggers from venues such as the SECC.

The Rigging School, the first such course to be run on a non-profit basis, was the brainchild of PCM's John Jones, a strong advocate of the furtherance of professional training in the entertainment and production industry. PCM has been running Motor Schools to enlighten owners, users and specifiers of the Columbus McKinnon Lodestar motor, since 1993.

One of the fundamental principals of the course was that there should be no teacher-at-the-front style of approach. Although various theory sessions mapped out the relationship between the disparate elements of rigging, the course was designed primarily to be highly interactive and practical. Attendees could experience first-hand the challenges of rigging and how to become confident at employing the best and the safest techniques.

The Rigging School was located across two sites - Liverpool Community College (LCC) in downtown Liverpool and PCM's premises in Prenton, Wirral. The course was co-ordinated by PCM and run in conjunction with Safe Working Ltd, who ran the rigging section. They were joined by experts from James Thomas Engineering, who conducted a section on trussing and ground support systems, MAN Flying Systems, who taught the basics of PA rigging, and Rope Assemblies and Mike Curtis who hacked away the official verbiage of the LOLER regulations.

Also integral to the course was a standard Lodestar Motor School, tutored by the redoubtable Wally Blount from CM and Tony Dickson from PCM. A session covering every aspect of ropes was presented by Roy Garnett 'Roy The Rope' who has enjoyed a long and colourful career in the marine and ship-building industry. John Jones commented: "It's been absolutely brilliant! Everyone has benefited from a serious amount of the best professional tuition available in the industry."

PCM are already planning another Rigging School to take place in early 2000. For more information, call John Jones on +44 151 609 0101.

FEATURES IN THIS ISSUE

"Designed by Ron McCulloch, MD of the Big Beat Group and originally an architect by profession, each of the rooms and bars is an island of chic design; varying in style from harsh industrial on the stairways, through warm timbers in the ladies powder room, stainless steel alien-organic and contemporary laminated timber in the bars, to the floor-to-ceiling mirrored urinals in the men's toilet."

Andy Ciddor - Home nightclub - page 123

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Sydney Opera House's New Studio

The Studio at the Sydney Opera House, Australia's best known venue, was the first major construction project to be undertaken at the House since its opening in 1973.



Intended in the original Jørn Utzon design to be the scenery storage area for the Major Hall, the space was pressed into service as the Recording Hall until 1986. It then became the Broadway Studio until 1989, when it was

converted once again, this time to become a Performing Arts Library until work started on its metamorphosis to The Studio in November 1997. The AU\$12.5 million (£5.1m) project involved dropping an existing air-conditioning plant room down into the basement (below sea level) to allow the creation of a huge new foyer which links the existing Drama Theatre and Playhouse foyers. From the fully-sprung brushbox timber floor to the self-climbing winches in the grid, the space has been completely reconstructed.

The acoustics are variable by means of remote, mechanically-operated slatted wooden panels which can be opened to allow sound through to the acoustically-absorbent backing panels or closed for a more lively acoustic. There are also heavy, acoustically-absorbent curtains at the rear of the catwalk that surrounds the venue. These can be deployed to deaden the acoustic or retracted back into alcoves to remove their effect.

The sound system has 72 microphone lines distributed to points on the studio floor via Lemo multi-pin connectors and fed via an audio patch room to an Allen & Heath 24-channel GL4000 desk. Replay is available from CD, DAT, MO Disk, DA88 and hard disk. There are t.c. electronics and Lexicon reverb units in the outboard rack, along with BSS Varicurve equalisation and BSS 404, 402 and 504 compressors and gates. The basic speakers are Tannoy S300s driven by Australian Monitor amplifiers, but systems of up to three Meyer MSL-4s, four Meyer CO-2s and accompanying PSW-2 subs per side are available for more heavily-amplified productions, whilst EAW JF80s are used for speech reinforcement.

The development of The Studio includes adjacent recording studios with a control room which also views The Studio and which can be fed from its patch panel. There are no recording facilities installed at this stage, although

evaluation of suitable equipment is in progress and the facility should be operational some time early next year. The 15m x 15m studio can seat up to 364, with 156 seats on the mezzanine level galleries and a further 208 in mobile retractable seating banks at the studio floor level. Several sets of seating units are available to allow configurations varying from flat floor, to end stage and full surround.

Lighting may be rigged on the catwalk rail 6.5m above the floor or on any of the 18 Strand self-climbing battens. Each batten has four dimmer outlets, one general purpose outlet, one DMX512 outlet from the DMX patch and one Neutrik Speakon socket from the main audio patch. On each side of the catwalk, 48 channels are run to paralleled outlets and an additional 24 channels appear in floor pockets. Each of the 48 pairs of series-connected 120v Par 64 houselights is on an independent dimmer to allow for maximum flexibility in house lighting to match the flexible seating possibilities. There are three-phase power sockets and DMX512 outlets located at each corner of the catwalk and at each corner of the Studio floor.

The Studio proudly boasts the first ever installation of Bytcraft's PLASA award-winning VST sinewave dimmers, which were chosen for total acoustic silence. Control, meanwhile, is via Strand's 510i controller driven by a 520i desk which sports a pair of 15" flat panel monitors. The luminaires in The Studio are a mix of all of the generations of equipment found around the Opera House and range from venerable Patt 743s, through Harmony 22/40 and Cantata 26/44 to Cadenza PCs and Fresnels and on to fresh-from-the-box Strand SL lanterns.

Andy Ciddor



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Martin



Illuminatum Launch Diablo

Exterior high power lighting and laser specialist, Illuminatum, has launched Diablo - an ultra-bright searchlight.



Diablo is a large-scale, fully automated moving yoke fixture which utilises a 7kW xenon lightsource as standard and is completely weatherised. Other features include internal closed-loop Glycol cooling, 240 degree tilt x 420 degree pan, variable speed from four revolutions per week to four revolutions per

minute, resolution of 360,000 steps per revolution, accuracy of 872mm at 10km, RS 485/232 or DMX control, variable beam angle, 6200°K colour temperature, effulgence of 350,000 lumens. The unit also accommodates a variety of xenon bulbs from 2kW to 7kW.

Diablo has been designed specifically to meet the requirements of Illuminatum's challenging and often idiosyncratic outdoor work. Its ultra-smooth movement is based on a four axes CNC machinery controller, accurate to .0001 of a degree, making it a highly controllable fixture. The unit sits on a base which houses the water reservoir, pumps and heat exchangers.

Diablo is ideal for the high-impact son et lumière presentations at which Illuminatum excel. The first Diablos off the production line are going straight into Illuminatum's busy rental stock and are already specified on a number of forthcoming projects and events.

Now Diablo is in production, next on the agenda for Illuminatum's busy engineering design projects team is a dowsler for the unit and a radio link system for controlling multiple fixtures. This will enable units to be positioned up to half a mile away from each other, but controlled from one central point. It will also obviate cabling, always a huge advantage when working outdoors.

Illuminatum (UK) - +44 1275 395030

Stage Electrics@nec

Stage Electrics has appointed a highly experienced team to run its new operation which opens at the National Exhibition Centre in Birmingham on September 15th.

Scott Foster, who has been based at the NEC for five years as operations director of P&O Exhibition Services will be overseeing the NEC branch, which will trade as Stage Electrics@nec. Branch manager will be David Benson, formerly with Theatre Direct in Cambridge. Gina Dalton, who worked previously with Gearhouse and Stagepoint, comes aboard to generate and promote sales opportunities, whilst Paul Greenwood completes the NEC team as rigger/moving lights technician transferring from Stage Electrics' Birmingham branch.

Also joining as business development manager is Anna Western. She has 15 years experience in the industry and was previously director of sales for Rosco. And it's not just the entertainment industry that Stage Electrics has turned to to spearhead its new sales drive. Linda Moore, who previously worked for Cadburys and Trebor Bassett, joined the group in April as sales and marketing manager. The group has also appointed a new chief executive, Jeff Tyler, formerly financial controller at Ryder UK.

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Never before has the audio industry so rapidly or so unanimously accepted a new product as they have the KF700 Series. In the 6 months since it's introduction an astounding 1,600 units have been sold, putting it on track to become one of the best-selling loudspeakers of all time.

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In the Can

Can is a new-style of London concept bar. Based near the Barbican, it is a unique establishment that offers a very different experience to other bars and pubs.



Steve Switzman gaining a new perspective on his Raper & Wayman sound system

The majority of the drinks are served in cans and there are no tables or chairs, encouraging movement and socialising within the bar. Tubes are located at numerous points around the bar's glass floor for the customers to dispose of their empty cans. These tubes lead to a large compactor for recycling, which can be seen working through a special window in the toilets.

Steve Switzman, owner of Can told L+SI: "As Can is such an extraordinary place, I wanted a unique sound system to be installed. I didn't want the type of system you would find in the average pub, where all you seem to be able to hear is heavy bass, so my main requirement was for equipment that could offer exceptional clarity."

Switzman turned to Raper & Wayman Sound Engineering to fulfil his demanding brief. Working alongside the building's architects, Jump, R&W designed a system that would enable music to be played at a high levels, but without the sound spilling out onto the street or to adjacent premises.

At the heart of Can's audio system is a Denon DCM-260 five-disc CD player, with a Marantz CDR-630 CD recorder for programme compilation. Six ARX Micromax processor-controlled speaker systems were installed, with two matching sub-woofers, suspended from wire rope and flown from steel studding inserted through the bar's acoustic ceiling. The speakers are driven by two ARX Microdrive amplifiers with on-board signal processing, grouped so that one channel drives the two speakers near the front door, another drives the two speakers at the rear of the room, and the remaining four drive the speakers above the bar in the centre of the room. The sub-woofers are each driven by their own processor-controlled power amplifier. The entire installation is set up to minimise any structural resonances, with a Formula Sound AVC2 automatic volume control being added to the system, to ensure that the SPL outside the building does not exceed local authority limits.

Five to Try

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

5

1. Want to know your IQ? One of the team at PLASA Publishing proved to be a genius (which seems a bit of a waste), and even the office chicken did moderately well.
www.lqtest.com
 2. If computer-speak turns your brain to jelly, then this site may stop the rot setting in. Plain English explanations of techy terms.
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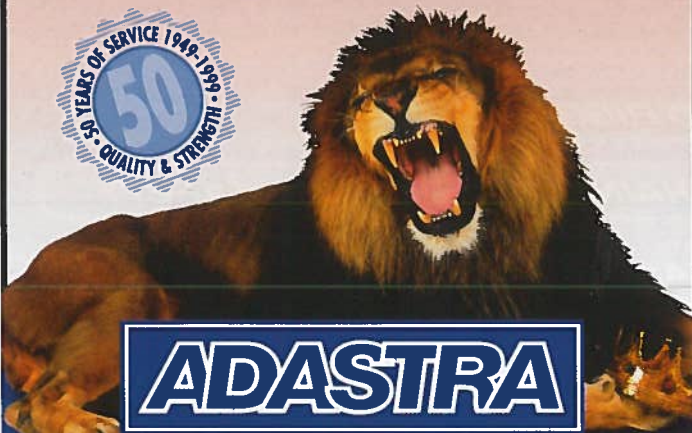
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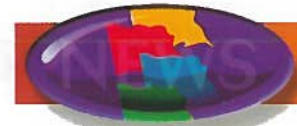
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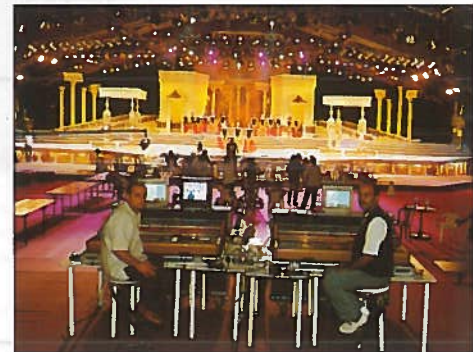
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News Round-Up



Avolites Miss Europe!

Avolites has been busy in the Middle East of late, breaking new ground in Beirut by selling two Diamond III consoles, two 72-way Art 4000 dimmer racks and a 36-way rack to the national television station LBC (Lebanese Broadcasting Corporation).



The equipment was specified by Milad Massaad, head of lighting at LBC and supplied via Avolites' new Lebanese distributors Mogharbel Light. Once completed, the deal was followed up by a visit and on-site training session from Tony Shembish. The first show for LBC's new Avolites gear was the Miss Europe pageant, held in Beirut for the first time since 1964 - prior to the outbreak of the civil war, the contest had been held there for four consecutive years. The event took place in the Beirut Hall-Sin el Fil and featured 39 participants from 42 countries.

The lighting was designed by Massaad and his colleague Fouad Haddad (pictured), both of whom were also operating the Diamond III which controlled both generic and moving lights. The moving fixtures included High End Studio Spots and Studio Colors which were joined by an assortment of Strand lanterns and Par 64s.

Lottery Supports Royal Festival Hall Restoration

The Heritage Lottery Fund has awarded a £450,000 development grant to the South Bank Centre, with a further £12million earmarked for the restoration scheme of the Grade 1-listed Royal Festival Hall.

The RFH was the London County Council's contribution to the 1951 Festival of Britain and has been described as the strongest architectural creation of Britain's post-war culture. Despite careful maintenance, the building needs capital investment, so in a phased programme, subject to HLF conditions being met, the grant would cover the refurbishment and restoration of key areas within the Festival Hall.

Safety on Stage

A seminar has been arranged to review the impact of recently introduced legislation on the live entertainment industry, particularly theatres, and to give those with responsibility for health and safety, an opportunity to discuss areas of common interest with HSE Entertainment Group Inspectors and Local Authority officials.

The half-day seminar, which takes place at the Haymarket Theatre in Basingstoke on Thursday 2 September, is aimed at theatre management, safety representatives, production, technical and administration managers of performing arts venues and touring companies. Special topics include the Lifting Operations and Lifting Equipment Regulations (LOLER), personal responsibilities for health and safety and the National Entertainment Safety Association (NESA). The cost per delegate is £25, which includes lunch.

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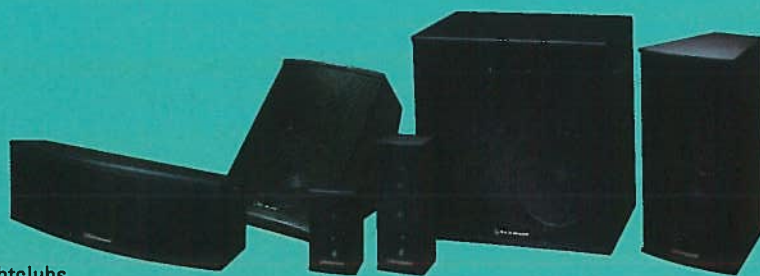
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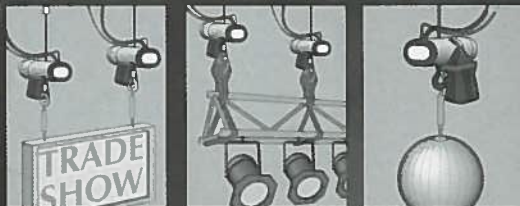
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Lighting Design Competition

Earlier this year Pulsar, in association with Melton Mowbray College/De Montfort University, launched the Pulsar Student Lighting Designer's Award. Sponsored by both organisations, the idea was to offer students studying at Melton an opportunity to try something new by lighting a short piece of theatre using only intelligent lighting.

Four students from Melton/De Montfort's Performing Arts courses - Drew Lane, Martyn Shenton, Tim Brown and Paul Lynch - participated in the contest, which took place at the college across the week-end of Friday 16th to Monday 19th July. Each had just three days in which to light a short performance which they saw for the first time on the Friday morning. Unlike most theatrical productions, the rig they worked with consisted entirely of moving lights - a combination of Clay Paky StageColor 300s, StageZoom 1200s and StageLight 300s - controlled through a Pulsar Masterpiece 108 desk.

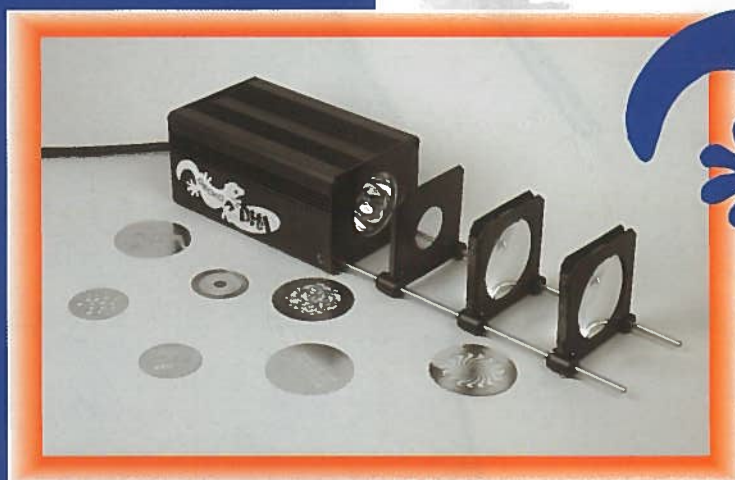
The four spent the week-end familiarising themselves with the Masterpiece and working through their design ideas before running through a dress rehearsal with members of the cast on the Monday afternoon. By Monday evening an audience was in place, together with a panel of judges (Dave Slater, chief electrician at the Haymarket, Simon Wood, Hawthorn Theatrical and Andy Elsegood, Lighting Technology), who viewed the four performances in sequence to give them an opportunity to judge which student had used the lighting to best effect.

The eventual winner was Tim Brown, a recent graduate of De Montfort University, who the judges felt had designed a piece of lighting that demonstrated a conscious decision to work from a number of different angles, using the technology to enhance the piece and not overwhelm it. Brown received £2,000 worth of Pulsar product. All the students felt they had benefited from the experience and welcomed the opportunity to work with a wholly intelligent rig which they felt offered wider scope for



The four contestants (clockwise from left) - Drew Lane, Martyn Shenton and Paul Lynch with the winner Tim Brown seated at the front.

experimentation than a generic rig. Pulsar and Melton Mowbray College hope that the event will gain wider recognition and that other colleges will nominate students to compete for the award in future years. Look out for details in a future issue of L&SI.



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3	3000	3000	1	3000	3000	3000	3000
4	4000	4000	1	4000	4000	4000	4000
5	5000	5000	1	5000	5000	5000	5000
6	6000	6000	1	6000	6000	6000	6000
7	7000	7000	1	7000	7000	7000	7000
8	8000	8000	1	8000	8000	8000	8000
9	9000	9000	1	9000	9000	9000	9000
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Turbosound Completes £1/4m R&D Investment

Since the acquisition of the company in a management buy-out from Harman International last July, Turbosound has made substantial investments in R&D resources as part of a strategy to pioneer new audio technology.

With the addition of engineers Jon Crawley B.Eng (Hons) and Laurence Dickie B.Sc (Hons), designer of B&W's highly acclaimed Nautilus super-speaker, the R&D team has recently moved into a new purpose-built factory unit at the company's Partridge Green headquarters. Comprising 4,000sq.ft of additional space devoted entirely to R&D, the new unit includes a new listening and development room, a separate power testing room, two prototyping workshops and office space, all equipped with state-of-the-art measurement and CAD systems.

Chairman Mike O'Flynn told L&SI: "Over the last 12 months we have invested more than

£250,000 into building a creative environment for our expanding engineering staff to conduct on-going development and blue sky research away from the day-to-day distractions of the factory floor."

As a result of providing these new resources, Turbosound has launched over 20 new products in just a year, spear-headed by the compact TQ-440SP speaker that employs on-board amplification and control electronics. With such a high rate of product development going on, the next step was to put prospective buyers (literally) in front of loudspeakers.

A new demonstration room was inaugurated last month, enabling customers to evaluate speaker systems in a realistic acoustic environment. Gary Smith, UK sales manager, is delighted with the result: "For the first time we are able to present customers with the entire Turbosound range under one roof."

Vinopolis is Uncorked



Late June saw the official opening of Vinopolis - a £22 million development built into railway arches on the south bank of the Thames. As you might gather from the name, Vinopolis is dedicated to wine - its history, its manufacture and yep, its consumption. At the heart of this 100,000 square foot complex is the Wine Odyssey - an interactive multimedia exhibit where visitors not only learn more about wine than they will ever be able to remember after a few glasses, but also get the chance to take a tour of Tuscan vineyards aboard a Vespa (immobilised of course and complete with video screen). Well, we ain't been yet, but we're going and you can read whatever sense we make of it in the next issue.

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Arts & Business Working Together



Aviva Ozin of Autograph Sound (centre) with Anna Simson (left) and Charity Green of A&B

Some in the industry will be aware of the work of Arts & Business, an organisation dedicated to bringing the business and arts communities together.

A&B is the successor to the Association for Business Sponsorship of the Arts (ABSA), which is principally funded by the subscriptions of its 350 business members. Since the organisation's formation in 1976, the level of business investment in the arts across the UK has risen from £600,000 to over £115million per year. A&B has grown

substantially and now employs over 60 staff in 13 offices across the UK, but its role extends way beyond the simple premise of money changing hands.

Members receive a wide range of benefits, including advice and information, a range of seminars, plus priority access to detailed information from A&B's research programme. The Creative Forum is the research and development wing of A&B.

Its purpose is to explore the role that the arts can play within companies. Leading this is the Arts@Work scheme, where a large number of arts organisations are offering management development workshops for businesses.

Another key strand of A&B's work is the Pairing Scheme, an incentive programme to encourage new and established business sponsors to form partnerships with the arts. Business sponsors can apply to the scheme for cash awards to match their sponsorship. Crucially, the extra cash must be used by the arts organisation to enhance the

sponsorship to the benefit of themselves and the business sponsor. Since its introduction in 1984, the scheme has attracted over £128 million in new money to the arts - £84 million from the business community, to which the government has added £42 million. A&B also operates a Skills Bank through which business people can act as mentors for arts organisations, and allied to this is the NatWest Board Bank, which has helped hundreds of arts organisations recruit new members to their boards.

One company working with A&B is Autograph Sound Recording who sponsor the Divas season at Donmar Warehouse. The Donmar has featured many times in Autograph's 25 year history, firstly as landlords when the company needed central London storage space, later providing Autograph with space for their recording studio. Andrew Bruce, sound designer and managing director of Autograph told L&SI: "The continued survival of the Donmar is very important to British theatre. We are delighted to be involved in the production of a musical season such as Divas at the Donmar."

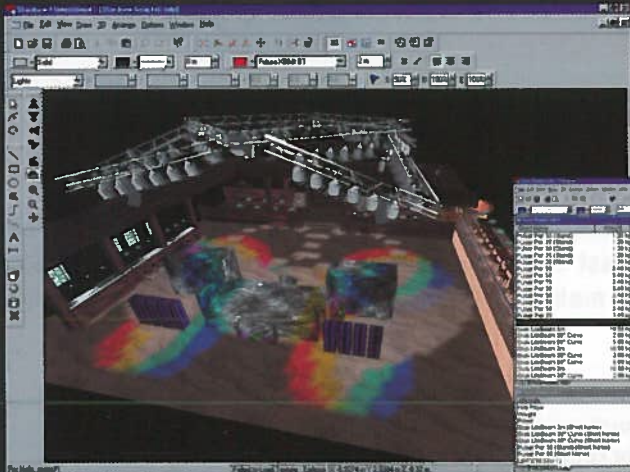
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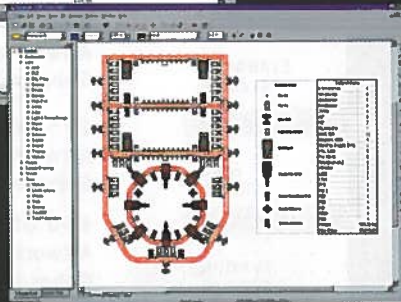
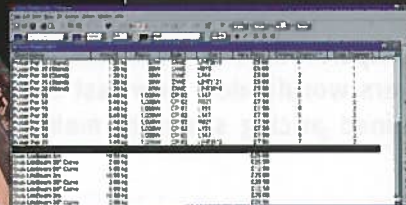
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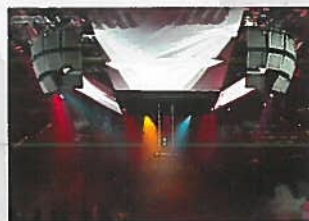
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News Round-Up



Media Dances to The Big Beat

Big Beat has launched the latest addition to its licensed trade empire with Media, a £2.5m dance club in Nottingham City Centre.

The new club, which opened on August 6, begins a new phase in the life of the former Elite Picture Theatre. Media joins the Big Beat portfolio which includes the Tunnel and Universe nightclubs in Glasgow, the Cul De Sac bar/creperie chain in Scotland and 'home' nightclub in Sydney, Australia

(see our feature beginning on page 123). And this month, the home brand comes to London, with the opening of the £8.5m 'home' nightclub in Leicester Square.

The 1,380-capacity Media features a multi-level main dance floor, two club rooms, six bars, a multi-media lounge featuring Playstation and Internet suites, a 70-seat restaurant called 'Magazine', a VIP lounge and a health juice and coffee bar.



Big Beat's Ron McCulloch said: "We have completely transformed a disused but very special Grade II listed building. By respecting the integrity of the original interior, then adding new ideas and installing state-of-the-art sound and lighting equipment throughout, we have created a unique blend of styles which positions Media amongst the elite of UK and indeed European nightclubs."

More details next issue . . .

Hobomedia Switches on Music Industry

New internet provider Hobomedia aims to find out what the market actually wants, having launched the first ever on-line survey of the UK music industry.

The survey aims to establish the music industry's propensity to use the internet and those services they use day-to-day. Following publication of the results, Hobomedia will launch a business-to-business site to support the requirements highlighted by user responses. Additional editorial includes Questions & Answers on technology and how this will affect the music business of the future. Every visitor to the site who completes the survey will have a chance to win one of three pairs of flights to several European destinations.

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Q: How many companies does it take to supply all your light bulbs?

A: Only one...

Q: How many gods does it take to screw in a light bulb?

A: Two. One to hold the bulb and the other to rotate the planet.

Q: How many mystery writers does it take to change a light bulb?

A: Two: One to screw it almost all the way in and the other to give it a surprising twist at the end.

Q: How many actors does it take to change a light bulb?

A: Only one. They don't like to share the spotlight.

Q: How many art directors does it take to change a lightbulb?

A: Does it have to be a light bulb?

Q: How many jugglers does it take to change a light bulb?

A: One, but it takes at least three light bulbs.

Q: How many Real Men does it take to change a light bulb?

A: None. Real Men aren't afraid of the dark.

Q: How many folk singers does it take to screw in a light bulb?

A: Two. One to change the bulb, and one to write a song about how good the old light bulb was.

Q: Which company ships worldwide sameday, from stock?

A: Lighting Technology Group

Q: How many movie actresses does it take to change a lightbulb?

A: One, but you should've seen the line outside the producer's hotel room.

Q: How many London taxi drivers does it take to change a light bulb?

A: What? Go all the way up there and come back empty? You must be jokin' mate!

Q: Which company has over 2 million pounds worth of light bulbs in stock?

A: Lighting Technology Group

Q: How many safety inspectors does it take to change a light bulb?

A: Four. One to change it and three to hold the ladder.

Q: How many magicians does it take to change a light bulb?

A: Depends on what you want to change it into.

Q: How many consultants does it take to change a light bulb?

A: We don't know. They never get past the feasibility study.

Q: How many politicians does it take to change a light bulb?

A: Four, one to change it and the other three to deny it.

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Strand SL Sales Top 15,000

Strand has recently sold its 15,000th SL Lantern . . .

The strong sales performance of the SL proves that the company were right to invest heavily in the new range, which replaces the Prelude, Brio, Leko and Cantata profiles. Its development came in direct response to demand from the market for a product that would work worldwide. During the design stages - a process that cost in excess of £1 million - Strand invited lighting designers from all over the world to tell them what they wanted and then responded with a host of unique new features, including multi-faceted high performance dichroic reflectors and computer-designed aspheric lenses with special dichroic coating.

In order that they might respond more quickly to customer requirements, Strand also decided to sub-contract the manufacture of the component parts and manage only the assembly of the lanterns in-house. As a result, the production line at Kirkcaldy is capable of producing a lantern every two and half minutes.

The SL range has been specified in venues worldwide, ranging from the Sydney Opera

House, through the Fomenko Theatre in Moscow, to the Hong Kong Academy for Performing Arts, not to mention numerous venues in the UK. One of its strongest showings has come in the States where an adapted version, which features a much brighter light, is finding favour across the country. Typical of its Stateside success story is the experience of distributor Paul Vincent of Vincent

Lighting Systems who sold just under 1,000 lanterns in less than 90 days. The sale of the 15,000th lantern worldwide puts Strand well ahead of its predicted sales target on the product and bodes well for future generations of the range.

Since the launch of the SL, the company has also been working on its architectural counterpart - the SLArchitectural - which carries many of the features of the SL, but with the distinction of long-life metal halide lamps instead of tungsten lamps, which they pre-



The production staff on the SL line at Kirkcaldy with Ronnie Hamilton, production manager (left) and Robert Globe, sales manager North European Trading (right). Inset, the commemorative 15,000th SL in bronze.

launched to distributors in June and which will be seen officially for the first time at PLASA.

Investment in the SL range is just part of an overall strategy that has seen the company inject major capital into a range of new products, including the 500 series desks and the Quartzcolor range of lanterns. As a result, the company has seen a growth of 18% and its immediate priority is to increase its market share in Europe where they are looking to develop key regions.

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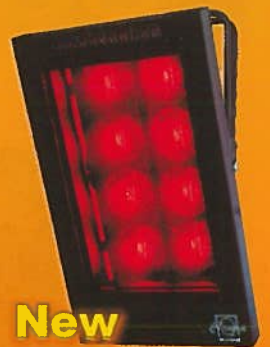
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People News

After the recent reorganisation within Vari-Lite's VLPS Europe operations (see L&S May 99), another surprise development has seen the departure of the recently-appointed general manager of VLPS London, **David March**, and the new appointment to the position of **Ed Pagett**. L&S understands that March has left the company in order to take over his father's clock-making business. Meanwhile, over in the US, **Anne Valentino**, has also left Vari-Lite to join PRG as vice-president of marketing for the Lighting Group.

Screenco has appointed **Mike Walker** as business development manager. Formerly at sister company Creative Technology, Walker is one of the most experienced sales professionals within the Avesco Group. On the operations front, meanwhile, **Andy Bramley** has joined the team with specific responsibility for managing the company's new Portable Production Unit.

Harkness Hall has appointed **Andrew Robinson** as managing director, completing its recent board re-organisation. Robinson, who has worked for a number of manufacturing and service organisations, will also take on the role of CEO of the company's USA operations in Virginia.

ETC Europe has appointed **Erik Larsen** as regional manager for Northern Europe. Larsen, who will be based at the company's Denmark office, joins ETC from Gobo Lighting A/S.

Leisuretec Distribution has announced two new staff appointments; **Nick Toms** has joined as warehouse manager and he is joined in the warehouse by **Alec Millar**. These appointments have allowed **Jay Walpole**, previously logistics manager, to move into the sales department.

Optikinetics has appointed **Andrew Silver** as director of sales and marketing for the Americas. Silver will be responsible for the sales and marketing of Opti's effects lighting and Trilite structural systems.

Aztec Events, the corporate event management arm of the Aztec Communications Group (ACG), has appointed **Keval Karia** as managing director. Karia joins Aztec from Clever Technology, where he worked extensively in the IT and AV industries, predominantly in sales and marketing.

Steve Campbell, formerly with Acme Effects, has joined Antari as international sales manager. Campbell will join **Chris Martin** on the Antari sales team - the move follows impressive growth for the company over the last couple of years.

Alain Wisniewski has joined Strand Lighting as area manager for France. He will work with the South European Trading team and will be based in Paris. Wisniewski spent eight years with ITT, and more recently has worked with French electronics and communications companies.

And finally, PLASA says goodbye to **Pam Revington**, a face well known to many in the industry, who retired at the end of August. She has worked at PLASA for over 10 years and been instrumental in the growth of the Association working across various roles, originally joining to handle the Association's accounts, before moving to membership services and subsequently to credit control.

Theatrical designer **Carl Toms** died in early August at the age of 72. Toms was an accomplished set designer and although the majority of his work was for theatre, he also designed sets for various operas and films. He designed sets for well over 100 productions in London and New York, winning an Olivier Award (SWET) for his design for the Royal National Theatre's *The Provok'd Wife* and a Tony Award for the Royal Shakespeare Company's *Sherlock Holmes*. More recently, he had designed sets for *A Delicate Balance* at the Haymarket and *She Stoops to Conquer* at the Queen's.

Peter Wildash, sales and marketing manager at Alistage, died of cancer on July 25th 1999, aged 50. He had done a great deal in promoting Alistage when the company added modular stage units to its original core business of aluminium towers a few years ago.

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Royal Opera House



White Light has won an order from the Royal Opera House in Covent Garden to supply an automated lighting rig to the re-constructed theatre, due to open at the end of this year.

As part of their ongoing search to find the moving light that best met their demanding requirements, Royal Opera House theatre consultant Mark White and members of the lighting department from the Royal Opera House visited White Light's stand at

this year's ABTT Trade Show. There they were shown the new City Theatrical AutoYoke. The AutoYoke turns the ETC Source Four profile spotlight into a versatile yet theatrically-oriented moving light, adding pan, tilt, iris and focus functionality, as well as colour-changing through a colour scroller.

Two days later, the Royal Opera House placed an order for 30 AutoYokes with White Light. The rig is being installed and commissioned by The Moving Light Company, White Light's specialist automated lighting division.

Showbiz Expo

Showbiz Expo, the motion picture, film, commercial theatre and multimedia industry trade event, featured over 500 exhibitors at the Los Angeles Convention Centre in June. More than 20 British companies exhibited at the show, including studio services, camera and lighting companies, location services and trade associations. Showbiz Expo New York, will take place from 16-18 September.

Phoenix Exeter

Stage Electrics, Exeter, has installed a new RCF PA zone system in the Exeter Phoenix Centre. The PA system is part of a £2.3 million rebuild of the old Arts Centre.

A major feature of the centre, which has benefited from a lottery grant, is a new theatre. Stage Electrics' Robin Little took the brief from the client: "The requirement was for a four-zone paging system to cover the foyer, cafe bar, backstage, dressing rooms and the control areas."

Stage Electrics specified an RCF PA zone system comprising three RCF AM1120 amps, four PL81 ceiling speakers in the bar area, two DU KB11 speakers backstage, 11 DU B101 speakers in the bar, foyer, dressing rooms and exhibition area, plus a pair of RCF volume controls. The system has the facility for anyone to page from any location and to access calls zone by zone. The foyer and bar areas also have their own background music systems which allows the operator to select and play different styles of music during theatre intervals.

Stage Electrics has also installed a number of RCF Monitor 4s in the main theatre auditorium, for surround-sound applications.

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AC Lighting Confirmed as Major Supplier to Millennium Dome

AC Lighting Ltd has been confirmed as one of the major lighting suppliers to the New Millennium Experience Company, the company behind the Millennium Dome in Greenwich, London.

The Millennium Dome consists of a central show area and 14 outlying themed zones, each representing a different area of people's lives. In addition to this is 'Skyscape' a separate structure located next to the Dome. For the main central show area AC constructed an extensive lighting control system which consists of two Wholehog II units, each with a remote control and tracking back-up in the form of the Hog II rack-mounting replay unit. Coupled with this is a custom-made 5,000 DMX channel WYSIWYG lighting visualisation system from CAST Lighting. This system takes DMX signals from both controllers, or their back-up units, to create a visualisation of the show area as it is being programmed and has the added advantage of making distribution of the paperwork information that accompanies the lighting rig extremely easy. All of this control equipment has been linked together via MIDI, allowing full communication between each relevant unit. Additionally incorporated into the system is an Artistic Licence switchover unit that allows manual changeover from the main set of controllers to the back up set, should the need arise.

For control around other areas of the complex, AC has supplied a further seven Wholehog II control consoles, four Wholehog II expansion wings, seven WYSIWYG 2000 visualisation systems and a variety of smaller consoles from Australian manufacturer Jands, including units from the Jands Hog, Event and ESP II ranges. DMX test equipment has also been sourced from AC with Micro Scope 3 units from Artistic Licence and L'il DMXters from Goddard Design being supplied.

Coupled with all of this control equipment are a number of dimmer racks. Two 72-way Vision racks and a single 24-way Vision rack, both fitted with Jands modules have been supplied, along with two 66-channel ART dimmer systems from Avolites.

On the mains power front, Simon Brophy, head of lighting for the NMEC, chose the PowerLock connector from Litton Veam and has, so far, installed 150 of the single-pole 400 amp connectors. The very latest PowerLock product also appears on the spec sheet. The PowerLock NRG, which only allows the mating and un-mating of the five connectors in the correct order, is a brand new product and some of the very first production units are already destined for the Dome.

The fixture list is quite extensive. Vision Fresnels, in both 1.2 and 2.5kW sizes, feature along with more than 550 ETC Source Four fixtures, in both ellipsoidal and Par format, with quite a number of the ETC units being supplied in a silver finish. A number of these fixtures are to be fitted with colour changers from the Chroma-Q range, with units from the smaller Broadway unit right up to the larger M range, being supplied. For part of the exterior lighting, 26 Powerflood units have also been supplied.



Das Kapital.

It can be heard from all frontiers, d&b has taken up the cause to revolutionise the world of sound reinforcement. Towards this objective, conscientious brothers and sisters unite to work with idealism, expertise and exacting standards, intrepidly breaking ground, building boxes and driving forward the electronic discourse. Over recent years more and more noble comrades in arms have joined the d&b movement to help neutral sound claim its right. Not only has this led to an increased surplus value awareness amongst the workforce, the d&b revolutionary committee has also been able to proclaim comprehensive quality orientated awareness amongst the distribution ambassadors. For the benefit of users and their audiences the d&b system is thus spread throughout the world in solidarity and co-operation! In short, these workers and ambassadors make up the functioning capital of d&b.

News Round-Up



To ease the installation of the lighting systems, additional lighting fixtures have been supplied on internally-wired bars, once again supplied by AC Lighting; 60 bars fitted with James Thomas ACL fixtures, 30 bars fitted with ETC Source Fours and 20 bars fitted with James Thomas Par 64s are just the beginning. At one point during the supply of this equipment, Roland Hemming, head of sound for the NMEC, even decided to make his life easier and commissioned AC to construct a series of internally-wired bars to his specification to ease the audio installation.

James Thomas Engineering product has also been specified for the supply of additional fixtures including Par lanterns, in a variety of sizes, MR16 Battens, 8-Lite units and four-cell cyc floods. Strobe lighting supplied for the complex includes 198 egg strobes and 60 3kW

linear strobe units from American manufacturer Diversitronics Inc. AC has also supplied a number of followspots for the venue including six of the massive Gladiator III units from Strong International, which utilise a 3,000W xenon lamp and a smaller 1202 unit from Austrian company Pani. A number of Vision LE 200 haze machines have also been supplied, helping to create the 'atmosphere' inside the complex.

The majority of the lighting fixtures supplied have been fitted with Tourmate Ebony connectors, the predominantly black 16 Amp CEE connector. So far, more than 1,400 of these connectors, in both male and female varieties, have been installed. In addition to these, hundreds of Neutrik XLR data and Socapex multicore connectors, in a variety of sizes and formats have been supplied.



All this brings about the subject of cabling, and once again AC Lighting were on hand to supply what was necessary, for both the power and data requirements. So far, more than 20km of power cable has been used and has been supplied as both raw cable and as complete made up cable, with fitted connectors, from AC Lighting's manufacturing facilities. Using a selection of Tourflex Datasafe 2 and Tourflex Datasafe 4 DMX cables, the data cable so far is in excess of 52km. Now this may seem like a lot of DMX cable, after all it is a lot of DMX cable, but when you consider that the Millennium Dome has a circumference of more than one kilometre, things start to appear in a little more in perspective. It's still a lot of cable though!

The lighting specification outlined here only constitutes a part of the total lighting system at the Millennium Dome complex, as a number of other companies are also involved in supplying the NMEC, including those companies that are supplying the intelligent lighting specification.

LightProcessor Also Get in on the Action

In a separate announcement, Light Processor has won a major contract to supply several areas of the Dome with Paradime fully digital distributed dimming.

A total of 85 Paradime digital dimming modules are being utilised. Some 75 6 x 10 amp modules with CEE Form connectors and 10 custom-designed 5kW units will be used in the Central Show, various Exhibitions, Skyscape, Our Town Story, the Meridian Stage and other ad hoc areas of the Dome. Additionally, LightProcessor has also supplied 26 of their new DMX distributors.

The Paradime installation is now fully underway. The dimmers will be used for ETC Source Four profiles and Pars, four-lamp ACL bars and eight-unit bars of Thomas Par 36s. The control side of the equation is completed with a WholeHog II control console and linked together by a customised WYSIWYG suite.

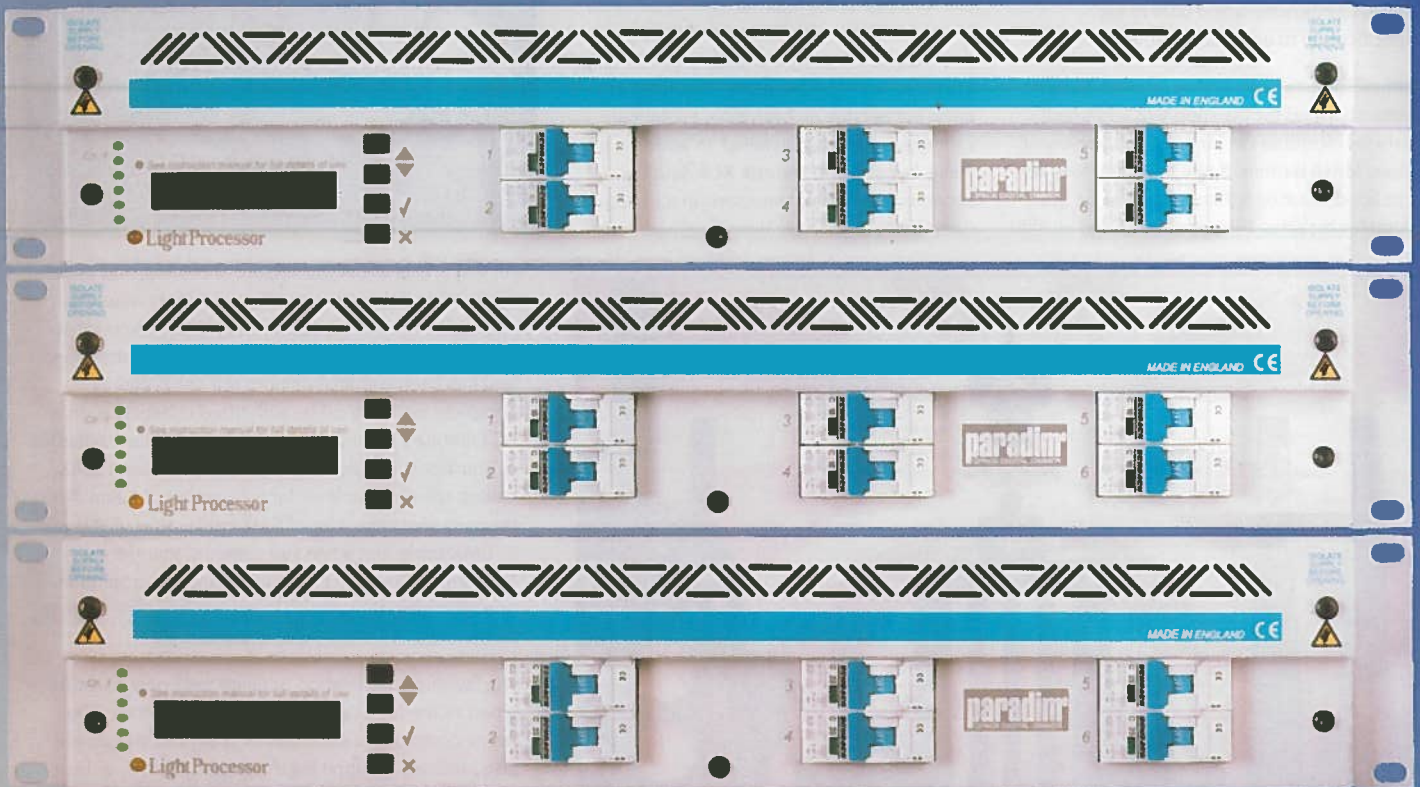


paradigm (pàr'e-dim') noun - An example that serves as the pattern or model for the rest.

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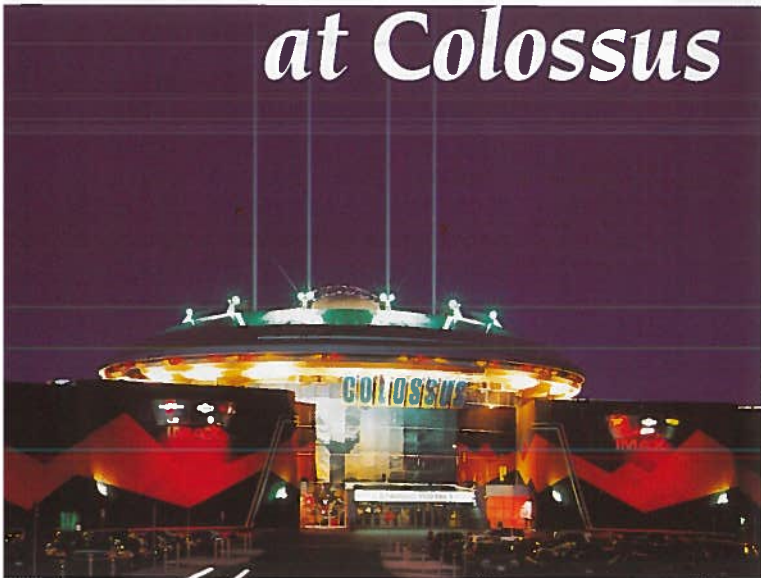


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Sky Trackers at Colossus



Toronto's newest cinema megaplex, the Colossus, is one of the largest screen complexes in Canada. Operated by Famous Players Theatres, the Colossus features 24 screens housed by some unique architecture. But by far the most striking aspect of the building is provided by four Sky Tracker 4000W xenon searchlights on the roof of the building, which pierce the sky with four vertical beams.

The STX-A single-headed searchlights are mounted in parabolic reflectors, and housed in durable all-weather cases, creating beams that are visible for over three miles. Jack Johnston, sales manager for Xenotech Strong, told L&SI: "The Sky Trackers complete the 'alien' feeling that was sought by the architects. They also do a great job of promoting the location to theatre-goers and curious onlookers."

Production Resource Group's Sight & Sound Deal

Following our recent news that the US-based Production Resource Group (PRG) had entered into a partnership with Boston Ventures Ltd, PRG has now announced the terms of an agreement with DistributedMedia.com, Inc (DMC), a subsidiary of NCT Group. Under the new agreement, PRG, through its subsidiary Signal Perfection Ltd (SPL) will become the exclusive supplier of DMC's Sight & Sound System. PRG has also become an equity holder of DMC.

The Sight & Sound System delivers a combination of music and advertising messages to virtually any public location or retail environment. Each system consists of a Digital Broadcast Station, and four or more dual function audio billboards (flat speakers) to which audio is downloaded.

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The Edinburgh-based Media Facilities Company has unveiled a £250,000 investment package to bring employment prospects and the latest in audio-visual and multi-media facilities to Scotland. The move comes as part of a total corporate re-launch for the company, previously known as Market Factor Media Facilities, and is expected to further expand its stronghold in the high-tech conferencing and multi-media markets.



John Dick, managing director at the Media Facilities Company

Sennheiser Posts Strong Results

Sennheiser has reported a worldwide increase in sales of 11 percent for 1998. The company's wholly-owned international distributor network produced strong business results, with the USA and Canada both reporting an 18 percent increase in sales, followed by France with a 17 percent increase and the UK with 15 percent.

The strong European growth pattern was reinforced by an unprecedented 38 percent increase for Sennheiser's Italian sales partner, the highest recorded anywhere worldwide by the company. Losses in Central Europe, however, were offset by continued domestic sale expansion within Germany, including the opening of a new sales office in Hamburg and an overall increase in German sales of 20 percent.

The success is due in part to the company's Evolution series of microphones which have made substantial ground in the MI and sound touring sectors, while the expansion of the 3000 series RF product line also saw the the company reinforce its position in mid-market RF for theatre, sound touring and broadcast applications.

AV Firm Expands In Scotland

John Dick, managing director at The Media Facilities Company believes this is a first for Scotland: "For the first time, Scottish businesses and local enterprises will have access to a major multi-media resource centre under one roof."

With around 10 new jobs planned for the immediate short-term, he adds: "Capital for the investment has all been raised internally as a result of successful trading across a broad

spectrum of customers from the large corporates to small community groups."

Currently, the company supplies blue-chip clients such as Standard Life, Scottish Power, Lloyds TSB and Scottish Widows. The new premises are in the old vintners' warehouses on Giles Street, Leith, where the latest developments in video conferencing, digital editing, Steadicams and plasma screens will be on show.

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Island Life

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TOURIST
ATTRACTION

Nestled in the heart of Orlando is the Universal Studios Islands of Adventure, Universal's newest entry in the theme park world. Sharon Stancavage finds that it's not for the faint-hearted

Located adjacent to Universal Studios Florida in the Universal Studios Escape Resort, these five 'islands' take visitors into a total immersion world that includes cutting-edge rides, restaurants and themed shopping galore. Academy Award-winning director Steven Spielberg worked as a creative consultant for the new park, which gives visitors a dizzying journey into Marvel Super Hero Island, Toon Lagoon, Jurassic Park, The Lost Continent and Seuss Landing. The project began work in 1994 and, under the supervision of a variety of producers from Universal Studios, officially opened on May 28th.

The journey begins as visitors step from the exotic Port of Entry over a glistening metallic bridge, under the twisting, turning neon green track of the Incredible Hulk Coaster into Marvel Super Hero Island. Visitors can tempt fate at Doctor Doom's Fearfall, which features a 200ft vertical drop, enjoy the thrills of the Incredible Hulk Coaster or leap into The Amazing Adventures of Spider-Man.

This last attraction takes visitors on a unique 3D adventure. After being told the story in the queue line, visitors climb aboard the 'Scoop' news gathering vehicle and experience a completely immersive journey through the New York City nightscape that melds motion control, scenery and state-of-the-art 3D film-making. "The whole idea of the Spider-Man attraction was to create an illusion, to drop you into the pages of a comic book adventure," explains Marvel Super Hero Island producer Scott Trowbridge. "The whole point of the attraction is to do that in a way that creates a very dynamic, very compelling, very realistic illusion," he adds.

Anne Militello of Vortex Lighting in Los Angeles handled the lighting design of Spider-Man, which included two very different areas - the queue area that winds through The Daily Bugle Newspaper (featuring its 'cartoon realism' look) and the 3D ride area, which includes over 1,400ft of ride track. For the queue area, Militello used over 30 different architectural downlights, wall sconces, chandeliers and table lamps. "Basically, I used conventional architectural fixtures, which I occasionally lamped a little differently, so that I could have more of a theatrical effect," Militello explains. Militello relied heavily on white light and colour corrected light in this area, with most of the fixtures dimmed from 20% to 50%. "When we dim down the incandescent lamps, the lamp life will last four or five times the test life, which means we change the lamp less often," she adds.

After visitors traverse the queue and become involved in the storyline, they put on their 3D glasses and take a journey into the highly-stylised New York City night, in search of Spider-Man's arch enemies. Each ride vehicle contains a 16-channel digital audio system that synchronises with over 144 off-board audio channels, bringing the audio up close and personal to the visitor and heightening the immersive experience of the attraction. "You're riding in a vehicle that has a sound system and there's also sound coming from different locations in the venue, reflecting off walls and so on," comments lead audio designer Tony Micelli from Orlando-based Show Works. "As the vehicle moves through the scene, and as the images on the screen change, the perspective of the audio also needs to change with it."

The dimensional audio aspect is one of the building blocks of the illusion in Spider-Man, and it was achieved by designing the individual audio elements in the studio, then bringing the studio to the attraction for mixing. Using Digidesign's Pro Tools, Micelli and his team mixed the show wireless from a ride vehicle, using the Pro Tools Pro Controller remote. "Pete Layman, our chief sound designer, would plant himself in the scene for a few nights, and go meticulously through it, over and over again, mixing the scene, until it was perfect," says Micelli. Unfortunately, after Layman put together the mix, his job was only partially done. "Once we got through the entire attraction, we had to make



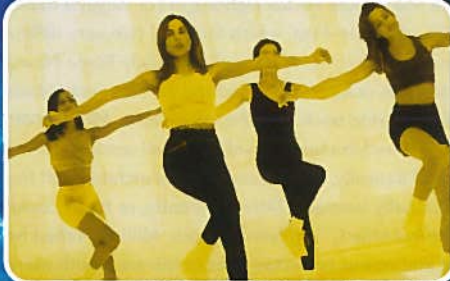
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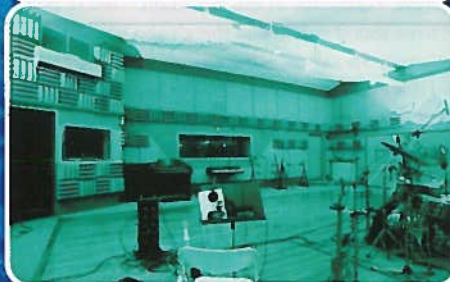
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sure that every one of the 20 vehicle systems were matched," Micelli adds. While Micelli was wrangling with audio issues, Militello and her assistant Dave Cuthbert were busy implementing her lighting design in the 3D area. "The object of this is to disguise what's really film and what's really hard scenery," she explains. "What we tried to do is meld both of them together."

blues and greens (primarily provided by GAM), and augmented with unexpected bold strokes. "There are touches of vibrant colours that are thrown in subtly to reflect things like street lights and windows," Militello explains. The ride culminates with a heart-pounding 'sensory drop' of 400ft into the darkness, making this an attraction that visitors won't soon forget.

Perfection Ltd of Columbia Maryland, and include nearly 700 cabinets that highlighted over 200 audio tracks produced by John Rust, who produced all of the music for the entire park. In both attractions, Blum and producer Chris Stapleton relied primarily on New England Acoustic Research (NEAR) speaker cabinets, chosen for their ability to withstand water exposure. In Ripsaw Falls, one can also find a spattering of EAW KF853s and EAW BV565s, the latter used primarily for effects.

While Ripsaw Falls is a more traditional flume ride, Bluto takes guests on a rollicking journey through rapids in a large, constantly-spinning raft. In Ripsaw Falls, the multiple levels raised containment issues, while Bluto features rockwork walls that actually helped keep the audio localised. "The walls acted like a bandshell and helped to project the audio to the focal point," Stapleton explains. The water noise levels in Bluto were also much more intense than in Ripsaw, which brought about other challenges. "We tried to keep the music about 5 or 6dB above the water noise," Blum explains. "If you get any quieter, it gets lost in the water." To compensate for this, the character voices were equalised to be sharper and more penetrating. "Down in the bass region, we can't compete with the water noise, but up in the mids and highs, we can get over it," says Blum. As a result, the soundtrack is somewhat compressed and doesn't have a huge amount of dynamic range, but it is easily intelligible above the water.

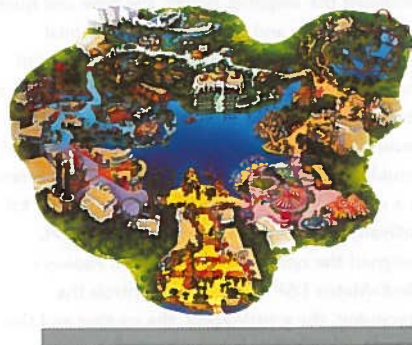
When visitors want to dry off from their wet and wild adventures, they can find a haven in the Toon Lagoon Amphitheater. The 2,000-seat theatre is surrounded by 24 20ft x 20ft pieces of red, yellow and blue Textalyne which keep out the intense rays of the Florida sun. As visitors enter the quiet oasis, they are greeted by a 38ft long, 6ft high sign, emblazoned with the words "Cartoon Circus" that sports a variety of effects, including strobes, pyro and neon, as well as a built-in lighting truss that houses 21 fixtures. The Pandemonium Cartoon Circus features the lighting design of Jason Kantrowitz of KB Associates of New York, a firm well known on Broadway. "The thing we set out to do in lighting the show and composing the cues, was to create a really fun, really happy, really up-tempo show," Kantrowitz explains.

Working in an outdoor venue was one of the biggest challenges in the project. "Most of the performances are done in the daytime and that's very different than lighting for an indoor theatre," he readily admits. "Because everything is bathed in sunlight, you need to try and give the show as much punch and as much colour and excitement as possible."

To give the show that extra 'wallop,' Kantrowitz relied on 23 Clay Paky 300W Stage Color 300s. "They have an amazing punch to them," Kantrowitz comments. "And they also have an incredibly beautiful range of colours," he adds. Kantrowitz, who has



Spider-Man combines several extraordinary ride technologies including rapidly moving mobile vehicles, specially filmed 3D action and pyrotechnic special effects. Inset, an overview of the park



Early in the project, Militello designed a catwalk system that extends through the footprint of the building, to accommodate her lighting positions and 25 large format projection booths. For Militello, the next step in the design process was to study the physical aspects of the facility and the path of the ride vehicle. "We had to first look at the actual building and find out where the projection screens were, as well as the ride vehicle," Militello explains. "Once we determined where the screens were in relationship to the car, then the scenery was designed around that."

Once the scenery was in place, Militello determined her lighting positions. "Once I had these established, I took them to the film-makers at Kleiser Walczak and we talked about the angles of light in relationship to the hard scenery that was going to be surrounding the film," she says. Once the shadow angles were established and the film was produced, Militello used close to 700 ETC Source Four profiles and Pars to illuminate the ride area. "The most challenging part was ensuring that my lighting matched what the film was doing."

The scenery dominates this portion of the ride, and the screens are carefully integrated into it, combining the best of the theatre with the latest motion picture technology. The colour palette in this area is riddled with

Moving out of Marvel Super Hero Island, the colours become more vibrant, the music is more upbeat and the Sunday morning cartoons come alive in Toon Lagoon, the next Island moving clockwise around the park. Toon Lagoon features Dudley Do-Right's Ripsaw Falls flume ride (which includes a 75ft drop, with 15ft of it underwater), Popeye & Bluto's Bilge Rat Barges (an extremely wet water ride) and the Pandemonium Cartoon Circus, a Broadway-inspired one-ring circus spectacular. The Island, produced by Chris Stapleton, drops the visitors into the brightly-coloured world of Popeye, Dudley Do-Right, Beetle Bailey, Betty Boop and many, many more.

According to Asher Blum, audio hardware engineer/ manager at Toon Lagoon, the audio challenges of Ripsaw Falls and Bluto were quite similar. "They're both water rides, and they have a lot of the same challenges with noise, accessibility and theming the speakers into the attraction," Blum comments. The systems in Ripsaw Falls and Bluto were designed and installed by Signal

worked with a variety of Clay Paky products in the past, also chose them for their 24 hour, seven days a week reliability, as well as their aesthetic appearance. "When it came time to choose moving lights, I wanted to pick a fixture that had the feel of a big fresnel," he remarks. "A mirror-based fixture would have looked too

contemporary." To round out his

lighting package, Kantrowitz used 270 ETC Source Four Pars, 180 ETC Source Four profiles, 15 R40 strip lights and three Lycian 1290 2KW xenon followspots.

Kantrowitz and his lighting programmer Jim Ohrberg used an ETC Obsession 2 board for the show, which controls all of the conventional lighting, the moving lights, smoke effects, pyro, trip drops, confetti machines and

bubble machines. The show, which features the score of Andrew Lipka (who also scored 'You're A Good Man Charlie Brown') is extremely busy from a lighting standpoint, with

over 200 cues. "The vast amount of lighting cues really helped to enhance the whole audience experience," Kantrowitz comments. "The show really works."

Moving on, the merriment of Toon Lagoon gradually fades into the distance, supplanted by lush vegetation and heady scents of a tropical paradise. "Jurassic Park, as a concept, has been in development at Universal for some time," reports Jurassic Park producer Bob Shreve. The Jurassic Park River Ride made its debut at Universal Studios Hollywood in 1996, and has been thrilling dinosaur aficionados ever since. According to Shreve: "We're like a second generation enhancement of the Hollywood attraction, except that we're the actual park, where they are just one ride."

Jurassic Park consists of several perfectly themed areas that bring visitors into the movie itself - the

Jurassic Park River Adventure, the five-acre Camp Jurassic, Triceratops Encounter and the Jurassic Park Discovery Center. The Park showcases 22 startlingly realistic animatronic dinosaurs, created by SPAR Aerospace (who worked on the Space Shuttle) and Hall Trane Moving Pictures of Toronto. From a

theatrical standpoint, the high point of Jurassic Park is the River Adventure, which takes visitors through a leisurely cruise that begins in a placid lagoon and quickly goes away. "I could build the best animated figure in the world," Shreve begins, "but to really sell that show, I had to have primo audio and lighting."

The audio hardware in the River Adventure was provided by Signal Perfection Ltd, who were also involved in the Hollywood attraction, as well as in Toon Lagoon.

"Doing it the second time gave us a great opportunity to go in and enhance the performance of the system," comments Signal Perfection's president Will Parry. "This time, we've increased the amplifier power, the type and quality of the speakers and we've added additional subwoofers," he reports. "There are all kinds of things happening in the attraction, and in order to come as close to the experience of the movie as possible, we needed to have a sound system that would closely replicate what you would experience in a motion picture theatre." Senior engineer Ed Sullivan, along with an extensive staff at SPL, designed the system, which is run on Peavey's MediaMatrix DSP system. This controls the processing, the equalisation, the routing and the compression of the system. "It allows a lot of flexibility in setting up the system, programming and fine-tuning it," Parry comments.

The River Adventure sound system, which is one of the audio high points of the Islands of Adventure, was designed with a large amount of headroom. "What typically happens in a sound system, is that they run it up to peak, and consequently, it doesn't sound as good as it should," Parry explains. To avert that problem, Parry and his team designed a system that had more than enough power to handle the roars of a variety of dinosaurs. "We invested substantial amounts of money to get the proper front and rear end on our audio hardware, to deliver a clear, clean, crisp sound with enough power to convince the audience that these sounds were, in fact, coming from the creatures themselves," explains Shreve.

The River Adventure begins with a leisurely cruise, augmented by a variety of speaker cabinets that are themed into the abundant vegetation and are virtually invisible to the untrained eye. "In the areas where point source effects or voice intelligibility were required, we used Community Wet 28 cabinets or EAW KF600 Series boxes," Parry explains. The fibre-glass Community cabinet is fitted with two 8" woofers, a compression horn and a driver, while the KF 600s rely on horns for

the upper mids and highs, and have a 15" woofer that provides a robust low end. Overall, the outdoor system consists of 70 to 80 cabinets, with 40% EAW cabinets, 30% Community cabinets and 30% NEAR cabinets, all of which were powered by Crest amplifiers.



Dinosaurs live amongst the trees and bushes of the River Adventure, and their roars are expected to shake the earth. "Dinosaurs are big animals, so you do want some low frequency," Parry states. To get that extra oomph for the prehistoric creatures, he used double 18" subwoofers, housed in EAW SB Series boxes. But nothing can prepare the visitor for the appearance of T-Rex, which happens inside of the geothermal power plant, when the cruise gets accidentally bumped off course.

"The T-Rex area is the one area where we have a sound system that KISS would die for," claims Shreve with a laugh. T-Rex himself stands 30ft tall, weighs 90,000 pounds and moves at a rate of 50 inches per second. He's supported by a total of 13 EAW cabinets, including two 900 Stadium Series boxes. The cabinets are located at the feet of T-Rex, on either side of the ride track and inside the dinosaur. The T-Rex audio is also delayed and mixed into 10 effects speakers throughout the scene, creating an echo effect. This change, among many others, was made on site, without any added wiring, thanks to the flexibility of the MediaMatrix. "It's really loud," Parry admits with a chuckle. "It's basically a system that we'd use in a 7,000 seat theatre." The cabinets are placed a mere 30ft from the audience, and are driven by four 8000W Crest 9001 amps. "The number of speakers, in relative distance to the visitors, has to be some sort of record," Parry adds. With T-Rex and his sound system bearing down on them, the ride vehicle takes a heart-dropping plunge 85ft down the longest, fastest, steepest water descent ever built, back into the relative tranquillity of Jurassic Park.

Passing through a tall, rocky corridor, guests will find themselves transported back in time to The Lost Continent. Awash in mystery, this is the home of magic, thrills and daring. "The idea of a lost continent is the most romantic and adventurously evocative short title we could come up with," explains producer Amelia Gordon. The Lost Continent has three major areas: Poseidon's Fury, a technologically-stunning walk-through attraction, Duelling Dragons, two intertwined rollercoasters that feature an elaborate queue line, and The Eighth Voyage of Sinbad, a live action stunt show.

From a theatrical standpoint, Poseidon's Fury is the high point of the Park. The attraction comprises four acoustically separate rooms that highlight the audio systems of Thomas Gregor Associates of Los Angeles and the special effects of Technifex of Valencia, California.



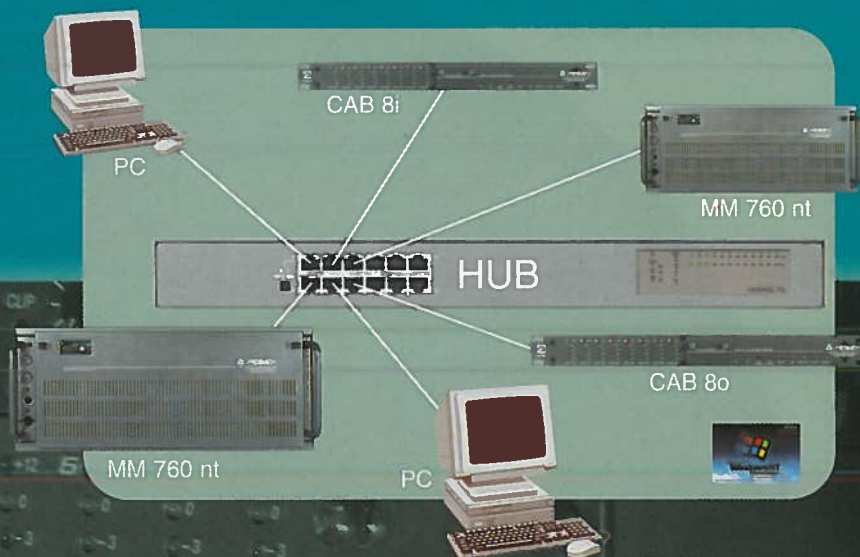
Above, that famous entrance greets visitors to the Jurassic Park Discovery Centre. Right, the Jurassic Park river adventure brings visitors face-to-face with a five storey T-Rex before testing out their bladder control by plunging them down an 85ft waterfall

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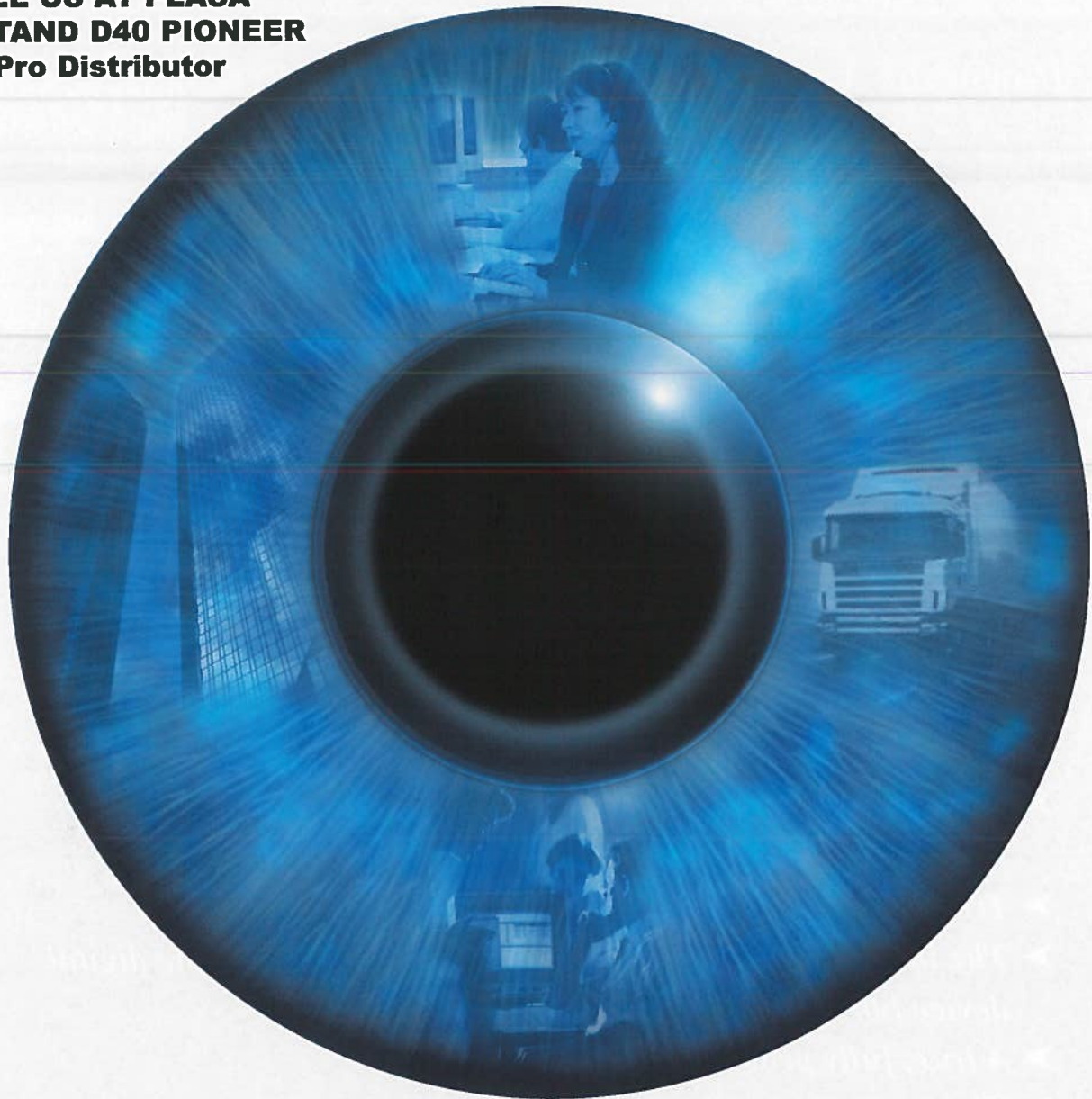
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Right, the vortex, and below, the entrance to Poseidon's Fury

The journey begins as visitors are ushered into the dark, 50ft by 50ft Portal of Panels. The story is told by a mysterious keeper, who climbs out of an opening in the wall near the ceiling. "We're using Countryman Isomax cartoid headsets for the Keepers, and whilst the look of the headset would not have been our choice, within the acoustical environment we have, they work great," explains Christian Hugener, president of Thomas Gregor and senior audio designer of Poseidon. A custom point source loudspeaker, housing four Radian 8" drivers, is angled over the keeper's head, completely invisible to the naked eye. Interacting with the keeper is a mysterious disembodied voice, courtesy of six Sound Tube speakers. The Sound Tube Pro 1405s, which are 12", three-way loudspeakers, are themed into the pillars that surround the room. "We wanted something a little more ethereal, that would work and blend in and utilise the reverberant field in the room," Hugener explains.

The entire audio system of Poseidon is controlled by four Level Control Systems (LCS) LD88 digital mixers. The LD88 provides eight channels of I/O, as well as multi-band parametric EQ and delays on all inputs and outputs. They deliver all music playback and handle all routing and level control of the Keeper's microphones. An Alan Bradley PLC (Programmable Logic Computer) is used to track the Keepers through the scenes and provides the central show control for the entire attraction. The PLC sends commands to an Anitech Mediapro 4000, which is used as a control interface between the LD88s and the PLC. "It's technically a very advanced control system," comments Hugener.

After the Portal of Panels, the guests are invited into the dark and mysterious Oracle Chamber. An otherworldly oracle, courtesy of Technifex, appears above a massive rock cartouche door, and continues the story. "It's a nice illusion because no matter where you're standing in the room, the oracle appears to be looking at you," reports Technifex president Monty Lunde. To achieve the effect, Technifex filmed a live actress, manipulated her image in post-production and then used rear projection on a specialised screen.

The Oracle speaks to the guests from above the ornately-carved cartouche door, which logically dictated the speaker placement. "We wanted pretty good sized speakers in there, and they really needed to be in the walls, on either side of the cartouche door," Hugener explains. Hugener, working throughout the project with Universal's audio/video engineering manager Bob McCrobie, found he needed a cabinet that was less than 9" deep that also provided the same acoustic environment as in the other rooms. "Since we couldn't put big, deep cabinets in, we used McPherson Monoliths." The McPherson Monoliths are an 8.5" deep speaker that has



an 18" low frequency speaker, two 6.5" midrange drivers and a 2" compression driver and provides high fidelity sound reinforcement. The system is completed with a single Apogee AE15 subwoofer, which hangs freely in the ceiling above the cartouche door and two point source Radian 8" coaxial speakers in custom enclosures.

The Oracle, in her wisdom, beckons visitors to concentrate, and soon the cartouche door begins to open, revealing the gateway to Atlantis. A huge, 270-degree tunnel of water forms in front of the visitors, inviting them to step through the vortex and into Atlantis. The vortex itself, another marvel from Technifex, cycles a massive 22,000 gallons of water per minute, courtesy of six 300hp pumps. "As you watch it form, you see the magic happen right before your eyes and it's truly splendid and incredibly powerful," Gordon comments.



The 18ft diameter, 40ft long vortex is a cacophonous, humid, misty tunnel that the audience walks through to get to Atlantis. "We're basically using centrifugal force to keep the water in the tunnel and off the guests," explains Lunde. "We used 38 2" nozzles, spaced 12" apart on one side of the tunnel and just shot the water up one side. The water runs up over the top, goes down the other sides and into a catch basin under the catwalk," he concludes matter of factly. The vortex, which is running at about 102dB, is currently being patented by Universal. "We're very happy about the way the effect works and the response from enthusiastic park guests," Lunde comments with a smile.

After the vortex, visitors arrive in the final room: the dark and mysterious undersea Temple of Poseidon. Scattered around the room are five film projectors and eight 35ft high by 30ft wide water screens (provided by ECA 2 of France) which are bursting with images of bubbles, giving the room a surreal,

unearthly feel. The undersea world is awash with the sound of whales, fish and bubbles, and, later, the sounds of battle. Water gushes out of the mouths of enormous, highly stylised fish, which will later feed two water cannons. The water cannons, designed and built by Technifex, are located under the water of the impressive pond that the audience faces, using water recycled from the vortex.

Acoustically, the room is filled with a dynamic surround sound system that consists of eight clusters of two Apogee AE 9s, and an Apogee AE 11 subwoofer (making a total of 16 AE 9s and eight AE 11s), which are all located in the facility arches. There are also two Apogee AE 7 point source speakers in the centre film bay with four more AE 7s themed into the water-gushing fish. As the battle heats up between Poseidon (water) and Zeus (fire), Hugener's clusters and point source speakers are quite successful in helping the audience focus on the action from Poseidon, to their right and Zeus, who thunders from their left.

After a barrage of over 100 special effects, including water cannons, flame and pyro, Poseidon's Fury comes to a stunning climax too entertaining to be revealed. "I'm really blown away by what we've done," Hugener concludes.





The Cat in the Hat - a colourful dark ride with scenery provided by Scenic Technologies

The most challenging area from a lighting standpoint was the 30ft long hallway, which climaxes with Things 1 and 2 throwing a piano at the ride vehicle. To keep the reveal of the piano a surprise, Young utilised some clever optical manipulation: "We abruptly brought the lights up quite high before the end of the previous scene, then plunged the visitors into darkness. As you move into the hallway, your eyes don't adjust, so it's more difficult for the visitor to foresee the falling piano."

While Young was in the house with the Cat, Michael Finney, senior project designer at Ruzika, was at 'If I Ran the Zoo', a children's play area that features 19 sneezing, laughing and spitting Seussian characters. "The zoo was a bit of a monster," Finney admits with a smile. "You couldn't design it as you would a typical architectural space - all the fixtures had to be out of reach and hidden," he explains. In the end, he used over 40 custom light poles, with over 250 fixtures for the 3,800sq.ft area.

The real stars of the Zoo are the characters themselves, which interact with the children. "The kids can come up and crank things, or step on elements, or push buttons or move levers," explains Technifex president Monty Lunde. "Seussian characters are very, very difficult to work with in terms of making a stout structure, since many of the elements that are truly Seussian are very small at the bottom and very big at the top, which is the opposite of what an engineer wants," Lunde says with a chuckle.

To compensate for the Seussian engineering, Lunde and his team concentrated on giving each zoo character as much steel and reinforcing structure as possible, to withstand daily use by curious children. "Generally speaking, we try to find the simplest solution because that's usually going to be the most inexpensive to build and the easiest to maintain," Lunde concludes.

As guests move out of Seuss Landing, the fanciful music fades into the background, only to be gradually replaced by the exotic sounds of a foreign land. They've arrived once more at the Port of Entry, their journey through the Islands of Adventure completed.

Leaving behind the mysteries of old, visitors cross a wooded boardwalk into Seuss Landing, which brings alive the colourful and fanciful creations of writer Theodore Geisel (Dr. Seuss.) From the whirling and twirling Cat in the Hat dark ride, to the spitting fish in One Fish, Two Fish, Red Fish, Blue Fish to the absurdly wonderful creatures found in the Caro-Seuss-el and If I Ran the Zoo, Seuss Landing abounds in colours and curves. "People who haven't been to the park will say 'it's a children's area', but when they come in, they're surprised with what they see," explains producer Lisa Girolami.

The Cat in the Hat is definitely back in Seuss Landing, this time in the form of an exuberant, wildly colourful dark ride, which invites guests to sit on the couch and see what happens when the Cat with the tall, red and white striped hat comes to the door. The ride, which despatches couches at a rate of one every 12 seconds, takes visitors on a surprisingly vigorous journey through 19 scenes, each of which lasts from 15 to 20 seconds.

The scenery, provided by Scenic Technologies of New York, is bright and fanciful. "The set walls, the props and everything else are all in that wonderful Seussian style where they're all a little tweaked, a little curvy," explains Girolami. As the couch rapidly twists and turns, visitors are treated

to a variety of dizzying delights, including the creative lighting design of the Ruzika Company of Irvine, California. "In The Cat in the Hat, we had to use very dynamic lighting," comments principal lighting designer and Ruzika Company owner Tom Ruzika. "Colour quality, intensity and extensive cueing gave a lot of animation to the lighting."

The project was handled primarily with ETC Source Four Pars and profiles, with the occasional Wildfire UV light to give certain scenes an extra impact. The instruments are hung from either the 16ft high catwalk that mirrors the 1,000ft ride track, or are concealed on the floor, within the wonderfully wacky props. The attraction also uses 18 custom glass gobos, manufactured by Rosco, which are naturally done in a Seussian flavour.

Intense, vibrant colours are found throughout the ride, but are visible most especially in the kitchen, where Thing 1 and Thing 2 wreak havoc. "The great thing about the kitchen is that we really used the entire spectrum of colour there," reports project lighting designer Steven Young. "We go from rich, Roscolux 83 blue, through reds, greens, then all the way to Roscolux 310, which is a very, very bright yellow," he explains. There are 35 fixtures in the kitchen, primarily 50° and 36° Source Four profiles, as well as Source Four Pars, which provide colour washes in the area.

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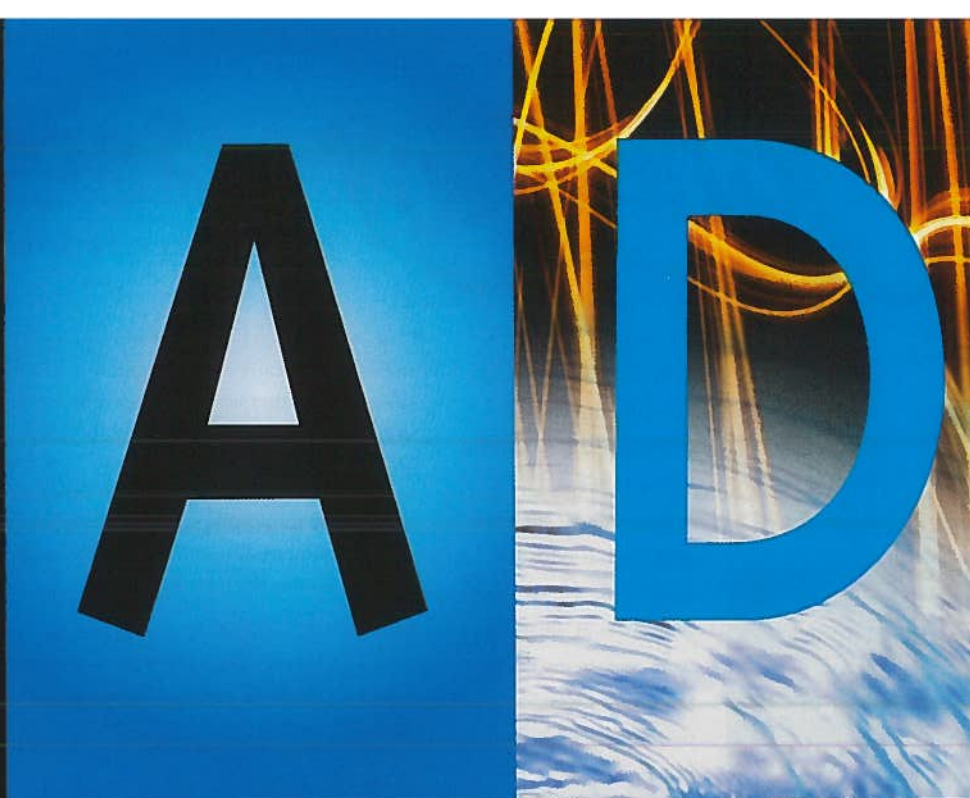
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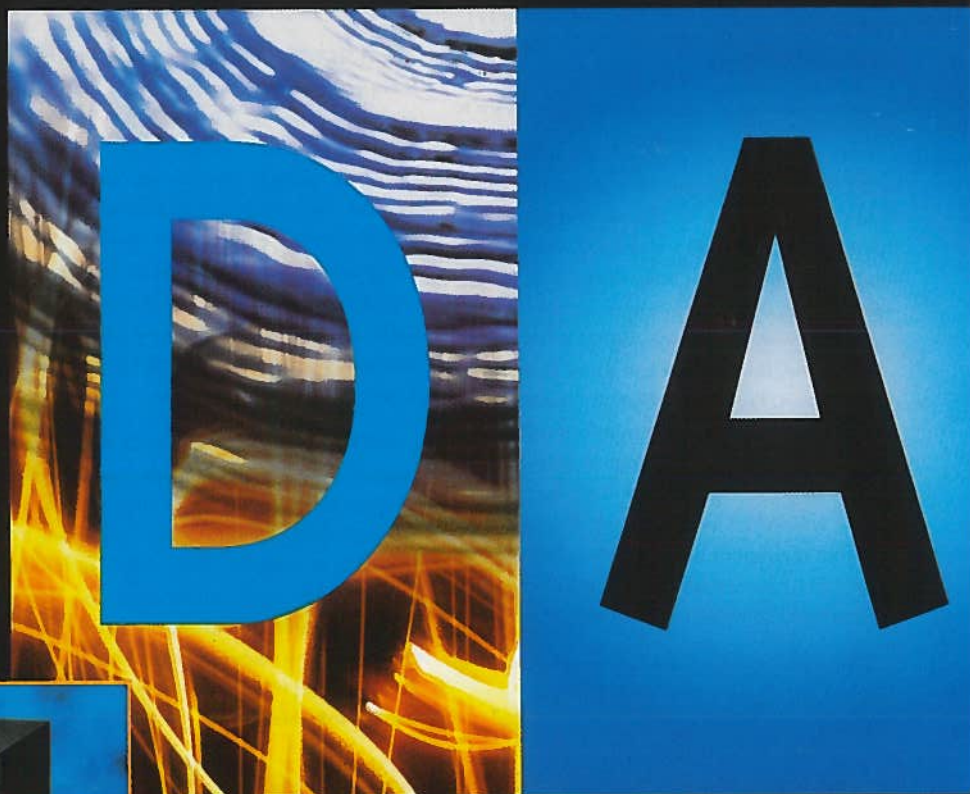
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John Watt

Second Take...

John Watt's view from beside the camera

Perhaps, like me, you are looking forward to the PLASA Show, which is a real chance to catch up with all those gizmos that I'll use once the right show comes along. If I was privy to what manufacturers had up their sleeves then this

might make valuable reading. As it is, we can only guess at what's in store and, in my case, hope that I can understand what they are talking about.

APART FROM the ability to make light travel in other than a straight line, what would really make life better for LDs? Doughty's lucky horseshoe still seems to be working well - no temperamental software to go wrong.

ON THE MOVING light front, silence would be golden. In days gone by, lighting and sound men could hardly exchange a civil word with one another such were the pressures of coping with mic' booms. But with the improvements in mics, peace reigned. Then as moving lights became fashionable, the blighters had a new thing to moan about. I'm not sure that size matters that much: can't they make the thing big enough to stuff in a few old army blankets to quieten that nasty fan? I know it's like a nuclear reactor in there, and will go into meltdown if you don't pull out the rods or something first, but in a world that can contain a McDonald's fruit pie in a cardboard container, surely it's possible.

MANUFACTURERS of conventional lights would do well to concentrate less on brightness, ventilation and safety, and more on ways of

hanging the things up. If the lamp housing is six inches tall you can be sure to double it with the yoke, plus another bit for the barrel clamp and spigot, which is bigger and heavier than the fitting itself. (Americans please note: I use the word 'fitting' not 'fixture', the latter being a type of glue for holding false teeth in place which should only be used on rainy days to fix the call sheet to the dimmer racks).

MAYBE THEY ASSUME that their Pup, or whatever, always hangs on a hoist or pipe with a huge void above. In reality, it's usually jammed against the concrete in a room intended to be used as an office, where you have vandalised the suspended ceiling in order to gain valuable inches in a token gesture towards photography by means of a hint of backlight on the presenter's head. This is thought to be a sound principle by Messrs Birmingham, Millerson and Fitt, so who am I to argue?

BEAM SHAPING is still in its infancy: barn doors leave you thinking there must be a better way, even when they do stay where they're put and revolve. I used to think clumsy sparks had a lot to answer for on this front - now I'm not so sure. I reckon if you hung a 2k in an empty studio, boxed up the doors and left it overnight, when you returned in the morning the bottom door would have fallen open. As for shutters in profile spots, they just come off "in yer 'and". If the hire company supply four in the first place it's a bonus.

CONTROL SYSTEMS are now totally out of hand and can perform functions no lighting designer has ever thought of. The handbooks are a sort of electronic Karma Sutra suggesting a new type of move for every night's performance, some of which are bound to cause disc problems. I think engineers should borrow a couple of things from my favourite game show, Family Fortunes. This is the one with a great big scoreboard which displays a question such as "we

asked 100 lighting designers for their favourite feature on a console?" Contestants then have to guess the most popular answers. Contestant one: "the ability to control moving lights." Yes, it's there, but only eight out of 100 wanted it. Contestant two: "a read-out of amps being drawn and a conversion of this into gallons of diesel if using one of Eddies generators." No, it's not there (display changes to a row of crosses accompanied by a loud 'Wha Wha').

NOW it's the 'Wha Wha' that I like. If you've asked Ian Penny, say, to raise circuit 27 a bit and then after five minutes asked him to lower it a gnats, then after the tea break asked for it to be raised just a smidgen, and then, as an after-thought taken it down again, the console should go 'Wha Wha' and lock up, like they do just before recording. In advanced versions, the software could save you time by going 'Wha Wha' if you went through this pantomime last week and it senses you are about to do it again. Actually, the display itself beats any monitor for legibility and the clatter of those little metal flaps would give you an audible prompt should lan be up to something while you are trying to read Practical Boatowner. The odd one will stick from time to time, but Dave the computer boffin in Nottingham has a high-tech device for fixing these, namely a nail in the end of a six-foot garden cane. Director to Dave: "One of your pixels has stuck." Dave to director: "Yes, but 9999 haven't." I like that more than I can say. Incidentally, the top answer for a favourite feature on a console would be a cupholder.

I SUPPOSE the most time-consuming operation on many rigs, and certainly the most frustrating, is fitting the gels in to their respective frames. I know they come in all shapes and sizes, but maybe someone could offer cut colours bonded to a cheap plastic frame. I seem to remember seeing plywood frames in the States with the colour glued on, which seemed a step in the right direction (Rosco - remember you heard it from me first!) I know on bigger fresnels the stuff melts and you have to wrap it round the doors unless there's an outrigger frame, so why don't manufacturers give us half a dozen clothes pegs with each lamp? Wooden, of course, as they don't burn your fingers and unlike croc' clips don't cause undue alarm when they fall off on to the audience's heads.

FOR MORE high tech ideas from the cutting-edge, grab me at the show. L&S! stopped printing my picture alongside this column as it was infringing Michelin's copyright, but you will recognise me by the squinty eyes and bruised knuckles brought on by much fruitless knocking on doors.

"The handbooks are a sort of electronic Karma Sutra suggesting a new type of move for every night's performance, some of which are bound to cause disc problems. "

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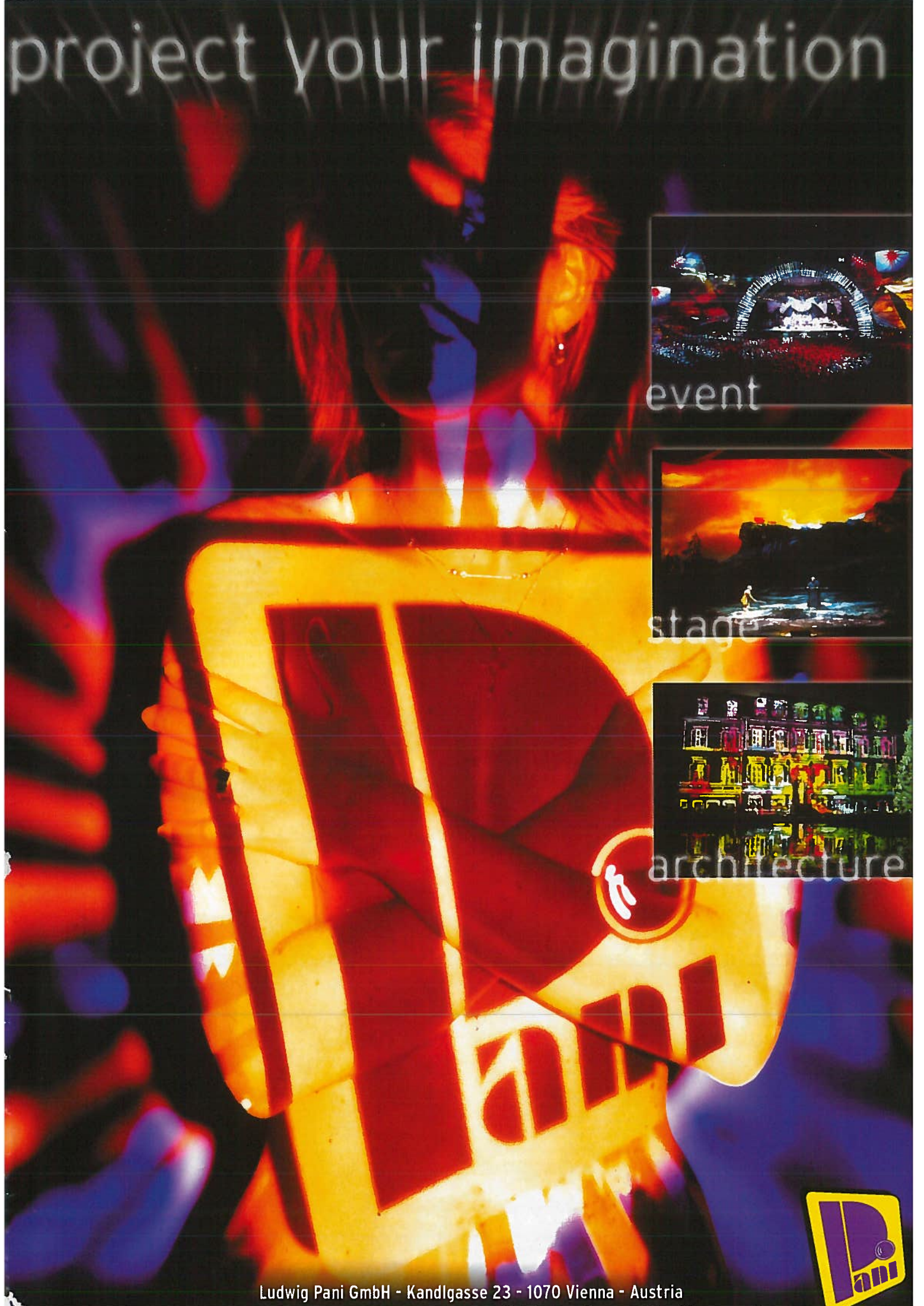
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Small is Beautiful



Steve Moles faces a Barrage in Newbiggin and catches James Taylor at the Doncaster Dome

CONCERT/
TOURING



Barrage? Never heard of them. Smoke Stack Lightning? Them neither. Doctor and the Medics? Gino Washington? Now at least we're getting a glimmer. The Medics, a bunch of old has-beens from the eighties, and didn't Washington front the Ram Jam Band in the sixties?

So, not the most compelling line-up we've ever seen. Nevertheless, some 10,000 cheery Geordies appeared on the day and roared their approval. It may not be the future, but there's no doubting that small is beautiful. There are hundreds of such festivals going on all over the UK each summer. While the big boys slug it out over the high profile events - and in the process bring the earning-to-investment ratio ever closer to zero - all around the British Isles, smaller companies are enjoying a decent payback for a job well done. And, with exactly the same gear - the only real difference is there's less of it.

I'm not saying this is the perfect model, but 'small is beautiful' is rapidly becoming the credo for summer rock shows. The big festivals can be better, but are not ideal. Trying to please all of the people all of the time leads to bizarre stylistic couplings on single bills, e.g. Texas, Marilyn Manson and Metallica on the same night (see *Torhout-Werchter, L&SI August 99*). Personal experience is the key. It's not just that big shows are expensive, it's the personal experience that counts. Witness the move of the last few years away from Arenas into the lesser Town Hall and Theatre circuit by touring bands.

But when punters look to smaller events for the more personal experience they bring with them high expectations on the delivery system. Higher-order life forms and the quality they relish have now devolved their standards all the way to the bottom of the pond. Newbiggin is typical.

The Newbiggin music festival, in a small seaside town, is coupled with a low-key family fun day

out but it's the big stage that pulls the punters. It was provided by Ferguson, a North Eastern freight transport firm, in the shape of two 45ft trailers, one a curtain-sider forming a roofed enclosure on three sides, the other an open flat-bed for the fore-stage. It's a daytime show, the top of the bill goes on at 5.30pm, and the show ends 60 minutes later. "We'll be loaded out and back home in the pub for last orders", said Keith Birtwhistle of Yorkshire Audio. This means there is no lighting of any sort required. And let's be honest, at the time of year when these kind of events take place, only the very late night acts warrant any lighting at all. Sound, however, is different.

The PA and most of the core peripherals are not dissimilar from those I heard being used at the Lauryn Hill concert in Wembley Arena in July. Yorkshire Audio (YA) provide an EAW KF850-based system, six cabinets per side. "It's a 20kW PA, hard to believe, but that's what you have to deliver." Outdoors, the system sounds brilliant, better yet than Hill at Wembley - but in fairness to Canegreen who did the Hill show, the engineer and the environment are critical. The act I focused on, Barrage, offered something new and different. They are essentially a 12-piece fiddle band from Calgary, Alberta. Touring Europe for six weeks this summer they have been seen at many a festival, and in folk circles at least, are causing something of a stir. The 12 band members provide, in varying combinations, seven fiddlers, seven vocalists, drums, percussion and guitars (acoustic, bass and electric): "34 inputs on a 24-channel desk - I'm using Y splits for days," said Collinson on monitors. He managed to cram everyone onto his Yamaha MC24/10.

Front-of-house control is provided by a small Allen & Heath GL4000 console operated by Birtwhistle. One rack was system stuff - EAW controllers and KT DN360 graphic for PA EQ. The other contained the essential stock items you'll see in almost any FOH rack anywhere. With all but the guitars being acoustic instruments, Collinson

had a quiet, if condensed stage sound to deal with. Likewise, FOH benefited from a band well-used to determining their own dynamic on stage. Just as well - Barrage play an eclectic mix of tunes from pop, classic, folk and rock, all arranged to suit the multiple-fiddle sound.

It won't set your socks alight, but he's a great entertainer. He's very funny too. He talks a lot between songs, tells a story, sings something, tells another story. It's that kind of evening, great if you like it." Bryan Grant of Britannia Row describing the feel of a James Taylor show to me a week before my visit to Doncaster Dome. Taylor is experiencing something of a renaissance; his tour last year was covered by all the broadsheets, 'Taylor rehabilitated' was the gist off their insight, while the new recorded material saw Taylor return to the classic American folk narrative style that made him famous.

"What I do is put a lot of light directly overhead, to give it a club feel," said lighting designer Chris Runciman. It's the obvious approach, and that's no detriment to Runciman: why make it hard for yourself when the canvas is already tinted? Club is the prevailing atmosphere for a Taylor show, and it perfectly suits a very singular performer in the most intimate of surroundings. Taylor can look a little uncomfortable on stage, but he has a ready wit to support him, a wit that belies his slightly awkward body language. Not unlike Mike Oldfield, he can be caught off guard by the slightest call from the audience - but his rehearsed anecdotes come across as natural and easy. Thus, as an audience, we're all offered the welcome relief of laughter during those agonising seconds of librarian quiet between songs.

As Runciman telegraphed above, the lighting is utilitarian to say the least.



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Supplied by Neg Earth, it's essentially two 40ft trusses of pre-rig front and back, filled with Pars. The exotic is represented by six Clay Paky Golden Scan HPEs, and a dozen ETC Source Four profiles. But there have been occasions when something less ordinary has graced the spaces overhead. "For much of the tour we've used house systems. Italy was amazing. One gig I turned up at - and we did send plots to all these people -

"It's those guys out there mixing in the pubs and clubs with the rubbish gear that deserve the credit."

provided me with a rig full of Martin moving lights. What was worse was the configuration." There may have been other forces conspiring against Runciman - at one venue he challenged the lighting supplier to produce the plot he'd sent: "It mattered naught. What he pulled out was the one dated January '98."

As you've gathered, Runciman has been lighting Taylor for at least 18 months: "More normally I do the tour manager's role for Asgard," he says. But he is a lighting man by historical standards, having performed wondrous things with secret inks and oil wheel projectors back in his days as LD for Principal Edwards Magic Theatre. "What I do here is just point painting and setting the scene. The whole thing is James."

A very old-school LD, Runciman has only returned to the fader in recent years: "I was tricked into it for a Jackson Brown tour a few years ago." He takes great delight in debunking some modern control boards. "I'm using an Avo Sapphire, it's a desk I can understand. When I turn up at gigs and there's some menu-driven board where all the functions are buried in layers displayed on screen I turn to the suppliers and ask 'How long do you think I've got?'. I don't have the time or opportunity to learn all these different desks."

Truth is, he steers well clear of motion control anyway. As such I'm sure he manages perfectly

well, even if he is self-deprecating about his ability to engage modern technology. The HPEs for example, are restricted to being a powerful colour-changer with a big beam, "but I also use them tight, like a profile.

Either way, the lamp is powerful enough to pierce and provide a stronger, more dramatic effect when I need it." Otherwise, the rig is a simple six-colour wash, with all the colours divided down into 2kW handles, "so I can mix and match across all the stage areas." Not that he's unadventurous but generally, there are no surprises here, like the man said, the whole thing is James, and that's where he keeps the focus of attention.

Taylor has the perfect voice for his chosen milieu. It resonates at both ends, a rich walnut burr in the lower registers, smooth and tuneful as birdsong from the thicket back of Grandma's house in the uppers. His guitar, an Olson, is equally filled with character: wooden but never boxy, it breathes texture. Those are the target sounds for house engineer Roger Lindsay.

Lindsay has been mixing Taylor for just over a year now, and it's a job he relishes. "These guys are all great players and great singers. James especially, can pitch really well." He is equally enthusiastic about his system. "When you tour at this level you always get the best equipment, and with a band like this it's always going to sound great. It's those guys out there mixing in the pubs and clubs with the rubbish gear that deserve the credit." Lindsay's 'great gear' is our old friend the Turbo' Flash and Floodlight combination (from suppliers Brit Row). There's only one observation to note, away from the reams that have already been written about this system: Lindsay chose to fly a centre cluster at the Dome, something I'd not seen before.

Being a wide gig with little depth, most go for stereo hangs, or stick with floor stacks only. "It's to cover the upper seats, and it helps keep the focus where it belongs, on the stage." Lindsay is partial

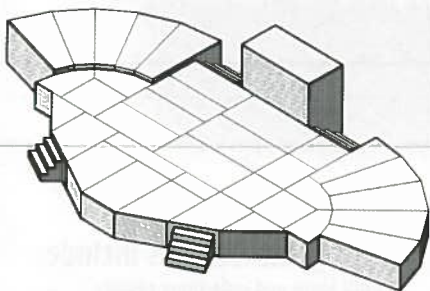
to sound focus and, as such, he's especially pleased with one of the features on the new Midas Heritage board he's using. "Brit Row had just bought a couple, and as I'm a regular Midas user anyway, I thought this would be a good tour to evaluate the board. The left/centre/right Image Control is particularly useful," as a quick demonstration revealed. "Perfect. What I don't



want is listeners being drawn off to the sides by the system. I don't want the sound to distract attention from the stage."

He's aided, and very occasionally hindered, by one overweening feature of the stage. There are no backline speakers at all, and Bob Lopez on monitors (with a Midas XL3) continues the silent stage theme by having the whole band on in-ear monitors. I say occasionally hindered, because Russ Kunkel on drums can be over-forceful. There's nothing Lindsay can do - his mix level is restrained and for most of the time it perfectly matches the level of the kit. Thus the only stage sound that emerges naturally into the room, the drums, is balanced to the band and vocals out of the PA. Once again, this helps keep the focus where Lindsay wants it. But when Kunkel lets go, like with the snare hits for 'Up on the roof', then you have to say it's a shame he can't ameliorate his style. That aside, this is an open, living, breathing mix, more natural than most, thanks largely to that almost silent stage, and some deft manipulation at the faders.

Alistage



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Audio Analysis



PRODUCT SURVEY

The second part of L&SI's look at live mixing consoles focuses on two distinct areas - those intended for on-stage monitor use, and those that are promoted as multi-purpose. Though

it can be argued that all audio products fall into the latter category, some mixing console designs clearly lend themselves to a wide variety of applications. Whilst the growing number of digital consoles on the market are obvious contenders for the 'all-rounder' category, it is interesting to see no less than four analogue designs featured here that combine traditional signal paths with inventive control layouts.

Needless to say, this round-up is not exhaustive - the aim is simply to highlight a few examples of each type of console, and some of the most helpful facilities being offered by the fertile minds of console designers. One final detail to bear in mind as you read this is the differences in cost of the products we have featured. We have taken a look at consoles costing as little as a few thousand pounds, and some that come with price tags well into six figures. It would be as well to check with the manufacturers concerned before you set your heart on any particular model

Dual-Purpose Consoles

ALLEN & HEATH ML5000

This console is so hot-off-the-press that we don't even have a picture of it; instead, we have an artist's impression generated by the Allen & Heath design team. Allen & Heath has a good deal of experience in developing dual-function mixers - and the ML5000 takes the concept a stage further by adding a VCA system. Features on offer include up to 48 mono and four dual stereo inputs, 16 auxes, eight subgroups, a 12 x 8 matrix and eight VCA masters. As a monitor board, operation is straightforward; eight mono mixes, plus a further eight that are selectable to become stereo pairs on a channel-by-channel basis. The

console's mono master fader can be re-assigned as an engineer's wedge control, and input listening may be globally set to PFL or AFL. A handy feature is the ability to mix the first eight auxes into the matrix; thereby generating a useful 'mix of mixes' for additional feeds. As a front-of-house console, the ML5000 cleverly uses the Aux 1-8 'pre' switches to perform group routing. Meanwhile, Auxes 1-8 continue to function, as post-fade sends. Automation covers input and output mutes, as well as the VCA assignment system. In addition to a Left-Centre-Right master bus system, the ML5000 also has an LCR blend facility to compensate for varying centre cluster configurations.

Nice Touches

Parametric mids on the four-band EQ, comprehensive talkback routing and simple control layout.

Would Have Been Good

Illuminated subgroup routing would help users in low light conditions.

User Comment

(The ML5000 will be available in the New Year . . .)

CREST CENTURY V12

As heir to the Gamble EX series, the V-12 has a strong live pedigree in the USA. With 16 auxes (eight of which may be configured as stereo pairs), eight subgroups, 12 VCA groups and L-C-R masters, the output design also allows the eight-output matrix to be fed back into the aux sends to generate a full complement of 28 mixes - a very useful addition for monitoring use. Indeed, for this purpose, the console's 'Mode' switch (in common with several others in this class) also flips auxiliary and subgroup controls, putting the aux masters on faders.

Any of the 52 input modules can be replaced by a similarly-equipped stereo channel; for the more modest user, frame sizes are available from 24 inputs upwards. For audiophiles, the V-12 uses Crest's unique 'direct-coupled' audio topology, which



You won't be able to glean an awful lot from this, but it is, in fact, a drawing of the side view of the new Allen & Heath ML5000

L&SI rounds up the latest live sound mixing consoles in a major two-part feature. Following our review of the big guns in the last issue, we now look at monitoring and multi-purpose consoles



reduces the low-frequency phase-shift found in many consoles. Simple automation is provided, with up to 1,000 scenes available, comprising mutes, MIDI controller information and program changes. VCA assignment, however, is manual.

Though the automation is on-board, Crest has helpfully included an alphanumeric keyboard for labelling scenes - these are shown on two 20-character displays.



Crest Century V12

Nice Touches

Highly expandable due to sidecar options - up to 220 inputs; variable-intensity LEDs and two-colour switch caps are excellent for identification in a variety of lighting conditions.

Would Have Been Good

Automated VCA assignment would be preferable for theatre users.

User Comment

Alistair of South West Audio Ltd has specified the Crest V12 on a number of projects, including the Imperial College Ball in London and for a performance by the Bournemouth Symphony Orchestra: "We had the desk on trial and were very impressed with how user-friendly it was. It was also very clean sounding and one of the key features that appealed was the solos on the VCAs. In essence, the Crest has everything you'd look for in a sound desk."

MIDAS XL4

Though the majority of dual-purpose consoles featured here are in the middle or at the cheaper end of the professional market, the XL4 shows that the concept of flexibility is just as important to high-level users. In the past couple of years, the XL4 has rapidly established itself as one of the most popular touring consoles around, and has spawned a broadcast variant for OB vehicles and other live work.

With 16 mono auxes, four stereo aux pairs, eight stereo groups and an eight-output matrix, the XL4 has enough sends to cope with a multitude of different jobs. 48 inputs are fitted (stereos may be added as needed), and the user can economise on channels by using the 16 line-level 'aux' inputs for effects returns.

The XL4's VCA system is unique - 12 motorised VCA faders control the channel and aux inputs, while a further pair is used to handle the subgroups. Automation, unsurprisingly, is very comprehensive; all channel routing and major switch functions are automated, as well as output mutes. Outboard MIDI control is sophisticated, and show mixes may be saved on removable media for transfer to another console.

Nice Touches

The unique Midas Easytilt console lifting system is a must for quick load-ins.

Would Have Been Good

A little weight loss would not go amiss (see above comment!).

User Comment

Chris Beale of SSE Hire in Birmingham specified the XL4 as a monitor console for Geri Halliwell's first solo appearance on BBC TV's Top of the Pops: "It is a state-of-the-art mixing and recording console with unparalleled performance

Midas XL4



and features. It's ideal for such a show as Top of the Pops."

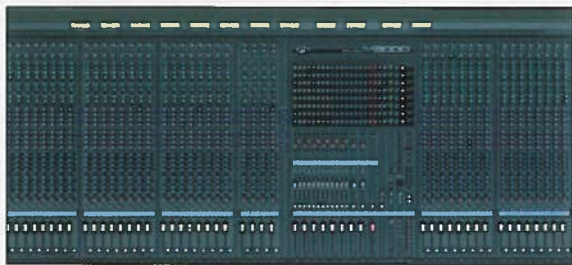
YAMAHA M3000

The M3000 is the lowest-cost VCA console in this category - and it is also a dual-purpose design, highlighting the importance placed on this kind of flexibility by budget-conscious users. The M3000 offers 24 or 40 mono inputs, with four stereo channels as standard and 16 aux/group mixes. An eight-output matrix is provided, which is fed by all busses. Each channel has 12 mono rotary controls and bus routing switches, plus two stereo pairs. Up to eight of the sends can be configured as subgroups (the level pots are bypassed and the send moves to post-fade) for FOH use.

For monitor applications, the 16 available mixes are switched pre/post fade in blocks of four. Channel EQ is 'enhanced sweep' - switched Q for the two mid bands and fixed Q for the Hi and Lo. Mechanically, the console is semi-modular, with inputs in blocks of eight and a single output section. As one would expect from a console at this level, mute automation is provided, with eight 'direct recall' memories out of a total of 128. These eight scenes may be replaced by

Sound Desks Compared . . .

DESK	Mono Input Channels	Stereo Input Channels	Sub Groups	Auxes	Masters	VCA Groups	Matrix
Allen & Heath ML5000	32 or 48	8 Fixed	up to 8*	16*	LCR	8	8
Crest Century V-12	24-220	Optional	8	16	LCR	12	8 mono + 4 stereo
Midas XL4	48	Optional	8 stereos	24	LCR	8	12
Yamaha M3000	24 or 40	4 Fixed	up to 8**	up to 16**	LR	8	8
Yamaha 02R	16 (A) + 16 (D)	4	8	6 + 2 internal	LR	linked channels	N/A
Spirit 328	16 (A) + 16 (D)	5	8	4 + 2 internal	LR	linked channels	N/A
ATI Paragon	48	8 (mic amp option)	N/A	32 + 4	2 stereo	8	N/A
Cadac M-Type	up to 112	N/A	N/A	28	N/A	12 + 2 GM	24
Midas Heritage 3000	44	4	-	24	LCR	10	8
Soundcraft Five Monitor	40-56	Optional	-	34	N/A	8	16



Yamaha M3000

mixer of this type means that the usual boundaries are less than clear.

With up to 40 channels (a maximum of 24 analogue inputs), eight busses, six auxes and moving fader automation, this diminutive mixer has found its way into all manner of live applications - from being used as a submixer on the largest West End theatre productions, to main

FOH console on the current Neil Diamond tour (see L&SI April 99).

Due to the size constraints of the 02R, there is no complete channel strip anywhere on the console, but there is a fairly intuitive LCD screen which displays enough information to be helpful. The console is fitted with 24 full-length faders for the analogue inputs, with rotaries for the digital inputs (tape returns in a studio environment).

For unpredictable live work, the 02R probably makes most sense as a dedicated returns or sub mixer, alongside a more conventional control surface; though for theatre shows and musicals, the repeatable nature of the work can make the most of the Yamaha's scene memory and machine control capabilities. The range of interfaces available for the digital I/Os includes (thankfully) AES/EBU and an octet of A-D/D-A converters, as well as the studio-friendly Tascam TDIF-1 and ADAT interfaces.

Nice Touches

Amazing Japanese miniaturisation of a very well-equipped console - SMPTE input for those shows that have to run to time.

Would Have Been Good

More dedicated controls for EQ and dynamics would help in a live environment.

User Comment

"The Yamaha 02R brings to sound in theatre reliable affordable automation that has previously been the sole preserve of the lighting department," says Matt McKenzie - sound



Yamaha 02R

designer for Autograph Sound Recording Ltd, who has specified and installed the console on the recently acclaimed production of Amadeus.

additive manual mute groups. The eight VCA groups are manually assigned.

Nice Touches

Very simple layout, comprehensive matrix.

Would Have Been Good

Routing switches need illumination; mic-level stereo inputs would make them more useful.

User Comment

Andy Huffer of Marquee Audio has sold the desk across the UK. "The two key features that people really like about this desk are the enormous number of inputs and the VCAs - unheard of on a desk at this price point."

Digital mini-desks

Though included in the 'dual-function' category, the current range of smaller digital consoles offers flexibility far beyond the realms of analogue designs. Equally at home on the road as in the studio, their live sound credibility has recently been enhanced by some well-publicised large-scale shows and installations many of which have been covered within L&SI.

YAMAHA 02R

Though Yamaha describe the 02R as a digital recording console, the usefulness of a compact

SPIRIT 328

Soundcraft's budget brand helped to redefine analogue mixing in the early 1990s - the Folio, with its smart looks, high-spec and rock-bottom price bridged the gap between amateur and professional equipment. In the face of fearsome competition in the analogue market, Spirit developed the 328 - Soundcraft's first foray into digital consoles. The use of 24-bit conversion both in and out has helped to give the 328 an impressive audio specification, and the inclusion of Lexicon effects circuitry is an extra bonus. The most important aspect of the design, though, is the familiarity of the control surface; the designers have clearly tried to retain an analogue feel. In fact, the on-board screen has been reduced to a tiny two-line LCD display, similar to those found on rack-mounted effects units.

Notes: * Groups and Auxes are combined ** Linking channels provides more VCA-style groups

Input EQ	Filters	Dynamics	Automation	External Control
4 band (2 para, 2 sweep)	HP	N/A	VCAs, mutes	MIDI/RS232 prog changes, VCAs
4 band parametric	HP	N/A	mutes	MIDI prog changes and controllers
4 band parametric	HP + LP	N/A	VCAs, major switches	Comprehensive MIDI
4 band (2 sw 0, 2 sweep)	HP	N/A	mutes	MIDI prog changes
4 band parametric	part of EQ	input comp lim, gate, 2 x int FX	all post mic amp functions	Comprehensive MIDI + RS422
3 band parametric	Fixed HP	2 x assignable comp lims, 2 x int FX	-	MIDI I/O
4 band parametric	HP + LP	comp lim, gate on all inputs	VCAs, mutes	N/A
4 band parametric	HP + LP	N/A	VCAs, main switches, fader option	comprehensive MIDI, relays
4 band parametric	HP + LP	N/A	VCAs, mutes, Input levels	MIDI
4 band parametric	HP + LP	N/A	N/A	Varicurve link

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Spirit 328

The 328 boasts 42 inputs - this time 16 analogue mic/line channels, five stereo line inputs and 16 digital ins. Though fitted as standard with Tascam or ADAT interfaces, the 328 uses optional external TDIF converters to provide either AES/EBU signals and mic or line level analogue inputs.

Spirit have embraced the concept of assignability wholeheartedly. The 'E-strip' (a bank of 16 rotary encoders) is located above the input faders and may be configured to show pan, input level, or a single aux send for 16 channels. Alternatively, the strip may be used to show a channel's worth of EQ, aux sends and pan controls. The three-band parametric EQ on each channel is a bit of an oddity - but they are real bands, not the low-resolution full-range EQ sections used elsewhere in the digital domain.

Nice Touches

Real inserts, albeit unbalanced, on all 16 analogue inputs; assignable AES/EBU and S-DIF I/Os, supremely clear layout.

Would Have Been Good

Rear-mounted (rather than top-mounted) connectors would make tidying the console looms much easier.

User Comment

Ben Landers, house engineer at London's Rock Garden, puts the 328 through its paces every night: "Sometimes we have up to eight bands in one night in here - the snapshot system really helps with this. It's just like using an analogue desk - which is why I like it."

Monitor Consoles

When does a console qualify as a monitor board? With manufacturers striving to meet buyers' demands for ever-more flexible products, many designs claim to be just as suited to on-stage use as to front-of-house duty. The assignable consoles featured in last month's round-up would all serve admirably as monitor consoles, as would many a 'general-purpose' design. The products included in this section are, however, designed from the ground for the monitor engineer. The differences in bus routing and monitoring set them apart from conventional FOH consoles - and it is

heartening that the traditional 'poor relation' of the live sound family is now getting so much attention.

ATI PARAGON II

US-based Audio Toys Inc has been designing high-end consoles since 1988. The Paragon II is a dedicated monitor console that offers a number of facilities unique in its group. One of the most obvious is the comprehensive dynamics section fitted to each of the 48 inputs; a fully parametric gate and three-control comp/limiter with side chain/key input dramatically reduce the need for outboard processing.

Interestingly, as well as a complement of 32 mixes (all of which can be configured in stereo pairs), the Paragon II also generates two dedicated stereo mix busses and four aux outputs, so effects sends do not use up vital mixes. In the same way, eight well-equipped stereo returns (which may even be fitted with mic preamps) reduce the burden on 'real' channels. The console's output section can be custom configured to provide the ideal combination of mono, stereo and dual-purpose groups. Outputs are provided with three-band

sweep EQ, which would be sufficient for many in-ear feeds.

Automation is provided, with assignment of the eight VCA groups and channels mutes covered. The comprehensive solo system (with

selectable pick-up points for each input and dynamics side-chain monitoring) is designed to simplify the monitor engineer's job.

Nice Touches

Dual mono (or single stereo) level-controlled direct outs for every channel, incredibly comprehensive routing and metering system.

Would Have Been Good

Two-tier VCA fader layout is rather cramped, and fully-parametric EQ on the optional stereo inputs would be a bonus.

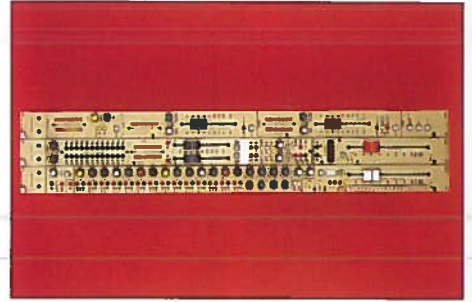
User Comment

Geno Salerno, monitor engineer for Sheryl Crow, has been touring with a 72-input Paragon II this year: "This console is incredible. It sounds great, the dynamics are typical of ATI, which is to say fantastic, and it is more than capable of handling anything you could possibly want it to do."

CADAC M-TYPE

Cadac's first move into rock and roll saw the M-Type specified for the Rolling Stones' 'Bridges to Babylon' world tour. Though better known for its theatre products, the application of the same standards of engineering and no-compromise

audio design has found favour in the touring market. The M-Type, like all Cadacs, is completely custom-configured: using a modular frame system enables the company to offer anything up to 112 inputs and 28 sends - with an integrated routing matrix that takes the output count up to 52. Automation is a feature of all Cadac live consoles, and the M-Type offers cue-by-cue recall of several important switch functions in addition to the more usual mutes and VCA assignments.



Cadac M Type: module detail showing the Input Channel, Group Output and Listen Module.

For more sophisticated users, input and VCA group faders may be motorised to provide level snapshots and dynamic moves. The M-Type has separate mono and stereo monitor outputs - outputs may be assigned individually to either output for wedge or in-ear listening, whereas inputs are assigned globally to one or the other. Uniquely, the M-Type allows the mic preamps to be PFL'd independently of the rest of the listening system - handy for line-checking prior to a quick changeover.

Nice Touches

VCA Grand Masters offer overall control of input and output levels; on-board oscillator is injectable into each channel for lining up sends and outboard processors; eight-character LED VCA labelling.

Would Have Been Good

Manual mute groups; stereo inputs.

User Comment

Chris Wade-Evans, user of the first production M-Type: "It's like having a studio desk on the road - the M-Type is a delight to work on."

MIDAS HERITAGE 3000

Heralded by Midas as the XL3 replacement that will take the company into the next millennium, the Heritage 3000 is based on experience gained over 30 years of designing live consoles. Though intended as a 'dual-purpose' board, it is included here as its monitor-friendly facilities will appeal to those looking for an on-stage console. 44 mono and four stereo inputs make up the standard Heritage 3000 channel allocation, with 24 main outputs and an eight-way matrix section. Parametric EQ, sophisticated monitoring and an innovative bus routing system are great improvements over the ageing XL3.

Automation is the big news about the Heritage 3000 - this is the first serious system to be developed in-house. As well as mutes and VCA

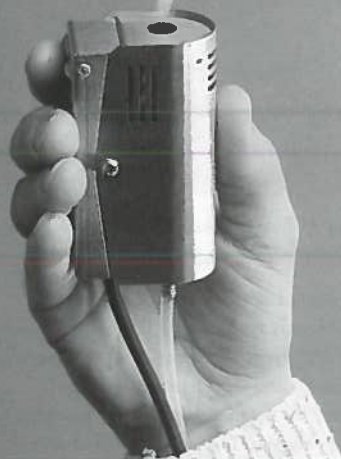
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Midas Heritage 3000

assignments, the console also provides a 'virtual fader' level control system similar to that used by Amek on their Recall Console. In the case of the Midas board, fader levels may be saved as a cue, and LED ladders are used to indicate the position of the virtual fader when the cue is recalled. As soon as the engineer pushes the real channel fader through the 0dB point, it takes over control of the level and adds or subtracts an offset.

Nice Touches

Sexy retro looks, no need for an external PC to run the intuitive automation.

Would Have Been Good

More outputs and a more modest frame size.

User Comment

Keith Carroll, monitor engineer for VH-1's 'Hard Rock Live' programme: "The EQ is very warm and musical and the pre-amps are great. It's an incredible-sounding desk."

SOUNDRAFT SERIES FIVE MONITOR

Soundcraft's recent monitor consoles have been popular designs, largely thanks to a 'pure' monitoring approach, rather than simply a modification of existing FOH designs. Cannily, a choice of either 24 or 32-output versions is offered, enabling purchasers to tailor the design to their budgets. In either case, every pair of outputs may be switched into stereo pairs, using dual-concentric send pots as 'level + pan', rather than 'A level + B level'.

One interesting feature is that when fully 'on', the send level controls deliver +5dB of gain to the mix busses, which allows the engineer to set up very different mixes without destroying the overall gain structure. Up to 56 inputs may be specified (60 on the 24-bus version), each with switchable A/B inputs for fast changeovers. One area where Soundcraft prides itself is the clear layout of the control surface - and with input level metering adjacent to each fader, the potential for mistakes should be further reduced. Helpfully, the optional stereo inputs

have fully-parametric EQ to match the monos, and the user is offered the choice of four-band parametric EQ on each output or a 34 x 16 matrix section - each of which has its uses in either in-ear or wedge-based scenarios.

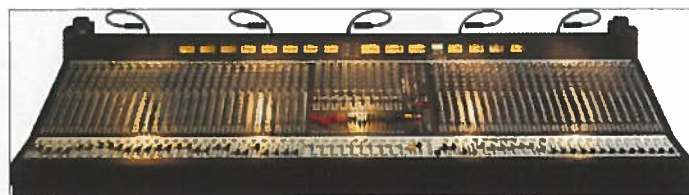
Nice Touches

A dedicated BSS Varicurve remote connection displays the correct outboard EQ channel whenever an output is soloed.

Would Have Been Good

A little VCA and mute automation would be helpful for more complex shows.

Soundcraft Series Five



User Comment

Scott Pike is one of two engineers using the Five Monitor on tour with Bruce Springsteen: "As an in-ear desk, it's very well set up. The global stereo switching is nice. It's good sonically too - there's a lot of headroom in the preamp."

We hope that you've enjoyed this brief round-up of some of the industry's mixing tools, and that it acts as inspiration for those who are involved in specifying or using the technology. One thing is clear - the incredible diversity of design philosophies shown here means that somewhere there is bound to be a product that suits you perfectly. Happy mixing!



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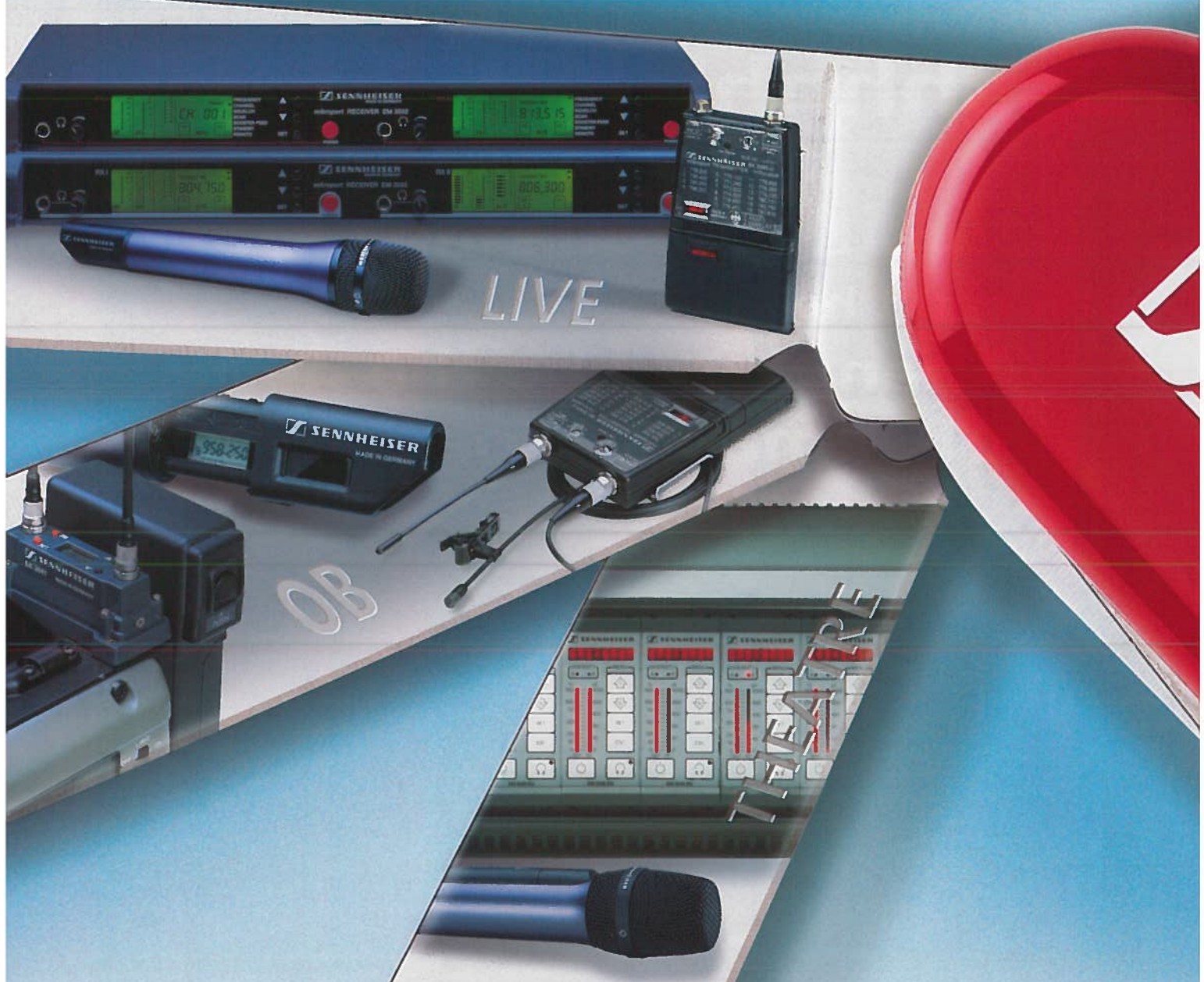
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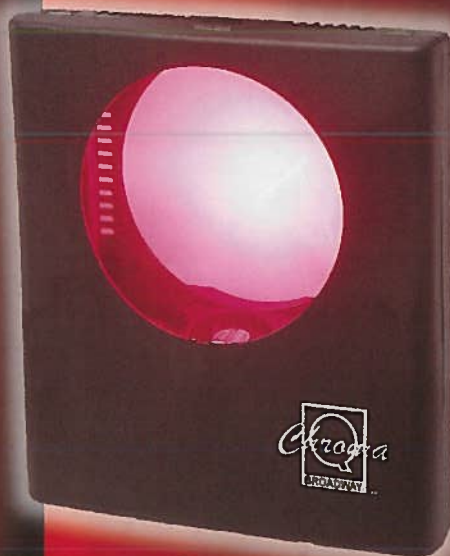
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Opel Live

Louise Stickland talks to the companies who worked with Opel to realise a complex themed environment in Germany



Opel Live is the first 'edu/infotainment' centre and theme park in the world to be based in and around a car production plant. The £40 million (120m Deutschmark) development is located in Rüsselsheim, Germany, and opened in time to celebrate Opel's centenary. Opel see this investment as elemental to their commitment to the local community, as well as a new and entertaining way of introducing autophiles to cars, and the often complex issues involved in their design and construction.

UK production company HP:ICM were approached by Opel to conceptualise and develop the necessary stories and themes, as well as to design, project manage and oversee construction and installation of the complex technical infrastructure required for the realisation of Opel Live. Opel and HP:ICM have enjoyed a productive working relationship for the last decade, which has included the production of selected Opel exhibition stands. HP:ICM's brief was to produce an automotive-themed encounter that spliced the themes of function, fiction and fun into an edifying 'experience' for a diverse general public. Cynics might hail it a crass branding and product association exercise, but for HP:ICM's project manager Simon Prior, the basic philosophy behind Opel Live is to present an interesting, enjoyable, soft-selling event.

HP:ICM drew on the expertise and resources of many high profile UK-based production companies including architects The Building Design Partnership (BDP), Land (designers for The Pavilion), Vertigo Rigging, Electrosonic (all things electric), scenic designers Martyn Bainbridge and Neal Potter, Silver Knight (scenery construction), Richard Glasborrow (interactive designer) and LDs Durham Marengi and David Atkinson.

Opel Live consists of three sections. Visitors start off at the newly-built Pavilion housing three floors of interactive exhibits. This starts in 'The Tour of The Senses', a six-part introduction to the world of Opel vehicles. The Pavilion is the more educational and museum-style side of the experience and the national curriculum was to the fore in HP:ICM's designs. When finished in there, visitors board a special 'train' to K48, a former factory building and robot re-programming centre which now houses the Opel Live entertainment shows. K48 is the more off-the-wall part of Opel Live, incorporating various exhibition areas, a 3D crash test cinema, an exhibition of the crashed cars (as seen on the film), endurance road test simulators and a spectacular, fully-immersive dark ride, complete with extensive



THEME

special effects, that journeys through a simulated Opel plant. This offers a bit of history and considerable conjecturing about what mischief goes on after dark when the factory shuts down for the day and components and seemingly inanimate objects come to life! The last stage is a guided tour of the plant supported by AV.

Simon Prior worked closely with the team at Opel and his counterpart Jan Reuvers. There were numerous challenging aspects of the project with which Prior had to wrestle - not least the budget. While not insubstantial, the quality being demanded compared to the money available for each section of the build required meticulous research, substantial knowledge and careful application skills on the part of HP:ICM.

Another defining factor was Opel Live's projected longevity. As a permanent installation, additional safety and construction factors, different methodologies and design-customisations came into play. Most production contractors were appointed in the New Year of 1998. One of the first on site was Vertigo Rigging, who walked into K48 together with main electrical contractors Electrosonic, when it was just a dirty relic of a former life. Opel Live was project managed for Vertigo by Marcus Exelby. The company's previous experience with large installations in Germany and acquaintance with the exacting TUV health and safety requirements was instrumental in their gaining the contract. Vertigo were required to install lighting trusses throughout the massive 5,760 square metres of K48, including everywhere in the dark ride section. Other tasks included rigging the remains of the six crashed cars from the movie and a vertically-hung Opel Frontera that floats 'in space' in the entrance walk-in area. All rigging had to be 'invisible' - not exactly an easy brief to lose over 700 metres of trussing into the ether!

Martyn Bainbridge and Neal Potter were scenic designers for K48, working under the direction of HP:ICM and lighting throughout this area was designed by Durham Marengi. The anarchic nature of the lighting plot required Vertigo to install over 150 millimetre-perfect fixing points traversing the whole building, to accommodate trusses and lighting fixtures in the necessary positions. This was achieved with a combination of specially fabricated brackets that attach to the existing roof beams, plus several ground-supported legs and ladder runs.

In the crashed car exhibition area, Vertigo faced the daunting task of attaching five crashed cars to specially constructed plinths. The floor-mounting frames for the cars are angled downwards at 60



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degrees, with what remains of their crunched-up bonnets pitching towards the floor. They did this by suspending each vehicle from the roof by its rear axle. With a specially devised dolly, the plinths were manoeuvred into position underneath the car body which was lowered and then attached to the stands. The plinths were then wheeled into their final resting places and de-mounted from the dolly. A sixth crashed car was suspended, upside down, on a four-legged ground-support system, with the help of I-beams fitted inside its bonnet and rear axle.

For the Frontera in the K48 entrance area, Vertigo built a specially designed floor-mounting tripod trussing 'stand'. The vehicle is dramatically suspended, nose down, via a custom hanging bracket, also devised by Vertigo, running the length of its chassis. It is then safetyed back up to the truss with steel wire rope. This exhibit prompted the installation of a large spreader I-beam in the roof, attached to four of the existing roof beams for load-evening purposes. All rigging above the Frontera is blacked out to maximise the impact of the suspended animation effect! Exelby remarks that when this section of the job was first completed, some were alarmed at the authenticity of the 'invisible' rigging and needed reassuring that it was, in fact, firmly anchored!



Vertigo commenced work on Opel in the New Year of 1998. They started with some comprehensive building surveys and followed up with a complicated integration of plans from each of the separate contractors. The primary rigging action was completed in four major moves, each lasting several weeks.

Electrosonic were involved in both K48 and The Pavilion. As Prior put it, they dealt with "Anything that needed a plug on it," plus all audio, AV, dark ride mechanics, 3D movie show, control systems and software programming necessary to automate Opel Live. Electrosonic's project manager for Opel Live was Paul Kent.

A central control room houses two identical looking touch-sensitive control screens, one for each building, each designed to look after itself. The entire centre is 'woken up' at 8am and can then run automatically. The master scheduling controller is an Electrosonic AMX system. This sends signals to all other show control systems (24 in K48) in the building, which in turn are programmed on Easy+ multi-media control systems. The latter work via an iconised drag-and-drop interface, triggering dimmers, slides, mechanics and audio stores.

Audio sources are stored on ESTA solid state sound storage devices in each area, each with at least four channels for the bi-lingual commentary (English and German) which is delivered (in K48) to visitors via Sennheiser IR headsets, also installed by Electrosonic. At peak stages in the control system's design, Electrosonic had six programmers working on the project.



Video is stored on hard disks in MPEG2 format - the VCRs originally specified in 1995 were ditched as the pace of technology outstripped that of the site construction. It is activated via video servers connected to

various projectors and monitors around the buildings. Projectors are a combination of NEC and Barco, and all monitors are Hantarex. The 3D film system was manufactured in Burbank by Electrosonic's specialist film division. It uses a split lens 35mm projector with a 7.5kW lamp housing projecting on to a 9.5 metre wide screen.

A team of 14 technicians at Opel Live oversees the day-to-day running and maintenance of the centre. (Over 100 staff are engaged in total). Each area has a local operator's panel with a 'Ready' state, 'Go' and 'Stop' buttons and an intercom link to the control room. From here, all shows can be stopped or started - although the safety regulations also require a local operator in every area. A slave control room has minimised the cabling (35km in K48).

Electrosonic also supplied lighting control in K48. The ESTA show controllers talk directly to dimmers via DMX for simple commands and scenes. For moving lights, they communicate with Celco Navigators. The initial scene where visitors are welcomed into the building has lighting for the K48 animatronic robot (nicknamed 'Sticky' and constructed by Farmer Studios) controlled by a Celco Ventura.

HP:ICM sought the creative skills of lighting designer Durham Marengi for K48. Marengi is experienced in both live and exhibition contexts and worked on a recent Opel launch in Morocco. Purchase, as opposed to long-term rental, was perceived as the way forward for equipment, so all lighting gear was sourced by Electrosonic who worked to Marengi's spec. Accounts administration dictated that gear was

bought when the money became available - in reality a good deal in advance of the actual fit-up. Thus, Marengi found himself doing a fair degree of 'managing' and manipulating of the hardware to fit the situation which then existed by the fine-tuning stages.

The first optical mission for K48's lighting was to impact on visitors as they entered from their daylight journey around the factory. He utilised a broad palette of fixtures for the wide range of applications needing lighting.

Sometimes lighting is applied literally, such as in the electrical displays containing fibre-optic arrays to illustrate car electrics and neon rays representing the vehicle bombardment by radio signals from mobile phones and satellite equipment. Other times Marengi lit with pure theatricality, making exhibits look colourful and dramatic.

A world first in the 3D cinema was the creation of a pre-film gobo wash on the screen, treated using Lee Polarising Filter (used to reduce flare on the TV cameras), and installed on both vertical and horizontal planes in alternate Source Four profiles. In the simulation areas, the three capsules themselves are revealed with theatrical panache using 17 Clay Paky Mini Scan HPEs and billowing smoke. In the crashed car area, ETC Source Four Pars and CP Mini Scans point out the relationship between the cars relative to the soundtrack.

The simulator machines were supplied by Camber Entertainment in Crawley. They are 20-seat capsules sited on a three degrees of freedom (dof) hydraulic motion system. The capsules are dark inside, containing blacked-out bench seats and running a high-resolution projection system (3D sound, as with all audio in K48, is supplied via IR headsets).

The dark ride itself proved entertaining for Marengi's imagination. Theatrical-style lighting was a crucial element to its 18 separate zones, each featuring its own individual show. The first portion encountered by visitors is a safety warning, highlighted with Dataflash strobes and

smoke which warns visitors not to attempt getting out of the car during the ride, etc. The ride passes down a spinning tunnel (a fully rotating 'drum' encasing the track), lit with 20 Caterpillar lights. This part of the ride introduces people to the components in the factory - which then 'come to life' as they move into an animatronic area. Air bags, bumpers, catalytic converters, etc, burst forth, synchronised with the soundtrack, highlighted by 1kW fresnels which allowed the designers to have a degree of flexibility, but the very necessary tight control.

The historical section of the ride features several gauzes, lit in traditional theatre fashion, with bleed-through techniques. The finale to that section, a fire in the factory, is illuminated with ETC Source Four Profiles fitted with DHA flicker wheels and gobos. The paintshop section of the ride is kitted out with industrial bulkhead lights and MR16s, which fade up and dim down with the soundtrack. Waterproof fluorescents were originally earmarked for this role, but the radiation emissions were found to interfere with the IR signals from the headsets.

It's then on to an area containing cars in crates, gauzed and primarily lit with Altman Mini-Strips - due to the minuscule available space, before coming into the 'Intruder' section. Here the level of the ride drops via an articulated tooth chain belt, under-lit so its sinister shadow is projected onto the walls by Source Four Pars. Dataflash



strobes and Source Four profiles flicker and pick out the components/ characters and the ride zooms at high velocity round the corner into the press area. Here the intruder meets an untimely end, apprehended by a giant press! The ride then spews out into a floodlit 'safety' area (after passing giant UV robots with hankies waving

goodbye), where the cars pack themselves away, the components return to their boxes and hypereality morphs back into the real world!

The Pavilion is a new and purpose-built building for the Opel Live project. While Prior oversaw for K48, Lindsay Barrowclough from HP:ICM project-managed The Pavilion. The lighting design for all spaces in the Pavilion was by David Atkinson, who worked in conjunction with scenic designers for that area, Land Design Studios. Again, the consideration of permanence dictated a very careful choice of highly flexible fixtures. His final specification incorporated numerous light sources, from fibre-optics to cold cathode low wattage tubes.

Atkinson, who started work on the project in late 1996, had a vast array of different displays, objects and areas to light. Overhead signage and graphic displays were first on the agenda to be lit - achieved with tiny T2 lamps and compatible fittings, no bigger than a finger. The introductory corridors are lit with cold cathode low voltage tubes mounted on the walls. At low level, recessed fluorescents mounted in IP65 external casings are employed to give the corridor a 'floating' sensation. The icon boxes in this corridor are internally lit with T4 fluorescent tubes under perspex panels so they exude a diffuse quality, and also top lit with narrow-beam Selecon Accent spots whilst the graphics on the walls are lit with Selecon Mini Accent profiles - for a soft-edged 'letterbox' effect.

Of all the 'sense' areas, for Atkinson, Touch was the most challenging to light. Lighting had to emphasise the oddness and tonality of the numerous textures available for people to touch - from hessian to rubber to concrete. Consequently, very little colour was needed. Atkinson has lit it with a combination of shuttered light emanating a pastel yellow glow from the floor, juxtaposed by contrasting gobo projections in hard and soft focus with plenty of keystoneing. Lighting in this space is constantly changing over three- or four-second crossfades. Further gobo projections are used to create spirals of light and xenon beacons are mounted at low

Simon Prior of HP:ICM project manager for the K48 section of Opel Live



levels to give animated bright white strikes of light below the touch cubes.

Visitors exit from the Touch area into the long 'Smell' corridor, which also had its own optical conundrums! Buried in the floor of this are 50 Marlin Zip fittings in a straight line. These are fitted with 20W bulbs to keep the surface temperature to a bare minimum, whilst all graphics along the Smell corridor are

picked out with Basis Lighting arm fittings.

Upstairs in the interactive section, which came much later in the build process, Atkinson had to contend with a large amount of ambient light from outside. He's utilised metal halide narrow beam angle fixtures, mounted into the existing lighting tracks to create tight pools of (daylight corrected) light surrounding the sculptural elements. The floor is dark, so at night the exhibits have a 'levitated' ambience!

Grey powder-coated Basis arm fittings highlight graphics and details throughout most of the interactive floor. To emphasise the exterior 'casing' structure of this floor, orange Encapsulite fluorescent tubes are mounted end-to-end, running along the top of the framework to the space. Atkinson stresses the collaborative nature of visuals on the third floor which involved himself, interactive exhibit designer Richard Glasborrow and Graham Wileman from Land.

For Richard Glasborrow, the idea of approaching cars via the senses offered a refreshing twist. Explaining the look and styling of a car on the surface under the 'Sight' section of the senses was one thing, but there was always a sub-plot running in conjunction with the initial presentation. Glasborrow designed 24 exhibits in total - each unique in its own way.

The last month proved to be particularly chaotic, but thanks to gargantuan efforts by all concerned, Opel Live opened on schedule in May . . . and has been a resounding success with 6,000 visitors a day flowing through the portals during peak times.

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Carey Davies, Head of Design, Allen & Heath.

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Tony Cottelher

No Comment...

While the woes of Glantre Engineering were not entirely unexpected, I had always thought that they would be very lucky to recover from being trapped in the fallout following the late delivery of Disney Magic. Mind you, that doesn't alter the fact that should the receivership lead ultimately to the demise of the company, as seems

inevitable, it will be a catastrophe for the whole of the UK ent-tech biz. Obviously, there will be a lot of companies who will have to face substantial bad debts and that will be very painful, but more than that, many will be losing a major customer who may, in the long term, be irreplaceable. Others - not necessarily UK businesses - may well fill the vacuum.

Glantre was our most substantial contractor and Derek Gilbert was an extremely effective

salesman, bringing in seven-figure contracts from which many of our manufacturers and suppliers will have benefited. Apparently, he has been valiantly trying to parcel out some of the existing contracts to others: however, this may fall foul of the receiver and in many cases be unacceptable to the customer. In particular, I cannot imagine

any of the marine contracts being so flexible. Nevertheless, while Strand may be congratulating itself for having withdrawn from contracting, they would, of course, have been the natural beneficiary for many of these contracts especially as they have, doubtless, been hit as a substantial creditor. Otherwise, I guess White Light or Northern Light could fill some of the breach.

Of equal concern are the employees, many of whom will also be to the industry which may simply not have the capacity to soak them up. The senior members of Gilbert's technical team will, I am sure, suffer some considerable anguish, but I have no doubt that they will find new positions fairly rapidly for he had built up a highly respected crew at the senior level. For Vic Dobbs and others who had de-camped to the USA, it will certainly be an altogether different story.

Inevitably, there will be hard lessons to be learned from this unpleasant experience for all concerned, but we will have to await the receiver's report before reaching any definite conclusions. It is suggested that the rejection of a substantial export credit insurance claim, over the failure of a Brunei-based developer, may have been the final straw, but we would do well to hold our counsel until more of the facts are confirmed.

While I was away on my summer break (yes, it was great thank you very much), Lady Delfont, the widow of the founder of First Leisure, broke family ranks to accuse her nephew, Michael Grade, of selling off the company's corporate silver in his determination to hive off the non-health-based assets. These, of

course, include the family entertainment division, sold this week to a company half-owned by Allied Leisure who, in common with First, are also attempting to sell their nightclub estate recently acquired via the purchase of European Leisure. Proceeds will be used to reduce First's borrowings. but the share price has not reflected widespread enthusiasm for this strategy, hence Lady D's intervention.

And round and round it goes . . .

Some months ago I wrote a piece about First Leisure, rueing the departure of John Conlan as its hugely successful managing director who, throughout his tenure, had kept the share price in sparkling form. Among other things, Conlan objected to me referring to his previous employers as a 'family business'. However, the intervention of Lady Delfont does rather tend to prove my point, does it not?

Rank is another company this column maintains a watching interest in, not because of the poor fist they made of Strand over many years, but currently because they are a major player in the discotheque business. Now, in common with virtually all their competitors, Mike Smith, the new chief executive, needs to stop the dancing in favour of mountain climbing.

Except that the mountain he has to scale is a debt mountain of Everest proportions. £1 billion high to make the point, or to reach the summit! The sale of the clubs, it is hoped, will bring in £200 million, and thus get Smith into his bivouac at base camp A.

I have to say that I have never regarded dancing as a corporate business, especially as the PLCs seem to find it so difficult to manage at a profit, while any private entrepreneur will tell you that nightclubs are a licence to print money. But only if you know how. Following two CEOs, both of whom managed to disappoint, in the last four years, Smith has the pedigree and the experience to sort out this great British conglomerate, but it may be that at the end of it, the Rank name will only remain attached to a half-interest in Universal Studios and as the unseen moniker on the Hard Rock Café chain. Even the Odeon Cinemas are rumoured to be on the block.

Let's hope that this former Reliant executive can keep all four wheels on the Rank wagon in this process of retrenchment. One thing is certain, when the music stops, it won't be a bandwagon any more.

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Based in Ringwood, Hampshire, AJS now has a team of 25 working across several divisions each serving complementary market sectors. The product range is vast and covers sound, lighting, staging, scenics, drapes, special effects, make-up requirements and general supplies for theatre, drama and entertainment. The roster is remarkable too - AKG, Ben Nye, C-Audio, Clay Paky, Denon, DHA, Doughty, ETC, GE, Hallstage, JBL, JEM, Lee, Le Maitre, LSC, Martin, Metro, Peavey, Philips, Pulsar, Rainbow, Rosco, Selecon, Sennheiser, Smoke Co, Soundcraft, Trantec and Zero 88.

It is a company built on 25 years of hard work: Adrian Sant started AJS in 1974. His enthusiasm for this industry, like many of his contemporaries, had been crafted in amateur theatre land and light shows, where he had been honing his craft in the early sixties and seventies.

Like others, he decided that the industry would probably afford him a living, so he joined Philips Electrical and whilst he valued the commercial experience he gained whilst with the company, it didn't really yield the challenges he'd been hoping for. He tried unsuccessfully to get Philips to sell theatrical lighting in the UK, but the notion at the time was that theatrical lighting didn't really have a huge future, and with Strand already in the market, there didn't seem room for others.

So he scanned around for other opportunities and contemplated starting a hire company in London: at the time, the market was pretty well saturated (though ironically, few of those early companies survived), so he decided to leave London and return to Poole and his



Above, AJS were contracted by P&O to refurbish the latest Oriana; inset, the company worked on the design, supply and installation of the stage engineering, lighting and sound equipment for The Point in Eastleigh



COMPANY PROFILE

family home where in a small workshop at his parents house, AJS was started - the year was 1974.

With £3,000 of savings he placed his first order with Strand Lighting. Bizarrely, Strand took nearly a year to deliver the lanterns because they had no boxes and when the lanterns did arrive they came packed in whisky crates! But it wasn't a problem. Before long, Strand had offered AJS an agency deal, even though at the time no formal dealerships existed and Strand dealt direct.

It was typical of the way the industry was changing. Satellite companies were appearing all over the country working with the main manufacturers as dealers and distributors, who, because of a growing customer base, found they could no longer service the clients or the equipment to the degree they would like. Dealer networks began to be an established part of the structure of the industry and part of the reason why companies such as AJS, Stage Electrics and Ancient Lights grew. The market grew in parallel.

AJS's appointment as a Strand dealer came with one proviso - that it had its own premises, so Sant set up an office in a converted stables in Parkstone, near Bournemouth, on the south coast. With the Strand dealership in the bag, it appeared that there was enough potential in the business to support a second person, so Sant was joined by Simon Sketchley: however,

it quickly emerged that the company couldn't provide the livelihood for two, so within a year Sant was on his own again.

But real growth wasn't far away and in 1978, after four years of slog, AJS became a limited company at the same time as being appointed a Strand main dealer, fast becoming a leading supplier to the schools and educational markets. However, change was lurking round the corner again, because by the close of the seventies, Strand decided that it no longer needed a dealer network and withdrew its higher-rate discounts for dealers.

Sant decided to part company with Strand and approached Lee Filters (for their range of colour filters), Pulsar (promoting their 12-way desk) and CCT (who were just about to launch the Minnette) - all products perfectly suited to the education market. AJS sales began to take off and the company's turnover spiralled from £100,000 to £500,000. By the early eighties, the company were in a strong enough position to move to larger premises in Bournemouth and the business now provided a living for a team of four. During the next few years, Graham Fathers joined the company, travelling the country promoting the company's range of products which, by now, had expanded to include Le Maitre, Rosco and Ben Nye. Luminaire manufacturers were on the increase and it became clear the industry was on the brink of tremendous growth.



AJS was earning a respectable living from the schools market and was the first to produce an A4 mail order catalogue - as Sant recalls it cost a fortune and very nearly put the company out of business. But the schools market was booming, and as more theatre courses appeared on school curriculums, the whole thing just took off. Despite the company's success in this sector, Sant wanted to explore other markets; he was wise enough to stay away from the professional install market, which, by this time, was highly competitive and had already thrown several weaker players to the wall. Instead, he wooed key customers like P&O, picking up essential cruise contracts. The company refitted the Canberra and the original Oriana prior to both sailing off for active service in the Falklands. This particular ill wind blew AJS some good, for both ships were stripped for service in the Falklands, and when they returned to the UK, AJS had the happy task of refitting them all over again.

As a result of its early work in this area, AJS now has a reasonable slice of the market, leaving others to new build projects, preferring instead to concentrate on refits and refurbishments. Sant relates a story that illustrates the company's reputation:



once, P&O called them on a Friday, asking them to undertake a major sound upgrade for a ship that sailed the following Wednesday; on the Monday taxis were despatched around the UK to collect the equipment which was installed on the Tuesday and the ship went on its way the following day.

By the late eighties, the company had moved to its current premises at Crow Arch Lane, where the

success of its Green Pages catalogue for the educational market continued to underline a pattern of steady growth. Sant was still keen to break into the pro market, however, and in the early nineties, he seized his chance, pitching for and winning major turnkey contracts for the refit of several major theatres. By now, the AJS team had grown significantly; Simon Sketchley had returned to the fold (as general manager), and Mark Morley was on-board (now responsible for corporate sales).



Left, the Godolphin School in Salisbury where AJS handled the design, supply and installation of lighting, sound and gantry engineering. Below, Adrian Sant cuts the 25th anniversary cake


In order to address the company's growing profile in the pro market, Sant set about the task of investing in the infrastructure of AJS: he completely re-engineered the company, concentrating first on internal issues - building, office, staff, computers - all vital building blocks for expansion, then external issues - market profile etc. The restructuring is now complete, with three key divisions - contracts, theatre and drama and sound and lighting hire. A huge amount of investment has gone into the contracts division in terms of personnel and AJS now has an in-house draughtsman, two project managers, three salesmen and a growing team of installation engineers, supported by two admin people and overseen by divisional manager Chris Coates.

The contracts division has provided the springboard for further expansion: in addition to its growing cruise line business, the division has also recently secured some key mainland contracts and is currently engaged in work for Frensham

Heights (full turnkey project), The Tron in Glasgow (lighting and sound) and the Theatre by the Lake in Keswick (stage engineering, flying and hydraulics). The division has also just completed a £250,000 refit of Oriana, so it's no great leap of the imagination to understand that it's not unusual for the company to have an order book of contracts pushing the £1million mark.

AJS has also begun to earn a name in the leisure sector and has worked with Rank Holidays at their holiday parks and handled the foyer lighting for cinema chains such as Virgin, ABC and Odeon. Not surprisingly, like many others, retail is also a growing part of the AJS business. As Sant notes, even the schools market is presenting some major challenges these days, with contracts typically in the region of £30-£40,000 and in some instances, such as Latymer School, tipping the balance at £100,000. The mail order division also continues to grow and the company is about to exploit the potential of e-commerce: a new format catalogue is shortly to be posted on the web and steps are being taken towards secure transactions.

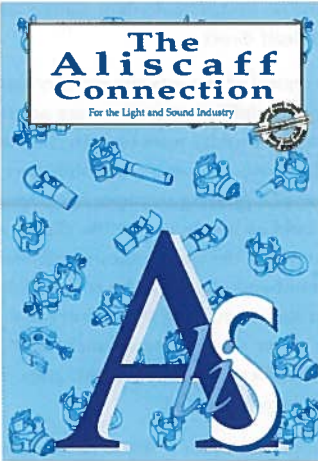
The future for AJS would seem to promise much. It now has at its disposal the infrastructure to allow the company to grow exponentially. For Sant himself, the days have changed dramatically. He no longer fiddles with lanterns, but spends his time looking at figures and mapping out business plans for the future - a role he's not entirely comfortable with, but one which he accepts is inevitable if the company is to grow. As it almost certainly will.

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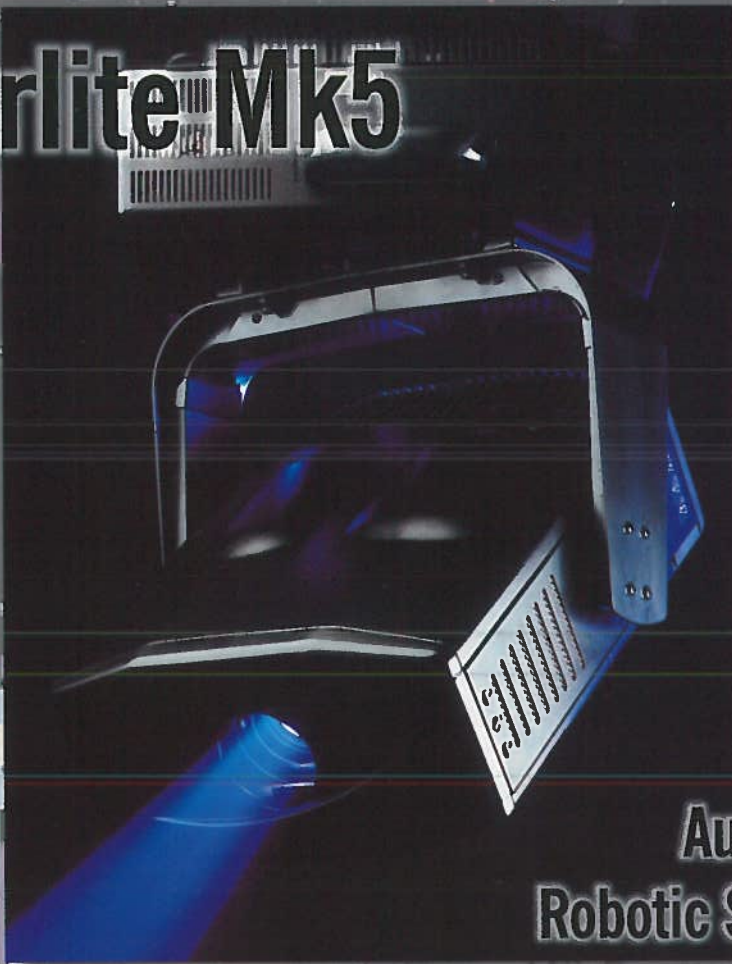
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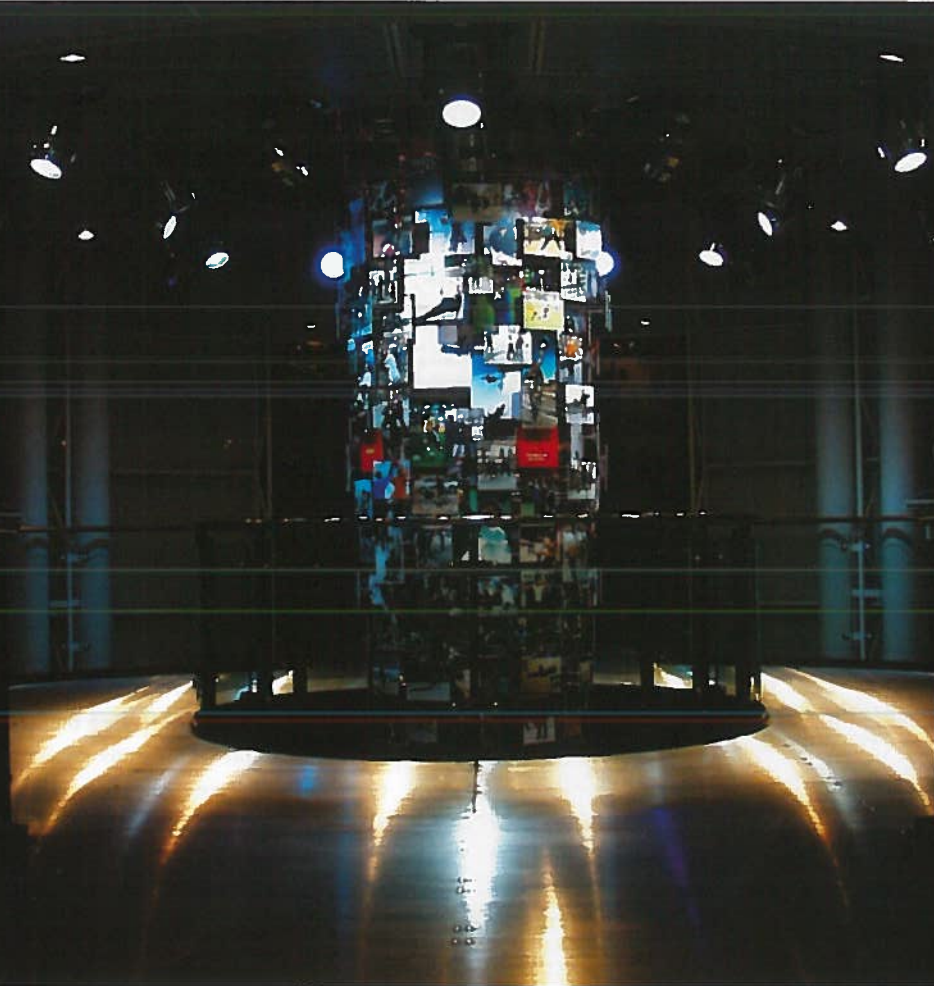
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Our

Tony Gottelier and Lee Baldock reveal the technology behind London's first entertainment-driven superstore




AUDIO-VISUAL

If you were a resident or traveller in London in June or July of this year, you couldn't have failed to notice a trail of mysterious teaser advertisements on the rear of buses and on poster sites. Whether you could decode them depended on whether or not you were into sport in a big way. Those in the know were aware that something was stirring behind a discreet entrance in Oxford Circus. Nike was coming to town.

What has a new sports superstore got to do with the ent-tech biz? It's a bit like the sixties (if you can remember them you weren't there) - if you don't know the answer then you must be a deaf, dumb and blind kid, and you certainly don't play pinball! In the beginning, there was shopping and it was deemed a chore. Then some bright spark came up with the notion that shopping was, actually, fun. Anyway, it worked, and shopping centres became tourist attractions. However, nothing much had changed aside from the fact that these centres were high streets under cover with Muzak. Nevertheless, we moved seamlessly on to the next phase when some marketing genius gave us retail-therapy, and a whole new excuse to

spend, spend, spend - now it was good for your mental health!

In America, they do these things properly and thus when the prophet of the genre, Jon Jerde and his Jerde Partnership, asked the naïve question 'Hell, why not make shopping an entertaining experience?' it wasn't too long before he was able to prove the point by showing doubled and trebled visitor numbers to previously redundant shopping malls. Others followed his example and, since nothing exceeds like excess, the Minneapolis Mall of America soon boasted an entire in-house theme-park and 4.2 million square feet of retail, and Canada had its vast West Edmonton Mall, checking in at 5.2 million square feet, which is an entertainment in itself and was seen as a major contributor to urban regeneration. Interestingly, these and others of their ilk, are now known as 'Urban Entertainment Centres'. Note that the word 'shopping' has been dropped from the vocabulary.

Then came the development of what was to become known as the 'flagship store' phenomenon and the parallel, rolled-out 'factory outlet' stores. The rash of movie stores were typical of the breed. As was pointed out by Louise Stickland in her recent article on theming (see )

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Win Commander

CONTROLLER FAMILY

Win Commander *club*

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Win Commander *two*

The latest upgrade to the much acclaimed Win Commander Multimedia Show Control System. From controlling a small Theatre presentation to controlling a full Multimedia product launch, Win Commander Two fits the bill. Features include:

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(*) SMPTE Synchronisation requires add-on DMX Input/SMPTE ISA card

Win Commander *lite*

Do you want the Multimedia show control features of Win Commander Two, but you can't utilise an ISA expansion card. No problem, Win Commander Lite has been designed specifically for the Portable/Laptop market. Win Commander Lite offers all the features of Win Commander Two except:

- 512 DMX Channel Output utilising DMX Dongle

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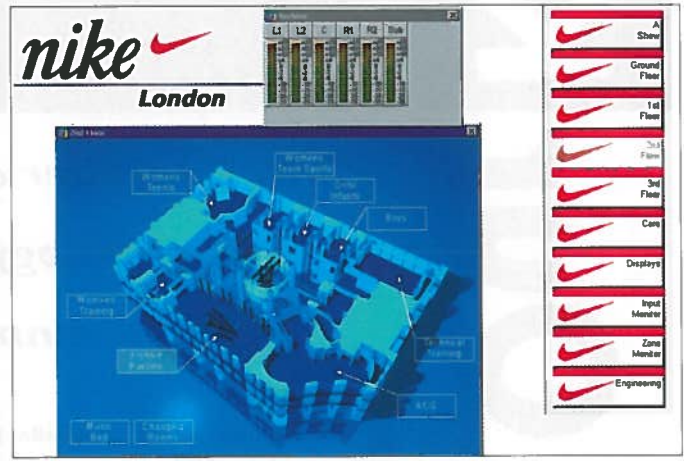
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L&S June 1999), America has been designated an Experience Economy and pundits like John Nesbit in his book Megatrends make statements like: "Anything inherently boring will have to be made entertaining or risk being ignored." It may have taken a little longer to take hold here - the charabancs full of blue rinses are still ploughing their way to the Metro Centre in Newcastle and Meadowlands in Sheffield - but it is certainly coming, viz Bluewater and the Jerde-designed Star City, which will be arriving in Birmingham around the Millennium.

Nike, purveyor of fine footwear and apparel to athletes, sports players, and humble pedestrians alike, have made an art of entertaining flagship stores since they opened their first one in Manhattan a few years ago and called it NikeTown. There are now 12 in the USA, and London is the second in Europe, the first having opened in Berlin in April this year. However, at 70,000sq.ft, Oxford Circus is the biggest NikeTown in the world and for that, and for all the reasons in the preamble, and because ent-tech is leaching away from its more traditional markets, this is indeed a significant event.

Situated on the North East corner of Oxford Circus, Nike is in pole position to run up its flag. Inside, NikeTown is a three-level galleria with dedicated sports 'pavilions', balconies and escalators open at each level to the centre (designed by Building Design Partnership), thus creating maximum visibility. Rising through the middle, taking its name from nuclear fusion, is The Core - a three-storey iconic, metallic tower supporting 750 colour pictures of great sporting moments and great sports people, and which also doubles as a 360° projection screen at show time. Every 20



A MediaMatrix screen capture showing the zone-by-zone layout of NikeTown's second floor

minutes, the blinds descend over the windows, the lights fade, the sounds of enthusiastic crowd noise grow ever louder, and four Barco 9200 video projectors spring to life with television images onto the scrim screens surrounding the 'core'. This performance can also be accompanied by a substantial light show, just check out the inventory: 64 Stage Color 300s, eight Stage Scans, eight Stage Zooms, six Datapacks, 28 500W Fresnels and 24 Strand Coda 1/500s, all controlled by a Hog-in-a-Box (Wholehog's 'blackbox' controller), via SMPTE time code from the Electrosonic show control system. Nike's lighting designer was Natasha Katz and the kit was supplied by AC Lighting, whose Peter Keiderling, universally known as PK, was the guy responsible.

Clay Paky had just developed their new Stage range of moving heads and on further investigation PK concluded that the Stagecolor 300 would meet Nike's requirements. "A meeting was held between Building Design Partnership, Nike and ourselves to consider the proposed specification," PK told us. "Subsequently, a mock-up was arranged in the store and it soon became apparent that the Stagecolor 300, fitted with Osram HMD 300W 3,000-hour lamps, would do the job with a mixture of Stage Scans and Stage Zoom 1200s."



PK's choice of DMX cable would need to be of an extremely high standard, not just for all the usual reasons, but because of practical limitations to the methodology of the installation of the system.

Following extensive research of the many cable options, he decided that Tourflex Datasafe 2 would be the best cable for the job.

During the five-week show lighting installation, information on the orientation of each light was exchanged via WYSIWYG drawings, between Natasha Katz and Paul Sonleitner who was producing the drawings. Nike themselves also purchased a WYSIWYG system to be kept on site to aid with the ongoing updating of the show programming. Richard Knight did the in-house programming on a Wholehog II, downloading his cues to the Hog-in-a-Box.

NikeTown London is also home to one of the biggest concentrations of digital audio and video equipment to be found in a retail environment anywhere. Provided by Electrosonic, it includes 120 channels of digital audio played through 14kW of amplification and 239 loudspeakers, 24 channels of digital video played through a mixture of high-power projectors, plasma screens and conventional monitors, and the first installation in the UK of the Dartford-based company's ESCAN supervisory and control system.

In order to ensure that the 'core' projection concept would work, once again full-size mock-up tests were carried out, but this time in a hangar in Portland, Oregon. These evaluated the performance of several different projectors, to determine both image brightness and the optical issues arising from both, off-axis projection and direct projection onto a convex surface. The tests, and the final core projection installation, were supervised by independent consultant Josh Weisberg (of Scharff Weisberg of NYC) who had also been responsible for the big image projection at the New York NikeTown.

The Americans, who have already invented more euphemisms for 'dismissal' than we Brits have for all those nasty bodily functions that we'd prefer didn't exist, have also found a convenient phrase to cover the business of choosing a lesser item when the budget doesn't allow. It's called 'value engineering' and thus it was that the Barco Reality projectors, originally specified, were 'value engineered' into 9200s, which was a bit of a shame as they were performing to the limit of their capability in the store. But this was one of the very few disappointments in what is otherwise a brilliant concept, brilliantly executed by all concerned. And we can't help thinking, that had this been a locally-inspired project, you would have been looking at considerably lower value - with, or without, the engineering.

The 'core' also doubles as the store's Town Square, surrounded, as it is, by the themed pavilions housing specific sports areas using a variety of

Main picture: a view of the football pavilion.

Inset: racks of Electrosonic control equipment in the main control room.

display technologies integrated into the merchandise displays. Each screen shows dedicated information or inspirational footage and in this way identifies the area. The ambient sound in each pavilion is carefully designed to match the mood of the sport or activity featured. Played through many channels, it creates a continually changing sound picture of sport.

Electrosonic designed, built and installed the audio-visual system. 17 full size 19-inch instrument racks are sited in the control room. These house all the source and control equipment, including a CCTV link to check the performance of the 'core' show. The 24 channels of video are sourced from Electrosonic video servers with mirrored, hot-swappable drives. Video is stored as MPEG-2 files, played at 15Mb/s for the big core images, and 8-10Mb/s for the smaller display screens. Device controllers were provided by Alcorn McBride. Electrosonic's project manager was Graham Thorpe.

The 120 channels of audio are sourced from a mixture of the audio from the video servers, and Electrosonic's ESTA solid state audio players. All audio is routed through a Peavey MediaMatrix programmable audio matrix system, and thence to a total of 81 Crown amplifiers feeding 239 loudspeakers. In order to allow flexibility at commissioning time and in the future, signal cables from the central control racks to the store are of only two kinds: either loudspeaker cables or Cat 5 data cables. All video and line-level audio signals are conditioned for Cat 5 delivery using active balance and line drivers. Data signals (RS485 and RS232) are also carried on Cat 5 cables.

The extensive sound system for NikeTown was designed and commissioned by sound designer Richard Northwood for Electrosonic. Of the 239 loudspeakers he has specified throughout the store, EAW's two-way full-range UB Series takes the brunt of the duties (UB12S, UB22, UB80 and UB82 cabinets) with additional sub-bass units covering the show-viewing areas, including EAW SB48s, JBL Control 5s and MSW10 subs from Yamaha Systems Technologies (YST). When show-time kicks in, the roar of crowd noise on the viewing balconies which accompanies the lighting and projection around the core display, is truly spine-tingling.

For sound effects for the displays around the store, as well as for many of the effects around the core, Northwood has specified Martin Audio C115s, as well as other effects units from Aura loudspeakers. Ceiling speakers include several Ci Series (custom installation) models from US



The Core at NikeTown London - inside and out.

manufacturer KEF Audio and CT8 units from Sound Advance. The Peavey MediaMatrix system provides quick and easy zone-by-zone control of audio to around 20 zones in total - which sounds a great deal until you consider it covers three floors and incorporates each of the separately-themed sporting 'pavilions', the viewing balconies around the core, plus staff areas, training rooms and entrance areas.

The source system is run as a network, which facilitates schedule control, monitoring and media updating. A master computer is networked to the server computers, and to an RS232 or RS485 port-server. The master computer runs ESCAN - ElectroSonic Control Area Network.

ESCAN includes 'Easy Schedule' to program events on a calendar or time of day basis or to respond to

external triggers; and 'Site Manager', which provides monitoring of all major equipment items. In order to simplify day-to-day operation, ESCAN has the facility for direct control from touch-screen control panels. These are used to set up pre-programmed system configurations or shows, either in addition to automatically scheduled events, or to override them. AMX provided the touch-screen controls.

ESCAN allows for direct delivery of media by wideband network; however, at NikeTown, all show and interactive media are currently delivered on CD-ROM and are

loaded locally, thus requiring local manual intervention when media are updated.

There isn't space in this article to review the conventional lighting as well; suffice to say that 372 channels of lighting control, including 267 dimmed circuits and 103 switched circuits, were provided by Leax Controls through 27 of their Series 6000 dimming racks and Windows-based control technology. Once again, the system is integrated into the AV structure with each dimming rack, the control PC sitting on an Echelon LonWorks network.

NikeTown London was realised by the Nike's in-house team, headed by creative brand director, John Hoke, and manager of global retail media, Michael Welch, who provided all the audio and video

programme material, with Tim Canfield, technical production manager and Rod Anderson, AV co-ordinator, Europe.

Having a bunch of kit that most lighting designers would give their eye-teeth for, means that at street level the Town Square can play host to special events and promotions and a mobile cart has been provided to facilitate this. The benefit of such facilities was proved even before the store was officially opened by Michael Jordan and Carl Lewis, two of Nike's stars, when Channel Four used the site for a shoot with The Cardigans.

"Having a bunch of kit that most lighting designers would give their eye-teeth for, means that at street level the Town Square can play host to special events and promotions."



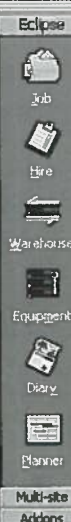
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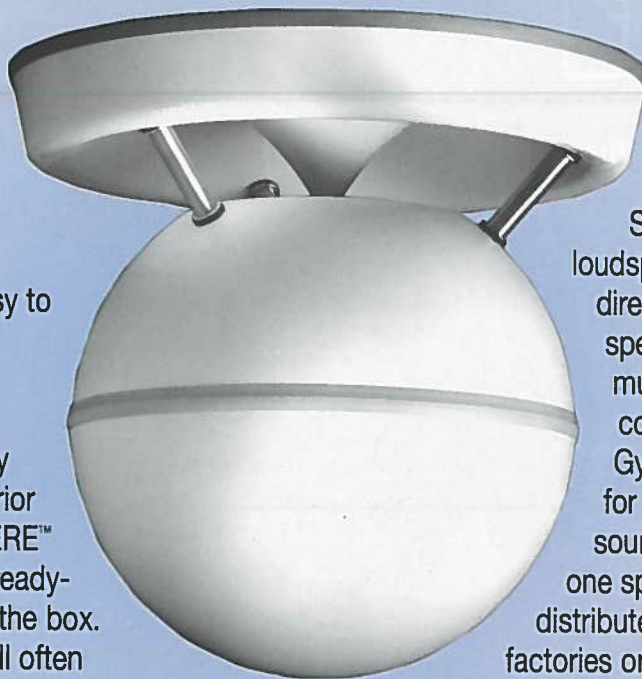
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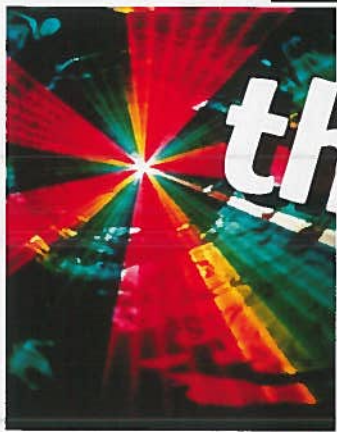
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Scanning the Laser Market

*L&SI looks
at laser
companies
in the UK*

The small, but vibrant, UK entertainment laser industry has been involved in producing some of the most awesome and breathtaking visual spectacles over the last 15 years. The technology and the creativity has increased dramatically over the last decade, with the availability of ever more sophisticated control systems and increasingly powerful light-sources. Simultaneously, laser equipment has become more portable, user-friendly, robustly built and cost effective. The explosion of rave and dance events in the late eighties brought a demand for smaller laser systems and for daring, 'live' laser operation. This, in turn, heightened concern over issues like audience scanning.

Two years ago, the Entertainment Laser Association (ELA) was formed by the leading players in the UK industry. This was an achievement in itself, considering the highly competitive nature of the business and those at its forefront. It was born from the belief that the way forward was through the cross-fertilisation of ideas throughout the industry, and by all parties working and moving forward together on certain common issues.

ELA's mission is to dispel fears and misconceptions about the safety of lasers in the entertainment industry, to build public



COMPANY
PROFILES

confidence and awareness about lasers and to influence legislative matters. It is dedicated to promoting the safe and professional use of lasers by its members and to co-ordinating a coherent educational programme to ensure that practitioners of the laser industry (both operators and Environmental Health Officers) are competent and focused.

The companies featured in this article are all ELA members. This is designed as a brief overview of the products and services available from each individual company, while collectively reflecting the massive diversity and potential of the UK laser industry.

Chameleon Technology

Specialises in intuitive, easy to programme and operate controllers for small, medium and large frame argon/krypton/white light lasers. Chameleon's PM Series is still very much in vogue with those who like to operate their laser shows completely 'hands-on'.

The company's products include the PM21, a low-cost, hands-on controller designed for installation in clubs. PM22, a mid-market hands-on controller with full colour and blanking control, which uses ILDA image files, interfaces to PCs and MIDI. PM23, a compact 150mW or 300mW air-cooled argon laser for small clubs and point of sale. 240 Volt operation. Works with either PM21 or PM22. PM24, lowest cost controller available, plugs into a PC to give a wide range of facilities. Uses ILDA files.

Chameleon also supplies a full range of drive electronics for all laser systems.

Coherent

Coherent operates worldwide, employing over 2,000 people. It manufactures lasers, laser optics and opto-mechanical sub-assemblies. As a major supplier of lasers to system integrators in the laser entertainment market, Coherent is well-known for its range of argon, krypton and mixed-gas water-cooled ion lasers (available are up to 10W mixed-gas and 30W argon). More recently, it has introduced a completely sealed, hands-off solid-state green laser with output powers up to 10W. This is called 'Viper' and is already proving popular in the entertainment industry.

In addition to laser products, Coherent offers continuous variable edgepass filters from its UK optics facility. These units allow a broadband source to be converted to a colour source with variable bandwidth and centre wavelength. This is just one of many hundreds of optics and accessories available from the new Coherent catalogue.

Coherent's philosophy is to produce high quality equipment featuring the latest laser technology, allowing industry professionals to create with high performance, reliable systems, complete with global support.

Continental Lasers (UK) Ltd

If a picture paints a thousand words, then the laser shows generated by Continental Lasers send their clients grasping for the Concise Oxford Dictionary. Thus claims the enigmatic Brian Bennington, who heads up the company and is renowned as one of the production industry's personalities. Continental Lasers (UK) Ltd are

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based in Belfast and build systems for sale or hire: "With a degree of engineering that would have kept the Titanic afloat." It specialises in the supply of equipment, services and crew for sub-contracting to other laser companies and in the last 12 months has added four new companies to its list of regular clients, all of whom are actively engaged in laser shows of all descriptions.

Continental Lasers prides itself on paying great attention to detail in the construction of systems and in its interpretation of the client's scenario. The reliability of its in-house products such as the BEAMloc and SCANloc series of optical tables and projectors, the B.O.L.loc 3D graphics show computer and the legendary PM19 controller, have made Continental Lasers renowned and respected worldwide.

Creative Media Technology (CMT)

CMT was formed in January 1998 and is predominantly a rental company specialising in the visual mediums of laser, video, monumental and large outdoor slide projection: "Anything that's wild and amazing." The company is run by three individuals - Ram and Gino Malocca and Tim Fothergill, whose aggregate experience in the professional laser industry spans many years.

CMT set out on a mission to create and produce challenging and different design ideas by using all available hardware and software, utilising both old and new technology for creative ends. On the laser side of the business, it offers the latest Pangolin control systems and Chroma 10 Spectra Physics systems.

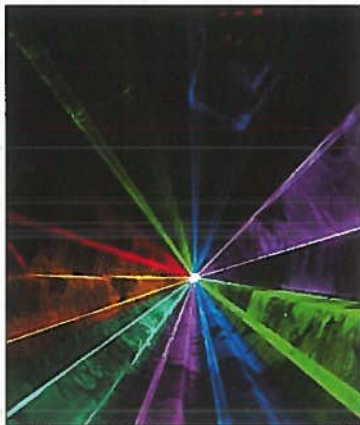
While the laser side of their business tends to stick with the latest equipment, the video department will often reinvent older technology and techniques to achieve the desired result for the client. CMT works worldwide, particularly in the corporate and industrial markets. It feels that limiting itself to one medium is no longer a viable way to operate, which is why it offers multi-media packages, all of which involve projection and projection surfaces. In a similar vein, CMT also aims to offer a diverse selection of laser systems from all the major manufacturers, thus being able to offer clients the widest possible options for the application in hand.

Fourth Dimension

Midland-based rental company Fourth Dimension Lasers was founded three years ago by Phil McClusky with the express intention of presenting professional and cost-effective show packages to the bottom end of the market.

Its systems are basic, no-nonsense, under 2W argon and air-cooled. The control package is PC-based and custom-designed by McClusky himself, who also tends to go out as the main system operator. He describes his system as resembling a Pangolin "in many ways," but

cheaper. It can run on approximately £500 worth of hardware, including D to A cards. McClusky, figuring that the high and medium ends of the laser market were already sewn up, saw his opportunity at the lower end and has



been very successful in this area. He feels there is far too little attention paid to health and safety issues by some laser operators at the lower end. An important part of Fourth Dimension's mission is to rectify this situation and raise awareness. Fourth Dimension also provides long-term hires to clubs like The Venue and The Steering Wheel in Birmingham.

GL Services

GL Services was formed in 1990, having previously been known as Golden Light since 1981. It has operated as a rental company both nationally and internationally in putting on laser displays and using lasers for visual effect and impact. Areas covered include television, commercials, pop promos, photo shoots, live shows, exhibitions, industrials, parties et al. GL's systems are highly versatile, enabling the company to work to any situation and to accommodate clients' exact requirements.

A major part of GL's displays includes high quality, full colour graphic animations and logos which it claims to be "almost always flicker-free." One of its areas of expertise is in working with specialist model makers on visual effects scenes and with animation designers, where top quality graphics are required. When it comes to displaying abstract imagery, GL's stock of effects and experience guarantees top quality results with minimum fuss.

Laser safety is GL's other field of expertise. The company frequently acts as consultants and laser safety officers. In conjunction with Laser Met, GL has written the LaserSafe PC software package (now the UK best-seller and de facto in Europe) and has released the Laser Display Edition specifically for laser light shows (this package is endorsed by ELA).

Illuminatum

Illuminatum was formed two years ago by Geoff Jones of Laser Studio and Darren Wring from Fineline, who joined forces to form a company that would address the specific needs of large, exterior and architectural lighting applications, son et lumière type shows and lighting extravaganzas. Between then, Jones and Wring both have considerable experience in the professional entertainment laser and lighting industries.

Illuminatum has a large inventory of equipment at its disposal including a self-contained outdoor laser truck complete with laser, cooling systems,

power supply and everything else needed to get up and running. The company has a 70W YAG laser for outdoor work and numerous 5/6/7W lasers which will do both indoor and smaller-scale exterior shows. Additionally, it has Studio Due City Colors, high pressure Sodium HQIs in blue, green, white, orange and pink, 2K Xenon searchlights and 6.5kW Dominator moonflower effects.

The latest addition to the Illuminatum outdoor inventory is the mega-bright Diablo super-searchlight - a fully weather-proof 7kW xenon moving yoke fixture. Now available for hire from Illuminatum, Diablo was developed initially to provide a solution to their own production problems which demanded an outrageously bright, fully controllable fixture with very accurate movement, that was completely waterproof and had multiple-unit radio linking capabilities.

Laser Creations International (LCI)

LCI was established in 1978 and is one of the biggest and best known laser rental companies in the UK. There are currently two parts to the business. The first is a thriving rental business which also includes the whole package of lighting and sound, as well as a large variety of laser systems. This is complemented by LCI's ability to offer a comprehensive design and installation service for theme parks, nightly spectacles, visual attractions, expos, son et lumières, including water screens and pyrotechnics and the design and realisation of customised, site-specific effects.

Recent projects include the impressive Kunming Stone Forest in China, a walk-through 'experience' designed by LCI (see October L&S!). Visitors trek through a natural stone petrified forest and into a lake. Stories are told via lighting and projection as they walk through the forest. LCI also installed a simulator into the attraction and designed and produced the film which explains how the forest was formed.

Laser rental stocks range from the smallest 100mW air-cooled system to the largest argon or



Above left, Illuminatum's full colour laser in all its glory and above, one of the stunning laser displays created by GL Services

white light laser and the latest YAG technology. Over the years, the company's work patterns have changed and developed dramatically: 90% of LCI's turnover is currently from international projects, and the design and projects element has expanded dynamically to stretch beyond the provision of laser systems to offering the whole creative shooting match for a theme park, visitor attraction or 'experience'.

Additionally, LCI's Special Projects team can custom design large one-off effects.

Below, Laser Creations video projected the image of the lion onto a water screen for an event at London's Docklands, whilst inset, Laser Grafix' used monumental slide projection to get the Givenchy message across at Marble Arch in London.



Laser Electronics Ltd

Laser Electronics has been trading for nearly a decade. It is the first laser company in the UK to cover all laser services to include laser light show, medical and scientific laser hire and sales, with support to include laser reprocessing when new gas is needed in ion lasers.

Funseekers can download the Millennium Laser Light Show Controller Software featuring the real-time laser clock (systems available for rent) to count you down into the Millennium from the LE Website at: www.laserelectronicsltd.com. The Millennium Showcase Package is also featured, which includes Laser Diode technology with scanning and full Digital Blanking from the Diode (no need for external blanking device).

Laser Grafix

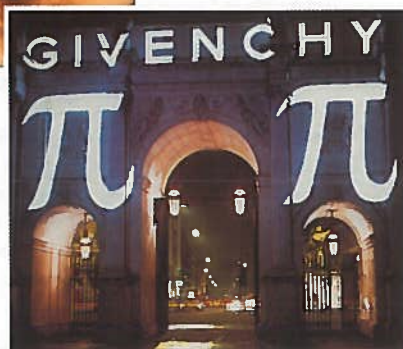
Widely known in the UK entertainment and corporate industries is Laser Grafix, Hertfordshire-based hire and sales facility. More recently, it has expanded into areas other than just lasers, including water screens, large slide projection, searchlights and the lighting and co-ordination of shows. It operates in conjunction with its sister companies Guerrilla Advertising Projection, The London Fog Company, The Waterscreen Company and The Electronics Workshop - the latter of which concentrates on repairs in the medical market.

Laser Grafix can offer a large selection of laser equipment - depending on the occasion, starting with 400mW nd YAG and going up to a 50W nd YAG which needs only an eight amp single-phase power supply for its potent 50W output. The colour of this laser at peak-of-the-eye-sensitivity is 532 nanometers, giving it the appearance of being three times as bright as a 30W argon laser.

Laser Grafix has developed its own control equipment called Prisma, which uses a Pangolin engine, a Laser Grafix front end and is individually customised for each installation. A Prisma 5 is installed at Camden Palace, London, and the company is about to install a new advanced Prisma system at

Route 66 in Torquay. Hire stock offers a range of controllers including original award-winning Prisma controllers ideal for live work and Pangolin systems for complex pre-programmed shows.

Other more bizarre equipment in the Laser Grafix inventory includes six metre diameter mirror balls, ground support systems with motorised



black shark gauze screens and an inflatable screen measuring 15m wide by 10m high, designed to withstand a 60km per hour wind speed. It also has access to a 24 x 42 metre inflatable screen.

Growth and expansion into new areas involving and reaching beyond the creative scope of lasers was seen as the way forward primarily because of the erratic nature of the UK laser business. Laser Grafix's managing director Mark Brown explains that lasers are often seen as "an answer to a special problem." The additional inventory gives them great scope to take on a design brief that may or may not include using laser display equipment.

Laser Hire

Laser Hire works extensively on outdoor shows and indoor corporate presentations. It also undertakes long-term installations, but seeks to concentrate on promoting the creative concept of the laser 'show'. Laser Hire claims to be the only European

company to work purely as a hire company.

Laser Hire's Keith Flunder comments that with the advance of technology being so rapid, Laser Hire has tried not to commit to one range of equipment or to recommending a specific route for its customers. It can supply all the latest American systems and can offer anything from a 30W YAG to small helium neon lasers. It currently has four multi-colour medium frame systems and 2 or 4W YAGs, while for smaller shows there are sub-500mW air-cooled lasers. The latter have now been largely superseded by the 400W nd YAG.

The advantages of the nd YAGs are numerous. They can run off a 13 amp (or less) single-phase socket or supply and the smaller ones are air-cooled and physically much smaller, more portable and manageable. Laser Hire's control systems are all based on Laser Studio Magnum 1, 2 and 3s and Pangolin systems. The latter are excellent for graphics manipulation, animations and the high end production requirements of larger corporate shows.

Laser Innovations

Formed in 1991, Laser Innovations has steadily increased its product range and global customer base. The company both manufactures and sells. As a manufacturer, Laser Innovations has been continually alert to customer feedback, identifying new product areas and developing systems to suit. Three of its four control systems are PC-based, running under the Windows operating system, and all software is developed in-house using Visual C++. A range of effects heads and projection units have also been developed which are integral to the range of available products and packages.

Laser Innovations feels that understanding customers' requirements and the need for user-friendly software has been the key. It was one of the first companies to offer users the ability to create new graphics and animations using conventional PC-based 2D and 3D drawing packages like CorelDraw and 3D Plus. Automatic conversion from these programmes is possible via their LaserDraw software.

Laser Innovations also distributes Laser tubes from laser manufacturers like Coherent, Spectra Physics, Laser Physics and the new Solid State 532 Systems. These new units are becoming increasingly popular, requiring no high current three-phase supplies or water and running from a conventional 13A socket. Utilising the range of control systems, effects heads and laser sources, specific systems can be produced to suit all requirements and budgets.

Laser Innovations has continued to develop new products that allow the upgrading of existing systems, and has a growing network of distributors in all areas. The recent launch of the Laser Innovations Projects division brings a specially converted double-decker bus, complete with self-contained Mobile

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Laser Magic were the company behind this colourful fish motif.

Presentation Unit (MPU), making its systems and all associated equipment highly portable. The MPU consists of a top-of-the-range Laser Control system including programming suite, 10W white light laser, 40W YAG Laser, crew quarters, on-board power generator and chilling system, and a 4kW sound system.

Laser Magic

Laser Magic, established in 1985, is one of the UK's best-known hire and sales companies. It will also supply lighting and AV to any projects as required.

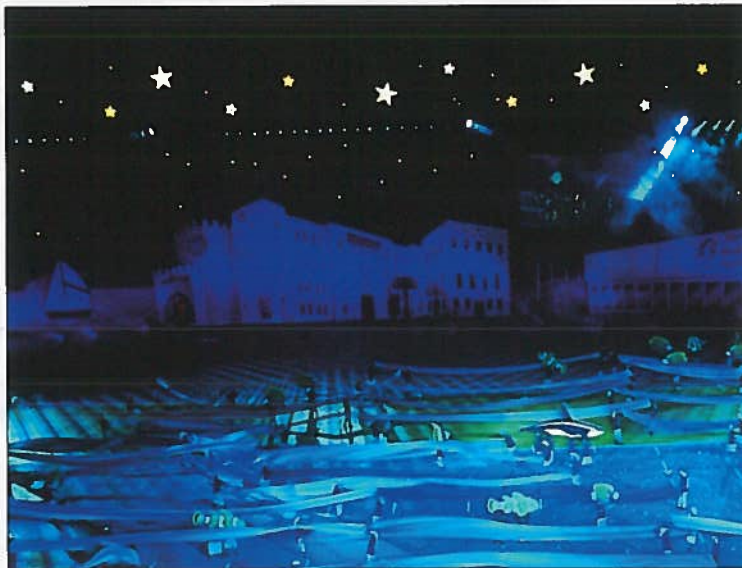
Based in Seaford on the Sussex coast, Laser Magic has just opened a new Middle Eastern office in Dubai, UAE, that has six full-time staff and is designed to mirror the full range of products and services available in the UK. This includes a variety of laser systems, moving lights, video, computer graphics and animation generators. The Middle Eastern market has expanded steadily for the company: as with many other laser companies, they have also found an increasing demand for other forms of large-scale projection and illuminations such as water screens.

Laser Magic is one of the largest purchasers of Spectra Physics laser tube in the UK and can offer systems from 1W diode pumped YAGs, up to 60W YAGs and beyond, plus 2085 Argons (35W) and Spectra Physics Chroma 10 white light lasers, of which it holds a large hire stock.

Control-wise, Laser Magic has numerous options to suit the application. Founding partner Steve Harvey claims the company sell more Pangolin systems than anyone else in the UK, and can also offer other control software packages, including the new German LDS LightDesign system and the LaserGraph DSP, another high-end German package favoured by German Laser company Tarm.

For less sophisticated control options, Laser Magic can supply pre-programmed laser shows on ADAT, which the client can then just slot into a machine and play. They also still do a roaring trade in Chameleon Technology's PM series of controllers: "They are the best hands-on desks in the country," says Harvey.

'Laser Characters' are a unique and fun Laser Magic presentational aid which has become popular for corporate applications. These are projected animations (a bit like laser-projected puppets) which can 'introduce' speakers (complete with live voiceovers) and interact between audience, panel and speakers or presenters in lectures and Q&A sessions, for example. Harvey says the main challenge of the contemporary entertainment laser business is to continue being original. This, he feels, is their forte.



Lasermet

Lasermet is an expert in the field of laser safety, specialising in providing a total solution by offering a range of laser safety products and services. These include test and certification of laser products to the European, International and USA standards (EN 60825-1, IEC 60825-1 and CFR 21 1040.10); FDA registration of laser products, laser safety training and consultancy, interlock systems, illuminated warning signs, laser shutters, protective eye-wear, labelling, enclosures, laser safety software, laser viewing windows and laser blocking curtains.

Lasermet also specialises in custom-designed optical measuring systems and research and development contracts in the field of laser measuring. It will take specific requirements and design and build systems accordingly, either to prototype stage or to full manufacture.

Lasermet is the UK agent for Laser Scanning Products Inc, and offers a large range of resonant scanners. These can save money and provide a more accurate scan than the traditional galvanometric scanners in applications where simple line or raster scans are required. Together with GL Services, Lasermet has launched LaserSafe PC Laser Display Edition - a special ELA-approved edition of the popular LaserSafe PC software. Operating under Windows95, the software performs a quantitative assessment of the laser hazard for audience scanning effects, showing whether the proposed effect is safe or not. If the effect is above the allowed levels, a click of the mouse will give the parameters required for a safe show. Detailed calculations and graphical analyses allow quick exploration of the safety levels and the possibilities for hazard reduction.

Laser Physics

Laser Physics Inc is renowned for its unique design of compact air-cooled argon and mixed gas lasers. All models incorporate the power supply within the laser head and have the benefit of sealed internal mirrors, eliminating alignment and cleaning issues. This concept gives the highest output power, the smallest size and the best in reliability and ruggedness.

Head office and manufacturing base is in West Jordan, Utah and Laser Physics also has a

European operations office in the North West of England. The latter has full sales and service facilities, works directly with the UK customer base and supports the Laser Physics distributor network throughout Europe.

The Laser Physics Reliant range offers outputs of up to 1W of argon and 300mW of mixed gas, all with single-phase operation. It is intended to introduce 300mW, 500mW, 532nm sources and an air-cooled 1W white light in one portable package before the end of the year.

Laser Studio

Laser Studio has been at the cutting-edge of manufacturing for the entertainment laser industry for over 15 years. The first product, the LC800 multi-colour laser controller, was released in 1981 and has been followed by a succession of innovative control products. The most 'famous' of these is the Magnum, which has been installed worldwide and is known and loved for its ease for use and flexibility in manipulating effects.

Through committed research and development, Laser Studio continues to manufacture a full range of products for laser lightshows of all sizes and budgets, from the entry-level Stingray through to the top-of-the-range Dimension, Laser Studio can also offer a number of payment options including leasing and, of course, full back-up.

Dimension is the company's new generation of control technology, aimed at power users needing a high capacity operating system that is still logical and easy to use. The Dimension control panel is a control panel within a control system, offering all the advanced functions of a custom-designed operator's console, together with the benefits of a PC. It combines a Windows95 control platform and Q View, Laser Studio's custom-designed OS. Features include live 3D control, interpolation, multitrack, 64-bit colour control and sync, programmable 'wizard' keys and endless and easy-to-use animation strings. There is also complete formatting control, comprehensive in-built storyboard manager and external SMPTE, on screen or instrument programming and a programmable fast-access module.

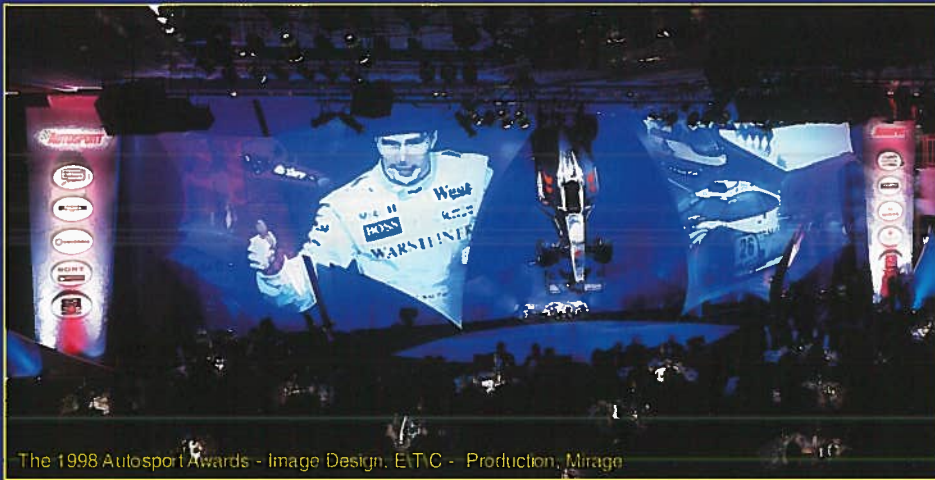
The Magnum 'Q' systems are the latest high-speed versions of the popular Magnum Merlin series. Q Systems functions and options including multi-channel operation, 256 colours, graphics, animation, programmable text, lissajous patterns, plus all the usual effects.

Laser Studio also offers a wide choice of laser units including WC mixed gas and argon ion ceramic, WC mixed gas and argon ion glass, AC mixed gas and argon HeNe lasers and diode systems and frequency doubled YAGs.

Nu-Light Systems Ltd

Nu-Light has been trading for over 11 years, six of which have involved the manufacture of laser systems. Nu-Light believes that lasers have always

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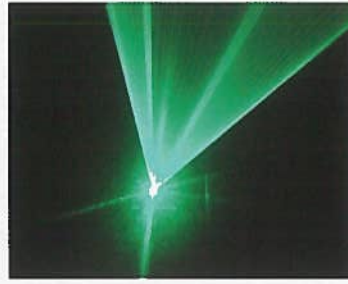
intrigued people, but have also been perceived as expensive and complicated. With these parameters to the fore, Nu-Light commenced production of its Laser

"The technology and the creativity has increased dramatically over the last decade, with the availability of ever more sophisticated control systems and increasingly powerful light-sources." Technique range, designed to offer lasers for all applications and budgets.

This year sees the launch of Nu-Light's DMX graphics units with text facilities, available in power ratings from 5mW single colour, up to 1W three-colour Argon, all air-cooled. The idea again is to offer a laser for various purposes from signage to entertainment display systems. These are compatible with any DMX512 controller. Each unit can display 26 graphics with modulation, simple animations, and has the facility for six banks of text. Units can be linked together via daisy-chaining, in similar fashion to intelligent scanners.

Nu-Light has also completed a new Windows-based software package for controlling high-end performance systems. It allows the user to program various laser shows, animations and sequences, to scan logos and to write messages . . . the only restriction is the imagination of

A Laser Studio laser at Ice nightclub in Dublin



the operator or programmer! The software operates on the principle of 'frames', similar to a film reel. The software supports the extra features of colour selection and special effects. Once again the laser source can be tailored to individual customer requirements.

Spectra-Physics

Spectra-Physics, founded in 1961, was the first commercial laser producing company. The focus has grown and developed into a vast, broad but integrated range of laser technologies which are applied in the medical, communications and entertainment fields worldwide. Spectra is a market leader in high-powered solid state laser technology - a project which commenced 16 years ago when it formed the first high-powered laser diode company in a joint venture with Xerox.

Its latest diode-pumped SS lasers are ultra-small Spectra-Physics Millennia 's' series and the industrial Millennia 'i' series. These lasers deliver 10W from a laser head just 14 inches long. All that is required to operate the laser is single-phase 220V or 110V electrical supply.

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and greater operational longevity. Operating costs are a fraction of those required for conventional water-cooled gas lasers and over 1,000 Millennias have now been supplied.

Ultimate Laser Company

Scotland's only laser company is The Ultimate Laser Company, based in a sleepy village near Gleneagles. Not surprisingly, the company has enjoyed considerable success North of the border, with numerous events under its belt. Work in Europe is on the increase this year, and has included Spain's recent mega-music Glasto-equivalent event held in Mallorca with headlining artists such as Massive Attack and The Jungle Brothers.

Equipment includes a 'white light' laser and Laser Innovations scanning equipment allowing them to project text, graphics and animations. The company also has access to a 50W YAG for larger events and has a PA hire division with rigs of up to 10k.

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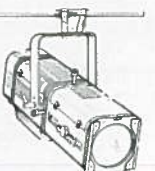
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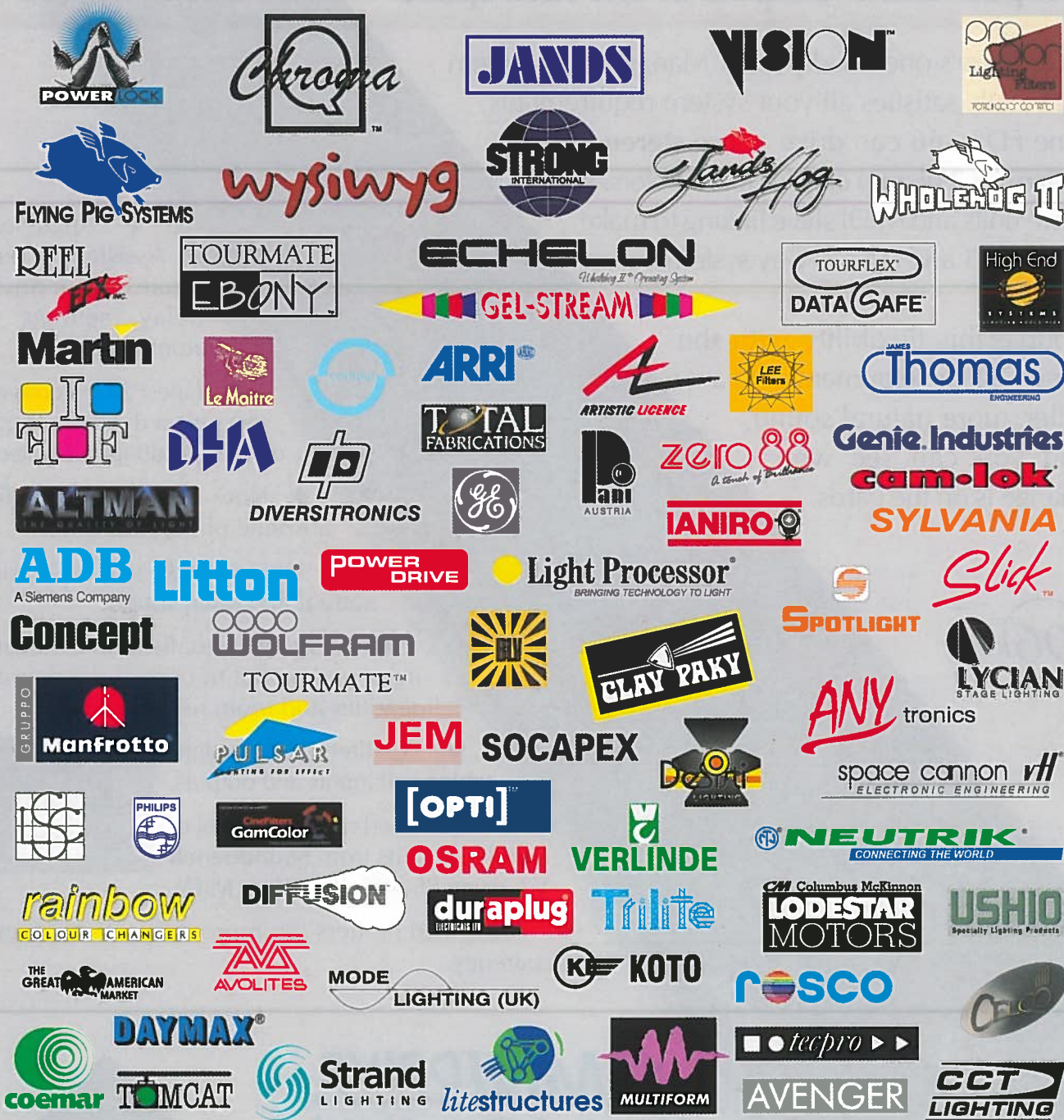
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@ Home in Sydney

Now an established part of Sydney's nightlife, Andy Ciddor finds that Glasgow's Big Beat have made a name for themselves down under



Home nightclub, which opened in Sydney at the end of last year, is the first move of Glasgow's Big Beat Group into the business of transnational clubbing. A very serious professional operation, with a mission statement, an ambitious personnel policy, a global strategy and financial backing from Scotland's Royal Development Bank, Big Beat set up a joint venture with Australian entrepreneurs Paul Collings and Antonio Zambarelli to build an international-standard dance club for Sydney's maturing club scene.

Collings, a management consultant, and Zambarelli with a background as a DJ in Europe and later Australia, both developed an interest in dance culture and were looking at the possibility of opening a night club at the same time that the Big Beat Group was gearing up for international expansion, and thus the joint venture Big Beat Australia was formed.

Located on Cockle Bay Wharf within a few metres of Sydney Harbour, the club is a cocktail of architectural and decorative styles within a framework of the Cockle Bay complex, a group of buildings with a maritime air that is derived from its wooden exoskeleton and an outline which has strong references to the hulls of the tall sailing ships which once moored at this very wharf. Designed by Ron McCulloch, managing director of the Big Beat Group and originally an architect by profession, each of the rooms and bars is an island of chic design; varying in style from harsh industrial on the stairways, through warm timbers in the ladies powder room, stainless steel alien-organic and contemporary laminated timber in the bars, to the floor-to-ceiling mirrored urinals in the men's toilet. Whilst each of these elements is exciting in its own right, the amalgam falls well short of making a coherent design statement.

The idiosyncratic design of the club has attracted a substantial amount of attention, to the point where most weeks will find a photographic shoot for a fashion or a lifestyle magazine somewhere in the club using design

elements of the club as a set. To further exploit the look, all publicity for events at the club incorporates elements of the architectural environment into the graphic design, a concept they refer to as 'pictures from Home'.

The club is spread over three levels, offering a range of environments to punters: the Main Room, with a capacity of around 2,200 and specialising in House music occupies the ground floor and a mezzanine level which also boasts a catwalk and a beanbag-filled chill-out area. The Silver room on the second level offers an alternate dance space with separate facilities and a musical style more in the vein of Funk and Hip Hop. The VIP Cocktail bar is on the third level of the building, adjoining an open-air veranda which overlooks the harbour. A Philippino masseur is in residence in this area offering hand massages and acupressure to danced-out punters, while in the summer months jacuzzis are installed in the open-air area to assist with the cooling-off process.

Home is a club of many faces to different audiences, as club promoter Mark Broadbent continually extends its range of activities to keep the facility working full-time. During the day, one bar and a section of the main room which opens onto the concourse of the Cockle Bay Wharf development, is opened as a coffee shop, while the kitchens produce snacks and light meals. The Home Shop, which also opens onto the concourse sells club-branded merchandise, chic dance gear, imported House music and tickets to the club sessions, which may actually be sold-out before the club even opens its doors. The shop also trades when the club is open to the public.

As a public dance club, Home operates only on Friday, Saturday and Sunday nights. Fridays are theme nights: one Friday each month is a regular Gay night and another is an Asian night operating under the title Yum Cha Cha. Saturdays are open dance nights, heavily patronised by the Sydney community, and Sundays are Gay nights which run right through until 7am or later in the summer. In recent times, Thursdays have become Groove Sessions in conjunction with the Australian Broadcasting Corporation's national youth station JJJ-FM.



NIGHTCLUB



From Monday to Wednesday, Home is a corporate function venue, opening its various rooms and bars for product releases, corporate meetings and other public functions. It has seen product launches for such organisations as Chanel Fashion and IBM Software and a motor car launch for the Ford Motor Company. One of the more unusual functions was a Celebrity Shoe Auction to raise funds for research into HIV/AIDS. The VIP cocktail lounge is also employed for album launches for dance music labels like Tinted Records which are associated with the club and the club shop. Thus far, the majority of the corporate functions staged have been for products and services closely associated with the dance scene and lifestyle, but Broadbent is adamant that the venue is available for any type of function, although he doesn't expect to host any Tupperware conventions in the immediate future.

The main dance floor sound system is steeped in club legend: originally designed by George Smith and Steve Dash for the old Sound Factory (now Twilo) in New York, the Phazon Digital Sound System has a reputation as "the best club sound system in the world." Dash was flown out to Sydney for a month to design and tune the sound systems for Home, bringing with him a Phazon system for the main room. The Phazon, which looks more like a concert front-of-house stack than what you'd normally expect to find in a club, was heavily modified in Dash's Philadelphia garage from off-the-shelf speaker and processing systems. It uses four speaker stacks located at the corners of the dance floor to create a zone of almost palpable sound; as one regular at Twilo in New York describes the feeling: "Stand in the middle of the dance floor and your fillings will begin to liquefy."

"The main dance floor sound system is steeped in club legend - the Phazon Digital Sound System has a reputation as 'the best club sound system in the world.'"

Each stack of the Phazon system consists of a single tweeter cabinet, a Quad tweeter array, a Quad 15" Bass cabinet and for a little sub-bass emphasis, a Parabolic 9ft deep Dual 18" sub-bass unit. Fill is provided by four JBL three-way side fills and eight EAW MH660 iE mid/high cabinets delayed through a pair of Rane AD22 delays. The rather substantial power required for the Main Room system is provided by seven 1200W JBL MPX 1200 amps, five 600W MPX 600s and a single 300W MPX 300, together with two 5000W Crown 5000VZs and a 3600W 3600VZ. The upper level of the main room is served by 10 Tannoy i8 speakers, powered by two QSC amplifiers, an MX1500A and an MX200A, via a Rane MQ302 graphic equaliser and a Tannoy TX1 system controller.



As many of the guest DJs at Home are European, often moving between Big Beat clubs around the world, the main DJ console was designed to be similar to those found in many clubs on the world circuit. The

console incorporates three Technics SL 1210 turntables and two Pioneer CDJ500 CD decks, connected to a UREI 1620 mixer with custom crossfader and equalisation units from Phazon Digital Sound. Unlike the systems found in many Australian clubs, there is equalisation only on the console's output, rather than each of the input devices.

In keeping with the well-designed layout of the club, all major signal processing, amplification and dimming equipment is located in a central equipment room on the mezzanine level overlooking the main room dance floor. Access to the main room equalisation and delay settings, which were set originally by consultant Steve Dash, is prevented by panels locked down over the rack sections.

Due to its view over the dance floor, the equipment room also houses the club's video mixing and operations system which is operated by Home staff member Chris Vidler, who may have started his employment at Home as a 'glassie' (a bar worker who circulates collecting empty glasses) but who is certainly building himself a reputation as a very smooth video operator.

The main room lighting rig which was designed by Ron McCulloch of Big Beat and Matthew Kline of Sydney lighting and sound company Avsound, consists of 20 Martin Mac 500 spots, 12 Mac 600 washlights, 60 VNSP Par 64 cans and 32 Par 64s fitted as raylights. Control is from a Martin Case Pro II which drives the robotics via a Jands DD-8 DMX splitter and the Par cans through four 12-way racks of Jands WallPack digital dimmers. An Oracle full-colour Laser is frequently hired in to augment the available effects.

The resident lighting operator is Brad Wright (he hates the term 'light jockey') production manager

for Avsound, who supplied and commissioned the lighting and sound systems for Home. Wright is permanently assigned to Home as part of his normal operational duties at Avsound, although he is given Mondays off due to the early-morning finish times of the Sunday club sessions. Already a seasoned professional at 22, Wright is a member of a generation of lighting designer/operator/technicians who have only ever known life with reliable, cost-effective robotic luminaires. In his view, the 90-odd Par cans in the club's rig are a bit of a waste of resources: "I only ever use them four or five times in a night for one of those old rock and roll-style chases," he admits. "Some people want that very generic look: Par cans on, pinspots on. I'm a little bit younger and want to keep up with the times. I like to use more of an intelligent rig and if I do want a wash, I use the Mac 600s."

The flexibility of the intelligent system is certainly paying dividends for Home when it is not being used as a dance club. To date, no corporate production or product launch in the venue has had lighting requirements that couldn't be met from the stock rig with the appropriate reprogramming. The only facility that tends to be added for any of the corporate productions has been videowalls, which are generally part of the overall design of the production.

Wright is really pleased at how the Martin Macs are performing, especially considering that they bear the brunt of the lighting workload, having recently re-lamped them for the first time after running them for six months since the club opened. Wright attributes the bulk of the few problems faced so far with the Macs as being due to dust ingress into the fittings, while the building was racing for completion in time for the official opening. "We were rigging lamps while there were still builders drilling concrete all around us," he recalls, "it was chaos."

Wright is a strong believer in preventive maintenance for intelligent fittings and brings a scissor-lift into the club every three months to blow the dust build-up out of the fixtures and to give the optics a clean. "Between our four Magnum 2000 foggers and the fact that smoking is permitted in the club, this has got to be one of the smokier venues in Sydney," he



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observes. "You really start to notice the effect on the light output as we get to the end of the three months between cleanings.



"Even Show Technology, Martin's Australian distributor, have been impressed with how few problems we have had with the Macs," enthuses Wright. "Big Beat have been so pleased that they have chosen to put a rig of Macs into the new Home club opening soon in London. We feel that we may have started a worldwide trend with Martin in their clubs."

Wright is also very pleased with the Martin Case Pro II desk, in his view the desk "really kicks ass." He likes to use the cue mode to enable him to run several sequences simultaneously and the desk's ability to vary sequences during a live show. He feels that the capability of running one effect over the gobo channels and another over the colour channels gives the desk an edge over other controllers he has used. "It was difficult when I first started to use it, as no-one else in Sydney had much experience at programming shows on it either, but after struggling a little with the translated manuals, I soon got the hang of the way it works. This desk is great once you have it set up for your rig and I'm finding new things I can do with it every week, but I think it would be difficult to program a new show on it if you were under a lot of time pressure."

The second room at Home is a significantly smaller and more intimate space which, due to its silver walls, floor and ceiling, and for want of a better name, is known as The Silver Room. Sound in this

room is presided over by a DJ, usually a local, using a more familiar style of DJ console comprising a pair of Pioneer CDJ500 CD players and a pair of

Technics SL 1210 turntables running into a Pioneer DJM500 DJ mixer. The sound in the room is all Tannoy, with four T300 speakers supported by two B950 dual 18" sub-bass units, and driven by QSC MX series amps via a Tannoy TX3 system controller and an XTA DP226 speaker management system.

Lighting for the Silver Room is also a touch more modest than the main room, although it's

also Martin and also robotic: 16 Martin Pro 300 Robocolors and two Martin Pro 918 Roboscan moving mirror spots. Initially, the controller was a Pulsar Masterpiece, but as the lighting is controlled by the DJ who has little time to program a lighting controller, Avsound have set up a variety of sequences on a Masterpiece Replay controller which are then triggered by the DJ in the appropriate combinations.

The third full-time member of Home's technical operations crew is sound technician Nick Hemmingway, an audio and service technician with Avsound, who, like Brad Wright, is on permanent assignment to club operations. Hemmingway is also present throughout dance club sessions, although his major role is support and technical maintenance, rather than operations. In addition to his vital role in keeping the music flowing and therefore keeping the punters happy, he is constantly monitoring sound and amplification levels in the club to avoid some of the problems which can arise when DJs insist on continually "winding up the wick". Hemmingway is also heavily involved in collaborating with venue hirers who need to interface with the club's sound systems.

Big Beat have seen to it that the standards of Home's set-up and technical operations more closely resemble those of a theatre or convention centre, than those which were once associated with clubs and dance venues.

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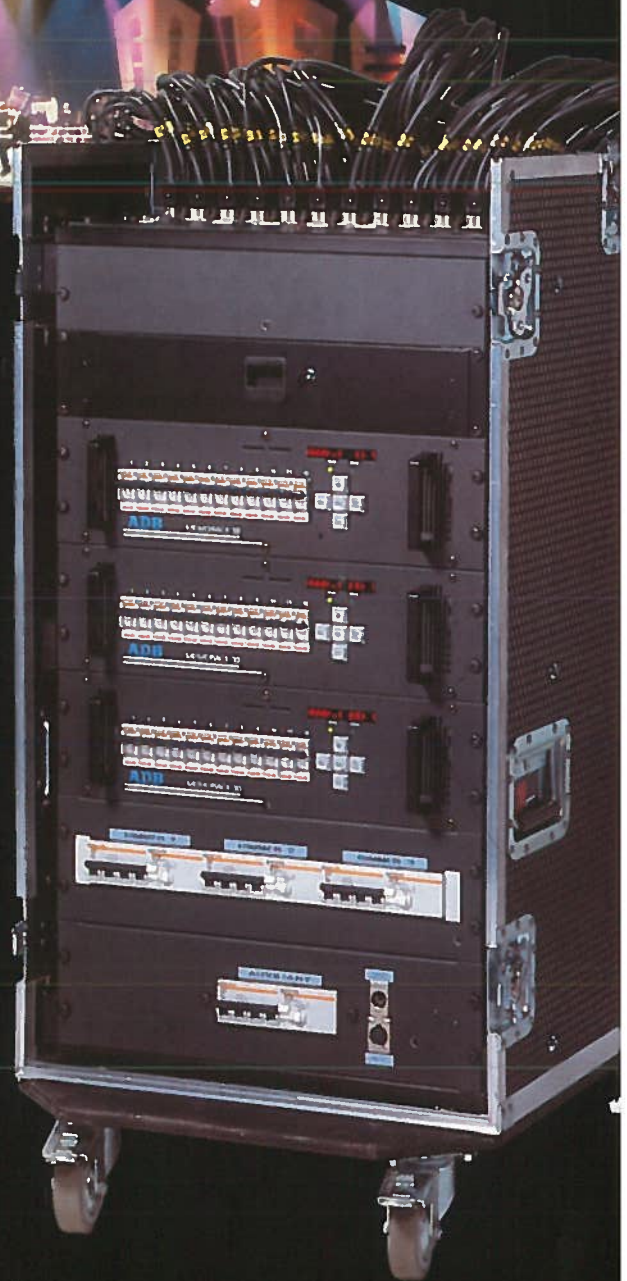
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Ian Herbert, Asleep in the Stalls...

An unprecedented invasion of musicals into the West End is harming the quality of British drama, says an article in *The Independent* this week. Yes, this week, when *Dolittle* and *Oklahoma* have just closed, with *Beauty & the Beast*, *Grease* and *Miss Saigon* set to leave us very soon. You wonder sometimes, don't you?

SETTING OFF this hysteria is the imminent arrival of *The Lion King*, two home-grown shows (*Tess*, which may or may not make it down from Sheffield, and the Leeds hit *Spend, Spend, Spend*) and a dodgy-sounding revival of *The Pajama Game*. Add *Fosse*, coming in six months' time, for heaven's sake, and you have an unprecedented invasion.

THE REALITY is that in the last 12 months, as the song and dance domination of the West End starts at last to recede, there have been only two major musical additions to the London theatre landscape in *Rent* and *Mamma Mia!* - three if you count the touring *West Side Story*. True, there are some summer fillers about at the moment, but it was ever thus - would you prefer Bill Kenwright to bring in a bunch of Mersey rockers or a lightweight thriller? This year it's rockers.

STILL, THERE HAVE been a number of musical evenings since we last looked at the West End, all of them offering some interest to the middle of the road audience, and most of them

dismissed pretty quickly by my critical colleagues. The biggest, I suppose, was *Boyband*, a bold attempt to do for the pubescent what most musicals do for the menopausal. The young are used to very sophisticated sound and light in the club scene and the big music venues, so the first requisite for Peter Quilter's story was high-quality production standards; these were delivered without undue expense on Andrew Leigh's purposeful set, dominated by a videowall and principally there to house a rig for Chris Ellis's moving lights. He used them very well to give a concert atmosphere to the performance scenes, and Sebastian Frost's sound came over splendidly to balance the live vocals with pre-recorded backing - what did the Musicians' Union say about that, I wonder? *Boyband* has struggled through the summer, not quite picking up the new audience for which it was designed. I hope it won't discourage future attempts, since it did at least demonstrate that we can take good light and sound for granted on the West End musical stage.

OR CAN WE? A couple of weeks later, *Soul Train* arrived at the Victoria Palace with almost the same pedigree - both shows started out at Mark Clements' lively Derby Playhouse. Chris Ellis was present again as lighting designer, with a not dissimilar rig, but with some rather unimaginative set-ups. The videowall was replaced by a screen showing some grainy film clips. A happy and hard-working cast managed to get a few audience members up and dancing - perhaps because there was a large notice at the stalls entrance expressly forbidding it - but this was overall a sorry evening. *Soul Train* gives the impression of a little show trying to look big. The new US arrival, *I Love You, You're Perfect, Now Change*, is a determinedly small show and all the better for it. Neil Peter Jampolis's simple two-tier set allows for a couple of windows upstairs which make good use of slides and enable him to get on well with the lighting part of his dual role. The on-stage band, also upstairs, is a piano-violin duo, who get a surprising tonal variety out of

Jimmy Roberts' clever arrangements of his own tunes. I don't know how much credit to give to sound designer Tom Lishman: I could have sworn I saw body-packs, yet the singing sounded completely un-mic'd, which should be perfectly possible against a two-person accompaniment in the Comedy. If there were mics, the speaker balance must have been brilliant.

FOUR STEPS to Heaven at the Piccadilly is a beautifully-oiled machine in which a stage band belts out a series of rock standards behind four talented lookalikes, and wily old Bill Kenwright has assembled a super team to deliver the goods. Set designer Andy Walmsley has done *Buddy*; Jon Miller and Barry Bartlett are the resident Kenwright sound team; Keith Strachan, whose arrangements for a non-standard, highly versatile rock combo both echo the originals and enhance them, has huge experience as director and MD and lighting designer Jim Beagley is a relative newcomer, a moving lights man who knows how to hold back his big effects. There's a real sense of build-up about both lighting and sound: while not looking for authenticity, both shadow the historical development of the equipment. Terrific stuff for us elderly rockers, with an energy that might even tempt the kids over from *Boyband*.

A REGULAR summer treat for Londoners is the Regent's Park musical, though this year's *Funny Thing* doesn't quite hit the heights of some of its predecessors. Ian Talbot has once again provided a great stock of gags to enliven proceedings, but the usually excellent Paul Farnsworth seems to have decided that his sets had better make up for the lack of artificial lighting in the first half. They are more garish than they need be, to the point of distraction. Still, there's a lot of pleasure to be had in the Park - Orbital's sound system gets more unobtrusively competent every year.

AT THE OTHER END of the scale, a quick sortie to New York had me longing for a bit more of a musical invasion than the one that's frightening the press at the moment. I caught up with *Ragtime*, a show which restores your faith in the big, tuneful, plot-rich Broadway musical. Eugene Lee's monumental signature set-style for once finds a worthy vehicle, and there's great lighting from the reliable Jules Fisher. My only quibble is with the sound: a 23-piece orchestra - let's not call them a mere band - is giving its all in the pit, but someone has seen fit to pump this natural beauty through a sound system - it might as well be a pre-recording thumping out of the pros' speakers, instead of direct orchestral sound. Perhaps this tells us something about the clever conversion which has produced the Ford Center on 42nd Street out of the back-to-back Apollo and Lyric theatres. Could it be that the acoustics of the new joined-up auditorium are not that great?

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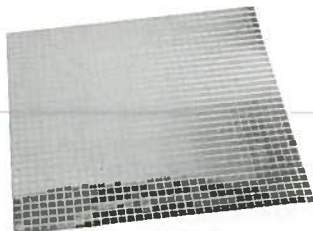
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Bravo Brunei

On the 7th August this year, L&SI visited the country of Brunei Darussalam to attend the opening ceremony of the 20th South East Asia Games

The Games were held at the Hassanal Bolkiah National Stadium in the country's capital, Bandar Seri Begawan. The event, which was staged in front of the Brunei Royal Family, involved a cast of thousands and many months of hard work and preparation.



MULTI-MEDIA EVENT

Gearhouse South Africa, who won the tender for the project over five other (Asian) companies, were brought in at the beginning of this year, and became heavily involved from day one, even down to conceptualising and scripting parts of the opening ceremony.

The on-site Gearhouse team, numbering almost 60 crew by the day of the event, worked closely with members of the Brunei armed forces to ensure that nothing was left to chance, and this was an ethic

which also applied when the equipment to be used was specified. Gearhouse SA general manager (and also lighting and video director for the event), Tim Dunn, commented: "We won this contract not because we offered the best price, because,

in fact, we probably came in as being one of the more expensive companies to tender, but due to the fact that we could supply everything that we promised on time and a fully experienced team to back it up."

The sound for the opening ceremony was provided by no less than 64 stacks of Turbosound Flashlight flown and stacked either side of the central stage, driven by Turbosound LMS-700 systems, with amplification coming courtesy of MC2 and BSS, along with several FX racks of Klark Teknik, BSS, Yamaha and Furman units. FOH Engineer (at the helm of a Midas XL3), was Johan Griesel, acclaimed



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for his recent work with Simply Red. Johan and his team had to work closely with RTB (Royal Television Brunei) as the ceremony was being broadcast live across Asia.

The opening ceremony featured military bands, popular Bruneian recording artists and an hour-long dramatic re-enactment of the history of the country, culminating in a seven-minute fireworks display courtesy of Starburst Pyrotechnics. Bonnie Pon, director of Starburst told L&S: "We have a long-standing relationship with Gearhouse. The fact that they are the biggest company of their kind in South Africa means that they have the opportunity to work with virtually anybody under the sun. They obviously looked at this deal very carefully and chose the sub-contractors who impressed them the most, and we were one of the fortunate organisations to fit into this category.

"Wherever you go in South Africa, whether it be a rock concert, TV station launch, corporate or sporting event, Gearhouse are there. Such is our relationship with the company that, due to time constraints, we actually ordered the fireworks from China before we had even signed a formal contract for the event."

The lighting for the ceremony was controlled by Tim Dunn with Dylan Taljaard and crew boss Bill Lawford from Gearhouse South Africa. "The way we've done it, which has worked out very well, is that we've actually sectioned every piece off," explained Lawford, "so we have one control, one dimmer and one desk for each section, left, right and centre, with a Wholehog

controlling all of the other three slave desks, probably a first, and making life a whole lot easier on the night. We're pleasantly surprised with the military guys doing followspots for us, especially as a month ago they didn't even know what a followspot was!"

The light show was certainly spectacular, involving no less than 120 High End Studio Colors, 72 Cyberlights, 24 Clay Paky GoldenScan HPEs, 16 SkyArts and 1800 Par cans. Other lighting equipment included 50 Studio Spots, 60 Molefays, 32 5kW Fresnels, eight Gladiators, eight Supertroupers and Avolites racks. Projections and scrolling, operated by Alain Bardouil, came courtesy of xenon 7k units at the rear of the central stage beneath the middle LED screen.

PSL (Presentation Services Limited) South Africa were heavily involved in the project, fielding the latest version of the highly-acclaimed OptiScreen LED system. Richie Bellia, operations manager explained: "In essence, we're not actually running any of the video feeds for this, although obviously we've provided the OptiScreen and processor. We are helping RTB and ESPN. It's all been a bit of a mish-mash really; ESPN have got 32 cameras, including heli-cams, hotheads and track cameras, and RTB have got a couple of dedicated cameras for the field and then taken a couple of dedicated feeds from ESPN to complement their units. ESPN essentially got the broadcast rights for this and we did the whole signing ceremony with them, since when we've been getting on extremely well, and there's been a hell of a lot of co-operation between us to help each

"The way we've done it, which has worked out very well, is that we've actually sectioned every piece off, so we have one control, one dimmer and one desk for each section, left, right and centre, with a Wholehog controlling all of the other three slave desks, probably a first, and making life a whole lot easier on the night."





Above, Tim Dunn, general manager of Gearhouse South Africa in the director's chair

other out. It's worked really well, as we as a company have been out here for nearly four years, so we've been able to help them and vice-versa.

"It's worth pointing out that our background here as a company helped enormously in terms of clinching the deal (Bellia spent three years in Brunei before moving to South Africa at the beginning of this year) - we were up against seven other companies and we were by no means the cheapest or most local. Also, being one of only two non-Asian companies to tender we were really 'up against it'. The fact is, however, that we are the

photos: Vicki Couchman

only company able to provide everything - the concept, necessary equipment, and the crew - on-time and within budget."

The opening ceremony of the Games certainly captured the attention of the whole country, as Tim Dunn explained: "The Stadium holds 10 per cent of the population, 30,000 people, and the whole country is absorbed with the event. The dress rehearsals sold out in one hour. The people here are very proud, there's very little crime, they welcome you and want you to come and see their country.

"One of the things we put in our side of the contract was that we wanted security guards for the gear 24 hours a day, and they kind of looked at us if to say, 'Well, hey if you want that we'll give it to you, but why would you want that here?'. The other thing about working here is that you have to remember that you're effectively dealing with a hugely efficient army, and the hierarchy (which by definition goes with that), so you have to follow protocol all the time."

A complex event of this nature is not easy to pull together. The last word goes to Tim Dunn: "The reason this whole mammoth project has gone so smoothly is largely down to having a fabulous team around us, and our philosophy business-wise - to stay humble - don't ever get arrogant. We care more about what we're doing than what our competitors are doing."



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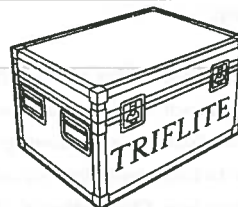
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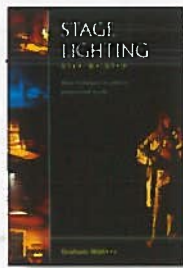
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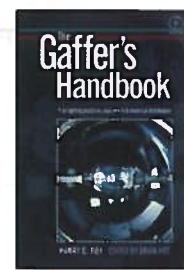
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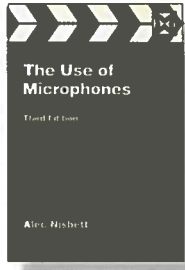
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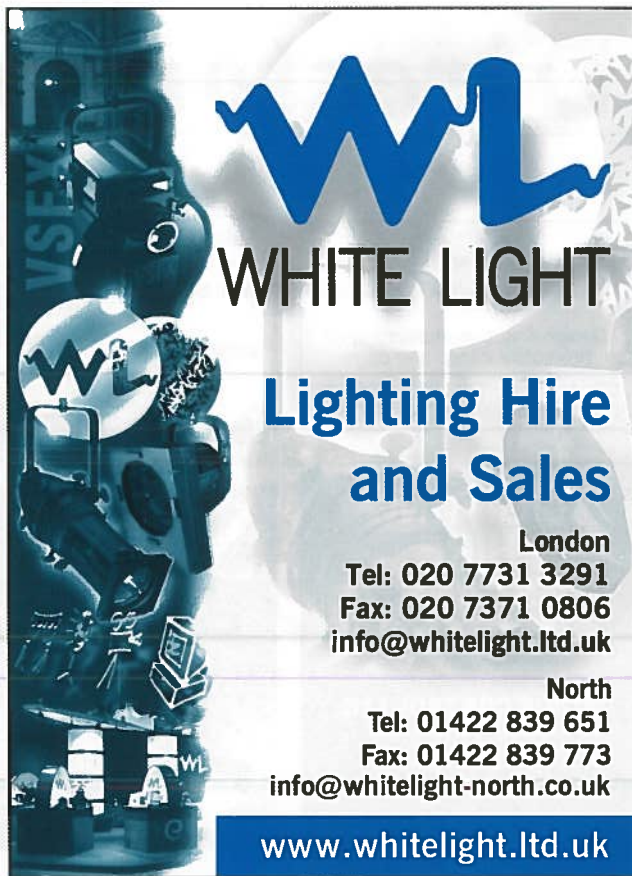
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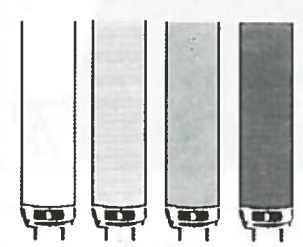
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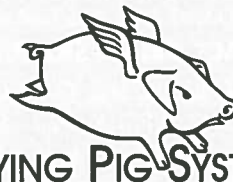
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In Profile...

L&S Talks to the Industry Trend-setters

French technical director Yves Favier has dwelled in the eclectic world of contemporary dance for the past decade, though his association with the performing arts goes back some 20 years. During his school years, Favier had no interest in the arts, preferring instead to direct his energies into playing rugby and then into earning money: "My first job was in a large glass factory and it paid very well, but I had a yearning to travel which I did for a while until I ran out of money."

Favier's next foray into the workforce saw him hired to work with junkies and delinquents in the suburbs of Paris and it was here, surprisingly, that he experienced his first real taste of the arts.

"I was hired as an educator to work with a team of instructors and two of them were using street theatre disciplines like

commedia dell'arte and circus techniques to inspire the kids. I immediately found my place in creating the props and doing the lighting and sound, and was captivated by how much you could invent with so little." Favier's interest in the design and technical aspects of performance grew until he found himself with a career as both a scenic and lighting designer.

Lighting emerged as Favier's passion, though he has also worked as a stage manager of a national theatre company. But it was lighting that was to guide him into his present position as technical director of the internationally acclaimed Paris-based contemporary dance company, Compagnie Montalvo-Hervieu. Although the company was started in 1985 it was not until 1989, whilst designing the lighting for another dance



was still at the research stage. I was immediately interested and by 1992 all of the ingredients were present to move ahead with the video/dance project, Double Trouble, which is at the root of the company's subsequent works."

Since 1992 the company has flourished, as has Favier's career. What he doesn't know about the creative use of video with live dance on a tight budget is probably not worth contemplating, though Favier considers it an ongoing creative and technical challenge to invent new performance possibilities: "My job as technical director within the company is to organise and realise the project: to find the right people to bring to life the choreographic concepts, whilst retaining the aesthetic integrity of the dance."

Favier believes that the balance between finances and creativity is a delicate one, particularly in the area of dance: "In France, dance receives a smaller share of the cultural funding than other art forms and as video is expensive to produce, it is a constant struggle for us to create top quality work with tight budgets."

Judging by the international acclaim its performances attract, the company has hit upon a winning formula. There are a scheduled 150 performances during 1998-99 and 180 slated for their 99-2000 season. This season around 90 of

company, that Favier was first introduced to their work: "I spoke with José Montalvo about the company and he explained that he was creating a work based upon the interaction between dance and video and that the project

their performances are in France with the remaining 60 taking place on international tours. In the company's 97-98 season only 10 performances toured abroad which gives an indication of their burgeoning international desirability.

Favier spends a great deal of time on the road and proved a difficult man to track down at times, such is his hectic schedule. During the company's summer break, he's not to be found basking in the sun enjoying a well-earned holiday, but instead heading to Italy where he has a long-standing summer engagement extending back 10 years with the Centro studi musicali di Lecco, which he describes as a research centre for music. Favier's role is to develop "the rapport between the visuals and the music at their summer school."

Later in the year, the company is heading to London and even if you're not a fan of dance, it's well worth checking out how inventive Favier, the technical team and the choreographers can be with a bare stage, plastic cyclorama/projection screen and a smorgasbord of athletic bodies. The video and live action meld together in a way that will blow the minds of even the most hard-core technician who pride themselves on always knowing the answer to that immortal theatrical question: "How did they do that?"

Favier finds his work stimulating and constantly evolving, and even though so much of what he creates is steeped in the roots of technology, he believes the machinery has to seamlessly blend with the beauty of the dance: "Technology bombards us today and the key is to not take it too seriously or forget that essentially it is there to serve the fusing of the real and the virtual, and to create visions for the audience to enjoy and hopefully have fun with." ■

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