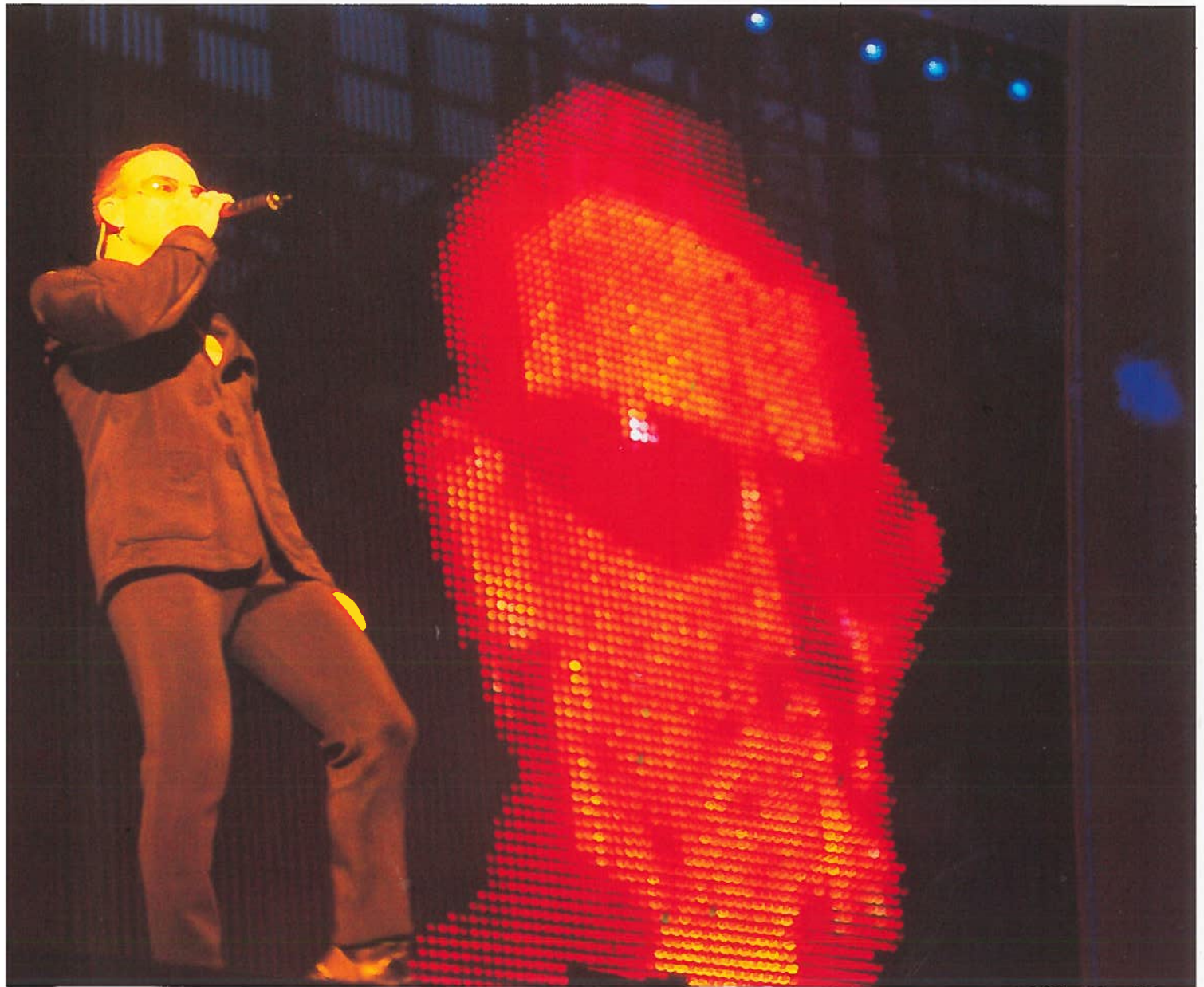


# LIGHTING+SOUND *International*

THE ENTERTAINMENT TECHNOLOGY MONTHLY



THE POPMART TOUR MARCHES ON: U2 AT ROUNDHAY PARK, LEEDS

- PLASA 97: L+SI's comprehensive Show Review
- U2's Popmart tour at full steam in Leeds
- Moscow Celebrates 850 Years
- Casting an Eye over the Edinburgh Festival
- Inspiring Lighting at the Victorian Arts Centre
- Sounding the Wrong Note: Is the Big Musical Dying?

PLASA

OCTOBER 1997

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Sammy Hagar lit up by Martin Lights and the Case controller

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423 PLASMA

*The flames of the falling meteor  
turned night into day.*

*Whirling, twisting, threatening  
to swallow all that came near.*



422 VORTEX



442 SCRATCHES

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

*Primitive the carpet may be,  
it covered the dirty floor well enough.*



441 WOVEN TEXTURE



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The views expressed in Lighting and Sound International are not necessarily those of the Editor or the Professional Lighting and Sound Association

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# LIGHTING+SOUND *News* International

## PLASA 97 . . .

Another PLASA Show has passed swiftly by in a four-day whirl of bright lights, noise, smoke, late nights and aching feet. Two controversial issues from the world of moving lights raised their heads during the show: the first concerned a press conference called at the show by Martin Professional, while the second concerned another manufacturer's use of the DMX standard. Both matters are covered at length in this issue.

The task of producing the show report gets a little harder each year, but L+S's ranks of footsore infantry have done their bit and starting on page 54 is the full round-up of all the news from PLASA 97.

## M&M in Liquidation

Just as L+S went to press, it was announced that M&M, the UK supplier of Rainbow colour changers and ETC lighting products, had gone into administrative receivership. Following a period of unsettled trading, the company's managing director Michael Goldberg made the decision to put the company into the hands of a liquidator.

Goldberg told L+S: "The decision was taken to prevent existing trading deficits getting out of hand. Extremely tight margins in certain areas, combined with the loss of the MA business earlier this year, meant that our trading position was no longer viable. It is a difficult decision to make, but I hope our friends in the industry will understand."

M&M has been ETC Europe's distributor for the UK and Eire since 1995 and in a statement issued by ETC they paid tribute to M&M's excellent service, adding that they have decided initially to take in-house the sales, marketing, service and technical support which M&M provided.

## Theatre Projects' 40th Birthday Party



Theatre Projects celebrated their 40th Birthday during the PLASA Show with a special party for invited guests at the Theatre Museum in Covent Garden. Pictured above, company founder Richard Pilbrow, well known to many in the industry, cuts the anniversary cake. No doubt the celebrations will continue at the forthcoming LDI Show in Las Vegas.

## Champagne Winner

The winner of the L+S subscription draw during the PLASA Show was Alec Myers, director of London-based W5 Ltd, a company specialising in design solutions for the entertainment technology industry. A bottle of Moët & Chandon will be on its way to Mr Myers shortly.

## Members Vote to Keep PLASA Annual

Following suggestions from some PLASA members that the PLASA Show should become a biennial event, a survey of the views of the membership has been conducted. A questionnaire circulated to all PLASA members asked 'Should PLASA remain an annual event?' and out of the total of 71 responses, there were 52 in favour and 19 against. The result of the survey echoes the views expressed by the membership on two previous occasions. Earlier this year, a letter circulated to members requested feedback on the issue: this was followed by a show of hands at the PLASA AGM in June, and on both occasions the majority voted that the show remain annual.

In the response to the questionnaire, reasons supporting a change to biennial were mainly financial, with some exhibitors feeling that the cost could be better spent elsewhere in the intervening years. However, the majority view was that two years was too long to wait between shows, that PLASA was the most important opportunity of the year to meet distributors and dealers and that the show would lose its international status, and hence its attraction, if run biennially.

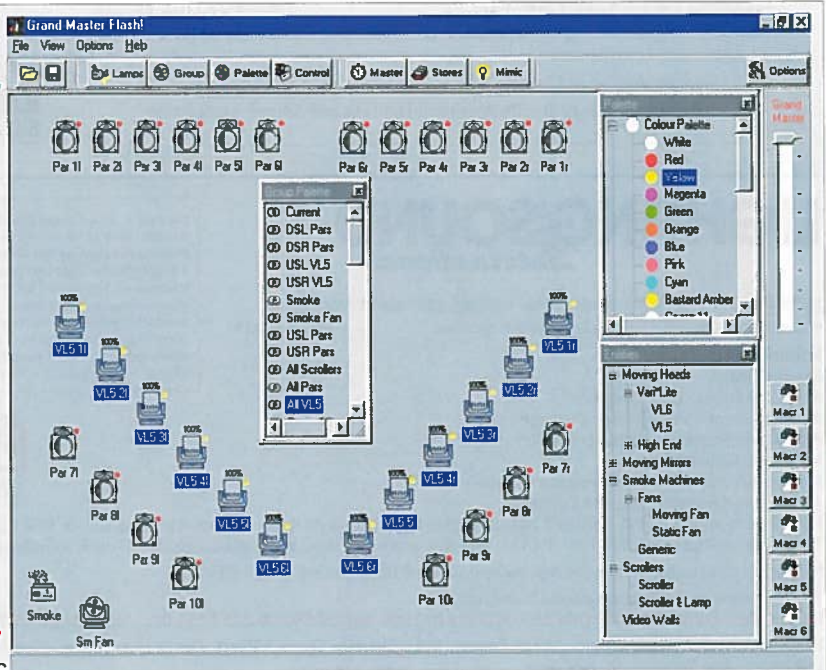
Recent news that both SIB in Italy and EnTech in Australia are missing out their 1999 events had seemed to fuel the expectation that PLASA would follow suit. However, even if the survey had indicated the desire to change, this wouldn't have been possible until the Association's present contract with P&O Events had expired in 2001. Julius Grafton of Connections, organiser of Australia's EnTech exhibition and a PLASA member, voted that the show should stay annual, commenting: "We dropped our own show, EnTech for 1999. This was for many reasons which must be viewed as regional and specific to EnTech. PLASA is the premier trade show for our industry and most exhibitors will require an annual forum."

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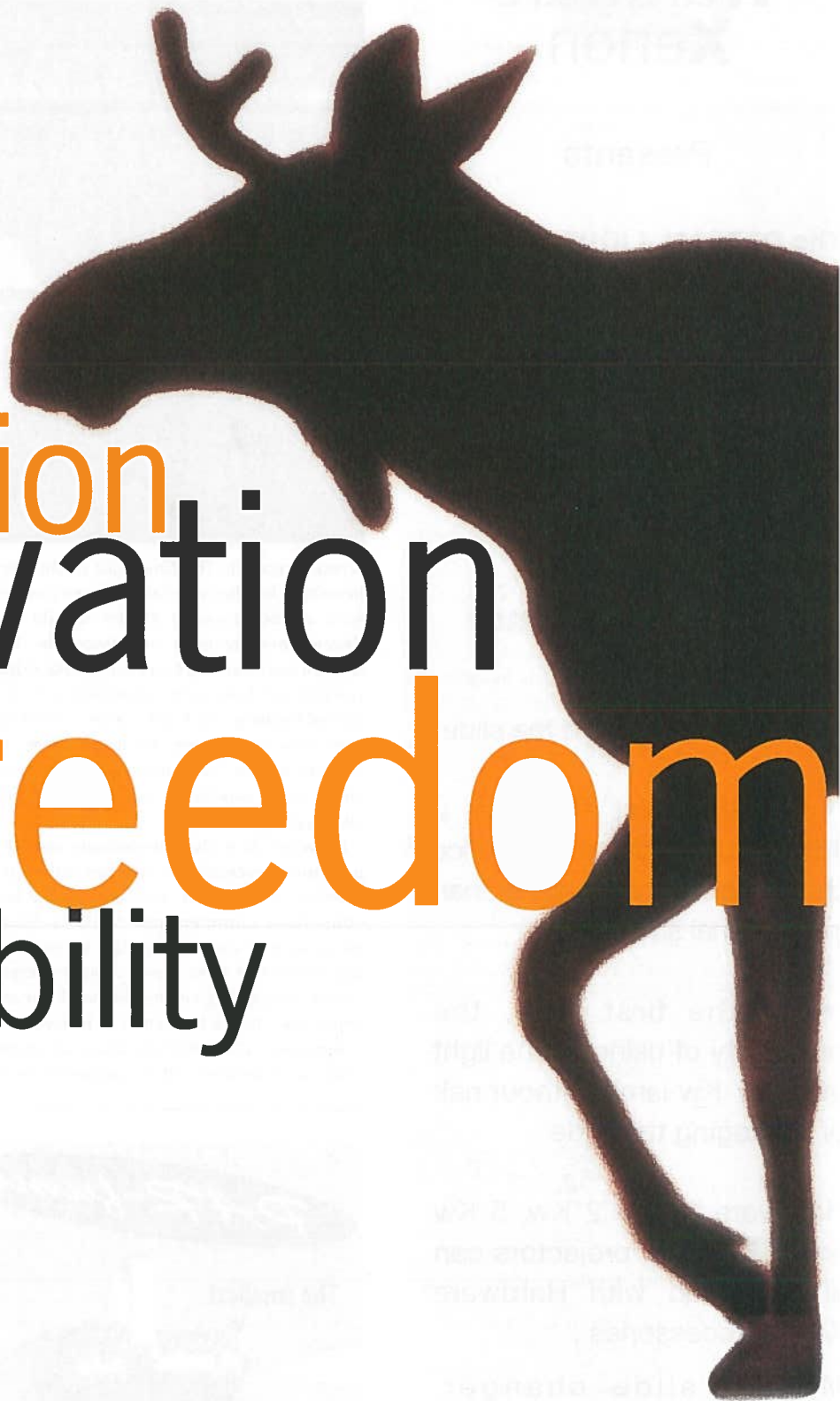
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## Doubts About Xanadu Leisure Development



A recent report in The Times cast doubt over the benefits of building ever-larger leisure complexes, such as the proposed £150m Xanadu leisure development recently announced by Wigan Council and Moorfield Estates. The 70-acre leisure complex will have as its centrepiece a 75m high domed building which will house a 375,000sq.ft 'real snow' skiing slope and alpine village, and it is hoped that the "cinetropolis-style screen-based virtual reality experience" will attract five million visitors per year.

However, it is the extraordinary size of the proposed development that has attracted the attention of the critics, with one leading leisure consultant commenting: "This is horribly reminiscent of some of the crazy schemes of the late 1980s that were based around things like indoor hang-gliding centres. Some of the artists' impressions had to be seen to be believed."

Supporters claim that the plans are merely a response to demand, with the proposed site of the

complex, close to Liverpool and Manchester, exposing the centre to an audience of 20 million people within a 90-minute drive. Although the leisure centre industry is presently based around the attraction of multiplex cinemas, there are signs that this market is approaching saturation, and Bass, First Leisure and Allied Kunick are all planning leisure centres based around motion simulation rides and virtual reality technology.

But as long as funding for such developments seems to be in ready abundance, it looks as though they will go ahead, despite the doubts. The main obstacle is proving to be the issue of planning permission, as government measures to limit out-of-town developments have already put paid to several schemes, forcing the planners to look towards urban sites. With US-style multi-entertainment centres planned for several UK cities, including Manchester, Glasgow and Newcastle, the potential opportunities for the entertainment technologists are huge.

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## JBL Swag Installed in London Wag Club

CP Sound, long associated with producing audio at London's world famous Wag Club in London, are setting West End trends once again with their installation of the latest JBL New Sound Power System in a substantial revamp of the club's second floor.

CP's Colin Pattenden, together with his colleague Roger Weddup, has provided sound equipment and mixing expertise for many of the high profile live acts to visit the Wag over the last 10 years, including Courtney Pine, Corduroy, Loose Tubes, Curiosity Killed The Cat, The James Taylor Quartet and Swing Out Sister. CP also installed the previous second floor sound system and have maintained the rig downstairs which caters for some of the live bands. The structural makeover at the Wag has included extension and expansion of the second floor dance area, as well as relocation of the bar and fire exits. Pattenden suggested to Wag owner Tommy McCabe that this would also be an appropriate moment to install a new sound system which, in turn, coincided with JBL looking for a near-PLASA venue in which to demonstrate their new Sound Power System.

CP seized this opportunity to use the latest JBL boxes - hot off the production lines - for its first installation not just in the UK, but anywhere in the world! The VS 125S 15" dual sub is a folded-horn bass box, an ultra-efficient enclosure and significantly more noise for less power input. The result is a tight, punchy type of sound. This is complemented by the trouser-flapping resonance



JBL's Doug Daniel (left), Mark Terry (second right) and Bruno Wayte (right) with Colin Pattenden (second left) and Ed Manwaring (centre) of CP Sound.

of the SP 128S dual 18" sub bass enclosures that roll rich low frequencies around the room.

The main second floor dance area features four JBL SP128S direct radiator dual 18" boxes, and four active two-way SP222, 2x12" mid high boxes, arranged around the square shaped dance floor. The SP 222s resemble a wedge monitor and are ideal for ceiling mounting where their shape makes them unobtrusive. The system is driven by four JBL MPX 1200 and one JBL MPX 300 power amplifiers, controlled via a DSC 260 digital controller. The infill system consists of two SP212-9 mid top cabs and two VS125H folded horn dual 15" cabs. These are controlled by one channel of the DSC 260 which drives another JBL electronic crossover (the M552) which, in turn, drives a JBL MPX 600 and MPX 1200 amplifier.

The sound installation progressed with lightning speed. Work started on Monday morning, and the club was ready to open on Wednesday night, 3rd September.

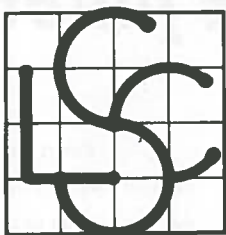
## Lexham in Scotland

Cumbria-based entertainment lighting company Lexham Light & Sound have recently moved their operating base to Glasgow following their appointment as Scottish main agents for CCT Lighting. Hot on the heels of their contract to supply the recently opened Singapore Discovery Centre, Lexham has also recently taken on the dealership for Concord Sylvania while expansion into the field of moving light control is catered for by their appointment as main distributors for Celco in Scotland.

## Celco Hit for Six

Major Japanese lighting production company Tokyo Butai Shomei have confirmed an order for further Ventura 1000 lighting consoles, bringing their hire inventory to six. The deal was confirmed at the 1997 PLASA Show by Takeshi Hayakawa of Celco Japan Inc, who said that the decision of the long-term Celco users to endorse the new desk followed many months of evaluation by the company's chief technician, Teiji Okayama. Celco marketing director, Keith Dale, told L+S: "Tokyo Butai Shomei have influenced some of the design of the Ventura, adapting the software to make it suitable for Japanese requirements."

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## Bandit On The Run

Bandit Lites has announced the relocation of its Knoxville, Tennessee-based headquarters to new facilities nearby. The new HQ has over 20,00sq.ft of office space and 65,000sq.ft of warehouse space, complete with a hanging room able to accommodate four lighting rigs simultaneously, a separate lighting rig preparation area, covered semi loading docks, paint shop, sale and inventory areas, grip department, fabrication areas and enclosed training facility.

The new contact address and numbers are 223 Scyamore Drive, Knoxville, TN 37921, USA. Telephone +1 423 971 3071.

## Avo's Water Challenge

Avolites recently fielded an intrepid team of white water rafters who battled with the whirlpools and rapids of the National Water Sports Centre at Holme Pierrepont, Nottingham, to raise money for charity. The Avo team won the trophy for gaining the most sponsor money - a total of £1,640 and competed against 57 other teams.

The funds raised by the company will be donated to Action for People in Conflict (AFPIC) which is active in Bosnia, South Africa, Croatia, Sierra Leone, Afghanistan and the UK.

## World LJ Champion



Pulsar's Derrick Saunders (left) and Jane Dorling (right) with Renato Ferrari of Clay Paky (second left) and World Light Jockey Champion Richard Worboys.

The UK's Richard Worboys won the title of World Light Jockey Champion at the Hippodrome during PLASA 97. Competing against entrants from France, Italy, Spain and Germany, Worboys impressed the panel of judges enough to win the gold trophy in the event, which was sponsored by Clay Paky and Pulsar, Disco International magazine in the UK and other industry publications from across Europe, including Sono (France), Discret (Germany), Disco & Dancing (Italy) and Show Press (Spain).

Disco International's Paul Fowler compered the event, while Pulsar's Derrick Saunders and Clay Paky's Renato Ferrari had the unenviable task of announcing the winner from among the high standard of entrants, and presenting the trophy.

## Hartwall Going Strong

Since the official opening celebrations in April of this year, Helsinki's Hartwall Arena (see L+SI May 1997) has been going from strength to strength, with a rich and varied schedule continuing through to the end of the year. Since April, highlights at the venue have included live concerts by Aerosmith, Bryan Adams, Jean Michel Jarre, Kiss and the trio of Little Richard, Jerry Lee Lewis and Chuck Berry, along with nine shows by David Copperfield and a host of sporting events. In the run-up to Christmas, acts appearing at the arena include Lynyrd Skynyrd, No Doubt, Pavarotti and The Prodigy, as well as a number of equestrian and sporting events. Tumpppi Haaranen, the head of production at Hartwall Arena, estimates that by the end of 1997, the venue will have attracted 1.2 million people

## Luna Tech Celebrate 25

Luna Tech Inc of Alabama, USA, will celebrate its 25th anniversary this month. Taking advantage of knowledge gained in an apprenticeship with an aerial fireworks designer, Tom DeWille, president of the company combined his love of chemistry with his love of theatre to develop the Pyropak System in 1977. Luna Tech Inc has now grown to become an international corporation with a European subsidiary in Germany, Luna Tech Pyrotechnik GmbH. To celebrate 25 years of surviving in the entertainment industry, Luna Tech will shortly make available the Pyropak IV infra red system, which is currently being tested by Disney.

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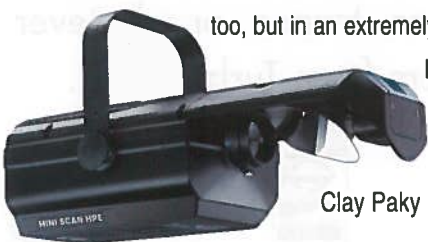
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## Clay Paky at Bellinzona Festival



This summer's Kingdom Festival in Bellinzona, Switzerland, attracted around 50,000 people from all over Europe over three days. Emme, the Clay Paky dealer for Italian-speaking Switzerland, were given the task of creating the stage lighting for the event, which featured an eclectic range of performances from Emerson Lake & Palmer, Mark Owen, Marillion and Hot Chocolate, among others.

Working with Electronic Studio 84, Emme produced a battery of moving lights with 20 Clay Paky Golden Scan 3s and 18 Stage Scans on stage, while a large number of Golden Scan 3s and Golden Scan HPEs were positioned on the tower, along with 24 Combicolor 300 fixtures for atmospheric colour and four Shadow followspots trained on the stage. Other stage lights included Clay Paky's Monster strobes and around 200 Par 64s.

Michele Alvarez, technical manager and director of Emme, supervised the set-up and handled the artistic direction of the show, combining the aesthetic requirements of each show with the technical requirements of the Italian Swiss Television network, who were televising the event.

## 1998 is Last EnTech Until 2000

Next April, Sydney is the venue for the final edition of EnTech before the year 2000. The leading entertainment technology trade show in the region is set for its largest showing yet, with 10,000sq.m (100,000sq.ft) at the Sydney Exhibition Centre on sale. Plans for a show in 1999 have been shelved and the schedule for EnTech is now 1998 and 2000 - with both shows to be held in Sydney.

"There must be a compelling reason to hold a successful trade show," reasons Caroline Grafton, EnTech director. "The major technology leaps have abated for now, and there is only so much you can do with digital audio and DMX. We feel that as the industry flagship tradeshow for the region we need to respond to what is happening. Our visitor surveys tell us the industry professional will come to EnTech 1998 to cement technology choices for Olympic deadline work to be completed by 2000. They then want a show in 2000 to cater for opportunities beyond."

PLASA will host a UK group with financial assistance from the DTI. It is expected that 14 UK exhibitors will participate.

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## Birmingham Rep Wins Lottery Bid



John Stalker, executive producer of the Birmingham Rep (left on bike) and David Waine, Chairman of the Rep's board of directors (right on bike), surrounded by principal members of the cast of 'Keep on Running'.

Birmingham Repertory Theatre has been chosen above all other arts organisations in England to receive the lion's share of a major new National Lottery fund.

Over £5.7m of new investment will be provided to the theatre over the next three years. This will fund ambitious plans to expand the range and scale of productions, set up national and international tours and create the largest venue outside London dedicated exclusively to new work. There will also be a dramatic increase in education and community activities, with many more productions for children.

Birmingham Rep received the largest award of 13 under the pilot stabilisation programme designed by the Arts Council to create long-term strategies for growth and development in the arts. Lord Gowrie, chairman of the Arts Council of England, said: "The Council was immensely impressed by the vision that the Birmingham Repertory Theatre's bid projected, particularly in terms of addressing the concerns of artists and needs of future audiences."

## PLASA Doubles Web Site Figures

Visitors to the PLASA Web site virtually doubled in the run-up to the 1997 PLASA show, with over 25,000 page hits throughout the site in the month prior to the start of the exhibition. The total page hits on the site in the single week prior to the show came to a record 7,474 from a total of 45 countries around the world. Information on exhibitors and new products at PLASA 97, along with pre-registration facilities and travel information helped bring the Web site its busiest ever spell. Further information on the show, including the full show report featured in this issue of L+SI, can be found at <http://www.plasa.org.uk/>

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## RB Get to the Point

Lighting sales company RB Lighting Ltd of Teddington have formed an association with Sutton-based hire company Point Source Productions to benefit the customers of both companies. RB Lighting provide a complete sales service supplying lighting equipment, consumables, spares and custom gobos, whilst Point Source Productions run a comprehensive hire service for theatre, conferences, trade shows and exhibitions. This association will allow each company to offer both hire and sales to their existing customers without the need to shop around from different sources.

## LGH Rigging Launch New Service

The world's largest organisation specialising in lifting and moving equipment hire, Lifting Gear Hire (LGH) has launched a new service catering specifically for the commercial presentation and entertainment industry.

LGH have recruited a specialist from within the entertainment industry to lead the new service. Andy Tinneveld has over 15 years' experience working in all areas of the market, contributing to productions including The Rolling Stones and the Bolshoi Opera. Tinneveld told L+SI: "We see our role as supplying support to all areas of the industry. Everything from the smallest regional theatre to television, film and concerts."

The company have a wide range of equipment available from over 30 locations throughout the UK, as well as equipment resources in Europe and the US. The company, based in a new facility in Three Mills Island in London's Docklands, have made a substantial investment in new equipment, including a large stock of CM Lodestar chain hoists and sophisticated control systems. In addition to the hire of equipment, the company will also be providing equipment training and full technical and engineering back-up for all their products. The training conforms to the latest EU guidelines and requirements and embraces specific recommendations from the Lifting Equipment Engineers Association.

## Mandurah Performing Arts Centre



Photos: Martin Farquharson

The Mandurah Performing Arts Centre, near Perth in Western Australia, is one of the growing number of regional venues that are rivalling capital city venues in terms of technical facilities and flexibility of space. Situated on Administration Bay in the Peel estuary, the venue has been designed to appear as though it floats on the water with the foyer design supporting this visual illusion by providing panoramic views over the bay.

The main performance space is the Boardwalk Theatre, which seats 800, although the circle can be blacked out to reduce the seating to 240, providing an intimate space that still allows access to full technical facilities. The Boardwalk has a 14m high by 7.6m wide proscenium arch and a stage depth of 11m, with wing space on either side of stage. The dock doors open onto a glorious view of the bay which, on a calm sunny day, resembles a sheet of glass. This can be quite a shock to unsuspecting technicians after several hours of enforced darkness.

A single purchase flying system with 51 lines can be operated from the stage floor (which is sprung) or the gallery. The orchestra pit has a hydraulic scissor lift and can be set at either pit, auditorium or stage levels to allow for flexibility of use. The lighting system comprises a distributed dimming system of 12 portable Bytesize 2.5kW racks, fed from a dual reticulated DMX distribution system.

Load circuitry is fed through multicore fitted with a combination of bar circuit boxes to any of the onstage bars while front-of-house has a system of smaller patch panels. An ETC Express 125 control desk is available, plus a 24-way dedicated



colour changer controller. The house rig consists of around 140 luminaires and is a mixture of fresnels, PCs, profiles, floods and Par cans.

Acoustically the Boardwalk has been designed to cater to a diverse range of sound requirements; an acoustic which works well for unreinforced listening for drama and acoustic music, although a full range PA and reinforcement system has been installed. This consists of an Allen & Heath GL3000 32 x 8 x 2 mixing desk, plus left and right arrays of Electro-Voice Deltamax and a flown centre cluster of two DML 1122Fs driven by Electro-Voice amplifiers.

In keeping with the nautical theme for the centre the 150 seater blackbox studio space is called The Fishtrap. An art gallery, dance studio, music room and waterfront restaurant add to the centre's attraction. Designed to appeal to the local arts community as well as touring productions, the Mandurah Performing Arts Centre offers a diverse range of facilities in a glorious setting.

Jacqueline Molloy

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## The Royal Connection



Shaking hands with Bill Gallinghouse, managing director of ETC Europe (centre right) after the signing of the ROH contract is project director John Fairclough. Looking on are John McGowan (left) and Adrian Palmer of Royal Opera House Developments Ltd.

Just two years after setting up its European organisation, ETC has been awarded a major contract to supply dimming for the development of London's Royal Opera House. This prestigious contract, which involved input from ETC's project planning and design departments, represents one of ETC's most significant projects in Europe so far. The rig includes 15 CE Sensor ESR48 dimmer racks, with the capacity to dim a total of 1350 channels which have been ordered for delivery to Schal Construction Management during 1998.

Continuing the Royal association, the Royal Albert Hall has recently installed 80 Source Four Pars in the rig above the orchestra for the 1997 season of Promenade concerts.

## Martin Guerre Open Day

As part of a joint initiative to introduce new equipment and techniques to the industry, Cameron Mackintosh, White Light, Stage Technologies and Production Arts recently co-hosted a 'Martin Guerre' open day at the Prince Edward Theatre. Many theatre consultants and production managers, as well as a large number of overseas guests who had been in London for the PLASA Show attended.

The day opened with an overview offered by each company involved and included a technical introduction to the show. This was followed by a tour of the show's technical aspects with experts discussing lighting control, sound, automation, projection and radio controlled scenery. After lunch, there was an opportunity to see the equipment in action during the matinee performance.

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## Silent Tracking

Towards 2000 Inc recently created 14 silent High End Systems Trackspot fixtures for a major studio client. Silence was of the essence as the fixtures are being used in one of the studio's film screening rooms. Technical service manager, Russell Ryan and sales manager, Roland Hammerl, worked together on what turned out to be a full-blown R&D and fabrication project.

The Trackspots were originally purchased to be used in one of the studio's conference facilities. Things began to change when Hammerl was alerted that some of the fixtures would be used in the studio's screening rooms and that staff were concerned with the humming noise produced by the Trackspot. Hammerl and Ryan put their heads together and came up with a solution, beginning by testing several different types of fans to reduce fan noise. Ryan found a smaller model with a lower RPM, which would work well in the clean and cool viewing room. But even with the new fans in place, the fixtures were still too noticeable for the studio staff.

Next, the transformer was looked at - Ryan decided to remove the transformer and create a remote module using stand-offs to distance the transformer from the metal sides of the module. This reduced the humming dramatically as the unit no longer vibrated the casing. To further cut down on escaping sound, Ryan placed plexiglass sound baffles beneath each unit, reflecting the noise back towards the ceiling, muffling the humming. As a final touch, an absorbent material was attached on top of the plexiglass.

## Flies Undone!



**Dan Martino (Wybron), Marshall Bissett (TMB), Keny Whitright (Wybron) and Peter Marshall, (Theatre Projects).**

The first annual fly fishing event at Syon Park provided excellent sport for the hardy group of anglers who took time off from their stand set-up at PLASA to participate. Those who chose work over fly fishing missed an ideal opportunity to cast flies at many rising rainbow trout in the idyllic setting of the Syon Park Estate in West London. The event, organised by TMB Associates (UK), Wybron Inc, Theatre Projects and Artistic Licence was blessed with excellent weather and every angler caught the four fish limit of rainbow trout in short order. Trout ranging from two to eight pounds were caught on a variety of nymphs and wet flies. The secrecy surrounding the exact patterns used was reminiscent of any new product launch in our industry! All anglers were presented with a commemorative T-shirt and a pair of TMB socks. The organisers hope to make this event an annual pre-PLASA institution.

## Madrid Opera Returns

After a break of almost 10-years for an intended four-year refurbishment, Madrid's Teatro Real opera house is finally preparing for its autumn reopening season. A whole host of conspiring forces has blighted the refurbishment project, including political intrigue, gross incompetence and bad luck, but the opera house, which was meant to open during 1992 when Madrid was Europe's City of Culture, is now ready.

There has been an almost farcical catalogue of delays: the first came when architect José Manuel Gonzalez died while showing journalists around the building in 1992; the main construction company then went into receivership and a succession of artistic directors came and went following disputes. Amazingly, the resident conductor/musical director spent six years on the payroll without an orchestra, costing £600,000 and when work was almost completed in February this year, it was found that the seating was facing in the wrong direction! However, when the Teatro Real re-opens on October 11th in the presence of the King and Queen, for an all-Spanish production of *La Vida Breve*, the future will be looking brighter.

## Stagetec Expand

Stagetec have moved to new, larger, premises, with a bigger and better equipped demonstration area, improved service facility and increased stocks. The company can now be reached at 383 Sykes Road Trading Estate, Slough, Berks SL1 4SP, telephone (01753) 553522.



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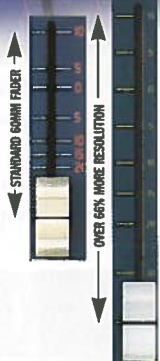


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## Disney Contract Goes to Glantre

Glantre Engineering has confirmed that, under an initial design contract to Disney Cruise Line and a subsequent implementation contract to Fincantieri, it is supplying the complete onboard entertainment systems for Disney Magic and Disney Wonder. These two high-specification 85,000 ton cruise ships are being constructed at Fincantieri's Marghera (Venice) shipyard for service entry in 1998, with Port Canaveral as their base port.

Glantre's responsibilities will cover theatre design, planning and acoustic services, as well as the detailing and specification of all shipwide and local entertainment systems, working in conjunction with other design team members, including the architects Yran & Storbraaten, theatre consultants Auerbach & Associates and Acoustic Dimensions.

The shipwide systems for each vessel will be controlled from the Broadcast Centre and will consist of all satellite and in-house television equipment and distribution, together with multi-channel background music and public address. Local systems for the Walt Disney Theatre, Buena Vista Theatre, lounges, restaurants, bars and activity areas consist of audio, video, stage lighting, stage equipment, special effects and show control. Glantre will be installing equipment from various manufacturers, principally ADC, Axxess Technology, Clancy, Delstar, EAW, ETC, High End, Kirby's Flying Ballet, Laser Magic, Martin Professional, Peavey, Rittal, Sennheiser Soundcraft, Stage Technologies, Wybron and Yamaha.

In addition to design and supply, Glantre's responsibilities under the implementation contract cover cabling, installation, testing, commissioning, training and documentation.

## PCM CM Lodestar Training Boom



The sixth and seventh PCM Motor Schools took place at PCM's HQ following PLASA. The demand for tuition was so high that PCM doubled the intake and ran two concurrent two-day courses instead of one. Some 35 attendees took part in each session, led by Columbus McKinnon's Wally Blount. The course is designed to familiarise users of Lodestar motors with the operational theory, design philosophy, safety aspects, internal workings and trouble-shooting methods of the product. In the last five years, Lodestar chain hoists have become the industry standard for concert tours originating in the UK. However, the diversity and profile of those attending this year reflect that Lodestar is permeating many other fields. Companies represented included Autograph Sales, Vertigo Rigging, James Thomas Engineering, Hangover Rigging, Summit Steel, Theatre Projects, Light & Sound Design, The Spot Co, ESS, Screenco, Star Hire, Mr Phantasy Lighting and the NEC.

## All in a Day's Work

The R&B Group (now incorporating Production Services) recently faced an unenviable task. Within seven days they had to transform the stage of Newcastle Playhouse into an exact replica of The Swan Theatre - the home of the Royal Shakespeare Company in Stratford-upon-Avon.

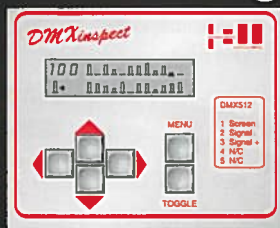
Every year, the R&B Group - one of the largest audio visual and theatre production companies in the North East - install the infrastructure that they have stored and maintained throughout the year from the previous RSC season. During the transformation, 10 40ft trailers are required to transport the scenery and technical equipment, two miles of cable are laid through the Playhouse building, 300 stage lights are rigged, consuming 50,000kW during the five week season and 10 tonnes of scenery are constructed.

After the construction work is completed in time for the opening of the RSC season, the R&B Group are then responsible for each changeover. The RSC run a repertory season with several productions running in each venue, including Newcastle Playhouse. The technical changeover between each show takes 43 hours - from the moment the curtain falls on the Saturday evening performance of one production, to the moment it rises for the first performance of the next production on Tuesday evening. During this period there is a complete scenery and lighting change, including re-painting of scenery, a full technical rehearsal and a full dress rehearsal of the new show.

## Cats on Film

Theatre Projects (TP) is supplying the lighting equipment for the filming of the musical *Cats* which is being recorded at the Adelphi Theatre by the Really Useful Group for release on video. TP has been charged with the responsibility of sourcing the massive lighting rig, which includes 180 Vari\*Lite luminaires. Production manager Simon Hardy told L+SI: "The video version will be completely different from the stage show; it is being re-cast, re-choreographed and re-scored. The European touring set has been installed in the Adelphi Theatre and the rig that's been installed by TP is massive - it's more like a rock and roll rig than the normal theatrical installation."

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## New IN, Aarhus



A new twin for Copenhagen's highly popular Discothèque IN has opened in Denmark's second city, Aarhus. The new Discothèque IN has two separate dance floors, with the lighting installation from Clay Paky and Pulsar, mounted on two circular frames above the main dance floor. The outer frame is equipped with 12 Golden Scan HPes, while the inner frame holds a combination of Tornado, Atlas and Combicolor effects, with Monster strobes and a Golden Fog 2000DMX - the latest smoke machine from Clay Paky. Another six smoke machines are fitted into the walls around the floor.

## People on the Move

Responding to a growing demand for product, Tomcat (UK) Ltd has added two new staff to its sales team. **Denis Bramhall** brings with him several years experience in serving the needs of the entertainment industry, principally with PCM. His understanding of the demand for high quality products, along with an intimate knowledge of theatrical chain hoists will bolster Tomcat's marketing of both trussing and Columbus McKinnon chain motors. **Jane Hewitt** also has several years experience in supplying product to the entertainment industry.

Electrovision Ltd has appointed **Malcolm Burlow** as sales executive, covering the South West and North East of England, as well as Scotland and Ireland. He will also be responsible for the development of all new products within the company's sound and light portfolio, a number of which are expected to be launched over the next six months. Burlow previously worked within the UK DJ market with Numark Industries.

A familiar face on the pro-audio scene, **Glen Harris**, has joined C Audio as sales director, making his debut on their stand at the recent PLASA Show. Harris was previously sales and marketing manager of Canon Audio, from the company's inception in 1991 to their closure at the beginning of this year, and prior to that spent 10 years with Harman Audio's consumer division.

Northern Light has welcomed **Paul McEwan** as



Glen Harris.



John Bradshaw.




Simon Molseed.

the newest recruit to its growing Special Projects team. McEwan was one-time deputy chief technician at Greenwich Theatre and more recently held the post of chief technician/lighting designer at the Brunton Theatre, Edinburgh.

Trifibre Containers have been joined by **John Bradshaw**, as UK project manager. Bradshaw, who formerly ran the flight case department at Autopia Vanquip and who has many years experience in the design and manufacture of cases, will be overseeing the flight case department at Trifibre.

Owl Video Systems has further strengthened its sales force with the addition of three new people. **Simon Molseed** joins in the key role of national sales manager. Molseed brings extensive experience of working in both the audio visual and entertainment industries with such companies as Sarnar, Laserpoint and latterly Thomson Entertainment.

With the re-structuring of the sales territories, two new regional sales managers have also joined Owl in recent weeks. **Chris Frost** will be covering the north of England, centred around the M62 corridor, while **Alan Garratt** will be responsible for the West Midlands and Wales.



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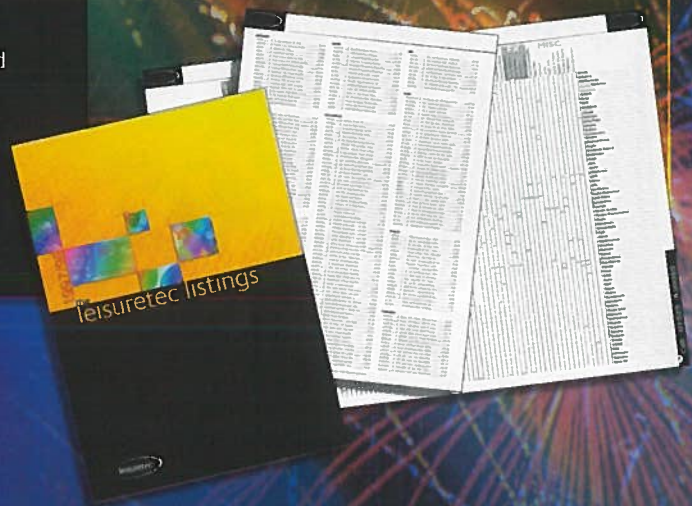
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## Wembley Prepares for Next Century

In anticipation of the ever bigger and bolder presentations expected to hail in the millennium, Wembley Arena is girding its loins. Having re-vamped the dressing rooms, seating and venue configurations over the past few years, next on the list was production. The old flying grid had served its purpose, but Unusual Rigging, the venue's chosen rigging managers, advised the Wembley management that it was no longer up to the job.

Always one to explore every possibility, the existing grid was put out to quote for a re-weld but was soon rejected as a non cost-effective option. So it was that URC's Ken Nock, project manager for rigging services to Wembley, approached Total Fabrications Ltd to provide a new system. It's a big beast, the complete grid covers some 650sq.m and comprises a combination of TFL's Heavy and Medium Duty Serious trussing. "It's been a big order to fill, and at very short notice," explained TFL director Karen Cronin. "The order was only confirmed at the beginning of September and Wembley were keen to have the grid up in time for the Autumn season." Short notice is an under-statement - all powder coated in black, the Serious HD system defines a 25m x 26m grid and comprises over 200 metres of trussing, plus there are 60 four metre lengths of Serious MD for variable position spreaders. Nevertheless the main system of Heavy Duty was delivered on Tuesday 30th September, the Medium Duty spreader system the following week.

## Harrow's Upgrade

Multiform Technology have supplied four Infinity MSR1200 scanners to the Harrow Arts Centre, via installers Stage Control. The new acquisition follows a recent Lottery funding award to the centre, which was formally made in early September. The Infinity luminaires, from Italian manufacturer Sagitter, will be controlled by a new Zero 88 Sirius 250 console.



## DigiFogger on Ice

M&M Stage and Special Effects, of Oklahoma state, recently used two CITC Hi-Lo DigiFogger IIs along with two Hurricane II fans, to create an atmospheric haze in a full-sized, 13,500 seater ice hockey arena.

M&M Stage and Special Effects owner Donn Mason reported that the Hi-Lo DigiFoggers managed to create an effective, even haze over the arena in just 10 minutes, and the haze lifted quickly enough not to hinder the television cameras when they were switched on afterwards to cover the game.

## AVAB Transtechnik in UK & Eire

The Transtechnik group are consolidating their representation in the British and Irish markets with a new group branch near Chichester, in West Sussex. Headed by Clive Cartey, the branch office will be responsible for the sales and service activities for all lighting products from the Transtechnik and AVAB Transtechnik companies. Until now, both companies have maintained separate sales organisations in the British Isles.

A network of service centres is currently being set up, so that customers can consult local experts, try out new equipment and have access to a wealth of information. The new address is: AVAB Transtechnik, Forum House, Stirling Road, Chichester, West Sussex PO19 2EN. Telephone: (01243) 788463.

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## LETTERS

**L+SI EXCLUSIVE:** L+SI recently received a letter from Steve Terry of Production Arts concerning the USITT DMX standard. Given the content, we invited both Pulsar and Clay Paky to respond. The full correspondence is published below.

Dear Editor,

At a recent standards meeting at the PLASA Show, a startling announcement was made by Paul Mardon, technical director for Pulsar Light of Cambridge Ltd - the UK manufacturer of lighting control equipment that supplies internal control electronics for Clay Paky automated fixtures.

Mardon announced that Clay Paky recently started building fixtures that source +25 volts dc on pin 5 of their DMX512 input connectors. This pin is reserved for a secondary data link by the USITT DMX512/1990 standard. Connecting these moving lights to a DMX network containing equipment that uses the secondary data line will disable communications on that data line and can cause damage.

The Clay Paky moving mirror units that put 25V on the secondary data link can be identified by looking at the rear plate. They use the DMX512/1990 standard-specified 5-pin male XLR-type connector and label it 'DMX512', but also provide a table next to the connector describing the function of each pin. Pin 5 is labelled 'Is 18-25VDC'. Despite this, it is not a DMX512 data port: it does not comply with the USITT standard, and cannot be connected directly to a DMX512 system without compromising the system. CP's older units (that do not show 18-25VDC on pin 5), are not a problem.

There are many other manufacturers using the secondary data link as specified in the USITT standard. This data link is supposed to conform to EIA-485, which mandates a common-mode voltage range of no more than -7V to +12V. 25 volts well exceeds this, and is likely to damage most EIA-485 drivers and receivers.

The DMX512 standard has been a success because it has made it possible for users to interconnect equipment from different manufacturers. Clay Paky has produced a product that says 'DMX512' on it, but when you plug it into a DMX512 network, it has the potential to break things. Not only does this approach violate the standard itself, it violates the spirit of cooperation and DMX512 interconnectivity among manufacturers which has been such a

huge benefit to our industry over the last 11 years. When queried about potential damage to the success of the DMX512 standard, Mardon replied "I don't feel particularly naughty about it."

Perhaps the market will feel differently.

**Steve Terry - Production Arts**

Dear Editor,

We have over 20 products which use the 'Is' current supply of 18-25VDC on the DIN sockets to provide their low voltage power. If these products are upgraded or new DMX products are introduced, we need, as do others, this power to be available on the DMX lead.

We introduced our first unit which receives its low voltage power from the DMX connector on pin 5 four years ago and we will be introducing more products shortly which also use this supply. In anticipation, we have been putting the 'Is' onto pin 5 of all XLRs for 18 months now. This applies to all our Dimmer and Switching Packs, as well as Clay Paky Scans - there are over 5000 such units in the field. The back panel on each states that pin 5 carries 18-25V, but until my announcement, it seems no-one had even noticed.

So this is not something new. Unfortunately, the result of my comment seems to be a lot of unnecessary alarm in the market-place. Do other companies follow the standard right down to the details of the connector and how it is used? I understand that several don't and some contravene the strict interpretation of the standard. These companies, like us, obviously believe that 95% of the importance of the standard is the timing and structure of the data signal, while the last 5%, the hardware, can be over ridden, if necessary, by commercial considerations and benefits to the customer.

Over the years we have spent £500,000 on the 5 pin metal XLR connectors for the sake of following the standard. We are heavily committed and do not want to change to another connector, nor do we wish to break with the standard. However, we feel now is the time to use these spare pins to satisfy our requirement. To ensure the reliability of our equipment in the real world,

every single Clay Paky product that receives DMX and every single Pulsar product that receives or produces DMX can withstand the continuous application of 240V mains on either of the signal input or output pins, or across them.

I respectfully ask USITT to consider the following amendment to the standard which would allow all parties to use the optional pair of the DMX cable as they require: USITT DMX512/1998 = DMX512/1990 + overvoltage protection on pins 4&5 to 50VDC when used.

**Paul Mardon - Pulsar Light of Cambridge**

Dear Editor,

Since the introduction of the new ASCAN circuit boards on our products, a dc output has been available on pin 5 of the DMX512 connectors, located on the rear panel of each projector, for powering external control equipment.

A few control equipment manufacturers have launched DMX512 products which also use pins 4 and 5 for data. The above has generated technical discussions involving some operators in the field. Pulsar Light of Cambridge is currently preparing a proposal to be submitted to USITT, with the aim to upgrade the DMX standard.

While awaiting the outcome of these proposals, we have decided to remove the dc output in order to allow the user the freedom to use any DMX512 compatible control equipment. In this way, pins 4 and 5 remain free, in full compliance with the DMX512/1990 standard, for any other function encompassed by the standard itself. The elimination of the low voltage from the pin 5 on new products has already begun on all products from serial number IGO 11101 onwards.

**Pasquale Quadri - Clay Paky**

The USITT has confirmed that the USITT DMX512/1990 standard includes the connector requirements, as well as the DMX protocol itself. Any deviation from the pin usage specified in the standard means that compliance with the DMX512/1990 standard should not be claimed. As Standards Officer, I support this statement.

**Tony Douglas-Beveridge -  
PLASA Standards Officer**

*The topic of DMX compliance will be covered in the next issue of Standards News.*

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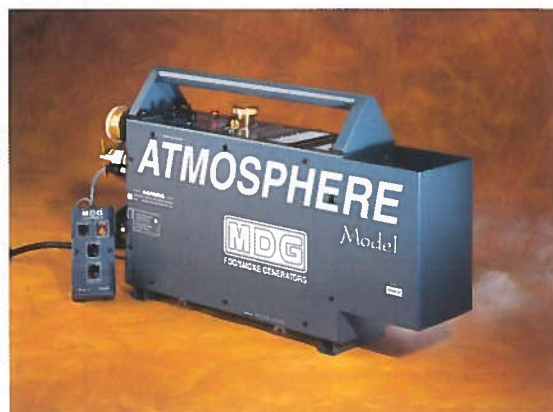
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# POPMART

*U2's current tour didn't get off to the best start, leading the media to speculate on the future of large-scale touring. Steve Moles finds that the band still have what it takes*

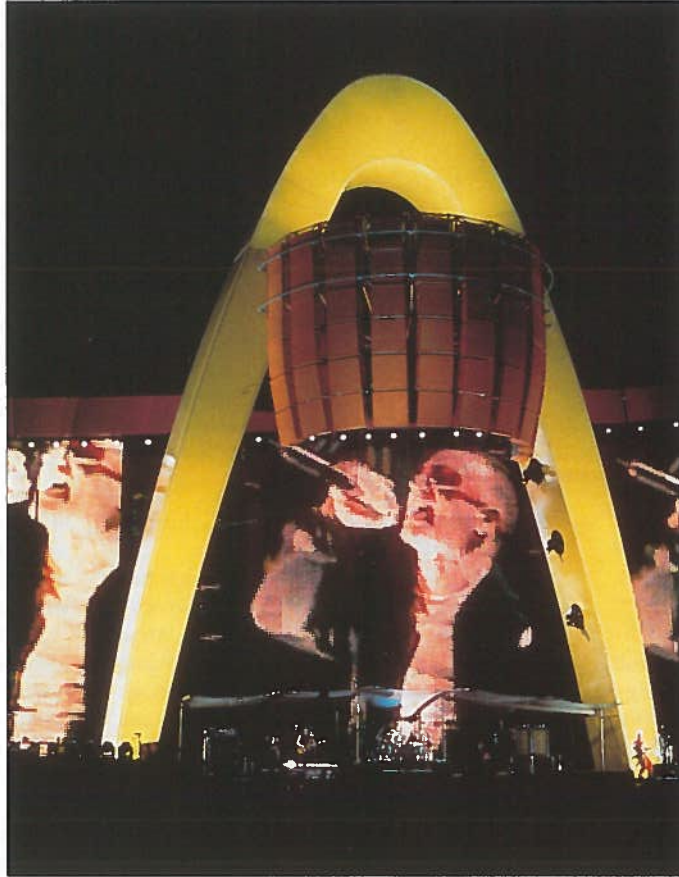
Now that U2's Popmart tour is five months old, what started as a troubled endeavour - we all remember how widely reported poor ticket sales and rumours of possible failure swept the industry like a poisonous bile - has now gained the necessary momentum to storm through Europe, selling out everywhere it goes. The main change that has benefited the tour is the swing to a more 'greatest hits' style of song list - even for U2 it seems that if you want to play just the new album you'd better take it through the clubs first like every other band.

However, one of the equipment bogies from the early days, and one of the many reasons cited in the press as the potential undoing of the tour, still plagues the show. The problem curiously manifests itself as a tick, hardly affecting the big picture and certainly not detracting from the whole show, but like a tick, it is irritating nonetheless. But before we go into the \$64,000 question of 'how does the world's biggest video screen fare under rock and roll conditions?', there's a more important question on tour promotion to air. It's one that all in the production field might wish to ponder - but first some background.

## PRODUCTION

I spoke with Nick Levitt, production manager for the tour, in the calm of the afternoon in the mess tent backstage at Roundhay Park in Leeds and asked how the tour was going. "From a production point of view, the tour runs really smoothly. The advance site co-ordinators, Tom Armstrong, Albert Lawrence and John Conk, really run the show, we just turn up with production and everything is already organised and waiting for us."

This a slight understatement. I don't want to go into huge lists of gee-whizz statistics, but to give some idea of scale, note the following: out of the 75 trucks on the road, trucking company Atkins and Saunders provide 26 for the Universal team (the production element that does every show), plus two advance teams of six trucks with the duplicate main steel sets whilst the remainder are taken up with fleets of Show Power generators and other infrastructure equipment. If you need further convincing, Phoenix are providing 13 crew buses. "But even that is largely taken care of," continued Levitt. "Steve Iredale, the production director, has already dealt with the logistics, the freight, the trucking, etc. I just deal with the nitty gritty, the everyday running of things. My main role is to liaise with the site co-ordinator. But it's an incredibly tight schedule. The



***"But this is a vast production. As a colossus, it's not really suited to back-to-back touring, so why is it being driven so hard? The cause is money."***

important job is keeping morale high." Here a slight discomfort begins to emerge. "I organise events such as a Spanish evening in catering, with flamenco dancers or a tour football competition. We have a Riggers Arms of course, but finding the time is not easy. When the guys came over from America to do this leg of the tour they had just had a very tough time. To give you some idea, when the tour was being put together Steve (Iredale) pointed out to the promoters that to do one series of venues in the US would require 11 sets of steel. Nobody paid any attention to him until that leg was looming and they started to read the cost on paper. So one of the things that made the European leg attractive was three days off in Dublin after the Wembley shows. These were the only free days in the whole European leg and all the guys made plans to bring out wives and girlfriends. When a Belfast gig was slotted into that gap, trying to keep motivation levels up was not easy."

But this is a vast production. As a colossus, it's not really suited to back-to-back touring, so why is it being driven so hard? "The cause is

money. TNA (Michael Cohl's promotion company) have bought the tour worldwide, along similar lines to the arrangement CPI have with the Rolling Stones. The idea has its merits: when you're dealing with a show of this scale it relieves some of the financial burden from the band. But, inevitably, TNA can't be familiar with every local market.

"Here (Roundhay Park), for example, they've sold the show to MCP (Midland Concert Promotions) but it's on a flat fee basis, as it is everywhere else. There's no incentive for the local promoter, other than to maintain a relationship with a band they've promoted themselves in the past. The trouble is it takes money out, but puts nothing back into the business. Promoters like Harvey Goldsmith and Tim Parsons (MCP) take risks. They bring on young acts for little or no profit, planting seeds for the future."

It's a valid point, a bit like the debate on over-fishing - is rock and roll a diminishing resource? What happens if we don't allow the reproductive cycle some oxygen? I asked Tim Parsons of MCP how he

felt about the arrangement with TNA. "It's OK - we don't have a problem with it. If that's the way U2 want to tour that's their business. But we won't be doing it again." And this exact same sentiment was expressed by Levitt, a man who - let's not forget - weathered the storm of advancing the Michael Jackson show in Bombay last year.

There are other problems inherent in this arrangement: "The decision-making process becomes extremely cumbersome. Because the money involved is so enormous, the people who actually make the decisions are even more distanced from the reality of touring production than usual. To get anything done, any problems solved, the action has to pass to TNA and then back down through the local promoter. That's not necessarily a bad thing, but it certainly slows down the process."

Time, ever a factor in touring, is at a premium on the Popmart tour: the 26 production trucks arrived at 5.00pm the day before the Roundhay Park show and everything was up and running by midnight. Mind you, Tim Lamb, one of the world's cheeriest stage managers it must be said, has supervised load-outs in under three hours. With talent like his, what's there to worry about?

And bar one deluge of biblical proportions in the US, the show always goes on, and it's no mean achievement. In fact, this is exactly what Levitt uses to lift his troops when the need arises: "I tell them to stand back and look at



The world's largest video screen uses 22 miles of cable and is made up of 21,000 circuit boards, 120,000 connectors and 150,000 pixels (composed from 1,000,000 LED lights).

what they achieve each day." And with the world's largest screen that's what you have to do. Stand well back.

### THE BIG SCREEN

Richard Hartman, the doyen of rock and roll engineering, is the master of all things screen-like on the tour, which is a departure for him: "Normally, I'm just brought in to assist with developing the engineering solutions, but this is something new - it needs more attention than usual, and video screens and how they work is an area I know little about, so I thought it would be interesting to learn."

Hartman's mind is nothing if not acquisitive, and his intellect seemingly capable of engaging any subject. It would be no surprise to find him building a spaceship in retirement (assuming he ever does retire). To find him still on the tour after five months, and to know that he has turned down his usual consulting position for the Rolling Stones tour which is about to start, gives some indication of just how 'interesting' he's finding it.

"The screen is a long day of labour," he notes. "There's five on the team, including me. From the moment it goes up, to the start of the show, we are repairing it. Every day. Normally I run two teams of two, around the clock," and knowing Hartman he probably puts in a 24 hour shift himself. Admittedly, this is all new technology, and as such would have to be on the brink, but listen to this for chutzpah. "When the idea was first mooted, the blue LEDs didn't even exist (this is a screen made up entirely of a matrix of coloured LEDs) - they actually appeared in February, barely a month before rehearsals, and were accompanied at the same time by a new, improved green LED."

The idea for the screen is not new: simple bi- and tri-chromatic variants have been around airport information boards and advertising hoardings for years. But the LEDs with the frequency range needed for a true colour mix image just didn't exist. "As a consequence, System Technology in Belgium, who put the basic diode technology and drivers into what

we call tubes, had to do so in a hurry," explained Hartman.

'Tubes' is a euphemism for a one inch box section metal housing holding the clusters of LEDs (on approximately 3.5 inch centres). Most are 1.6 metres long and form the basic building blocks of this vast screen. "We've been through a continuous process of component failure and repair since we started. What has to be recognised is that this screen is 705sq.m, there are 24 tubes per panel and 176 panels, with some 22,500 drivers making the whole thing work. Little things conspire against us. For example, it was assumed (by System Technology) that the gasket behind the hundreds of thousands of LEDs would secure the front of each tube from water penetration. They don't. Also, the back, where the electronics are, was wide open. All that protects it is a simple metal cover pop-riveted on.

"From out of the chute we've come a long way to make it all happen. The fronts now have three layers of conformal coating, the backs are covered in silicone goop, but it's still overly sensitive to moisture - even mild humidity can cause malfunction. Unbelievably, the whole thing runs from a single computer ribbon cable daisy-chained along the bottom which is fed by a signal that's about as strong as the heartbeat of an ant."

Like blowing your nose wearing boxing gloves, it's obvious these are fiddly jobs. What makes the repair process even more convoluted is the presence of artwork across the front side of the tubes, making a fair percentage of them position-specific. Thus, replacement is not always just a simple swap-out, the normal routine is to rig the screen, test it, and drop the offending tubes; repair and re-coat with silicone and leave to dry, the second team coming later to re-fit. The need to replace on a position-specific basis ultimately proved to be a blessing, as Hartman explained. "Naturally, we devised a marking system to enable us to keep a hold on the 4,000 plus tubes. Once the initial rush with making them more resistant to weather was over, we

began to notice that a fair percentage of tubes in the same positions repeatedly failed. Only recently did SACO, the Canadian company that built the electronics, admit that in the rush they used some weaker components. These are easy to spot because there's no manufacturer's name on them, but we're not about to strip the whole system to find them all - we already did that once in the US to complete the weather-proofing."

So what's the incentive to persevere? "This kind of screen image is the way of the future," explained Hartman. "For its size it's very light, even mounted in the 2.4 by 1.6 metre metal frames we developed to tour it, a full stack (22 panels vertical) weighs approximately a ton. The complete screen, 150ft wide by 70ft high, is about one quarter the weight of an equivalent Sony JumboTron. Plus, the whole thing is relatively low powered, running off a 200amp three-phase supply."

It's also an extremely shallow profile. As Bruce Ramus, who runs the light show, casually observed: "It's not a great leap of imagination to see these things strapped to the side of airships running huge video advertisements, as in the film *Blade Runner*." However, that statement needs to be qualified by the acknowledgement that currently the LEDs aren't bright enough to compete adequately with daylight.

While Leeds is perhaps at a sensitive stage regarding health and safety issues (see L+SI news, August and September), it's worth mentioning safety measures. This huge screen does after all fulfil that bigger, higher, wider ethic. The whole stage is run as a hard hat area, and all personnel - local hands included, not just touring crew - are issued with hats. Safe Working Limited, under the guise of Mark Armstrong who leads one of the two teams of tour riggers, has devised a safety system for all above-ground work. Every tower has a load arrestor on it for any climber to attach to, and all climbers are issued with a full body harness, complete with shock-absorbing lanyard. A full width catenary runs across the tops of the towers: "We have a full rescue kit, abseil set and block and tackle should we need to lower someone in," Armstrong explains. With even some of the followspot operators having to work from a platform 90 feet above stage, such reassuring measures are to their credit.

### SOUND

Most will already be familiar with the large orange semi-hemisphere of Clair Brothers S4s hanging centre stage from the huge yellow arch that dominates the set. It's a triumph of set design, inasmuch as Mark Fisher has produced a truly integrated image where the PA has finally been subsumed into the visualisation of the show. There are no painted scrimms here trying to conceal what we all know is a wall of speakers behind. The mere fact that the boxes are painted orange is a notable achievement. It wasn't that many years ago that Henry Ford's maxim of "any colour you want, so long as it's black", applied. And it must be said, the absence of those huge stereo edifices makes this a truly distinct and fresh presentation.

That such a contrivance imposes a single point source upon the sound engineer is another matter altogether. "Naturally, I'm

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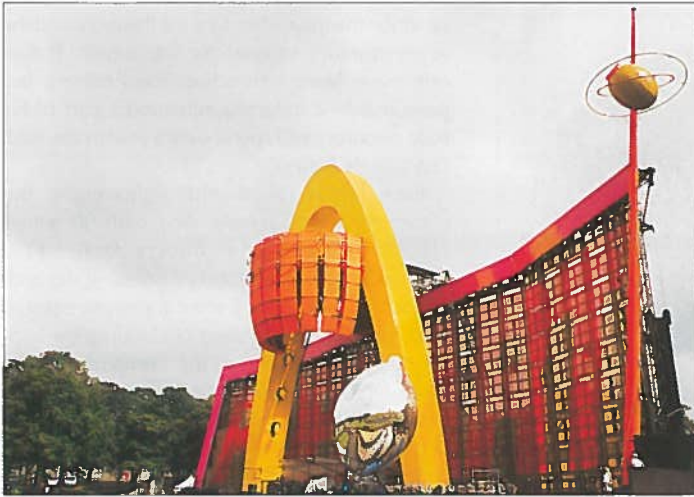
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Left, the stage being set up at Roundhay Park in Leeds - one of over 120 venues on the Popmart tour, and right close-up of the screen.

having to mix in mono," said the familiar bearded figure of front-of-house engineer Joe O'Herlihy. "The system design does throw up all sorts of problems from an audio point of view, but from the development stage, long before the tour started, the concept of a hanging central cluster was always there. On Zooropa we had 72 S4s a side, so coming down to just 60 in the middle created some reservations, even for the band. But we wanted to get away from that tunnel view of a stage forced by PA wings, to switch from a 180 degree presentation to something much wider and open, a real 270 degrees."

The way the system couples (and some predicted effects of the parabola), plus the added impact of venue configurations, specifically stadiums, has led to a substantial off-stage system bringing the regular cabinet count up to 109 S4s. There's a single hanging row of 11 cabinets at the two outer edges of the screen which are there primarily for the high bleachers to the sides, four delay towers with six cabinets each, plus a seventh on the stage side pointing acutely down as a near fill, and there's two subs on each tower, while the bulk of the subs - 43 of them - are arrayed conventionally across the front of stage. (There were also, on this occasion, three further, outer delays, clusters of Nexo Alpha, nine stacks per tower, provided by SSE). "What we get from the centre cluster is the width of coverage we wanted, but it doesn't carry," says O'Herlihy. The delay towers are thus arced around the FOH position barely 50 metres from stage. "The arced shape of the cluster tends to pull the sound down onto the centre stage, but this did show in the computer predictions modelled by Clair Brothers before the tour."

It's a weird anomaly, as system engineer Joe Ravich explained. "The parabola, off the back side of the cabinets, is producing beams of concentrated energy, around the 200-250 cycles mark, straight down onto centre stage where the band are playing. We relieved the problem by opening the tightness of the cluster slightly, the lowest cabinets no longer touch at their bottom corners, and we've EQ'd that range back by about -5dB. There's no real bass loss out in the house, but we had to put eight Pistons horizontally across the front of stage to fill the low end in for the front few rows."

Ravich also drew attention to two racks full of TOA crossovers, limiters and delays used for setting the system: "I like them because they

don't sound like a digital device," he noted and then added, with one of rock and roll's most distinctive laughs (if you've never heard it you are missing one of the most bizarre sounds in audio history), "not bad - considering they are digital!"

O'Herlihy characterised the sound as being "like the sixties - a simple, single image. And it does have advantages. From the environmental health point of view, this fragmented system can localise audio issues - something you can only do with a regular stadium system at the expense of the people at the boundaries of its throw. But it's not a loud show, we have peaks between 100-105dB with the general mix around 100dB."

There were, I recall, complaints in the National Press about the last tour along the lines of it not being loud enough, and Bono's vocals lacking clarity. That was not the case on this occasion - not within the area defined by the delay towers at least. Here, Bono's slightly raspy brogue was clearly discernible above The Edge's most strident efforts and one of the most solid rhythm sections in rock and roll. Beyond that invisible boundary I didn't stray - too much mud and humanity - but O'Herlihy claims the seats up on the hill are the best in the house, for sound and a good view of the screen. O'Herlihy mixes from a Midas XL4 of which there are two out-front, though being just a four-piece band, the lion's share of the work comes from one board. Effects include two H3000s, four SPX1000s and nine Summit dual compressor/limiters used for vox and bass. "The XL4 is great from the recall point of view. You end up with tailored moves which then leave you free to concentrate on the personal dynamics, compensating for Larry Mullen's drumming, or Bono's voice. On Zoo we had four desks, with Joe (Ravich) and I doing the sound. This is a lot simpler - things that need attention are an awful lot more apparent. Plus, you get there a lot quicker because it's much easier to manipulate - you're not having to shift a left/right image."

The running of the monitors is a two-man operation: Dave Skaff looks after Bono and The Edge, whilst Don Garber takes Larry and Adam Clayton. "The area the band has to play is huge," was Skaff's mild understatement. "So everything's on radio - Shure and Samson for the mics, in-ear for monitors - though we do have half a truck of wedges."

"But they're just for Adam," interjected

Garber. "He likes to walk in and out of pockets of sound." "They're also there for a bit of back-up," continued Skaff.

It's immediately obvious that the two men get on famously and there's no hint of rivalry between them. "The hardest thing we have to deal with is delay when Bono goes out on the B stage," said Skaff, referring to a small podium about 35 metres out to the left of the stage reached by a lobe of walkway. "Fortunately, Bono has an incredible voice, good range and dynamic. There's plenty of input which keeps gain low and thus there's not too much capture off the PA. His ear-moulds are not too transparent so he doesn't pick up much off the system himself, but then to compensate I do have nine ambience mics across the stage to give him some feeling for the audience. I use the old Shure 58 for his mic - they're consistent, real workhorses and at the price you can buy them by the caseload."

The two men work in a very tricky environment. A separate world under the stage surrounded by four Yamaha PM4000Ms, the only contact they have with the band is via TV monitors. "The camera men are really good - if Bono goes somewhere weird, the FOH camera will go to him just so we can see. Bono gives small signals, little nuances of the hand." Skaff has been with the band since 1985 so he knows the signals well. But how do the two men compensate for the broken psychological barrier of eye contact. No longer can the frazzled muso' look imploringly to his monitor man, digit raised, and be reassured by seeing a quick reach for the input gain (whether he really turns it or not is another matter). "It's a big trust thing," said Skaff, "and if a change is needed," said Garber, "then make it a big one. Let them hear you've changed it." Skaff continued: "The other factor is that under here there are no distractions. It's much better for concentration so we respond better and faster."

On the radio side, Dave Skaff is hailed as the radio guru by Garber, a fairly big system of five channels for mics, six for in-ears and another 10 for back line. "Without doubt the best tool I have is the Hewlett Packard spectrum analyser that Clair Brothers bought for the tour," Skaff adds. "This thing can sniff the air and tell you exactly what's going on in the RF range. If there's a radio repeater within range, even if it's not active, just giving out the pilot signal, this will detect it. We've had no nasty surprises on the tour."

## SET, LIGHTING AND VIDEO

It's just not possible to separate these three elements. In truth, the show can really only be viewed as a whole. Francis Rossi's old chestnut, "they don't come to hear the lights," doesn't hold good with this production. The dominant feature of the show is the screen and the images it conveys, almost to the exclusion of all else. It's as seductive as the tube at home - this is the first show I've seen where your eye doesn't have to constantly scan between what's happening with the band on stage, and the images on the big TV screens. When it's on, it's on, and that's what you're entertained by. Even the band become coincidental.

Willie Williams is nominally lighting designer for the tour. Unusually for an LD who's reached such heights, he's still on the road with this tour after five months. He's flippant about his continued presence. "The band insist. If they want to pay me to travel round the world, why not?"

And there is a certain credence here. He only contributes anything physically positive towards the show by operating the lights during the famous Lemon sequence. But his role encompasses a much, much wider brief. He has toured with the band since 1984 and as such has an established rapport with them. Listen to him talk about the evolutionary process of this particular touring concept and you realise that to say, 'he has the band's ear' would be an understatement. "I started meeting with the band in Dublin at the beginning of '96, just to see where they were (in terms of thinking about touring). They'd fly me over every month, we'd discuss ideas, nothing practical, just abstract. There was nothing given, just that it was time to produce another big show. What had ended in '93 with ZooTV left the question in many people's minds, 'what are they going to do to follow that?' Well, the band are just getting into their stride. There were loads of mad ideas flowing about, three particularly strong ones, one of which was the huge video screen."

It was at this stage Williams brought Mark Fisher on board. "Because I like working with him and he already knew a great deal about this new LED video screen. The argument about the dispersed pixelation of this system didn't bother us. The chase for high level video is a waste of time. It's like audio, most of the time people listen to music on cheap radios. The amount of headroom we had with the Jumbotrons on the last tour was massive. This screen is way bright enough and clear enough for the job."

And that's a crucial insight. There's no doubt that 78,000 people didn't pay to go and watch a high definition Jurassic Park standing in the middle of a rain soaked muddy field, but what they did get was a blasting of visual images on a huge scale.

Video is directed by Monica Casten, running a substantial six camera (the latest from Ikegami, able to configure for the highly unusual wide-screen video) and playback system from PSL Inc on the West Coast. The core equipment used with this includes the switching of the six Ikegami cameras through a fully-loaded Grass Valley 250, as well as multiple levels of Magic DaVE and Abacus DEvious DVE. PSL Inc have provided a team of



**The orange semi-hemisphere of Clair Brothers S4s.**

12, with tour engineer Dave Neugabauer and John Huntington the men entrusted with custom-designing PSL's control system.

Time did not allow for an interview with Casten, but one element that exemplifies just how different this presentation was came from Bruce Ramus. "We use a lot of real artwork on screen, old Warhol images for example, but living artists too. Catherine Owens is our curator of screen art, she's put together images from Roy Lichtenstein and Keith Haring. It was amazing how many people wanted to give their work to this project." It was also amazing to watch Casten work the screen, switching from kitsch, to band, to effect, seemingly joined at the navel to the sweeping imagery of U2's largely panoramic song scales. "As for the set, well that's really where Mark Fisher came into his own.

"The band hated the idea of piles of scaffolding, and Bono was mad for it to look architectural, which is what Mark wanted to do. He started from the point of a fifties style concept - that coffee shop motif. He'd bring along various drawings and sketched ideas, then the defining moment came when Bono said, 'It looks like a supermarket.'"

Everyone will, by now, be familiar with the golden arch, and its derivation, but Williams recalls Fisher's obsession with getting its proportions correct, and there's no doubting this achievement - surely the biggest visual gag in rock and roll history. And here some recognition must be given to Hedwig from Belgium for minimising the potential production costs by utilising the tower elements of his standard roofing system to



**Monitor World: Don Garber (left) and a worried looking Dave Skaff (right).**

produce the main structure for the arch, and the superstructure support for the screen. It may only have been a bunch of steel towers, but presumably it means a substantial part of his roof inventory will spend over a year in the yard, completely legless.

Each leg is faced with lightweight, but extremely strong panels. And with 80 panels cladding each leg, architects Atelier One needed a reliable method of dressing the arch at each venue. Triple E were therefore enlisted to come up with a system of cladding the legs, so design engineers at the company had to redesign or reconfigure everything from the brackets to the track itself. To create the required look, they mounted two sets of Unitrack on each face of the two legs. The panels are then fitted to custom-built carriers and simply slide onto the track.

The Olive and the famed mirrored Lemon came by more circuitous paths. "I was at LDI having a drink with Mike Tait," continued Williams. "We had pondered on the idea of a small planet with orbiting satellites for the top stage left corner of the screen, which Tait Towers were going to build. Then there it was, right before us, an olive on a stick!"

"The Lemon required a little more thought - it's an enduring theme with U2 because of the song, and we've always had a mirror-ball on the shows. But Bono wanted to take it somewhere. I don't think he's ever seen a Floyd show, but he wanted a big gag. Originally, the Lemon was to open in segments, but it wouldn't have revealed enough so it ended opening like a space-ship. It's the kind of detail Mark Fisher excels at."

If you've not seen it, the perfectly proportioned fruit, 35 or 40ft tall (no-one seemed quite sure which), expertly crafted by Charlie Kail and his team at Brilliant Stages, splits about the waist, raises, then pivots around behind leaving the band in a mirrored egg-cup.

Williams turned to long-time side man Bruce Ramus for lighting the show, and very generously ascribed much of what takes place lighting-wise to Ramus's efforts. "Bruce is totally focused on the show, making sure everything looks right."

Ramus himself is more modest, but when you talk with him you realise how involved in realising Williams' concept he was. "We programmed together in advance on WYSIWYG. This helped give us some early knowledge of how the High End Studio Colors would work from the Icon console (run on tour by Tom Thompson), plus we knew things would be difficult at rehearsals so anything we could do in advance was a bonus. We had all our focuses set beforehand."

The Studio Color was selected after a shoot out. "We liked its slightly blue source. It's very bright and the colours it produces because of that source, are almost electric. It's not perfect, a bit slow on pan and tilt, and has poor position retention, but at the moment it's the best lamp for this job." Just as well, there's 200 of them spread in blocks about the stage and set, and a fair sprinkling hanging off the delay towers. They are the main workhorse of the show, along with the small fleet of followspots, 10 Gladiators, three short-throw 2kW Super Troupers and eight Lycians (six within the arch).



Monica Casten, running a substantial six camera and playback system from PSL Inc works the screen, switching from kitsch, to band, to effect, seemingly joined at the navel to the sweeping imagery of U2's largely panoramic song scales.

The whole system is supplied by LSD, who also undertook to mount the two miles of rope light that adorns the set.

For major lighting effects there are some old familiars and some new toys. "There are 22 Brutes rigged across the back of the screen to shine through it, and Par 36 Nine Lites (I forget how many) across the set; these are historical lamps for U2 and they've been seen a lot. We also have what we call the 'Sports Lights', a row of 2.5kW HMI scoop lights, the kind of things you find lighting baseball fields all over the US."

Only used twice during the show, the lengthy warm-up time of the lamp is used to maximum effect at the opening - the slowly building blind-out into the audience a bold precursor to the band's dramatic entrance parading through the crowd. "We also have 18 7kW Xenon, seven across the back of stage that shine vertically up for Blue Sky, like something Albert Speer might have done. The rest are out in the crowd or around the Lemon, four of them have had periscope heads - like NATs - custom built for the tour, allowing full pan and tilt." Bruce Ramus operates the dowsers for these Xenons, the Brutes and Nine Lites, Sports, and the 60 Terrastros from another historical U2 feature - an Avolites QM500 - now engraved with the logo of its sixth tour.

"The way Willie works is to do it and then leave it alone. It's not busy, but the cues have to be on the mark." The effects when they come are strong, but even the more muted work can have powerful impact. "We use the Studio Colors to light the arch; we'll put a rapid colour chase up there, then Monica will video it and run it on screen, the slight time dislocation enhancing the visual effect. It's something I don't think you could do with a regular screen, it becomes a 150 by 70 feet full colour field strobe. There are hardly any songs without some image on screen, so I have to light the band accordingly. There are three basic parameters for the lights: bright for the punters so they can see the band on stage; large saturated looks for the cameras, and lighting the whole set to give it presence. For a couple of numbers I really saturate the band with deep reds and greens - they're so intense the camera can hardly focus, but what the screen puts out is still interesting in the same way that Run Wrake's animation of the Lichtensteins provides something truly new to show people each night."

I said at the beginning Williams was flippant about his presence. But he does have that wider role. Put simply: "I can walk around and look at the show from anywhere in the audience taking in the video, the lighting and the way the crowd respond to the songs, and I can go back and tell the band when something's not balanced. Taking your hands off the controls is really useful, but hard to do. Most of what we've ended up with I'm really proud of, there's just a short list of things I'm not happy about."

So it is that Williams' role can be likened to that of a conductor, rather than lighting director. In the same way that the pleasure of an audience may no longer require David Hersey at the controls for Les Miserables, but going to hear the Philharmonic without Andre Previn conducting would be to lose part of the concert. As Williams himself summed up: "This is a big, uncomplicated stage. But it's much more of a roller coaster ride we've put on it." And fortunately someone is keeping an eye on things.

Photos: Mark Fisher/Simon Camper/Steve Moles

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Cast in concert incorporating Chroma-Q. Courtesy of Paul Normandale, Lighting Designer, and Rob Hayward, Photographer.

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# ON TOUR

by STEVE MOLES  
AND PRODUCTION NEWS

## Wet Wet Wet

Sheffield Arena

LD: Nicholas/Cunniffe

SD: Jim Ebdon

Gone are the long flowing manes of hair, the velvet suits, and the coy poke at hippie-dom. Not a re-invention of a tired old band, just another step forward in the progress of one of Britain's more enduring pop groups. This is a cleaner, slicker version of the Wets. And slick is the right adjective. This was their first show out of rehearsals and barring a recalcitrant Dataflash that decided on personal freedom as a new form of lighting expression, one fluffed guitar solo and a couple of weak songs best left in the dressing-room, this was a faultless performance.

There's good reason for it: the band's assistant manager (and for most of their formative years, their production manager) Dougie Souness has maintained a familiar team for most of the past 10 years - not just the principals, but even down to crew members. They don't shirk on rehearsals either; a fortnight in the G-Mex, one week of which was purely for technical preparations. So it was that instead of turning up at 6.30pm and finding Mark Cunniffe and Martin Nicholas feverishly programming away while Jim Ebdon fretted over some imperfection in the system EQ, all was calm and serenity.

This tour is a milestone for the band: 10 years and nine tours later they still maintain the high position they achieved so early in their career. When they started, George Michael had not long broken from Wham - very much a band in the same mould with well-crafted pop melodies that appealed to a (let's not be coy) largely teen' female audience - and they now remain one of the few bands that have mined that seam with such longevity.

## SOUND

The show ran for two nights at the Sheffield Arena, the second a complete sell-out, the first down by maybe 3,000, and yet there were just 16 stacks of SSE's Nexo Alpha flown each side, plus a pair on the floor, along with six subs per side. It looked small and it was, but it was more than enough. This band does not require a loud show by any stretch of the imagination. Sound engineer Jim Ebdon asked me that very question after the encores: 'Was it loud Steve? Well, at the end, yes, it seemed to be, yet the average peaks from the analyser never registered over 95.5dB, and for most of the show it sounded very comfortable. It may be something in the system, possibly a tendency to run away with itself around the 1-3.15k range.

Listening to the same system on Thunder earlier in the year this was not apparent, but Thunder's



*"The colours are rich, the My Little Pony swatch selection, but thankfully the two lighting designers find the right pastels and flatter colours to take the sickliness out of it."*

mix is delivered at level, while Ebdon maintains a more gentle balance as suits the band, with just Marti Pellow's vocals receiving any substantial push. Perhaps, like so many of these smaller but powerful new systems, it likes to be driven.

That aside, coverage was even and delivery crisp around most of the hall. A little hot-spot down to the side of stage for those people mid-way up the bleachers was detected by Ebdon's sidekick Martin Hutt - "my ears in the house" - as Ebdon described him, but was quickly reined in on the amps by Steve Dando, system technician. And there was a slight harshness at the very back of the room on the upper concourse, but this was probably the building fabric and the fact that most of the seats there were empty. What was more impressive was that for this first show, with the lower ticket sales, the delay cluster was not used and yet the system sustained a consistent presence, if not exactly the same level, pretty well the length of the room.

Ebdon mixes from a Midas XL4: "The one with all the whistles and bells," he says, referring to the flying faders and VCAs. "I love it - this is the first time I've used the desk and being able to re-set everything at the end of each song with the push of a button - well, I'm totally into it." Having said

that, he then added a note of caution: "But it's about as far as I'd like to go with automation."

Other than that, Ebdon has his "normal stuff" out front in what must be the slickest effects rack in the business. SSE have built the racks into tilting frames that allow access to every toy in the box without the familiar sound man's stoop and squat. And the full height strip lights mounted into the steel chassis at the side are not only very sexy, but make every knob and all those tiny little buttons transparently obvious without blinding the operator. "One new item," volunteered Ebdon, "is the dual compressor from Amek which I'm using for the vocals. I previously used Tube Tech (now re-deployed to sax and bass), but Amek offered it to me and it sounds extremely good."

Just to complete the endorsement stakes, Ebdon is using all AKG and Audio Technica mics on stage: 5900s for vocals and, for guitars, the 4050, which seems to be fast-becoming a popular choice for that instrument.

## LIGHTING

Lighting design and the realisation of the show is very much a team effort from Martin Nicholas and Mark Cunniffe: Nicholas takes all the 'steam lighting' while Cunniffe whips the Icons into line. Conventional lighting is run off a new Avolites Diamond 3 console: "I don't know what to do," said a sardonic Nicholas, "I've got my own monitor now," but it didn't seem to stop him running a tight show. "I do like it," he said of the board, "I can reach everything."

The two men have had to make some compromises of scale with a rig that was originally designed for stadiums, but it's still a fairly sizeable chunk of kit that LSD have supplied. A full 60ft wide stage has a matching width (and 35ft deep)



certainly help, but it's those extra lamps on the spot platform that pull your eyes away. The camera team (three, all rostrum, in the pit) and PPU is supplied by Creative Technology and directed by Chris Hilson using a mixture of band promo videos, a little bit of effect abstraction and mainly live shots.

Use is also made of the two Blink TV screens that the house has permanently mounted to the sides of stage - an arrangement that will be made for every venue on the tour. For the cost involved in having eight tons of hi-tech screen up there, use is nicely understated: just eight songs out of a 22-song show, with black tabs or cyc to conceal it between times. One of the nicest screen touches came during the encores when a gauze was drawn across the screen and Cuniffe managed to draw a frame around it in mauve wash and still have enough Icons left to throw on a gobo pattern as well.

Talking of mauve, "This is a very sugary show," said Cuniffe, and he's spot on. The colours are rich, the My Little Pony swatch selection, but thankfully the two lighting designers find the right pastels and flatter colours to take the sickliness out of it. Between the

two of them, and the occasional addition of lasers (Nigel Pearson, Laser Innovations) this was a well balanced and visually rich show.

As the show approached its finale, the band chose to cover two old 1940's numbers from the swing era: *Beyond the Sea*, and *Maybe I'm In Love*. They re-create the big band sound with great verve - you can feel the pleasure coming from the three horn players and Marti Pellow can croon with the best of them. After 10 years they show no signs of letting up and who knows, in another 10 years, maybe we'll be talking about them with the same reverence musicians reserve for Benny Goodman.

grid above it that then cranks down off to the left and right of stage. The underside of the grid is filled with alternating black and white panels, a chequer motif taken from the new album and followed through down on the stage where the familiar wedding cake set from the '95 in-the-round tour has been re-dressed, courtesy of Blackout, to match. The rig also features a substantial flown spot platform, a good 20ft away from the front stage edge, to which has been added eight Icons and 60 Pars, as well as the four Lycians - something that with house-lights makes the whole system look enormous.

It's a scale that's needed too. One part of the bigger outdoor concept that's been retained is a Jumbotron (5 x 4 JT35S from ScreenCo) that dominates back-stage centre. It's worth noting with such a big system that tour rigger Phil Broad, despite having over 50 points a show, is able to get the system in and up quickly by using the same house riggers, supplied by RATS (Rigging And Technical Services) at every venue. The screen is such a strong centre of gravity, it needs something equally powerful around it and the further 60 Icons, 170 Pars, and 60 Raylights (all fitted with Chroma-Q colour changers) on the main grid

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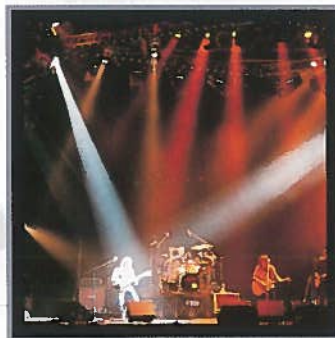
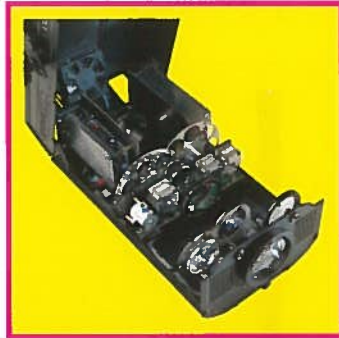
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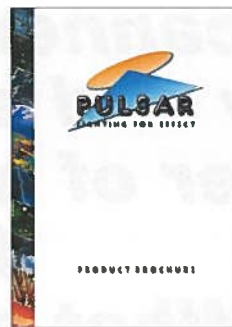
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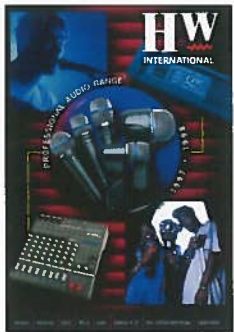
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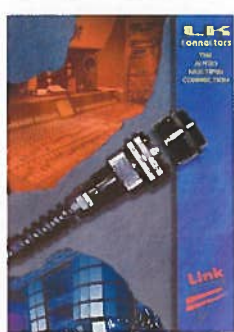
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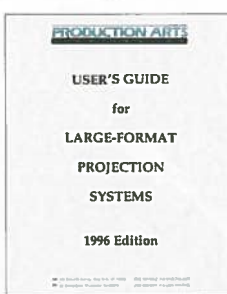
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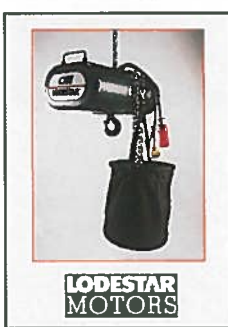
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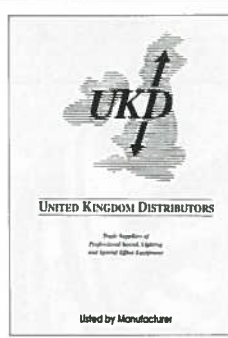
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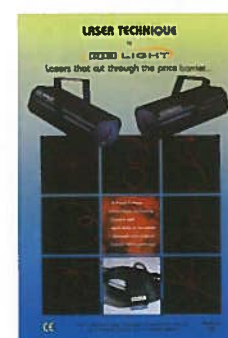
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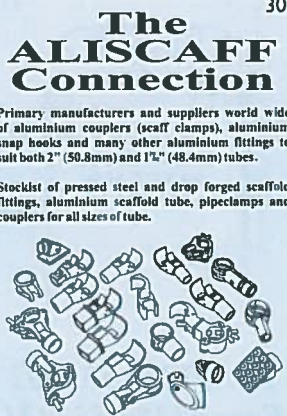
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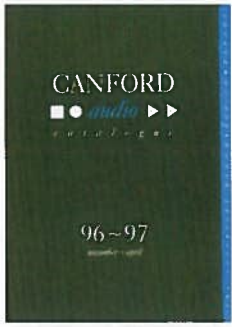
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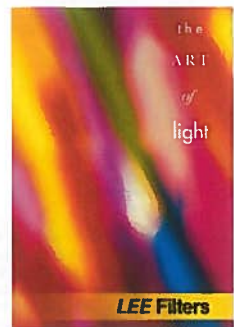
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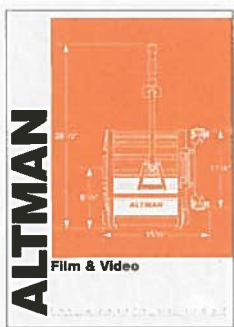


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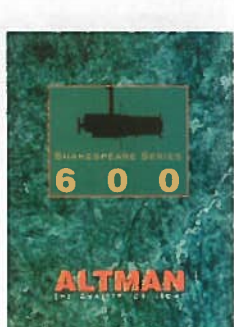
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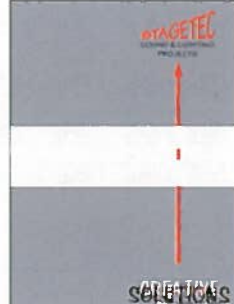


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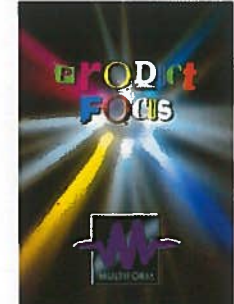


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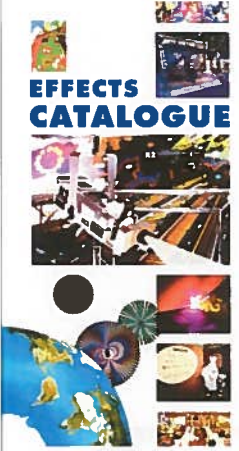
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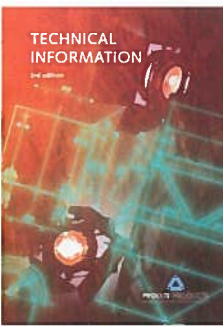
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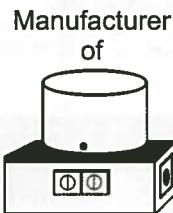
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# MOSCOW 850

Russia's capital celebrated its 850th anniversary last month with a spectacular show in Red Square. Steve Moles talks to those called in for the project

When Napoleon invaded Russia in 1812 and laid siege to Moscow, he failed to realise that the Muscovites are a tenacious and dogged people. He was also unaware that the inhabitants of Europe's eastern-most capital had enlisted the help of the patron saint of England, St. George. When Hitler repeated the mistake over a century later, he merely failed to read his French history, stupidly believing that the Germans are somehow superior to the French. Now on the 850th anniversary of the founding of the city, the Russians have suffered another invasion, this time from Britain, and the truth is St. George has a lot to do with it.

Whatever Mayor Yuri Luzhkov's motives for celebrating this questionable significant anniversary, the event did have some credence. The re-building of Moscow's Cathedral of Christ the Saviour, destroyed by Stalin during one of his bad hair days, is symbolic of how Russia is striving to re-establish its sense of pride since the collapse of Communism.

The church is symbolic for other reasons - the founding of the city is bound up with strong religious connections - but let's begin at the beginning and explain what the Brits are doing there. Mayor Luzhkov, having conceived the idea (apparently he fancies Yeltsin's job and this whole exercise is to get his face on the international scene), approached Russia's leading movie director Andrei Konchalovsky to provide the vehicle. (If, like me, you don't recognise the name - Konchalovsky went to Hollywood and blessed the world with such cultural jewels as *Tango and Cash*). It would appear that the Russian penchant for side-stepping - sorry, devolving - responsibility has not been lost and Mr Konchalovsky directly approached Tribute Productions in the UK to pick-up the baton and turn a seed of an idea - a loosely based historical allegory - into the kind of presentation to which the wider television world has become accustomed.

Tony Hollingsworth and the Tribute organisation were already deeply immersed in another project that was to take place just ahead of the scheduled Moscow anniversary, the Songs and Visions concert at Wembley, but he briefed the team he'd assembled for that show and outlined what might be needed. "Quite frankly, we all rather hoped it would go away," was the heartfelt statement of Robbie Williams of RWP Ltd who production managed both events. "But schedules are never perfect and we all knew we could do it if came about."

So it was that the familiar army of Mark Fisher (set design), Steve Nolan of Chromatic (lighting), Brian Grant of Britannia Row Productions (sound) and Mick Healey of CPL (lighting), were assembled. Mark Fisher's involvement on this occasion was much more than set design: "The budgets were tight to say the least," he said. So he handled it as more a case of reconciling the dreams of concept with the practicalities of production and time. Was it ever thus?



Fisher explains the narrative thread of the event. "The storyline relates how the inhabitants of Russia consolidated themselves into Moscow. It took place during the central unifying era of Russia, when a collection of mini states came together against outside invaders like the Mongols. The inhabitants took the symbol of St. George and the Dragon for the city, and this mythical confrontation was taken as a metaphor for the reconstruction of the Cathedral today. For the staged event, the dragon is the invader symbol, an orchestra and choir sustain the dramatic tension while dancers and many extras representing the people of Moscow perform a series of short cameos to illustrate the story. A narrator carries us through how St. George encourages the populace to build a giant bell, the sound of which will repel the dragon."

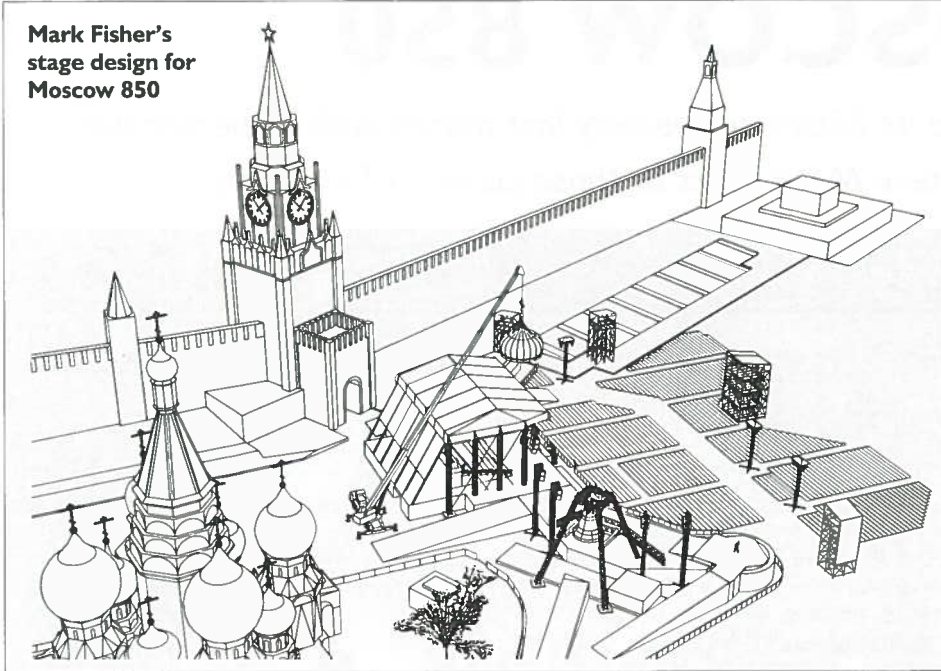
The story is played out on a huge stage in Red Square, 95m across and supplied by Stageco (Hedwig) of Belgium who also installed a 25m x 20m roof over the central performance area. The stage is flanked to the right by St Basil's, with its famous onion-topped minarets and to the left by Spasky Gate and the imposing walls of the Kremlin.

To give some sense of scale, Williams and his production team of Tara Goldsmid and Charlie Boxhall marshalled out 21 artics from the UK, plus a fully-loaded Antonov with the contents of a further four artics, Boxhall spending one very fraught day on the tarmac waiting to load the Antonov, which was temporarily commandeered by the British Government to fly supplies to Montserrat.

In such a setting, there was a great deal for LD Steve Nolan to light. "Basically, the whole stage and audience area is an acting space - for example, at one point 40 mounted Cavalry charge through the crowd. With the whole thing being televised and recorded by Tribute, I also had to give a lot of attention to the surrounding buildings that provide such a historic setting. I originally decided to light the upper parts of the buildings with CinePars whilst using big blocks of Par 64s for the lower sections. I wanted that contrast between Tungsten and HMI - the lower parts are largely a deep red brick and this would be exaggerated by the warmth of the Pars. In the end, however, I used Molefays low down (keeping the Pars for the audience) and the CinePars worked perfectly above, reaching up to some pretty tall architecture."

Getting the lamps in place for this work was another matter altogether: Russian bureaucracy is alive and well it would seem. "Every day Robbie (Williams) and I would troop along to meetings to get permission to place the lamps. They'd ask what lamp types, what wattage, exactly where each one would be placed, and finally, for it all to be confirmed in writing. They'd then say all was agreed - as long as their boss said it was OK. We went every day for a week, each day a different man, but the same routine - like pulling hen's teeth. We were running out of time, so one morning I turned to

**Mark Fisher's  
stage design for  
Moscow 850**



Scotty Duig and Steve Clements from CPL and said let's put them out and see what happens. As soon as we started putting equipment out, guards came running over, whistles were blown, rifles pointed - a bit scary, but quite exciting. Then we waited while the request for confirmation of permission went slowly up the command chain until it reached someone important enough to say yes. You reach a point where you have to push to make things happen. It was an important lesson."

Lighting-wise Nolan had a pretty big system from CPL: over 600 Pars, 1,000 cells of Altman Battens, 60 Molefays, two 75kW Lightning Strikes, and 165 Vari\*Lites of various persuasions. The show was run by Nolan from an Avolites Diamond II (plus a Pearl on the side for colour changers) while Mark 'Pope' Paine ran the Artisan. "We were lucky with the programming. We had four full nights on site and it was just as well, as we couldn't do anything in advance. Each night we'd be presented with something new. 'Oh, by the

way, 300 men march across stage at this point.' We'd programme in links between scenes each night, and then the next night have to change them because something had been inserted."

Nolan was fulsome in his praise for crew and CPL alike: "They did a terrific job in the circumstances. We only lost one 4kW circuit the whole time we were on site. The gear was really well prepared and the guys worked each night in sub-zero temperatures." And mention should also be made of Stage Miracles, who supplied a team of 17 of their finest, and Scena, Starhire and Blackout, who between them provided much of the extensive stage dressing, not least the enormous Bell, the huge Dome (a copy of the new one on the Cathedral) hung over the stage by crane for the finale, and the stunning dragon's head mask.

For the PA system, Britannia Row provided an extensive Turbosound Flashlight/Floodlight system with two Midas XL4s and a Yamaha PM4000 for front-of-house run by Simon Honeywell and Steve Luttlely, while John

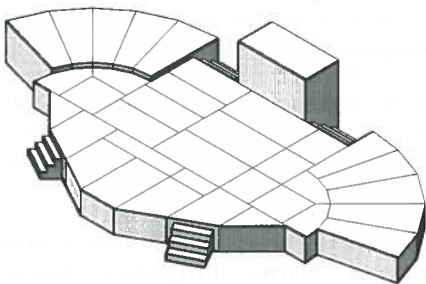
Sherman provided a very general monitor mix for the massed orchestras and choirs from a solitary PM4000M. "We didn't really know what we were getting into," explained Brit Row director Brian Grant, "so we went prepared for anything. It was all a bit weird. On the day of the show, for example, a large hoarding made of solid plywood appeared on the business side of one of the delay towers. We got that sorted easily enough, but when I ventured down to the VIP enclosure at the start of the show to check the separate PA system was working OK, I was confronted by a number of large gentlemen in leather jackets with mysterious bulges. So I decided if it wasn't working, it wasn't worth getting shot to find out."

A moment of déjà-vu occurred for Williams and Grant, both stalwarts of Brit Row in the old Pink Floyd days, when the Dragon bursts through a huge wall of polystyrene bricks upon the unsuspecting citizens of Moscow. "Yes," said Grant, "I kept expecting the PA to go off."

Like Nolan's crew, the sound guys deserve some praise. Crew chief Pete Brotzman went ahead in a recce party and reported the weather in Moscow to be wonderful (something confirmed by Nolan who suffered quite severe sunburn). The day they flew out with their Factor 4 and bags full of Hawaiian shirts, winter arrived, temperatures dropped from the suntan eighties to zero and below. Apparently this is normal. You have been warned.

Sadly, apart from the crew, just 6,000 specially invited guests witnessed this lavish extravaganza. Luzhkov's VIP compound was peopled with 50 Mayors from around the world, as well as his cronies. A pretty expensive indulgence for any city's coffers - \$20m US according to some newspapers, but there were free concerts - a monster by Jean Michel Jarre at the Moscow University - and a day's holiday for everyone. After a respectful delay, the TV version will appear and we'll all get to see what we've missed. Not so poignant as a live broadcast, but then perhaps even more so, as it will serve to remind us what the rest of the world was watching on TV that weekend - the 6th September, 1997.

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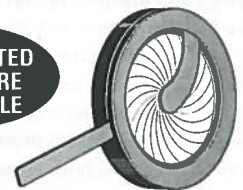
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# No Comment . . .

Tony Gottelier

No Comment this month is essentially my Show diary. So let's start with the excitement. On the Sunday afternoon all the assembled journalists and hacks were summoned to a press conference by Martin Professional. Our ears pricked up when Peter Johansen revealed that his company had been getting some bad press in Denmark recently and that translations of the offending article were being distributed in the hall. Having explained that the police had been called to remove the two individuals, Johansen went on to accuse High End Systems of having planted the story. Well, if we were alert before, by now we were positively electrified. How could he possibly make such an accusation in public? And could he justify it? I asked three times whether he had any real evidence, but on each occasion, unlike his Biblical namesake, he affirmed it. So what was all the fuss about?

The source was an article which appeared on August 22nd in *Børsens Nyhedsmagasin*, a respected weekly financial news magazine. Under the title 'The Hidden Risk at Martin', the two authors point out that the Martin Group's annual accounts, as presented to the Copenhagen Stock Exchange, incorporate some creative financial reporting when it comes to dealing with the leasing arrangements which the company has made with various rental companies.

In essence, the company gets paid in advance by pre-selling the leases themselves at a profit to various financial houses, and although it continues to carry the risk should the leases eventually backfire, this has the effect of changing their value from debt into current income. Thus, these amounts are removed from the balance sheet and covered only by a note referring to them as a contingent liability. As nearly £10m is involved in these leases, this has a significant effect on the apparent liquidity of the company. It must be emphasised that none of this is in any way illegal, but then neither is it transparent. In fact, if the leases pay off we will all say that it was a marketing coup, but if it goes wrong it could be labelled a scam. In a report hurried out following the criticisms in the article, Martin's UK financial advisors, Flemings Research, stated: "Although it is true that off balance sheet leasing did clearly enhance the 1996/97 financials at Martin, it also made good commercial and economic sense to use that form of financing. We do not see anything unduly alarming in the use of leasing or in the inventory build-up."

This latter comment refers to the fact that, in acquiring various of its distributors in the past year, Martin has effectively swapped debt for inventory. Nevertheless, it is hard to understand why Johansen was so upset about this article, or why it was necessary to blame a competitor for having originated it. After all, he will not be the first businessman to have found the heat in the stock market



Martin Professional's press-call at PLASA.

kitchen too much to take, and there seems nothing in the text which could be construed as libelous, and if there was, he would certainly be suing the people concerned. I talked directly to one of the two journalists who had penned the original article, and in answer to a direct question, he stated categorically that the allegation that High End Systems were the source of the story was "totally false". This accusation, made on the hoof by Johansen, always did seem a bit far fetched to me. As was also pointed out in the article, there are more than enough disaffected Martin ex-employees around in Denmark who could be approached as sources of gossip.

So why was Peter Johansen so upset and why did he choose to wash his linen in front of a load of journalists? Maybe it was an instant reaction to the distribution of the article at the Show, but I will leave you to make your own judgement on that one, rather than speculate myself. On the other hand, what Johansen didn't tell us was that he had sold nearly half of his holding in the Group, representing 23% of the total equity, just before the last AGM when the shares were riding high. According to *Børsens Nyhedsmagasin*, Johansen collected Dkr 183 million, or approx. £18.3 million. Not bad apples. Such a move does not inspire confidence with stock market investors when the boss cashes in his chips, though he still retains a 27% holding. This possibly had more to do with the share price fluctuation than anything else. In any event, subsequent to this, Johansen stepped down from the board of directors "to concentrate on the day-to-day running of the business." This also seems rather an odd thing to have done, so maybe there's more to it than meets the eye.

In the wake of all this, there have been a number of follow-up articles in various periodicals in Denmark culminating in a further piece in *Børsens Nyhedsmagasin* on September 5th entitled 'Martin Group doctored its net capital', in which the same journalists take the company to task for the way they presented the acquisitions of both JEM and Tracoman in a financial sense to the stock exchange. I suppose, when you make as much noise as Johansen and his company do, and are as aggressively competitive as they are, you are bound to make enemies. If

these enemies see that you have gained some advantage from access to capital, unique in our industry, through a public share offering, you must expect to come under the microscope. It behoves someone in this position not to sail too close to the wind in financial waters. But then Johansen's first love has always been about taking risks in boats.

On day two, there was another controversy before the Show had even opened. This, from the unlikely venue of the so-called 'DMX Breakfast'. Rather a dry subject you may think, as a breakfast topic. And you'd be right, if it wasn't for the fact that it's so damned important for us day-to-day guys who put bits of equipment together in the field. We already have to struggle with non-standard three-pin DMX of which many are guilty, as well as Martin DMX, where two of the three pins are reversed and, following PMX, we now have Pulsar's Paul Mardon announcing that he intends to run +25v DC up pin 5, normally reserved by the standard as a secondary link for talkback. If this were just a Pulsar issue it probably wouldn't matter, but since they OEM for Clay Paky, the implications are more widespread.

I have always believed that the engineers are not the right people to be taking decisions of this kind. Fortunately, Steve Terry of Production Arts was there, our one-man protocols watchdog who is, like the rest of us, a user of equipment and a systems integrator. I am told that Steve Terry was incandescent at this revelation so, as soon he got back to the States, he let go with a torrent of letters in defence of the standard. One arrived at L+SI (see page 31, where all three parties have been given a forum in which to express their views), one was posted on the Internet, and a third, sent to ESTA, is now on their Web page. Clearly, the Web is a late 20th century version of the stocks.

Later, I had cause to ponder on human vanity and the business of giving awards. One of the advantages of being a dinosaur in this business is that you sometimes get to places even when undeserving. In this case backstage at the Hippodrome on DI Awards night - not, I hasten to add, because my hidden talents were about to be recognised by my peers. What I witnessed, in fact, was the sheer pleasure which these awards give to those who receive them, and that can't be a bad thing for the sponsors. Naturally, I was very chuffed that George Hendry and Mick Parker carried off a top award for the Limelight, and that Brendan McLaughlin took one for Northern Leisure. My mate Dave Brindle says he'd like one for Camden Palace next year, so if any of the powers that be are reading this piece, please note.

# PLASA LIVE

*L+SI's editorial team was out in force at Earls Court this year to bring you the full story of PLASA '97. Tony Gottelier starts the ball rolling, with contributions from Steve Moles, Robert Halliday and Simon Forrest . . .*

Fresh from the news that the organisers of SIB had thrown in the annual towel and gone biennial, the 1997 PLASA Show certainly had something to prove. Of course, the pressure was on for the London show to follow suit and that was yet another challenge that the committee has wrestled with during recent months, though it would seem the matter has been put to rest by the survey conducted by the Association (see page 6). Furthermore, there was also the change of guard at the top of the organisation immediately prior to the event, and whether this would have any significant impact on the smooth running of the exhibition. It was also a time when the nation was in mourning, in an unprecedented show of common emotion following the death of Princess Diana, and traffic levels in London were consequently at an all-time high.

If all these portents looked to conspire against a good and successful show, they singularly failed to do so. Visitor figures were up, if only marginally, and exhibitor volumes were significantly higher, which tends to show the lie to those who would seek to justify a gloomy future for an annual event. It also seemed to be the case that satisfaction levels were up all round, with both the visitors' impression of the quality of the exhibits and the efficiency of the organisation, and the exhibitors, who were certainly delighted with quality of the individuals visiting their stands.

It is also interesting to look at the items which were selected by a panel of our peers, for awards of excellence, who seemed to go out of their way this year to show that our industry doesn't only depend on high tech products. Thus, two of the top prizes went to Doughty for their excellent new Overlocker clamp, and to Le Mark for their self-adhesive Blacktak, an anti-lightspill black-wrap product. The only dark clouds around Earls Court, were the very public row which blew up between two of the major exhibitors over claims and counterclaims regarding a press article about the financial stability of one of the two (more about that in *No Comment* - page 53) and the smell of rotten eggs emanating from the DMX breakfast, after one leading manufacturer and OEM designer of control equipment announced that he intended to stuff 24 volts up the two spare DMX lines of five pin XLRs (see Letters - page 31).

This was the year of the moving yoke, or the 'moving joke' as the representative of one Italian company mis-spelled it. Of course, there is a kind of joke here, or at least a brain teaser, which is how come the entire industry, almost as one, has decided that driven heads are *de rigueur*? After all, Vari-Lite have been doing very nicely, thank you, with it for years, so why now? A bottle of Asti Spumanti to the reader who can come up with the most plausible explanation.

The other indication that the future may be upon us, were the first signs, albeit in vapourware, of the much forecast (not least by



## PLASA AWARD WINNERS

### PRODUCT AWARDS:

- Doughty - Overlocker Clamp**
- Le Mark - Blacktak**
- Stage Technologies - Nomad**
- Trantec - S3500 Radio Microphone**
- Unitek - Megascreeen**

### PRODUCT COMMENDATIONS

- Autograph Sales - Meyer Soundbeam**
- Soundcraft - Spirit LX7**
- Pulsar Light - Clay Paky Stagescan**

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### STAND COMMENDATIONS

- Celco**
- Next Two**
- CCT Lighting**
- Martin Professional**
- JVC Theme Bar**

me) LCD-based moving mirror luminaire, though from the most odd quarter. Where you might have thought that such an item would first emerge from one of the big names, it was a surprise to see the first experimental versions being shown by two relative small fry, Lampo (more details promised in due course) and

Lamba. Whether they are able to sustain the level of development which such a venture demands remains to be seen: nevertheless, the day of the waggly video and the virtual gobo is certainly here and (almost) now.

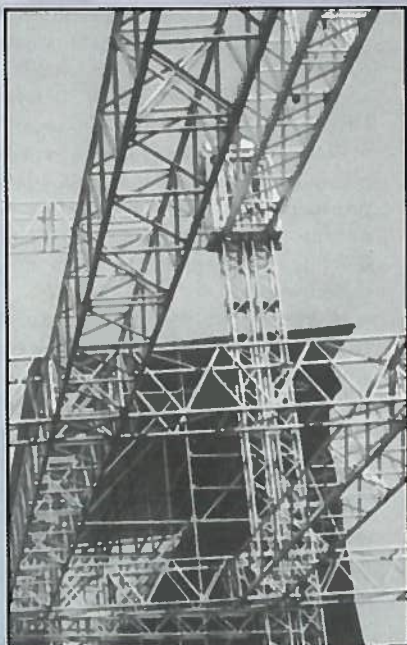
Onwards to zoom into stand-by-stand focus. **Clay Paky** were keeping their powder dry this year with four new driven yoke luminaires to be launched at LDI in October which will, no doubt, be eagerly awaited by the legions of CP fans. Meanwhile, their Stagescan goes from strength to strength and Paky proudly lifted both a PLASA commendation and a DI Award for this excellent product.

**Coe-Tech** were blowing hot about the cool Lumenyte fibre optic product which they sell in the UK, while **Coemar's** new TAS moving yoke models also graced their stand. There are two: a 300mm diameter Fresnel TAS CF6 using the MSR 575W lamp which offers full CMY colour mixing plus dimmer, blackout and strobe, as well as an extra wheel for additional colours, UV or colour correction filters. You can add a frost. The heat management is achieved by clever use of a parabolic cold reflector with a dichroic quartz face, and Coemar claim that the light output is several percentage points up on comparable luminaires already on the market. The Kompact Power TAS KP 12 is a high power profile spot, housing a 1200W MSR with cold reflector, mounted on a driven yoke. It combines a choice of nine colours with four rotating and counter-rotating gobos, plus four fixed gobos, dimmer, blackout and strobe. It was not clear whether these units are yet production models or not, but the maker is claiming very competitive prices.

While trying unsuccessfully to stay cool in the face of controversy, **High End Systems** brought no less than five new products from across the pond, spearheaded by three versions of the new Technobeam, which sits neatly between the Trackspot and the Cyberlight as a

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**L-R: PLASA chairman Paul Adams presents product excellence awards to Julian Chiverton of Doughty for the Overlocker Clamp, Mark Ager of Stage Technologies for the Nomad!, Stuart Gibbons of Le Mark for Blacktac and Mick Varrell of Unitek Displays for the Megascreeen.**

major contender in the middle ground of the market for moving mirrors. Technobeam looked like a winner from the specs leaked in advance of the Show, and one look at its sleek styling and performance characteristics confirmed that forecast. With front and rear sections, made from moulded thermoplastic and High End's famous unbreakable mirror, Technobeam looks the business. This is a millennium device made from space-age materials, showing that companies which have reached the critical mass, such as the boys from Austin, are able to demonstrate a commitment to state-of-the-art techniques and begin to shake off the metal-bashing cottage industry tag of the past - doing it better, rather than simply doing it to a price.

Technobeam isn't just a pretty face, however, it sports the long life MSD250-2, 6,500°K lamp and a computer optimised reflector design, described as elliptical/spherical, whatever that means, which apparently delivers unprecedented brightness from the lamp and a flatter field. Technobeam comes with an 11° to 17° lens set, narrower angles are optional. It offers remote focus, 12 saturated dichroic colours plus warm colour correction filter, seven high resolution lithographic rotating gobos, as well as a slot to drop in a static gobo layer. There is also a five-position rotating effects wheel for frost, prism and Art Glass, or whatever you want. All colours, patterns and effects are replaceable and Technobeam has optical dimming and a strobing facility.

Once you have acquired Technobeam you pretty much have Technoray, a headless Technobeam for forward projection purposes, and Technopro, also headless, but with the gobo wheel replaced with a second colour modifying wheel, making it a very useful colour changing source. I assume that rental

companies will do just that, and put together combinations as required. Studio Spot is the profile version of Studio Colour. Using the MSD575-2 lamp and the same driven yoke, Studio Spot offers either 13° or 18° lenses, 10 rotating gobos or other effects, 35 colours, with splits and spins and mixes, variable frost iris, remote focus and a high speed shutter for instant blackout and strobe. For outdoor architectural use, High End have produced EC-I and ES-1, basically waterproof versions of Studio Color and Studio Spot mounted on a variable angle, but non dynamic, yoke. Meanwhile, in a move to rationalise their growing product range, some other HES originals have faded to black, namely ColorPro, Emulator and Viper.

I was already an admirer of the mural work of Claire Shread and her husband and team from **Inardec Art Decor**, from their extraordinary ceiling at the Majestyk in Leeds. It is always good to see that artists can find a commercial outlet for their work, even if sometimes it may seem to them to be a compromise. The UK nightclub scene could do with more creatives on this level to bring us closer to the excitement of the Italian model and return discotheque to the people, where it belongs.

LED screens were shown by Real Color Displays at PLASA last year (who chose not to exhibit this year), and following the huge success of the massive LED screen backdrop as seen on the current U2 tour, it was inevitable that we would see something grander at PLASA this year. Though neither, as far as I am aware, was the same system as used by Willy Williams, two companies, Invision and Unitek Displays, were showing high brightness LED screens which can be built up in blocks and are generally priced by the square metre. **Invision's**

Sigmavision DCM15 is designed for screen sizes of 27sq.m upwards, for which they claim exceptional high brightness and high resolution due to their Dynamic Colour Matrix, as opposed to that achieved with standard LED clusters, and wider viewing angles due to secondary optics. However, it was **Unitek Displays** who took the PLASA award for their Megascreeen, which was launched at the Show, possibly due to the fact that they had artfully provided two screens in full public view, one outside the hall and the other hung off the balcony - guaranteed to catch the judges' collective eye.

In similar genre, the rental company **Proquip Displays** were not only showing their well-known flying cube system, as seen at numerous concerts in recent years, but also Synelec Lite Master 800 video-cubes. Using projection engines, which make use of the new DLP digital mirror technology, these video-cubes are lighter and smaller than previous models, while having the capability to display both video and computer-generated graphics. As if to prove that projected video is still alive and well and living in Japan, **JVC Professional** showed the staggering performance of their large screen ILA Superprojectors, including the 440SC and 470SC models which generate cinema-sized images to a standard to rival 35mm film, and a staggering 4,200 and 6,800 ANSI lumens respectively. But if that's impressive, how about the new 12K, which generates 12,000 ANSI lumens with a contrast ratio of 1000:1 and a bandwidth of 150mHz - good enough for outdoor applications!

There were two new PC-based lighting control software packages at the Show. The first, from the oddly named **Kunst Macchina** of Canada, early versions of which have



**Left: Trantec's Chris Gilbert picks up a product award for the S3500 radio mic, while stand awards go to Proquip (Best Overall Stand), Unusual Rigging (Most Imaginative) and Navigator Systems (Best Small Stand) collected by Phil Dale, Simon Garrett and Richard Cresswell respectively.**





A new scanner from Abstract - the distinctive design of the VR series.

previously been seen at LDI, is an integrated design and control system with derivative off-line, play-back and network configurations. Based on their Behaviours Technology environment running under Windows NT, the system has been conceived to allow aided lighting design and control, including automated luminaires, in live, network and off-line modes, using XYZ programming, graphic editors and simulations. It holds out the promise to be the possible next step beyond WYSIWYG. What is it about the air in Canada?

The other, from newcomer **Virtuosity**, allows the operator to work intuitively with the lights by name or grouping, rather than by DMX addresses. It also overcomes the step-by-step logic of scene-based systems, giving the designer the ability to create fluid movements. Called AV1, the software will run from a notebook PC with the Artistic Licence 512 channel board, or other control surfaces, as the interface.

**Comm-Tech International Network** were showing their range of high-end imported products, including the much admired Alcorn McBride control systems, which range from simple DMX controllers, through show control, to very sophisticated digital video storage and control units. Comm-Tech also specialise in Kodak AV products and BEC fibre optic distribution systems so that the company is a valuable source for system integrators.

While **Laser Creations** were in evidence in their peacock livery looking for the big multi-media projects, **Laser Innovations** were demonstrating their four standard laser control systems, as well as their rotating output heads the PanScan and NatScan, the latter based on Coemar's TM head, which give the possibility of 360° displays in the centre of a room. Dave Hickford told L+SI that Laser Innovations are making moves to strengthen their position in the market for large sale hire projects.

**Laserpoint**, whose name becomes less and less relevant as they embrace the wider aspects of the AV business, were busy promoting their brand new Composer image controller.



David Juby of Owl Video Systems (right) with Samia K. Tossio of Indigo Produzione.



Stagetec's Andy Stone, Yehuda Shukrun and Ofer Brun of Compulite, and Phil Hanley of the Stahl Theatre with a Compulite Micron 4D lighting desk.

Because it is software-based, Composer has the potential to become the new generic videowall programmer with bags of exciting features which the company promises to constantly add to as the product develops, so that it should be virtually future-proof. It was also interesting to see how all the makers of video cubes, and the CRT engines therein, are succeeding in reducing the depth of the display by the adoption of folding projection techniques. Laserpoint showed us examples from Toshiba and Philips.

**Electrosonic** joined forces with **Celco** to create what seemed to be one of the busiest stands of the show. The 'sports bar' never appeared to be less than packed, although in some cases this seemed to be because people thought it was, well, a bar. Here, Electrosonic were launching their Framewall, an aluminium-based modular projection videowall, compatible with all major projection cube systems. Also new, the Imagestar 31K videowall processor, which incorporates nine high performance processors to drive the scan devices at 31kHz, giving flicker-free results.

**Owl Video**, on the other hand, were presenting the Italian alternative from Seleo Italtel Multimedia, whose SRP41 cubes measure only 110cms from front to back for a 41" diagonal screen. Seleo say that by using the new liquid-cooled CRT projector, this cube is 40% brighter than previous models, has improved image quality and resolution while allowing transmission of VGA computer graphics with a horizontal scan frequency of 32kHz. For displaying standard video sources the optional Up-Converter can enhance the vertical frequency to 100Hz. Not content with that, Dave Juby, Owl's ebullient owner, has taken four 52" rear-projection engines, from the same Seleo family and sharing the same characteristics as its smaller brother, and shoe-horned them into a single, angled screen, giant 104" display, to create the Compact 452 - a portable videowall which is only 86.4cms deep. Larger configurations are also available. Always on the lookout for large screen monitors



Michael Hellier of Smoke Effects with Debbie Clayton of Nu-Light Systems.



Juerg (left) and Karin Tschanner of Light & Sound Equipment with Rod Bartholomeusz of Lightstorm Trading.

for various AV applications, I was pleased to see that Juby has discovered the Pentranic range, which offers both 33" and 38" models with near flat screens and slim frames.

Owl also showed the prototype of Seleo's forthcoming DLP-based video projector, the SDV 1300, which delivers 1300 ANSI lumens from a compact projector using a 500W Xenon light source, thanks to Texas Instrument's extraordinary new optical microprocessors now coming on-stream. On a similar bandwagon, **Terminal Display Systems**, were busy launching their TDS Tandem, using two Zenith projection engines to create a low cost, portable videowall of high brightness for which they claim a depth of only 80cms, with which I cannot argue as I wasn't carrying my trusty tape measure. The idea is, that by putting two of these together, you have their equivalent of Juby's Compact 452. You pay your money and you take your choice. TDS also offer the Zenith range of big-screen, projection TVs with sizes from 46 to 60 inches, with three other models in between.

It was good to see the smiling face of Ivano Burato on the **Lightmasters** stand, now that he has walked across the road in the disco lighting enclave of Castel Goffredo and found an empty chair at **FAL**. Lightmasters are FAL's UK distributors and they have also taken on the German **GLP** range of turret-head, revolving effect lights, as well as the Italian speaker manufacturers **Outline**. FAL's big story was the launch of the 2.5kW version of their Proscan X, which Lightmasters' James Foster claims is FAL's biggest selling scanner in the UK. It offers nine colours, five interchangeable rotating gobos, seven fixed gobos, three rotating prisms, colour temperature correction and frost filters, iris, dimmer, shutter and strobe. Paul Dodd, who has a hand in the design of these units, together with head of development, Omar Zoppini, was on hand to give us the low-down on other new products such as the Spectra analogue and PF 3006 DMX colour changers and the two Promo models of scanners for point-of-sale purposes and



ADB's Raph Janssens, Mike Musso with ADB UK's Brenda Dunsire.



Tom Weber (left) and Clive Carley of AVAB transtechnik.

in-store advertising purposes. With more scenic intent, the HMI 1200W Starlight followspot, with in-built dichroic colour-change, iris and dimmer, looks a serious piece of kit. All that said, there is no doubt that the items which attracted the greatest attention on Lightmasters stand were GLP's high speed revolving effects which defy description, but are certain to be seen soon at a disco near you.

**Light Processor** used PLASA as a launch pad for a number of new products to extend their range of control and dimming equipment. L+SI was privileged to get an early view of the pre-production model of the new Q-Pack dimmer. It is designed to meet all the appropriate standards and at a very reasonable selling price, but otherwise this product is still under wraps until later in the year. Q-Commander, LP's 256-channel controller, heavy on the robotic control element, now has a built-in Q-Extender providing 16 faders and flash buttons which can be assigned to any function and can act as submasters. Q-Merge is a rack-mounting unit which multiplexes 24 channels of analogue data and combines them with up to two incoming DMX lines before squirting the whole lot out through a single DMX output. In this way, hybrid inputs from different desks can easily be brought together to operate under the HTP rule.

**Discotech Pro Light** of Poland had obviously had a good Show since they had completely run out of brochures by the time we reached their stand. Suffice to say that the company, based in Warsaw, makes some 30 different disco lighting effects which they now sell all over the world. Budget lighting effects for the DJ market were also available from **Constella**, who introduced several DMX-controllable products this year. **Lytequest Pro** (the lighting arm of Gemini) were showing the sound-activated Stargazer effect, which uses 48 coloured lenses to produce a multi-coloured lightbeam. **Jazz**



Steve Clark of NQA presents Vari-Lite's David March with the company's ISO 9001 certificate. Looking on are Alistair Francis of Business Link (left), quality consultant Ken Sims and Marco van Beek (right) of Vari-Lite.

**Lumiere** were showing their portable disco effects, including the Rapier, a six-mirrored effect with 14 colours and 13 gobos and its mirror-less version, the Axis.

**Mad Lighting**, well known for the mould-breaking and injection-moulded, brightly coloured plastic housings of their scanners, emphasised the groove they have carved for themselves at the budget end of the market, by launching a DJ Series of effects to complement the existing club range. Aimed at the mobile market, the products, led by the Madscan 305HP, were presented in interactive mode on a separate stand. In the same neck of the woods, market-wise, **Ryger Electronics** were fielding the pocket-sized (and pocket-money-priced) Tinyscan, billed as the world's smallest DMX scanner. You can now get four of these in a package with a hand-held controller for virtually the value of the fee from your next gig!

The new VR series of scanners from **Abstract** is a step away from the more usual scanner design. Like all the best steam irons these days, the VR scanners look remarkably like spaceships. The series will be available in four models - VR4, VR8, VR12 and VR16, and with its sleek lines, wide choice of colour finishes, 35mm slide projection facility and flashily cosmetic digital readout which monitors performance parameters, this unit looks as though it will become a favourite.

Having misfired somewhat with the original MAC 1200 product, **Martin Professional** certainly seem to have got it right on the button with the MAC 600 washlight and the new MAC 500 profile spot, which share the same moving yoke and debuted at PLASA this year. This, to the considerable envy of their peers, one of whom told me that they had tried very hard to break one and failed totally. This is an indication



Lighting Innovations' Hermann Sorger with his son Harald Sorger (center) and Val Price (left) and Taj Sangha (right) of ETC Europe.

that Martin are at last taking reliability very seriously, and this was given some emphasis by MD Peter Johansen, when he cynically told the press that his company had always had a reputation for "cheap and reliable products, and at least at the beginning, one part of that was true!"

Now, of course, they have to give due weight to the other part and they will be under notice on that score for a while to come. Using the MSR 575 lamp, which generates a colour temperature of 5,600°K, the Mac 500 offers 14 colours on two overlapping wheels and four colour correction filters, two overlapping gobo wheels, five of which are rotating and indexed, a rotating prism, remote iris, dimmer, a shutter with a strobe facility of up to 20 cycles, as well as motorised focus with a maximum beam angle of 15°. Quite an array of attributes from the device, with the menacing, rather sinister, appearance of a Stealth bomber. Its look-alike, the MAC 600, launched earlier, is a CMY colour mixing wash-light with an extra colour wheel and hot colour corrector, which also offers two beam masking filters and a frost.

The other item from the Danish stable which caught the attention was their virtual, 3-D lighting design package based called Show Designer intended to offer some competition to WYSIWYG, which we were originally told would include a library of all luminaires and not just Martin's. Sadly, this does not seem as if it will be feasible in practicality, due to competitive strains on the one hand, and Martin's view of the package as a marketing tool on the other. However, if you have the time I guess you can add them yourself via the software's Editor facility. Nevertheless, I took a look at it at the show, which is not the ideal circumstance, but I can see that the system produces well rendered visualisations of stage sets and lighting set-ups in computer graphics in which positional changes and effects can be

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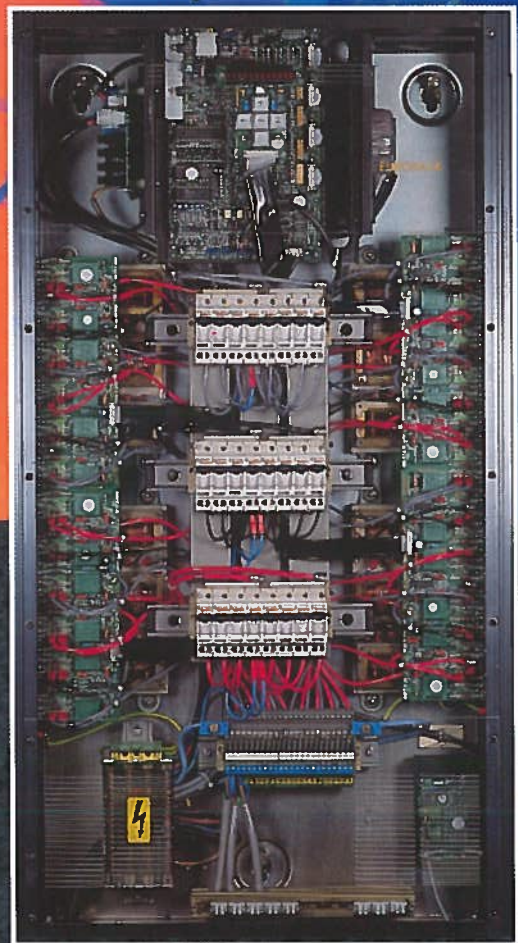
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**Rob Robinson (left) of Starlite Systems demonstrates the Stardraw Professional to Nick Collins of Hawthorn Theatrical.**

changed easily, the show can be prepared off-line, and subsequently downloaded into any lighting controller via a Pentium-based PC.

Martin claim that their much acclaimed light show, designed this year by Pete Barnes, was prepared on this Show Designer, without any need for the expensive pre-assembly of the rig at another place and the hours of programming previously associated with designing such a performance. Apparently, all that was required on arrival at Earls Court this time were a few tweaks. Anyway, Ian Kirby has promised to give me the software to try, so I will report back to readers at a future date.

While **Pulsar** have a major role to perform in supporting Clay Paky, whose products they distribute in the UK and for whom they OEM the control electronics, it must not be forgotten that they maintain their own production of control and dimming equipment which is sold in the UK and distributed throughout the world. This, of course, explains why it causes such a stir when they fly in the face of the principle of conformity and tamper with the rules of an established standard such as DMX. But I shall leave comment on that one to others more learned than I. On the other hand, Pulsar have recently introduced the Rack Pack range of dimmers and switch packs, all of which conform to all the latest CE Mark and LV Directives, which shows that they can toe the line when it suits them to do so.

Recognising the PLASA Show as a real international venue, the flying Savoldi's brought **Sagitter** to Earls Court in its own right, with a view to extending their dealer network. Maintaining their reputation for high quality, built up over the years in their previous life with another famous Italian manufacturer, Sagitter's product range, includes several versions of the Infinity scanner, and the lower-end, but high performing Prince, to which has recently been added the Mask colour mixing zoom luminaire and an excellent strobe. Similarly, **SGM**, who launched their latest scanner - the Galileo IV HP **EB** at the show, and **Studio Due**, who made their first appearance at PLASA this year, are both stalwarts of the Italian contingent whose products, often underrated here, deserve greater exposure in the UK and elsewhere.

Italian manufacturer **Programmi & Sistemi Luce** were showing their range of lighting fixtures, including liquid projection effects, such as the Liquid Light with goboholder which was at PLASA for the first time. Programmi, available in the UK from United Kingdom Distributors, also produce a range of low budget theatre fixtures. Another Italian manufacturer, **M&L**, were showing their varied range of products, from lighting effects, strobes and searchlights to smoke machines and bubble machines. From France, **X&Y Systèmes**



**Yves Ruellan (centre) and Jean Luc Michaud (left) of Hardware for Xenon with Alain Bardouil of White Butterflies.**

had their own brands of intelligent lighting fixtures, including the Zap 575 and 1200 HMI units. Germany's **Steinigke Showtechnic**, a major distributor of lighting and sound equipment, were showing a wide range of products for all applications from theatre to the mobile DJ market. Also on show were their own manufactured ranges of products, including Futurelight scanners and Profog smoke machines.

Taiwanese manufacturer **Geni** were also demonstrating a number of their competitively-priced products aimed at disco, stage and presentation applications. These included the Nimbus 200 and Stratus range of scanners, which have an improved optical design and a range of features, the 3kW Giga Strobe and the Ultima 2 display projector. Another Taiwanese regular, **Kupo**, were showing their UT series of projection kits, aimed at the corporate marketing and display markets. These small units come in 50 or 75W versions and use adjustable lenses for zoom and focus, with gobos, colour filters and slide holders available. **Superstar Lighting**, also from Taiwan, were showing their range of disco lighting effects and smoke machines.

And so to the star of last year's Show, the Starlite Mk5 from **Starlite Systems Technology**, now come of age and about ready to take to the road and studio after a further 12 months of pre-production testing and refinement. Readers can find all the data on this splendid dynamic luminaire in last year's review, if they have retained their copy. Otherwise, photocopies from the PLASA office on request. Now the company has also launched the successor to their Stardraw 2 lighting design software, which I have to admit we never got to grips with in this office, despite having bought a copy at a previous PLASA Show, largely because at the time it lacked the ability to read DXF files. Stardraw Professional, as you might expect from Starlite partner Dave Snipps, who learned his trade at the feet of the Master when working for Microsoft in Seattle, is an item of an entirely different ilk. Running under Windows 95 or NT 4.0, and requiring 16MB of RAM, this is a full lighting 3D visualisation package in which stage sets and lighting plots can be created in real time with full textural support. It will read DXF files as well as AutoCAD DWG files up to version 14. It claims to include a vast library of fittings, several operating enhancements to make the work easier, and the facility to generate reports and bills of materials. It looks like a lot of fun and is also available on CD-ROM. Check it out.

**Avolites** surprised everyone by adding another desk to their seemingly complete range. The Azure 2000 is a departure for Avolites, a largely touch-panel device aimed



**Bill Smillie, John Burgess and Jon Reay-Young of DeSisti Lighting.**

primarily at the disco DJ end of the market and industrial time-coded shows, though it has facility for theatre. For those aspiring to greater things, i.e. Pearl or above, but who cannot afford one, the Azure won't disappoint. A fully featured desk, the Azure can control an amazing 200 moving lights and 200 dimmers, with a total 2048 channels. Features include 50 Direct Access memories and chases per page with a total 10 labelled pages. The desk is available in 19" rack mount or stand-alone versions. Also on show, the ART dimmer previewed last year.

Available now for four years, the French-made Airstar balloon floodlight (Solarc and Lunix versions) has been taken on by a UK stockist in Oxford, aptly named **Airstar UK Ltd**. These helium-filled balloons can support up to a 16kW lamp and provide a quick and easy to rig powerful flood source ideal for car parks at festivals and other outdoor events, but perhaps more importantly, give a good even dispersion for use in TV or filming. Airstar also produce the Sirocco, a simple pole-mounted air-filled bag utilising the same technique to provide intense close proximity floodlights that can, when deflated, even fit in a car boot.

Celebrating 15 years in the business, **DeSisti** were again at PLASA showing their catch-all range of lighting fixtures and associated accessories for the film and television industries. As well as their well-known studio and location lighting, DeSisti also supply grip equipment, cycloramas, scenery hoists and a range of consumables.

Lifting Gear Hire (LGH) are a well established rigging and lifting hardware company operating since 1970. Their new department, **LGH Rigging Services**, headed by an expert recruited from within the presentation industry has been specially created to cater to the entertainment trade. What the parent company brings to the industry is the in-depth resources of 40 locations in Europe with 50,000 items in stock. The LGH purpose-built electric chain hoist controller, four channels in a 2U rack mounted module, attracted much interest.

**SES**, providers of temporary mains distribution systems to the film and TV lighting industry, were showing their extensive range of well known products. Perhaps the most significant announcement from their side of things was the increasing uptake of their equipment into the theatre refurbishment area, where obviously a demand for greater flexibility makes their products an ideal choice.

**Cardiff M Disco Services** had their own development of Martin's Lynx 100 on display, the coyly named Puma. Exactly the same light, Cardiff have fitted it with their own gobos to satisfy a trend towards linking lighting to juke boxes and making what they produce more



**Richard Everitt and Clare Adams of Technotronics.**

interesting. Cardiff also showed off a couple of examples of the custom service they provide in building light boxes.

For distributors **ESP**, the latest addition to the Mobiltech ALP range of wind-up stands took front place. A square section telescopic mast capable of raising a 225kg load to 5.5m, the ALP5 is the big daddy of the series. Fold-out legs with turnbuckle struts make the tower adaptable to uneven surfaces. From French manufacturer RVE, a display of their HDI, HDX and HDL dimmers designed primarily for the install market. The Road Rack is a six-channel version of the HDI giving the same touch control access to patch, dimming curve (even fluorescents) and with eight pre-sets, a simple portable pack of 6 x 2.5kW channels capable of 100% duty cycle.

From **Cirro Lite**, came a contender for lighting product of the show. The staggering Lightning Strikes range of 40k, 70k, 250k and 500k strobes has been augmented by the Thundervoltz system, a set of high capacity batteries capable of sustaining the Lightning Strikes devices (excepting the 500k version) from a trickle charge mains supply. For the 40k and 70k versions, a domestic 13A supply will suffice, the 250k requires 25A and projected for the 500k (though not yet available) a 50A supply for indefinite flashing.

**NJD** have returned to the fray of club and pub light units with a batch of new products for the aspiring light jock. The Xenon 25, a sound activated strobe with eight programs; the Rap 250 and Rap 100 rotary gobo projectors aimed at those wishing to present advertising and logos in a more dynamic way; the Chaos, a 100W halogen non-intelligent flower effect with 18 colours and gobos; and, finally, the Psycho (Hitchcock eat your heart out), a small frame 100W autos-canning mirror lamp with eight colours and seven gobos.

Italian budget lighting manufacturer Genius was represented by their UK distributor **Batmink**, whose stand also housed a lightshow programmed by Carl Dodds and John Lindsell. New items included the Micro-Omega, an MSD 200W DMX controlled moving yoke with seven colours and seven gobos, the Spectra colour changer (14 colours) and the Nexus II, an HMI 575W rotating gobo scanner.

**Lamba** caught everyone's attention with the Pixelscan, in effect a full colour (640 x 480 high-resolution display) video projector with moving mirror technology added at point source to give 360 degree image pan. Scan your own self-developed gobos into a PC or create on-screen images for use directly into Pixelscan. On board technology allows 360 degree image rotation and other effects. It could be brighter, but the device on show was, by their own admission, a prototype. However,



**Columbus McKinnon's Craig Johnston, Wally Blount and Johnathon Splittergerber.**

they promise a more powerful unit is on its way. Lamba also had two new mixers from KAM - the GMX-One and Beat-Pro. Both aimed at the club installer, the Beat-Pro is the higher spec, based on the features of the GMX-One, but with a BPM section added.

**Technotronics** had a complete new range of lamps on show, following a period over the past three years when they've concentrated on control products. All low voltage units, there are 12 lamps in all, running the gamut of flower, moon, and prism effects with varying degrees of sophistication. Perhaps most interesting is the Octilight, a small stage flood with eight ENH 250W bulbs and a four colour dichro filter system, a very bright little unit.

**TMB Associates** had a few nice items on stand. At first glance a little gimmicky, but on closer inspection the range of Source 4 and Vari-Lite accessories from **City Theatrical Lighting** look pretty useful when addressing issues of spill and diffusion. The Rain Coat for Cyberlights, apparently produced by Upstaging, looked far more the practical solution for outdoor rock concerts than the cumbersome Eco Dome solution. Perhaps not as durable long term, but a more practical way to protect a wobbly mirror lamp strapped to a scaff tower in the middle of a muddy field. Marketed as Pro-Power, the patchable modular mains distribution rack looked to be an elegant solution to the constantly varying demands of mains for temporary touring shows. And for the Roadie who has everything, a new contender for your Mag-Light pouch, the Scorpion, a fierce little bugger of a flashlight using just one double A cell.

**Elektralite** had the dubious distinction of being the first exhibitor of the show to have product stolen off their stand. Naturally it was the top of their range (nice to know the thieves are at least discerning) - a universal lighting controller with 1024 DMX outputs aimed at live shows where a hands-on feel is needed, a capacity for 2000 cues, 500 chases and 500 macros, 99 pre-set focus and 99 feature pre-sets (what we might term palettes). The desk also features a master memory for taking shows from venue to venue, and will support 150 lamp groups. MIDI interface for full show control is standard. Other controllers from Elektralite include the CP10XT and CP5, both moving light and dimmer controllers with lesser, though no less impressive at the price, functions and capacities to the CP100.

**Tomcat** only announced at PLASA last year that they had opened manufacturing operations in the UK, and this year they are already having to move to premises three times the size of their original base. The sales of their Light Duty and Medium Duty is what has prompted the growth, but their stacking truss is now gaining



**Denis Bramhall, Jane Hewett and John James of Tomcat.**

acceptance. Tomcat also announced the addition of Dennis Bramhall (ex-PCM) to their staff. He will head up their CM Lodestar service, an area in which the parent company in the US holds sway for the entertainment industry.

Hoist gear was on display from both the US and French contingents, Columbus McKinnon and Verlinde. **Columbus McKinnon** were keen to promote the fact that they offer a wider range of rigging products than people generally associate with them. Apart from the manufacture of the Lodestar, they are also a major manufacturer of chain, wire rope pulley systems, clamps and other accessories.

**Verlinde** took their own stand this year to support the launch of the new Stagemaker Compact. As the name suggests a tighter packaging for the established Stagemaker range, the Compact is currently available in a half-ton version, but one- and two-tonners should be ready by the end of the year. The biggest improvements to the general hoist design, other than size, are much quieter running due to the planetary gearbox now running in a greasbath (rather than oil), and the increased electrical security for outdoor use in wet weather. The lifting handles have also been moved to the top of the hoist body, meaning you can now actually use them to lift the motor from the box, as opposed to having to build bigger boxes than necessary because the handles stuck out like ears.

**ETC** had more new products at the show, chief amongst them the Obsession 2, the new generation of which is probably now America's most successful lighting desk. The '2' updates Obsession's processing power while incorporating all of the moving light functionality that ETC have been previewing in the 'ML' software over the last couple of years. But the most obvious change is the case design, where Obsession's conservative, understated exterior has mutated into what can only be described as the 'bat desk' because of its resemblance to props in the recent Batman films - it is a riot of curves, mouldings and refractive surfaces that stands out from the lighting desk crowd.

ETC also added moving light functionality to their Expression range, but retained its more familiar case design: the Expression 3 just adds the increasingly familiar line of rotary controllers to the side of the Expression (formerly ARRI Imagine) range, with software support for moving light operations including 99 preset focus groups (something still missing from the new Obsession) and 16-bit fades. The new software will also run on the baby Express console, with attributes being controlled through the touchpad, and an upgrade package for older Expression 2x desks will be available.

ETC's other launch was the Source 4 Junior



Keny Whitright (left) and Dan Martino of Wybron Inc.

zoom, the first zoom profile from the company. It works very effectively and bodes well for the forthcoming Source 4 zoom - still shrouded in non-disclosure agreements, but worth the wait according to those who've seen it. The stand was rounded out with the rest of their product range, particularly the Sensor CE modular dimmers that have been ordered for the Royal Opera House refurbishment and are attracting keen interest from many other projects.

With their 500 series desks, including the new baby 520 desk, **Strand** probably have the lead at the moment in the combined fixed/automated theatre lighting controller market - especially with the new Genius Pro software which adds true preset-focus style operation. Strand were also demonstrating their network software, which allows channels to be partitioned between several consoles while still storing the whole showfile on one server console. But Strand have been losing ground in the profile market to the Source 4. An attempt to recapture this market, the Brio lantern was previewed last year, but it was never actually sold and has been completely redesigned since. The main change is that it now incorporates a dichroic glass mirror around the HX600 lamp, meaning that the front of the lantern and the gate area remain cool - and the back end also seems to remain cooler than on a Source 4. Two zoom versions are available, one giving an 18 to 30 degree range, the other a 25 to 50 range. The lantern has some strengths - the lamp alignment and field adjustment controls are easier to understand than the Source 4's equivalent, though they do require the use of a screwdriver, and the 'notch' system on the beam-angle lens should make it easy to match beam sizes from unit to unit. On the other hand, it does lack the Source 4's versatile rotating gate and also its narrow-angle options.

Strand were also showing their re-designed



Bob Schacherl of High End Systems (right) welcomes a group from Ushio led by Roy Tazawa (third right).

Quartet (strange that lantern ranges are no longer determined by wattage, since the 650W Quartet is a lower-level product than the 600W Brio) with improved reflectors and focusing mechanisms and a new 15-25 degree zoom option. Also in evidence, the Pirouette moving light system that has enjoyed success in a number of theatre productions over the last year.

The best feature of both stands, however, was that they featured real product engineers as well as sales people (news has reached the L+SI offices that there have been further departures from Strand in the last 48 hours), giving visitors insights into why products were the way they were - as well as the chance to offer feedback. The battle between these two companies is going to be an interesting one to watch over the next 12 months.

Especially if you're one of the other players in any of these fields. **Altman**, for example, were showing their Shakespeare range of profiles which are very similar to the Source 4 but have never quite attracted the same degree of interest in this country, while **Teatro** were displaying the Onda range of 600W lanterns that look somewhat similar to Strand's Quartets. But the area with most competition is the market for combined conventional/automated lighting controllers - a sector that has been growing for several years and is now attracting strong customer interest as theatres attempt to future-proof themselves while spending their lottery money on new lighting controllers. **Compulite**, exhibiting on the **Stagetec** stand, have been making products in this category for years, but have recently been updating their complete range and had the final versions of the Micron 4D and Ovation 4D desks on show, along with the new mini-Sabre (a replacement for the Animator compact) and the low-cost, tiny-footprint Photon and Spark desks. They also had a release version of the



Mike Lowe holds a captive audience on the Teatro stand.

CompuCAD 3D lighting design package that they have been previewing over the last couple of years.

Other competitors in the field are **ADB** and **AVAB**, the latter now part of the **Transtechnik** group. ADB had the now-familiar Vision 10 console as well as a new, physically smaller version that really should be called the Vision 5 - but isn't. AVAB had the Panther which, as on its previous two visits to PLASA, looks like a very powerful desk hampered by a very cluttered and non-intuitive display. The company also had some new products on show, including Tiger (a mini moving light desk), and Transtechnik's own Focus and T20-M desks - these two products indicating that the two companies haven't yet unified their product ranges as much as they might. Transtechnik did also announce a new group branch in Chichester, however, which should allow their products to develop a greater presence in the UK.

An entrant into this market who already have a strong UK presence are **Zero 88**; the Sirius 250 desk they previewed at last year's show is now available, and is joined by a bigger brother, the Sirius 500. Though the most exciting element of this desk - the timeline system of arranging cue times - isn't yet completed, it still seems to be a very powerful desk, and the 'four wheel drive' control system, using four wheels angled to fall naturally under one hand, works very well - allowing moving light parameters to be adjusted simultaneously in a way that is just not possible with the more familiar rotary controls.

The sector of the market the Sirius serves is another area that has become very competitive, with **Celco's** Ventura 1000 (launched at PLASA last year) having enjoyed a successful first year, **Light Processor** showing the QCommander, and **MA Lighting** previewing the Grand MA, which includes three-colour LCD touch displays and is due to enter production next summer (just in time for PLASA 98!). The live show market is still dominated by the established WholeHog II from **Flying Pig Systems** and its Jands Hog siblings, these all on show on the **AC Lighting** stand. There were no huge leaps forward for the Hog or its companion WYSIWYG software this year - though a host of new features are being promised for the LDI show (look out for the next issue of L+SI). And anyway, AC had more than enough other new products to keep them busy, including some very solidly constructed touring dimmer racks from **Jands** (thoughtfully including plenty of patchable independent ways, to make feeding mixed moving and conventional lighting rigs easy), the Vision Parshell PAR-can back end, and the tiny Chroma-Q Broadway scroller. This is a smaller

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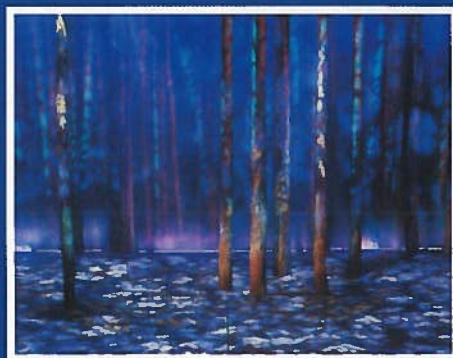


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Photo: W. Enever



**John Simpson of White Light with lighting designer Andrew Bridge.**

version of the lightweight, plastic Chroma-Q designed for Source 4s and Altman Shakespeares - tiny lanterns that have looked silly when paired with standard PAR-sized scrollers. Italian manufacturer **Spotlight** were also on the AC stand.

AC haven't been the only people to notice the move to these smaller lanterns, since both Wybron and M&M also now have smaller scrollers in their product ranges. Though we now know that **M&M** have gone into receivership, it will be interesting to see what route Rainbow take to promote the PLASA-launched 6" Pro and 12" Pro models, which nicely complement their existing 8" Pro and 15" Pro models. M&M also had the Smoke Factory of Hanover product line on show, including two new models that continue the company's sci-fi naming theme: the Data and a flightcased version known as the Enterprise TC3. Both claim to offer low noise, high output and, for the first time in a Smoke Factory product, direct DMX control.

**Wybron's** stand had their full scroller range on show, alongside the AutoPilot follow-spotting system (this year following a human model rather than a toy car around the stand) and, for the first time in the UK, the GoboRam automated gobo changer for Source 4s or Shakespeares. This gives these lanterns the ability to change between three gobos, each of which can be indexed or continuously rotated. The only slight drawbacks are the unit's physical size, and the fact that you have to cut a notch out of the bottom of your lantern to accommodate it. The GoboRam was just one of several products that attempted to add the kind of functions that have become common in moving lights to 'conventional' lanterns. **ADB** were showing Ingenio, a three-colour mixing (plus optical dimmer, plus optical diffuser) unit intended for use with Niethammer profile spots. **Morpheus**, enjoying quite a revival following last year's management shake-up, had their ColorFader range on show on the **White Light** stand - this essentially being a scroller containing three scrolls giving colour mixing capabilities, with the unit now being available in a smaller package to suit Source 4s and Shakespeares. And **CCT** continue to offer the possibility of building dimming into a lantern with their innovative Freedom range, though the main change to that range this year was the addition of a 20-40 degree zoom lens tube.

But the GoboRam in particular, showed that trying to automate functions in a conventional lantern will always be less successful than designing an automated lantern from scratch, especially a 'complicated' lantern with gobo and colour options (though Transtechnik did have one moving Fresnel complete with fully



**Lighting Technology's MD David Morgan (second left) shakes hands with John Bradley of Aardman Animations, watched by Graham Kerr of ARRI (left) and Lighting Tech's Tony Rodber (centre) and Ron Knell (right).**

automated barndoors!). Last year, the 'big battle' was in washlights, with the VL5Arc, the Studio Color and Martin's MAC600 lining up against each other. This year, the battle is in the hard-edged moving head market, where the **Vari-Lite** VL6 has had things pretty much to itself for a couple of years, thanks to its compact dimensions and low noise. Vari-Lite and its associates **Concert Production Lighting** and **Theatre Projects** had a very modest stand this year and ran quiet product demonstrations in rooms away from the main exhibition floor. However, they do have a new light pending - the VL7; this will not now appear until LDI, though the worldwide importance of PLASA is clearly indicated by the fact that the Texas-based company is altering its production schedules to get future products out in time for the London show. Others were not waiting: **Lane Lighting** had the final production versions of the long-promised Starlite Mk V going through their paces and **High End Systems** had a couple of prototypes of the Studio Spot on the **Lightfactor** stand (both of which have already been mentioned), whilst **Amptown** were showing both the long-established ControlLite PML and newer ControlLite Washlight on the **Lightstorm** stand. **Martin Professional's** entry in the hard-edged field - the MAC500, a bright, compact unit based on the MAC600 washlight, had its first outing in production form at the show, and it looks very promising indeed.

Unfortunately, none of the manufacturers had answered the plea for a tungsten-based hard-edged moving light - maybe next year? Especially since in another area of the market traditionally dominated by discharge bulbs - followspots - a minor change had occurred. Though the 'big boys', **Lycian** and **Strong**, showed new discharge products (Lycian the new 4K Xenon and HMI SparkLights and Superstars, Strong the Super Trouper II), and **Orc Lighting Products** were demonstrating the advantages of their Xenon bulbs, the manufacturer of some of the best discharge-lamp based theatre lanterns had realised that tungsten is a better choice for some applications: **Robert Juliat**, showing on the **Decoupe** stand, launched 1K and 2.5K tungsten followspots. The units are available with either conventional or digital dimmer shutter dimming, the latter intended for television users who need to maintain a constant colour temperature. The lanterns looked to have all of the usual Juliat virtues, including great build quality, though the company were keen to point out that some of their products (including the new Tivoli dimmer racks) are now designed to give the highest quality at particular price points rather than just



**Jem's team of Jon Petts (centre), Patrick Dawson (left) and Paula Taylor-Pick.**

the highest quality, cost-no-object. Decoupe were also showing the innovative Copernic dichroic Par can, which carries out colour mixing by using seven coloured MR16 bulbs, and the Canadian **MDG** smoke and haze machines that they now distribute in the UK - MDG's Atmosphere has already met with considerable acclaim on Broadway and has already started appearing on shows in the UK.

Other smoke manufacturers were also in evidence, with most, like the lighting companies, offering improvements to existing products rather than anything radically new. **The Effects Company** showed their Supersmoke range and Lowsmoke machine, along with the startling CO<sub>2</sub> Jet, which produces a very sudden seven metre high white jet. The **Smoke Company** launched the Powerfog range consisting of the Powerfog Jazz II budget machine the Powerfog Max and the Powerfog Evolution. **Smoke Design** had the Hazer MkII. **Jem**, taking part of one of Martin's many stands, demonstrated the Club 22 (a unit which allows two smoke heads to be positioned up to 75 metres away from the service module), the low-cost Techno Fog, and an improved Hydrosonic model, the 2000SV, designed for silent operation. **Le Maitre** had the LSG low smoke generator and new STARhazer, which offers a claimed 40 hours continuous use from 2.5litres of fluid, and were also discussing their pyrotechnic effects. **Theatre Effects**, in the American **ESTA** Pavilion, were also discussing their fire, smoke and confetti effects. Elsewhere, the **Lighting Technology Group** had the PAR-fume - a tiny smoke machine disguised as a miniature PAR can. This just sits there on a bar, looking like the other lights alongside it - until it shot a jet of smoke at you. Very cute. Incidentally, Lighting Technology are to supply £100,000 worth of lighting equipment to Aardman for the making of Oscar-winner Nick Park's new animated feature. The PAR-fume and other diminutive smoke machines were also being offered from **Smoke Effects**. The Sorcerer, claimed to be the smallest haze effect in the world, can be used either a smoke machine or a haze generator, depending on the fluid used.

Less fun, but more practical, was the new Intelligent Fog System from **Rosco**. Designed for long-running shows and theme park installations, the machines can be programmed to carry out cleaning cycles at regular intervals, flushing their heating blocks with water and compressed air to prevent the build up of burnt smoke fluid that is the most common cause of smoke machine death. Rosco also expanded their colour ranges, introducing a new 1/4 Hamburg frost, as well as three new Supergel colours and announced the availability of Roscomurals - essentially a system for printing





Mark Thompson and Tommy Stephenson of TMB Associates with the patchable power distribution system Propower.

large-scale backcloths onto white vinyl sheeting - in Europe. One such Roscomural was used for a 190ft x25ft New York background in the film 'Ransom'; smaller fish murals around Rosco's stand showed how well the process stood up to close scrutiny. The company also had the interesting-looking Horizon PC-based lighting control package on show - and, just to round out their diverse stand, had a range of coloured glass gobos on show.

Colours and gobos could also be found on the **Lee Filters** stand - including the new '029 PLASA Red', the genesis of which was described in the last issue of the magazine. Coloured gobos were also on show on the **DHA** stand, these two displays indicating that Rosco and DHA are just starting to drift apart in their gobo ranges. To reinforce this, DHA announced DHA Direct, a service allowing customers from Europe and Asia to obtain products directly from DHA in London. DHA had also expanded their range by acquiring the patterns formerly made by Miltel and - of most interest to small-scale customers interested in custom gobos - they have altered the break-down of studio time retouching custom artwork from 30-minute to 15-minute intervals. Full details on submitting artwork, and about the complete DHA product range (including the very effective new double-gate animated effect system) can be found on the company's new web site, which was also being demonstrated on the stand.

Animated effects were also on show on the **Great American Market** stand - the company were showing the new Flickermaster SPE-6 and TwinSpin II gobo rotator - and on the **White Light** stand, along with a diverse range of other products and services. The animated effects were coming from the familiar VSFx and new WaveFX systems shown fitted to both the conventional 2500W Toccata EP - now rebadged as a White Light product - or the new 700W discharge version, which finally makes this effect system suitable for architectural use. White Light were also showing a discharge Source 4, using a 150W HQI lamp, which they developed for the refurbishment of the National Theatre's foyers but which should find many other applications, and the Labino UV spotlight, which gives a five-degree beam of UV light. White Light's new divisions - The Service Company, The Moving Light Company (some of whose diverse range of stock was on show on the stand) and the Electric Sun film & TV lighting company, were also introducing themselves, and copies of the latest White Light hire catalogue were available. Elsewhere, theatre hire rivals **Stage Electrics** had a stand featuring less products, with the company instead trying to introduce themselves and their services to the many people who won't have



ETC's Bill Gallinghouse, Fred Foster and new recruit Peter Ed (right) with Derek Gilbert of Glantre Engineering (centre, right).

been aware of their well-equipped Bristol-based hire facility. They, too, were announcing expansion plans: Midland Theatre Services, which Stage Electrics have been involved with for some time, is about to expand and re-open as a new Stage Electrics Birmingham branch.

Another company happy to discuss hire (or indeed sales, as their clever advertising has been careful to point out!) were **Production Arts Europe**, who had selections from their extensive stock of **Pani** projection equipment on show. Pani themselves had the stand next door, while elsewhere in the show **E\T\C Audiovisuel** were showing their versatile PIGI projection system and **Hardware for Xenon** launched a double scroller and a new range of projectors with soft-switching power supplies. Available in 2K, 5K and 7K versions, these units can be run in the USA or Europe without requiring transformers. Projection aficionados were also visiting **Diap Assistance**, who can manufacture film scrolls for E\T\C, Hardware for Xenon, Pani and various other projection systems. It was also good to see Hermann Sorger, formerly of Pani, back in business with a new company, **Lighting Innovation**.

**Nu-Light** were showing their Laser Technique range of budget laser effects. The Midi and Mini scans have 16 pre-set patterns which can be run stand-alone or by remote control. The ProScan has a 120 degree external scanning mirror, and any number of units can be daisy-chained to the controller. The ProScan Argon is the top of the range, and has three colours with in-built defraction grating and again is daisy-chainable.

As usual, **Par Opti Projects** had an eye-catching stand, with their fibre-optic products used to good effect in the dark tent of their stand. Star ceilings and star cloths were also being promoted, along with the company's custom design service for specifiers of fibre optic lighting.

Last year, it was said that the old 'Lighting and Sound Show' name had been abandoned just in time, given the number of non light or sound exhibitors at the show. There were even more such companies this year, with a large contingent of British and overseas companies working in the automated scenery field - a growth area largely funded by the National Lottery. One of the biggest lottery-funded contracts is the redevelopment of the Royal Opera House, and the first results of this investment could be seen on the **Stage Technologies** stand: the company were showing a prototype of the Nomad!, a portable scenery control desk which, with its folding lid containing a colour LCD display, looks like an oversized laptop computer. The Nomad! is designed to be moved easily between a number of connection points around a theatre, allowing



Strong's Phillip Wang (left), Richard Hart (centre) and Darren Hart with the automated Britelight 7000.

operators to pick the best location for programming or running particular sequences from. The stand also featured a newly-made video showing highlights of the company's work on other projects around the world. Further examples of this work could be seen on the **Glantre** stand, with Glantre using the show to announce that it has been contracted to supply the complete onboard entertainment systems for the next two ships in the Disney cruise fleet.

One of Stage Technologies main competitors - the Australian company **Bytecraft** - had acquired the stand right next door, where they were happily talking about their State automation control system and work on productions around the world. Scattered at other locations around the show were the German engineering heavyweights: **Batalpha** (a specialist in hydraulics now also expanding into control systems) who were showing the Figaro Q stage motion control system; **BBB Bayerische Bühnenbau**, a stage rigging and machinery manufacturer; the 120-year old staging and rigging specialist **Buehnbau Schnakenberg** and **Butec**, a supplier of stage engineering and accessories. The UK's **Harkness Hall** were there too, offering their range of stage and cinema equipment services, as well as the Zetek 1210 fire curtain cloth.

**PCM** introduced GisSpeedy, a fast, low-noise hoist intended for theatrical use - and spent the show stripping down their motors to introduce visitors to their innards. **Unusual Rigging** took a quieter approach, showing their rigging skills in a simple but imaginative way: their large stand looking empty until you looked up and saw a complete office inverted from the roof. The finishing touch? A dummy rigger about to climb 'up' from the floor of the roof!

In amongst the displays of hugely expensive hardware could also be found the less-expensive but equally useful 'bits-and-bobs', both lighting- and non-lighting related. **Triple E**, sharing a stand with **Blackout**, launched the UniClamp, a heavy-duty hook clamp with built-in wheels that allow riggers to simply roll heavy loudspeakers or lanterns along a bar before locking them into position, rather than having to lift and manhandle them. **British Harlequin** were again showing off their ranges of specialised floorings for the performing arts, including sprung floors for dance studios and tiles for TV studios. **Doughty** showed their range of overlocking clamps, which also picked up an award at the show (as mentioned earlier), along with their rigging, lifting and suspension equipment. From Birmingham, **PJ Lighting** were showing their range of telescopic lighting and speaker stands for various applications. Stands of a lighter weight were on show from PLASA show regular, **RAT Music Stands**. **LE**



The colourful Multiform stand, displaying products from both Sagitter and Griven.



The Lighting Technology stand, with the diminutive PAR-fume smoke machine fixtures visible to the right of picture.



Peter Richards, Elizabeth Wait and Keith Wait of The Stage Company, also representing Varia Textile.

Nelson had their 'Sink' adapter designed to allow Source 4s to use HX600 lamps, whilst XTBA had their very comprehensive range of DMX splitters, mergers and network products on show, along with a version of Bob Goddard's DMX by radio system adapted to run on frequencies available in the UK and a PC-based real-time DMX playback or backup system.

Artistic Licence have also added a DMX splitter to their product range, as well as launching a DMX-controlled relay rack, a DMX to MIDI translator, a new version of the MicroScope DMX tester offering a moving light library and, more importantly, a backlit display, and an upgraded version of their Grand-Master PC-as-lighting-desk software. This theme seems to be becoming more common since, as well as the Artistic Licence and Rosco products, LxDesigns' LxController and LxGeneric packages offer similar functionality for both moving and conventional lighting rigs, and ShowCAD, sharing the Thomas Super-Truss based Cerebrum stand, has long been established in this field. Gray Interfaces were demonstrating their versatile DMX patching system, whilst Australia's LSC Electronics were showing their new Distributed Network Advantage range of DMX products, as well as the Atom and Axiom desks. NV Avenger had the Conductor system, claimed to be able to control any communications protocol and the ever-versatile Howard Eaton Lighting Ltd had DMX products, radio-controlled dimming and the SoftCue cuelight system on show, but were happy to talk about just about anything from their gas flame installations to their 'Lightstick' range of miniature cold cathode lamps and Slimlight cuttable multi-contact film.

Anytronics' range of products on show included their strobes with controllers, dimming and switching wall-mounting packs, expandable lighting control systems, and a hand-held DMX tester. New to the show was a

12-channel, two-preset desk, the Super Aurora 12. This new generation of the Aurora 12 has an additional 48 pre-programmed six and 12-channel sequences and can also be sound-driven.

Light Engineering, all the way from East London, were promoting their lighting consultancy service to the exhibition, film and theatre worlds, along with their extensive range of lighting equipment, spares and accessories. The product they were drawing particular attention to was their fully-programmable Promoscan which, as the name suggests, is a promotional/display tool that can project up to five static gobos and up to four 35mm slides.

Multiform were showing their new Rakpac 4610 12 output socket, 6 x 10 amp professional dimming pack with DMX input option. A number of products due to be launched in 98 were also given a conceptual preview. The distribution arm of the company, Multiform Technology, had product from the two Italian manufacturers they distribute, Sagitter (covered elsewhere) and Griven.

New products from Griven include the Jump and the Colorway. The Jump, a discotheque effect, has a combination of motorised dichroic glass reflectors and clear mirrors and is available in HMI575 or 1200 lamp versions. The Colorway is a DMX-controlled full spectrum CYM colour changer aimed at the live performance market, available with halogen and discharge lamp versions.

Colourlite were offering a range of lighting effects including coloured fluorescent strip-light fittings, strobes, UV tubes and neon lighting effects, as well as their Par packs of cut-to-size colour filters.

Lamp and lighting distributor Mico Lighting from West Yorkshire returned to the show, with their extensive range of products from major lamp manufacturers, along with control and switching systems from Helvar Electrosonic.

Once again, there was a large number of companies offering very wide ranges of standard and customised flightcased product. Adda Super Cases were doing a brisk business with their polypropylene range of record and CD cases. On display were a number of new cases specially designed for Abstract's Futurescans, NJD's Microbeam and Predator units and the K1 projector from Optikinetics. Also new and attracting attention on stand was a smart new range of aluminium cases.

5 Star Cases went big with their stand this year, showing flightcase products for a very wide range of applications. On show were their Powerack flightcased mains distribution system and the Sound Pack audio presentation system. Also being promoted was their custom furniture design and installation service for studios, editing suites and control rooms.

CP Cases were concentrating on their EMS expandable 19" rack case. Available in 3U multiples, the rack case can be expanded by the addition of side panels. Devotees of the EMX system, we are told, include Iron Maiden guitarist Janick Gers.

Autopia Vanquip were showing their high quality 'Flite Kases' range, as well as promoting their in-house CAD-based custom design service. Dutch company Flitecar Nederland were showing their range of handles, castors, brackets, hinges, stoppers and locks for the flightcase industry.

Sy-Tek is a new company, formed by the acquisition of an existing manufacturing company by its new directors. Sy-Tek specialises in the production of speaker enclosures and flightcase products, mainly for the disco and DJ market. Watt & Co were another manufacturer offering flightcase products at the show, and they also make their own range of speaker cabinets. CLD Distribution had a wide range of product lines including cables, amplifiers, screens, stands and customised cabinets.

Just about all of the big boys in trussing and staging were represented at the show, and with new ranges released by nearly all, the quality and choice of product in this field grows even stronger. Lite Structures were reporting a successful year for their Lite Deck staging system, and also introducing a new, quick-locking range of heavy duty trussing, as well as the ShopLite aluminium trussing system with integrated mains circuit, designed specifically for the retail display market. Shoplite is complemented by a range of light fittings from the Concord Tubetrack 1 range.

Total Fabrications built their entire stand from one of their latest products, XO truss, a lightweight truss that duplicates most common truss size formats but out-performs them all in terms of strength by approximately a factor of

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**Le Maitre's Andrew Harvey with the Neutron Star Hazer, launched at PLASA 97.**

two. Also on show at PLASA for the first time, the One Touch clamp, a simple lever lock pipe clamp intended for use with large lighting fixtures, capable of supporting an astonishing 500kgs. Off stand at the far end of Earls Court, the large, flown Unitek video screen was hung from a special aluminium channel frame specified and built by Total Fabrications as part of their custom-build service.

Alongside their established ranges of trussware, **Slick Systems** launched the new Nova Beam Truss range, which aims to meet the demand for a 50cm x 50cm truss system. **Milos Structural** from the Czech Republic introduced the Quick Con Quadro (one would hope the inference is 'quick construction') system and the Litetruss system aimed at fixed installations.

Dutch trussing company **Prolyte Products** had a new, heavy-duty system on show, along with a two-tonne loading capacity tower - the ST, whilst MEC Truss modular systems from **Porterman Systems** were being shown on the **Lightstorm** stand. New at the show was the 250mm x 333mm rectangular 'RT' system. **Penn Fabrication** had their trussing on display, not only on their own stand but as part of various other structures around the hall. Also from Penn, their flightcase and speaker cabinet hardware and MSB - the modular rack panel, stage and wall box system.

**James Thomas Engineering** were once again exhibiting on part of the huge **Lighting Technology** stand, itself an example of Thomas systems in action. Thomas were showing a selection of their wide range of trussing systems, aluminium ground support towers, fittings, fixtures and the Supertruss system.

Staging companies included **Brilliant Stages** on the Vari-Lite Europe stand; **Mainstage**, who were showing their full range including the Topdeck portable platforms and accessories; **Stageline**, a mobile stage specialist from Montreal and **Maltbury**, who were displaying their Steeldeck 7.5 system and the Stagemaker



**President of the World-ETF, Paul Vincent, with Lori Rubinstein of ESTA and Tom Young of Theatre Equipment International.**



**Nikki Scott and John Hastie of Stage Technologies with the Nomad!**

lightweight staging system on the **Mushroom Lighting** stand. Mushroom, incidentally, built nine of the stands at the show, and have started MES (Mushroom Event Services) this year, to tackle increasing design and technical production requirements.

**The Stage Company** and **Varia Textile** were having a successful show promoting the newly-launched Varia Universal Platforms, aimed at both portable and permanent staging applications, available as either scissor-action or fixed-leg units which can be raised or lowered by hand lever or foot pedal. For load-ins and outs, **Jorade Commercial Services** were on hand with their versatile folding ramps, which can be easily and safely adjusted and attached to most vehicles. **Manfrotto** of Italy were showing their comprehensive 'Lighting for Entertainment' range of stands, clamps and other accessories.

A number of software packages aimed at rental houses were to be found at the show. **APS's** Stan Gunkel was demonstrating his Rental Management Systems package, whilst David Rose and Richard Cresswell of **Navigator Systems**, noticeable by their white coats and stethoscopes (again winning a stand award, this time for their 'padded cell' theme along the lines of 'Is your hire business driving you mad?') were again showing their successful HireTrack package. The Hollywood Inventory Tracking System (**HITS** - from Lido Computers) was also at the show with their rental stock software, all the way from California, as you might expect. They also do HITS for Props and HITS for Wardrobe. Finally, **Hirepoint Software** were showing Hirepoint 98 for Windows 95 and NT, which is the product of some 11 years in development.

To illustrate the broad church that PLASA has become, all sectors of this divergent industry are represented. Witness **BC Technology** who were displaying their range of video and audio-based door entry systems from Aiphone, while **Dine-O-Quick** were showing their



**Lighting designer Richard Pilbrow led a very popular seminar on his lighting for Broadway musical *The Life*.**



**Nick Dixon (left), James Bishop (centre) and Saul Eagles of Stage Electrics.**

Q-Entry admission system and the Q-Robe cloakroom system, which are currently being employed in over 1,000 sites around the UK.

**Bretford Manufacturing** returned once again to the show with their TV and monitor mounting systems aimed at pub, club, hotel and leisure applications, with space-saving and security priorities of design.

Power distribution boxes were to be found on the stands of **Rubber Box** (rubber, weatherproof, double insulated) and German company **Indu-Electric Gerber**. Power distro was also being offered by **Andolite**, along with internally-wired bars and ladders, socket boxes, patch panels and rack cabinets.

Alongside their Powermodule range of IGBT dimmers, Dutch manufacturer **IES** were showing their new IGBT Executor series of silent dimmers. The IGBT high-power transistors used in the dimmers make for a very quiet operation, eliminating direct noise from filaments and cables.

Multi-pin circular connectors were being shown by **Ceep**, including connectors with extended pins for terminating earth first or last. **Horizon Music** had on stand a range of US-manufactured cables, including guitar, microphone and MIDI cables, along with various interface devices, whilst a comprehensive range of electronic components were on display from Durham-based **Sellmark Electronics**, who launched their latest motorised fader control surface, the 'fLight Station'.

Finally, more important than mere products: birthdays. The year marked the 10th anniversary of **Outboard Electronics**, whose products cover a wide range from automated sound systems to chain hoist controllers, and the 40th birthday of that grand old dame of the entertainment industry, **Theatre Projects**. The occasion was marked in traditional style with tea on the stand each afternoon, and a party at (appropriately enough) the Theatre Museum after the first day of the show.



**David Stressing (second left) and Anne Brodhurst (right) of ESP with Frank Dujardin, Wilfrid Chenay and Isabel Rolet of RVE.**

And so to the audio aspects of the Show. **Penton**, a new company to the UK audio scene had their first showing at PLASA. Founder Arthur Chen had flown over from Taiwan to help launch Penton to the UK market. The Penton range, already established overseas, is being introduced to the UK in phases and a selection of their loudspeakers and microphones were on show, along with a first look at the new powered CD player. With more products to come, Penton intend to make their mark with a complete range of PA equipment.

Also over for PLASA from Taiwan was Daniel Tsai of **Eurotec International**. As well as showing their loudspeakers, Eurotec were using the show as a meeting point for new and existing customers from both the UK and overseas, giving them a chance to meet Mr Tsai (manager of the Taiwan office) and newly-appointed sales manager Ian Bray.

Better known in the industry but surprisingly at the show for the first time, **CIE** were handing out copies of their newly-launched DED CAT (Dedicated Catalogue) commercial sound catalogue which covers their full range of mixers, amplifiers, microphones and speakers. A range of new products from the catalogue were on display, including REF series monitor amplifiers, the CMX-1642 16-channel mixer, the Chiayo radio microphone and the unusually-styled WA-100 wireless amplifier system, Wharfedale's F1 and F1LT compact speakers and a range of problem-solvers, including telephone interfaces, digital voice units, zone switcher and line converter.

For their first time at PLASA, Global Distribution were looking to carve a niche in the retail end of the pro-audio market with hard disk systems, CD autoloaders, and drum and bass machines for the dance market DJ. **Barnes and Mullins** were also showing a portable PA system as part of the Torque range of amplifiers and speakers. The new T70CPAS compact portable PA system is designed to provide a robust, simple to operate system for small venues such as schools and hotel conferences and for leisure activities like aerobics and line dancing.

**Southside Distribution** were a first time exhibitor and, slightly confusingly, will soon become Necklace UK. Needless to say, they already distribute products made by Italian audio manufacturer **Necklace** under the ESO badge. A range of club and disco mixers from **ESO** has been expanded with the addition of the Verse. A kind of hybrid desk, it's a 10-channel console allowing for use with live bands as well as by club DJs. Produced in 19" rack mount only, the Verse is all stereo into four subs with four-band parametric EQ and the ball-rattling Stanton Vibemaster. ESO also displayed their stylish set of three power amplifiers: the A1m comes as a matched pair intended as plinths for small monitor speakers as used in a presentation environment, delivering 50W a piece into 8 ohms. The A2s comes as a 1U rack unit, two channel and gives 200W into four ohms, the A3i is the top of the range, 2U and 400W into four ohms, twin channel. All amps have separate protection for both channels and the 1 and 3 have very Italianate engraved ceramic knobs for volume control.

Another first showing for both the company and the products, **Fern Audio** launched their speaker range with a broad spectrum of cabinets designed for the leisure industry,



**Keith Prescott (left), David Hopkins (second right) and Bill Mackie (right) of Audio Design Services with John Griffin and John Whitbread of Christian Fabrications.**

providing colour co-ordinated finishes and custom enclosures to match the interior design of different venues. With sister company CDE Design, who provide sound and lighting design and installation, Fern Audio speakers have been used in projects as diverse as the Tate Gallery and the Berkeley Playhouse nightclub in Mayfair.

Custom-designed speakers for individual applications were also the name of the game for **Hand Crafted Loudspeakers** who launched a range of loudspeakers in which visual appearance and finish have been accorded as much attention as acoustic qualities. From small wall and ceiling speakers to larger column and line source speakers, they are available in a wide range of timbers, including ash, oak and pine. Their distinctive designs combined with natural colours and textures set them apart from standard commercial speaker systems for venues where an unobtrusive or natural appearance is of prime concern.

While companies like Fern Audio and Hand Crafted Loudspeakers fill the interesting niches left by the mainstream manufacturers, the big business is still in off-the-shelf products. All the major speaker companies had something new on show, mostly additions and refinements to their existing ranges.

**Audio Design Services** were showing a new range of slimline metal column speakers for the church market. These feature an easily-accessible wattage setting on the front (a simple but welcome feature) and bass cut-off for enhanced intelligibility. As well as their speaker range, ADS presented a new series of economical mixer-amplifiers from Jeil, designed to accommodate tuners and cassette decks and ranging from 30W to 200W, alongside the new ADS Matrix routing panel, designed to route up to five inputs to five outputs from a matrix of front panel switches that are relay locked to prevent mis-routing.

**DNH World-Wide** were displaying a number of new loudspeakers as part of their extensive range. The DP10 is a highly-



**A cheerful-looking team from TOA, led by Brett Downing (second right)**

directional projection speaker with both bi-directional and music versions available. Also on show were a high-power 60W ceiling speaker, a new 50W music horn and a flush-mounting music speaker designed to accommodate discreet designs within the pub and club market.

PA loudspeaker specialist **Adastra Electronics** were showing prototype models of a new 75W amplifier with AM/FM tuner and cassette facility, in addition to their established range of column, ceiling and cabinet speakers, as well as their accessories such as mic stands, transformers,

connectors, cables and flat-pack 19" racks.

**Tannoy Professional** launched a couple of new installation speakers: the CPA7 and the i8. The CPA7 is the big brother of the well-known CPA5, designed for the leisure and music entertainment market. The i8 is a dual concentric speaker designed for theatre, AV and PA applications. Sporting a distinctive industrial steel mesh grille, the speaker is a development of Tannoy's studio monitor range with fixings for tripod or bracket mounting. And speaking of brackets, the CPA7 and i8 use Tannoy's new CUB 8 bracket, a small but beautifully formed accessory and an important consideration in a contractor's choice of speakers. With a hinged fixing plate, locking extendable arm and sprocketed tilting plate, it provides a flexible and rock solid mounting point for the speakers. Full marks for attention to the small, but telling, details.

**Next Two**, who incidentally picked up a stand commendation award, had one of the most bizarre speakers on show: the Commander (and its smaller brother, the Guard) a speaker within a CCTV camera housing. Designed as a joint security and PA device, the unit has a PIR to sense an intruder who is then warned off by a strobe and a pre-recorded message.

Whereas the Commander is meant to look like a CCTV camera, but is actually a speaker, the CU (Covert Use) range from the **TOA Corporation** is a CCTV camera disguised as a speaker. The CU speakers combine a fully functional loudspeaker from TOA subsidiary **Rotora**, with a mono or colour CCTV camera designed for the pub/ club and leisure market. The idea is to provide a venue with music for its customers at the same time as keeping an eye on theft, violence and drug-dealing from the less desirable of its clientele. TOA also launched a number of other speakers at the show, including two new top of the range ceiling speakers - the full-range F-101C and the wide-dispersion F-121C - and the mini SR-F05 high-performance processor controlled speakers.

**Wharfedale International** had several new releases on show at PLASA, including the LiX series with full-range, mid-range and sub-bass units, and a new generation of the Programme 30D background music speaker. But the main attraction from Wharfedale, and undoubtedly the outstanding new technology of the show, was their demonstration of the NXT flat panel speakers. Wharfedale were demonstrating the NXT technology, licensed from the Verity Group, rather than actual products, but even so, the presentation was impressive. Some



Managing director of RCF UK Phil Price (centre) with the RCF team.

buzzwords for NXT: it's a planar, not a point source device, it has an incoherent pattern of acoustic energy across its surface so there's no phase cancellation problems, it's dipolar so there's no front or back, level fall-off is roughly linear which gives even coverage over an area, flat power distribution and diffuse field distribution more or less eliminate microphone feedback. Think of the potential applications for using a speaker that can be as little as 2mm thick, can be painted or laminated, can be curved into 3D shapes, is waterproof and fire-resistant, can act as its own heat sink - the list goes on! It even sounds good, although it does apparently require some good old-fashioned bass fill.

Moving from speakers aimed at the installation market, to those for live and DJ use, we come to the **RCF Electronics** stand who had new products for both markets. RCF were showing the new PA series of speakers aimed at permanent installations, and the ART series aimed at both installed systems and small bands. The ART series is available in both powered and non-powered versions with the 200AM including a simple mixer providing multiple inputs with individual volume controls and built-in graphic. Also new was the TX501 in-ear monitor, providing high power (120dB) and residual low noise in the ear-phone.

New on the **John Hornby Skewes** stand was the Linear Pro 210 from HK audio. This is a mid-high range speaker using two 10"s and a 1" BMS driver intended for use with the Linear Pro 118 sub cabinet to make a pro-PA system suited to small theatres and large clubs with a power handling capacity of 500W RMS. Also featured, the R Series PA from **HK**, a two box system that addresses the need for wide and narrow dispersion, long and short throw capability, from the same system, in a simple but effective fashion. Simply turn the uniformly square RT 112 F mid-high box through 90 degrees to alter the dispersion pattern from 25 to 50 degrees.

The **Meyer** 'Sound Beam' SB-1 (commended in the PLASA Product Excellence Awards) on the Autograph stand, is a most curious device to look at, though sensible in what it achieves. Designed specifically for use in Japanese large-domed stadium venues, the SB-1 addresses a very real need for distant sound delivery in venues where, due to earthquake-zone building regulations, it is not possible to fly delay speaker clusters. The SB-1 looks like a one metre diameter satellite dish (a 4" compression driver sits in the bullet-shaped pod over the centre of the cone) and is indeed a parabolic projector capable of producing an active 10 degree beam at 450ft across a five octave frequency range and will deliver 110dB at 100 metres. Like so many of Meyer's products these days, the SB-1 is totally self contained: the dish housing accommodates the



Martin Audio's Rod Short with the new E1300 high performance amplifier.

amplification, signal processing and control electronics and even has a neat little compartment for the pod assembly to stow in during shipping.

Among those exercising their audio muscle in the substantial sound area were **Celestion International** with their new CX1812 sub-bass. Designed for club and live applications, it has a pair of 18" drivers to handle 1200W down to 30Hz. People were coming out of Celestion's demo room "with their trousers still flapping" according to the report we heard (though we didn't enquire too closely as to the source of this motion). First prize for evocative product description. Another company who don't mince their words are **Cerwin-Vega**, who were showing their new E series speakers, from the 80W E-26FB bookshelf monitor for bedroom DJs at the entry level, to the 600W 1515 with that 'bass in your face club sound' at the top end. With their customary reticence, Cerwin-Vega advise a reinforced floor for anyone taking the 1515 home.

**EVI Pro Audio** had several muscular items to impress PLASA visitors. Off stand in one of Earls Court's larger rooms, demonstrations of the new Electro-Voice X-Array concert PA system were given to audiences hungry to discover just what this new beast is that's about to premier with the Rolling Stones' *Bridges to Babylon* tour. A completely new design from the old MT series, the X-Array comes in three identically sized cabinet types: the Xb bass cab contains two 18", the Xf mid-high long throw box has twin compression and twin 12", both on 40 by 20 degree horn flares, while the Xn for the near field area covers the full sound spectrum from 48Hz to 16kHz, crossing at 14Hz and 1.6kHz.

An attractive feature of the flying system was the hinge-style linking on the back of the cabinet, full structural support being provided by metal members running through each box, making the front helping devices non-load bearing. A daring move to put the system out on such a high profile tour as the Stones, but, as Bob Doyle, EVI's charismatic sales manager said: "If you don't put your dick on the table you're not going to get anywhere, are you?" Hmm!

For the MI market, EVI had the Powermate 1000 from **Dynacord**, a very robust little 10- or 16-channel DJ mixer with a 500W output and built-in digital effects. Metal framed with an integral metal lid, this unit looked decidedly bombproof.

Also on stand, the new **Klark Teknik** DN8000 loudspeaker processor, a combined five-way crossover with digital multi-processing and 32 user memories. Star of the stand though was the Midas XL250, a 20 bus monitor console designed with in-ear monitoring in mind. The desk EQ is based on the highly successful XL3.



Tim Pollard and Sonia Calver of Celestion with the new KR Series.

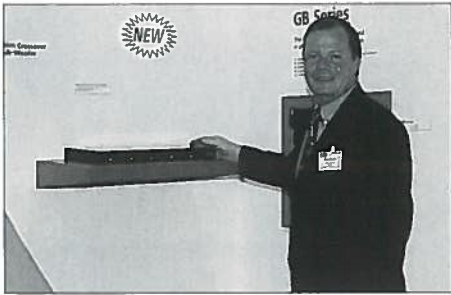
**Greystone Industries** (which includes Shuttlesound) were also to be found on the EVI stand, though they reserved their main thrust for a series of seminars and invited (or maybe coerced) a number of leading lights from the installation, theatre and live sound business.

Harman's presence loomed as large as ever. From **C Audio**, the MFC multi-function crossover, a 1U unit that provides two channel (or stereo) outputs for bi-amp systems, plus a mono out for sub-bass. There were, naturally, several items from **JBL**: Sound Power is a new range of digitally controlled speaker enclosures for the install market. There are nine boxes in the series, a choice of two bass and seven mid-highs including the SP222, a wedge-shaped enclosure (as in monitor wedge) specifically designed for low ceiling environments where physical headroom is a major consideration. The whole series approaches the ergonomics of install criteria in a practical manner with sloping sides, eyebolt attachment points on all faces, and all full range boxes have by-passable passive networks.

Finally from the Harman stable, **AKG** launched their new in-ear monitoring system, the EMS 1. Featuring IVA, or individual virtual acoustics, the monitors claim to be able to resolve the conundrum such devices produce of sound always appearing to be in the listener's head, arriving without direction. Using experience gained from AKG's existing UHF wireless mic technology, the system is claimed to deliver a more natural on-stage sound to the performer.

**Martin Audio** have produced an entirely new range of speakers designed specifically for the Cinema market following a successful installation at a new multi-screen venue in Cardiff. The Screen 4 is a three-way system: two 15"s in a separate bass cabinet, plus a 6.5" and a 1" compression driver in a compound horn. The mid-high end gives a dispersion pattern of 40 by 90 degrees and, they claim, the horn design enables very high SPLs at the top end without distortion. The Effect 2 could be used to add surround sound to the main PA of Screen 4s or used as a stand-alone device for small viewing theatres. A passive two-way box containing an 8" bass driver and 1.25" hf device, the Effect 2 is a slim-line cabinet with 15 degree slope on its sides for neat wall-mounting. The C516 flush-mount ceiling speaker might also be useful in the cinema environment, but has much wider applications in the general world of distributed sound systems. Perhaps of most significance is Martin's entry into the world of amplifier development. The E1300 is a big output (650W into four ohms, 1200W bridged into eight ohms) power amp with a high frequency linear power supply.

**Wembley Loudspeakers** had a range of speakers and spare parts on show. Where most



**Glen Harris of C Audio with the new multi-function crossover.**

exhibitors were trumpeting their newest releases, Wembley were focusing on the past. As Paul MacCallum explained, they've always repaired older speakers but, driven by the recent interest in the retro sound, they've seen a big pick-up in the market for repairing and renovating old speakers, cabinets, combos and jukeboxes.

**Mach Systems** are obviously aiming at road, not home use, with their MTX series speakers. Targeted at the DJ and small band market, they offer high power handling in a compact size. They're designed for easy handling with robust construction and finish.

Noteworthy in a different way for their robust construction were two new drivers on show from **Volt Loudspeakers**: the 12" RCX3153 and the 18" R4505. Both feature Volt's patented Radial chassis design which uses the chassis as a giant heatsink for the voice coil. The R4504 also boasts unique secondary cooling with a rear vented magnet system. Volt claim a higher maximum output due to lower voice coil temperatures and were quoting independent testing of the cooling performance by Aachen University to back up their claim. Physics and electroacoustics aside, they certainly get the prize for most unusual brochure with a multi-part folding creation that's as idiosyncratic as their speaker design.

**Beyma UK** were also showing a number of new drivers. Particular interest was focused on the 21" 21L45 which uses an innovative design with a pair of opposed magnets to produce the energy needed to drive a large speaker, overcoming the technical difficulties of manufacturing very large single magnets (a key benefit, given the current worldwide magnet shortage). Beyma's new CP380/ M compression driver uses a mylar diaphragm to provide an extra 6dB of sensitivity at the same time as reducing manufacturing (and hence end-user) costs. And for those building their own cabinets, the FD250 is a high power off-the-shelf two-way crossover with an adjustable impedance and pad on the top end, designed to accommodate most standard requirements. **C Audio**, meanwhile, were displaying their GN and SRX series of power amplifiers, and the new MFC multi-function crossover. Housed in a 1U rackmount unit, this has a twochannel or stereo output for bi-amped speakers and a sub-bass output, with the crossover points carried on two plug-in cards.

**Matrix Audio Developments** (as they say, 'MAD, not insane' and who are we to argue?), were following their first appearance at PLASA last year with a couple of new amps, the 2UA2000 Professional providing 1000W per channel and the STRA1500 at 750W per channel, both featuring active limiters and integral active crossovers on each channel.

**Showcom Audio** also had some big power



**Roy Millington (right) with Janet Barnes and Chris Woodruff of Cloud and the new 44/50.**

amps on show. With products from **L-Acoustics**, **Chevin Research** and **XTA Electronics** on the stand, Showcom used PLASA as the world launch for both the Chevin A4000 power amplifier (2500W per side into two ohms) and the L-Acoustics 115FM high performance floor monitor (127dB). Another UK power amplifier launch was the CyberLogic NC-400 Power System, being shown by **Marquee Audio**. Marquee used PLASA to announce their appointment as exclusive UK distributors for CyberLogic. With various products on show from their wide range, Marquee chose a more low-key approach than previous years, concentrating on building relationships with core customers and emphasising the quality of their service, according to Tim McCall.

Moving down from heavy-duty power amps to smaller, more flexible, mixer amps, **Cloud Electronics** were showing their new 44/50, a six input, four zone mixer amplifier with four 50W power amplifiers, all in a 2U case. With a range of options, including dedicated four-zone paging microphone, remote control of level and source selection, and 100V line output, the 44/50 looked ideal for smaller venues with simple voice and music requirements.

In the same vein was the Midas M2420 from **Baldwin Boxall Communications**. The M2420 offers four independent 20W channels in a 2U frame. Each channel has two inputs, with level controls on the back for priority inputs and on the front for non-priority (e.g. music) inputs. Also new for the show was the Vigil Compact, a four-zone monitored routing mixer for the voice alarm market. As its name suggests, it is a compact 1U unit and it offers monitoring of both microphone and loudspeaker lines for compliance with VA standards.

Another company promoting their new voice alarm systems was **Millbank Electronics**. Two new power amplifiers, the PAM250 and PAM120, were being controlled from a modular cardframe containing audio inputs, digital voice messages, and fault monitoring through DC loudspeaker surveillance. The whole system was monitored by the FS3M fault scanner with an LCD screen to display faults from any of the system components.

**SigNET AC** were promoting their SigNET LS voice alarm system on the back of their latest project, the Chek Lap Kok airport in Hong Kong, equivalent in size to Heathrow and JFK combined. Currently being installed and commissioned, the project is an integrated voice alarm, public address and background music system with central and distributed digital message stores and live paging from any of the 10 workstations or 56 microphones located around the airport.

Just around the corner, **Whiteley Electronics** were also showing digital audio and messaging



**David Kirk and Lisa Heslop of Allen & Heath with the GL3300.**

products and highlighting recent transportation projects, in their case focusing on rail and underground projects. New products include the DABS-Link which allows the wide area distribution of high-quality audio over telecoms lines (Kilostream or ISDN), and the DAS 2000 digital announcing system, a paging microphone with integrated digital message store for both simple and complex messages.

As part of their focus on their sound engineering services, **TOA** were promoting their latest digital technology both for system design and for system control, including the brand new SX-1000 series Smart Matrix. This is a programmable matrix, offering control of up to 64 simultaneous inputs and outputs, with self-diagnosis, operational history and graphical set-up either from the front panel LCD or a PC running Windows.

**Out Board** launched the TiMax - a new audio matrix system that allows control of level and time delay at every matrix point. Aimed squarely at sound reproduction in theatre and auditoria with multiple speakers, the intention is that it bridges the divide between the conflicting requirements of delivering an even sound pressure level across the listening area, as well as producing directional information about the source of a sound.

It was interesting to see **Delta Sound** also have a new matrix for both voice alarm and standard PA requirements, capable of digital control through a serial interface. PLASA was chosen for the very first look at their forthcoming MiniMatrix, with selectable priority switching and RS232 control. It comes as an eight input, eight output unit as standard, with four input and four output modules to allow systems to be built up to meet particular requirements. Delta were also showing a selection of the Paso range, including the new series 3000 amplifiers and the CS1000 conference management system.

**Allen & Heath** premiered their own matrix - in their case the fully-digital DR66 digital mix processor. The DR66, along with its big brother the DR128, is aimed at the installed systems market and offers a six input, six output matrix with a range of digital signal processing facilities such as parametric and graphic equalisers, levels, limiters and gates, all controlled using A&H's WinDR software for easy graphical configuration on a PC or AMX panel.

Allen & Heath launched four other new products at PLASA: the GL3300 eight-buss console, the MixWizard WZ14:4:2 console and WZ20:8:2 dedicated eight-track recording mixer, and the GR05 zone mixer. Like the other desks in the GL series, the GL3300 is a dual function mixer, allowing use in front-of-house or dedicated monitor roles, or in dual mode combining both tasks.



Jon Ridel (left) and Alison Brett of Soundcraft with Paul Braddock of Wigwam.

Big consoles for live sound were also on show from Amek and Soundcraft. **Amek Technology Group** were very excited about the latest version of their Recall automated live sound console, the Recall RN, with signal path designed by Rupert Neve. Featuring the renowned audio quality of Neve's audio designs, this enhances the sophisticated Recall desk with its recallable Virtual Dynamics processing system. Alongside the Recall RN was a full range of Rupert Neve's 9098 signal processors. Pitched between their flagship Broadway digitally-controlled analogue console and the lower-priced K2 live sound mixer, **Soundcraft** revealed their new Series FIVE FOH consoles for touring and installations. Available in frame sizes of 24 to 48 input channels, the Series FIVE includes LCR panning, 10 VCA groups and MIDI scene control.

**Spirit by Soundcraft** launched a new Powerstation range as an all-in-one powered mixer solution for smaller venues and band use. The new range starts at the Powerstation 350 with eight inputs and two 175W channels, up to the Powerstation 1200 with 18 mono inputs and two 600W channels. New features include the Lexicon effects unit with editable and storable programs. Other new products included a 16-channel version of the LX7 live sound console (which received a commendation for Product Excellence) and the UK debut for the Monitor 2 series, a monitor console available in 24-, 32- and 40-channel models which can also be operated as a FOH console at the touch of a couple of buttons.

**Studiomaster** brought new versions of their powered mixers for a first showing, with the Vision 708 and 712 (700W) and Horizon 1208 and 1216 (1200W) models. The updated Club 2000 is available in 14-, 18- and 22-input models, whilst the new Rotary Club offers a compact mixer for first-time users with four mono and four stereo channels in a robust chassis with rack-mount option. Another company showing compact mixers was **Citronic** with their new DJ mixers, the DJ-Pro and the CDM 7:2 and 10:4. Other new products from Citronic were the ZM series of zone mixers (two-zone mixer with two-zone and four-zone expansion units, with either local or remote controls) and the AP series of graphic equalisers (dual 15 band and single and dual 31 band).

**Formula Sound** received a highly enthusiastic response to the first showing of their new fixed format mixer, the XL-1. Features on this smart-looking unit include two balanced low impedance mic inputs, 10 stereo music inputs, three-band EQ per channel, stereo aux buss with choice of pre- or post-send, two headphone output jack sockets, split monitoring, remote music mute, internal gains trim on stereo channels and a whole load more.



Formula Sound's Sandra Cockell (right) presents a new XL-1 mixer to Disco International DJ of the Year, Lady B.

The success of the XL-1 has been well earned as it follows many months of consultation with end-users.

**Numark** brought the 1800 range of mixers to the show: three small DJ consoles with increasing levels of features. Easily readable fascia panels in low light conditions (thanks to thoughtful use of paint and design) and 100% kill function are common to all three. The Beatkeeper is a bit of a beast, with its visual readout and automatic BPM tracking of up to four simultaneous inputs, but for sexiness you couldn't want for a more attractive console than the special edition TT1700, with some very special paint treatments.

One piece of equipment that received a deluge of attention on Sunday was the **CDJ-1200 from Gemini** with a host of pro-DJ features including quick response Jog wheel, pitch bend, auto cue, and all the other key functions commonly associated with more expensive machines. Also on show the 676 pro-mixer the upgraded version of the 626 with digital sampling, and the XRS PA system as used for the DJ competition on the first night of PLASA. **Lamba** had two new mixers from **KAM** on show, the GMX-One and Beat-Pro. Both aimed at the club installer, the Beat-Pro is the higher spec, based on the features of the GMX-One, but with a BPM section added.

The Altai Group were showing products from the **Eagle** and **SoundLAB** ranges, using the show to launch the new CDJ500 and CDJ600 twin CD players and to premier the CDJ700. This single pro CD player has a flat desktop design to allow DJs to work with CDs in the same way as vinyl, with features such as jog dial to speed up, slow down and pause playing ready for a cue, instant start, and digital (as well as analogue) output for connection to a PC or separate DAC.

**Denon** were bringing the success of their DN-2500F DJ CD player to bear on a new professional Mini Disc recorder for DJs, the DN-M2000R. Advantageous features of this smart new unit, aside from the durability of the Mini Disc itself over the notoriously spoilsome CD, are the instant start (within 0.01 seconds of pressing Play button) and record, +/- 8% BPM slider control, seamless loop and auto cue function (with five-step adjustable audio detection points from -36 to -60dB). Also from Denon, there came a 200 CD auto changer, the DN-1400F, which boasts configurable serial control interfaces (RS232C/RS422A), greater flexibility due to its two CD drives, analogue output through balanced and unbalanced jacks, digital output via two 3-pin XLR balanced Out jacks and a dust-proof casing.

**Pioneer** launched the latest version of the successful CDJ-500 CD turntable, the CDJ-500S, a light and portable version of the CDJ-500II. Vestax were again in evidence with

# Uplifting News



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**Davis Soewondo of Dempo with Helen Coleman and Chris Scott of Logic Systems.**

their DJ mixers, turntables, CD players, hard-disk recorders and signal processors. Cutest amongst these was the PMC05 Mk IV - a new scratcher tool with a clear plastic body so you can actually see its internal machinations. No doubt a trend others may well follow.

Ever popular Karaoke systems were brought to us by **Karaoke UK**, **Nikkodo UK** and **Synthesis AV**. **Ultimate** were offering their custom CD services to the DJ market, including voice-overs, jingles and impressions. Offering custom music compilations on CD for the DJ were **Entertainment Resources** and **Music Factory Mastermix**. **Terralec**, who offer a wide range of mobile DJ equipment by mail order, introduced the latest mixers in the JB Systems Classic Series along with a new range of mixers from Oshino. California-based **American DJ** were showing their extensive range of both DJ lighting effects and audio systems, which included the PROformer range of mixers. **McTex**, their Dutch distributor, were also at the show. From France, **Musicalement Votre** were displaying lighting effects, turntables, CD players and mixers for the mobile market.

**Yamaha-Kemble** had the new 03D digital mixing console on stand. Based on the same 32-bit technology as the hugely successful 02R, the 03D offers the same sonic transparency and digital interface capabilities in a smaller footprint console at a more affordable price. Also new on the Yamaha stand, were the P series amplifiers, aimed at both PA and studio monitoring applications.

**Key Audio Systems** had a big range of new products, including the **Mackie** Digital 8-Bus and SR40-8 and SR56-8 consoles, the Event Electronics Layla digital multitrack recorder, the Ensoniq Pairs and ASR-X, and the Clavia Nord Lead 2. Possibly the most entertaining was the launch of the Mackie HUI, a mixing control surface for the Digi-Design ProTools 4.0, giving an operator real tactile control for a real-time interface to the ProTools package. We started with analogue recording hardware, added digital control to it, moved over to pure digital hardware, then to software only packages and now we're coming full circle with a hardware controller for a software package. What goes around, comes around.

Before we move on, mention must be made of **Deltron Components** and **Roxburgh Electronics** who had the range of smallest components on show (though by no means the smallest range of components). Deltron were displaying some of their connector and stage box range, while Roxburgh showed the ALPS range of potentiometers and Re-an knobs.

Having seen various console manufacturers showing new desks with a seemingly endless vista of controls stretching to the horizon, it was



**Peter Barnard and Dennis Drumm of JHS (centre) with Andreas Mayerl of Music and Sales and Bernd Buthe of Rocksound.**

great to see Gary Bennett getting just as excited about a single component, extolling the virtues of a new motorised fader, a rotary encoder with built-in LED display, and a joystick controller with push-on selector switch.

It must be hard to come up with a new way to launch small components, but **Neutrik** demonstrated a certain amount of ingenuity, not to mention whimsy, with a pair of dancing puppets made out of EaZyCon connectors. A new style of XLR connector, the aim of the EaZyCon is rapid assembly and easy handling for engineers, with a no-screws clip-in action, pre-soldered hot and cold pins, compression-clamped screen and EMC compliant screened shell. A handy time-saving development I've no doubt, but it's not clear whether puppetry will catch on as an essential part of the touring engineer's repertoire of technical mastery.

Among the other companies showing connectors and cables, were Kelsey Acoustics, Klotz and Link. **Kelsey** had their first showing of the ATM Super-JTC cables. All in this range use oxygen-free copper and have an arctic grade PVC jacket which maintains a surprising flexibility, even in the larger multicores. **Klotz Audio Interface Systems** were showing their audio video cables and cable systems. New products included the Sentinel AES/EBU digital cable family, the SmartLINK stagebox line, the Audiocheck micro-processor controlled cable and connector checker, and the SMRT Systems modular boxes and panel system. **Link** were exhibiting a wide range of audio connectors, cables, panels and accessories. Among the new products were cables for audio, video and lighting control, cable reels and the Pesa CE marked cable crossovers.

It's not only hard to market connectors and other accessories, it's harder to distinguish one design from another. There's less room for whizz-bang gizmos than on the big amps and mixing consoles. So credit where it's due for the disarmingly simple differences a manufacturer like **EMO Systems** brings to their products. Alongside their existing products such as the GEQ series graphic equalisers and rack-mounting DI boxes, EMO launched their new C600 series power distribution panels. These offer 16A Ceeform input connectors on the front panel, with front-and rear-mounted 13A and IEC320 outlets in various combinations.

The C600 panels incorporate a clever recessed latching feature to lock the cover of the Ceeform connector in place - the sort of design detail which seems so simple once you've seen it that you can't understand why everybody doesn't do it.

Another product that impressed with its low-key but interesting and, undoubtedly, useful new features was the mid-ranged



**James Bamlett (left) and Justin Banks (right) of Meyer Sound Europe with Mari Sunderland of Meyer Sound Inc.**

ILD300 induction loop amplifier from **Ampetronic**. The metal loss corrector allows adjustment to correct frequency-dependent losses caused by metal in buildings. Monitoring of loop condition detects faults such as open and part-short circuit, with both local and remote fault display facilities.

A couple of stands away from Ampetronic, **Wintonfield Systems** launched the Williams SoundPlus TX600 and TX650 infra-red listening systems. With single and two-channel modes available, the SoundPlus is aimed at a variety of markets, including hearing assistance for the hard of hearing, live cinema and theatre commentary for those with impaired vision, and simultaneous translation for lectures, courtrooms and conferences.

Portability is the name of the game for **Addabox**, and new to their stand were the Communicator and Presenter, a complementary pair of products for conferences and presentations. The Communicator is a portable sound system with VHF receiver, while the Presenter is a wooden lectern with twin microphones, controls for the Communicator and VHF transmitter, and both lectern and speaker are battery-powered for complete cable-free operation.

Aimed at both portable and fixed conference installations, **Clock Audio Projects** were showing the Enterprise conference system, designed to provide an audio and voting system with simple daisy-chain cabling to up to 30 delegates. Other new products from Clock Audio Projects included a through-window communication system which was showing alongside their established range of hand-assembled microphones.

On the other side of the upper floor, **A&F McKay Audio** were showing hand-built microphones, but from somewhat further afield than Hampshire. A&F McKay are specialist distributors of Russian studio and live microphones from Oktava and the high-end Neve. Unknown in the West until a couple of years ago, they've received surprisingly good reviews. PLASA saw the launch here of the MK319 cardioid condenser, as well as A&F McKay's announcement of the worldwide distributorship of the German BPM Studiotechnik range.

Representing a more familiar German microphone manufacturer, **Sennheiser UK** had their largest ever presence at PLASA, with Sennheiser, **Anchor** and **D.A.S. Audio** products on show. There was a strong representation from D.A.S. Audio, distributed by Sennheiser since earlier this year, including the new DS-15, a 15" equipped moulded cabinet, and the Pf series of live sound speakers aimed at up and coming new bands. New from Sennheiser themselves were the System 3050





Tom Simpson of Bose with the Auditor system.

channel-switchable in-ear monitor system, the low-cost 1081/1083 VHF frequency switchable radio microphone system, and the mid-range SKM 3072 hand-held transmitter with 32 programmable frequencies and LCD read-out.

**Trantec** were also showing radio microphones with programmable frequencies in the form of their new range of diversity radio microphone systems, for which they collected the Award For Product Excellence: the S3000 fixed VHF, S3500 variable VHF and S4000 variable UHF systems. With 32 switchable channels on the S3500, frequencies are software-selectable out of a possible choice of 2000, including the DTI-approved and deregulated channels, fixed site channels and even overseas channels for touring. An LCD read-out on both transmitters and receivers gives the currently-selected frequency and easy-to-use controls make changing the frequency a snap, so these look like a certain hit with the hire market. You can even programme the receiver to boot up with your own company name. The advanced technology is complemented by a stylish design, courtesy of the same designers who worked on the Psion organisers.

Another product with a consciously stylish appearance was the Auditor system from **Bose**, an auralisation package which claims to let you listen to your sound system even before your venue is built. Once you get over the ungainly chin-rest listening position and the feeling of looking totally foolish, the Auditor gives a surprisingly clear 3D sound image. Close your eyes, and you really hear someone walking across the stage in front of you. As Bose have quoted, this may be 'the most powerful selling tool in the history of pro audio'. What client can resist being told they're hearing exactly what their system will sound like from various points in their venue?

Of course, whether Auditor (and the back-end Modeler system which produces the audio filters from a custom CAD model of the venue) is a powerful design tool remains open to question: it's proprietary technology, working only with Bose systems and subject to the interpretation and verification of Bose engineers.

Regardless of the acoustic accuracy, what we're seeing here is the future of audio sales for large systems, similar to the virtual reality fly-throughs being used to promote big new buildings. For better or worse, it is likely that all the major manufacturers and system houses will be adopting similar technology over the next few years.

One audio innovation which may not have been that easy to find given that it was on the stand of British Harlequin and subsidiary **Black Cat Music**, was the **Wenger** sound isolation room. Wenger is currently celebrating 50 years



Paul Ward of Fuzion (right) with Karl von Kries of Technomad.

in manufacturing, and for 25 of those has been producing sound isolation rooms.

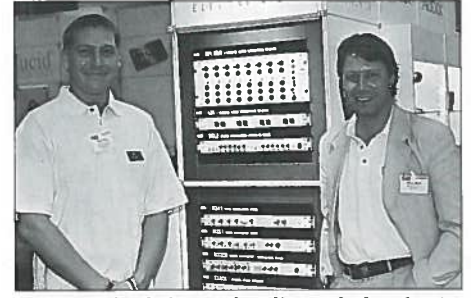
The V-Room is a modular sound-proofed cabin with electronically variable acoustics which can, at the touch of a button, translate the acoustics into those of a concert hall or cathedral, for example. The recent addition of variable acoustics has added a new dimension to the room which can be set up in a few hours and moved or re-sized as required.

Courtenay Nicholas of **Sound Design**, an independent noise and acoustic consultancy, explained some of their recent projects, including work for the University of Surrey and the West of England Showground. In the latter project, Sound Design worked with the client to radically improve a difficult acoustic in the multi-purpose venue. By designing and installing a system of 1600 roof-mounted absorbers, up to half of which may be taken down for different events, the reverb time was halved and intelligibility was massively improved (RASTI from a garbled 0.2 to an impressive 0.7).

With Sean Turk tantalisingly hinting at some interesting new products in the pipeline, **SCV London** were showing their UK manufactured signal processing equipment from **LA Audio** and SCV Electronics, including the modular Universal Buffer System with a range of input, output and special function modules to solve interfacing problems in production, broadcast and installed systems.

**Canford Audio** were promoting the latest issue of their biennial catalogue *The Source*, with another 500 products added, taking the total to over 12,000. It's now so comprehensive that in our experience it often gets used as a general audio reference book to see just what's available as much as a catalogue proper. Among the products on display were a new range of budget radio microphones from Canford themselves, the **K&M** range of stands and accessories, and the **Telex RTS** two-wire intercom system, a feature-rich user programmable system with single and dual channel headset stations and two and four channel masters.

**Fuzion** seem to have found a select, but well chosen, range of new products. RealQ2 is a real time adaptive equaliser from **Sabine**, one of the more interesting features of which is its ability to provide dynamic control of audio environments by the simple means of broadcasting a sub-sonic bass signal, monitoring the room response, and modifying the EQ accordingly. Also on display from Sabine, the new replacement for the 901 Feedback Exterminator, the now improved 1020 and 2020 (twin channel) versions. Perhaps Sabine's flagship new product is the PowerQ - an all digital 24-bit two-channel processor that provides everything bar a



Sean Turk (left) and Julian Blyth of SCV London.

crossover facility. As their blurb almost says, a rack of stuff in a single 2U unit. **Biamp's** range of niche audio routing and switching products were also on display.

**dB Technologies** of Italy are a producer of radio mic and in-ear monitoring systems, and have decided to put their own name on a range of UHF and VHF products. The relatively low spec IEMS-100 is intended for environments other than music, particularly communications, while products like the 2000G, a 16-channel UHF diversity receiver, address the more professional audio end at a very competitive price.

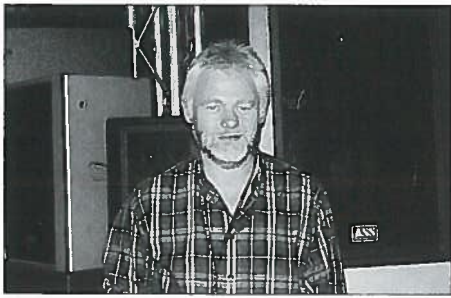
Two other interesting niche products on the Fuzion stand: a range of virtually weatherproof speakers from **Technomad**, inventively displayed working with a gentle flow of water running down the cabinet fascias. Not attractive, the cabinets are essentially a robust injection-moulded enclosure: they deliver audio, not aesthetics. The now fully developed Nexa Alpha was also on show, as were a selection of graphics and signal processing equipment from **Symetrix**. To complete a well presented stand, the king of the crop (pun intended) the **Crown K2**, an 800W per channel into four ohms power amp. The unique feature of the amp is the sealed enclosure of the electronics giving claimed greater reliability, and yet managing heat disposal through the stylish sculpting of its solid metal fascia.

Distributors **LMC** had one of the more unique products of the show on display. Not glamorous by any stretch of the imagination, the Midas EZ Tilt is worthy of praise for directly addressing the problem of how to raise today's

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**Tony Rossell of Acoustic Sound Systems with the Spectra range of loudspeakers.**

heavy consoles without a herd of Gladiators or a hernia. A simple collapsible metal frame with curved skids, the EZ may not be pretty, but it does the job and keeps osteopaths at arm's length. **CP Sound** had the premier RSE range of low power 1U amps from the Power Fet Series. The 150X and 250X deliver exactly the power you'd expect of their badges and are aimed directly at the mobile DJ market. Also on show, the new 21" Bass Bin built by CP.

**Ecler** added to their stable of club disco mixers with the addition of the SMAC 32 and 42. Designed to drop neatly between two Technics turntables or CD players, the SMAC's neatest feature is decidedly low-tech but thoughtful. Inclined faders, giving a more ergonomic sensitivity for the operator, plus the close cut buttons, make for a snappy operation. Two high level quarter jack outputs allow for high impedance headphones and the use of Stanton Vibemaster monitoring.

**ASS** managed to produce yet another new range of PA cabinets, the Spektra series, targeted primarily at the club installation market. The 10 cabinet range, all passive, are trapezoidal in design, bar the bass cabs which are square, and come finished in a highly durable flecked paint finish, making them well suited to environments where concealment is just not possible.

Three items of interest on the **Autograph Sales** stand were the **Meyer SB-1** (covered in detail earlier) the Megs Pivotal system from **ATM Flyware**, and the DSP24 from **Lab Gruppen**. The ATM flying system is a kind of all-things-to-all-men idea designed to pick up and accurately array any of the new compact PAs. A crossbow-like main grid component is adjustable in every parameter, making the first set-up a little clumsy, but once configured to your system footprint - easy to use. The pivoting side cabinet mount, which gives the system its name, makes not only system helping fairly straightforward, but also maintains load bearing directly onto the main grid. More significantly, the pivot device also permits different kelp angles on different speakers in the same column.

The DSP-24 from Lab Gruppen is a computer programmable (via Lab Gruppen's VIEW (Visual Interactive Equalisation Workbench software) speaker processor featuring two in, four out digital frequency crossover with 66-band parametric available on each output, plus every filter you can imagine. An enthusiastic John Adeleke maintained this unit could mimic every other speaker processor in existence.

For dealers **Arbiter** the 160S from dbx was probably star of the stand. The 160S provides all the features of older dbx compressor/limiters, including those of the 165A plus hardware relay bypass and external sidechain



**PLASA Chairman Paul Adams presents an antique barometer to Brenda White of PLASA Special Projects (formerly of SCIF) who is retiring this year.**

input. The unit is extremely attractively presented with blue aluminium front panel and large, solid, hand-machined silver control knobs.

A number of **DOD** products were also featured, particularly the SR4760H, a studio headphone amplifier with six stereo headphone outputs all packaged in a neat 1U rack module; and the SR 4000 Room Delay, a two channel in/two channel out room delay with up to two seconds of delay to each channel. A simple, but well thought-out item, the Gig Rig is an injection moulded rack designed for the mobile DJ with a 12U up-stand top area for more discrete controls.

**OHM** gave a sneak preview of two products scheduled to appear around November time. The FL2800 is a bullet-proof power amp with built-in crossover card and limiter as standard. For the install market, they had two background speakers, the MR130i and the MR260i.

On the **Sound Department** stand, beside the towering presence of the **Community** Airforce system, was the new CA 18 amplifier from **Crest**. This amp completes the Crest range, now from 200 to 1800W, designed for the club installer. The Airforce is exactly as the name suggests, all drivers are carbon fibre (or mylar) ferrofluid filled and air cooled, for greater volume with reduced distortion. It's a concert system PA in five boxes, all identically sized apart from the AF4-D, a downfill, which still maintains the footprint of its larger cousins. The AF4-D is specified as giving uniform coverage from directly beneath it to a distance equivalent to four times the trim height at 30 degrees horizontal. The AF1, 2 and 3 are more conventional, giving 20, 40 and 60 degree vertical (all with the same 30 degree horizontal) of coverage, while the last in the range is the AF10, a low-end unit. The cabinets are somewhat larger than that we have become used to seeing from European manufacturers. Almost four feet tall and two feet four wide, they are substantially larger than even the new X-Array from EV.

Pride of place on the **Peavey Electronics** stand was the Media Matrix, the installer's dream as they say, with some of the latest software options on show. But not to be outshone, also featured was the CEX 5 digital processor with five band parametric on input and three band on each of the four outs. The IA series of amplifiers have been improved to give lower distortion and better frequency response.



**Bob Harrison and John Midgley of Beyerdynamic with the MCD 100 digital mic.**

The introduction of the IA800 and IA1600 adds more powerful units to the range.

**Eminence**, the US speaker manufacturer, displayed the new 18" low frequency speaker for the PS range, the 600LF. Designed for use in high power enclosures, the speaker is intended for cabinets of up to 200 litre volumes. Also joining the PS range a 12", the 400LF with a 4" voice coil for sub bass use in more compact enclosures, capable of reaching down to 37Hz.

**Dare Pro Audio** showed the latest addition to its range of all bi-polar amps, the MCs, a 750W per channel version. Attracting most attention was the Eclipse speaker built for the installer market. In an attractive teardrop housing moulded from Audiocrete - Dare's self developed audio composite - the unusual shape is claimed to be the optimum loudspeaker enclosure and delivers across a dispersion pattern nominally 100 by 100 degrees. The 6.5" speaker and 1.5" tweeter can handle 200W of power and look well suited to the wine bar, club or disco market.

Distributor **HW International** had several new products from its established stable of manufacturers. Under their own badge was the MX20 rack-mounting mixer, a multi-purpose unit with built in phantom power for each channel. HW's product range from Phonics was expanded by the arrival of the Power Pod 8, an eight-channel mixer with 200W power amp in-built, featuring three band EQ on each input and graphics across the output. **Shure**, HW's most recognisable brand, displayed the P6HWE1, their wire fed IEM system, and were able to give information on the P6TRE1, the wireless version soon to be available. Shure also announced an improved Beta 58a, better top end response, a re-designed capsule for the Beta 57a, and software improvements for the DFR 11EQ feedback reducer.

**Beyerdynamic** impressed everyone with an extensive range of new products, almost too much to cover adequately. The SPL Dynamaxx auto compressor/ limiter also features decompression, inverting the compressor function to open already compressed signals from samplers and keyboards. A couple of new microphones from Beyer: the MC7 is a tiny lapel mic with a serviceable cap behind a sealed gasket. The TG-X 10 is a neat little percussion mic for close mic'ing. It has an acoustic shock mount to reject drum shell noise. Also new from Beyer, a number of radio products: its own dedicated IEM system working VHF producing summed mono, a new UHF and two VHF diversity receivers for the working musician; and for theatre and video production contractors, the U500 wireless system, a 1U rack-mount diversity receiver offering 16 frequencies at the push of a button.

The XTA 226 audiocore is a two in, six out stereo loudspeaker processor with eight band



Bill Woods (right) and Julian Payne (left) of Turbosound with David Lancaster of Harman and the colourful Impact range of loudspeakers.

parametric on each input. All outputs feature crossover filters, five band para, limiter and delay. The Omniphonics Footprint is a reference amplifier first shown in Singapore earlier in the year. Available in two versions, the 300 and 150 offering either 100W or 50W a side, in a 1U package - definitely a studio device.

Also on the Beyerdynamic stand, a couple of new mixers from **Soundtracs**: the RX-8 is targeted at the small semi-pro gigging band who perhaps want to do a bit of studio work at home as well. Available in 24- and 32-channel versions it's possible to monitor an eight track mix through FX returns and then return the same tracks to the first eight mono inputs for mix. The MXD is a small footprint analogue FOH desk available in 32-, 40- and 48-channel configurations. And not forgetting from ASL the SP-01, a neat little device for checking speaker polarity with its own impulse generator, and the RoXX, a small headphone amp.

**Court Acoustics**, in the person of Steven Court, were in fine good humour having received several firm orders within the first two days. On show, the half size SLB1000, a more modest version of his long-running black box system bass bin, the SLB has a slightly deeper back chamber, giving good punch way down in the 60-120Hz range. **Cue Pro Audio Services** announced the formation of a purely sales driven company, Cue-Pro Audio Sales, who will distribute **Apogee** products in the UK. The Apogee D-1 is yet another digital speaker controller to add to the growing list in this competitive part of the audio market. The D-1 features factory pre-set response curves for all Apogee speakers (a pretty extensive range), and all the functions of its existing analogue processor. Via an RS422 port the D-1 can be remotely controlled from your PC where you can access the multiplicity of functions including 1800ms of digital delay, user adjustable protective limiters and optional 26 band parametric filter. Also new from Apogee, the AE-7 and AE-7SB, the low-mid to high unit containing two 10" and a 2" ferrofluid filled compression driver capable of delivering 132dB continuous at one metre, while the sub contains two 15"s and can manage a comparable 128dB at the same range. Both cabinets are trapezoidal and step in at just over three feet tall, exactly two feet wide and an inch deeper. This looks a lot of power in a smallish box.

Distributor **Proel International** had representatives of loudspeaker manufacturer **Selenium** on stand, with their range of durable compression drivers, woofers and tweeters. Also on display on the Proel stand was a range of professional power amplifiers from manufacturer **Watson Acoustic**.



Nigel Cunningham (left) and Richard Harris (right) of Metro Audio with Sean van der Merwe of 8th Avenue Sound and the Stage Management prompt desk.

**Jamo** have this year added to their range of installation flush-mount speakers with their In-Wall speakers. Aimed at both the domestic and commercial markets, the speakers come in a series of five - one sub and four mid-highs. They have also addressed the multi-media PC market with the CS5, a pair of bi-amped (20W each) hi-fi speakers to replace those appalling pieces of shit which are usually bundled with your new PC. There's a 5.25" and a 1" tweeter in each and an output socket to feed a sub-bass cabinet via a 180Hz filter, the cabinets are also magnetically shielded should you need to position them each side of your monitor screen.

**Audio Technica** has enhanced their range of microphones; the ATM 89R has a new capsule mounting that eliminates handling noise. The ATM23E is a neat, short-bodied high intensity percussion microphone. Ideal for use in close mic situations with little space, it's less than half the length of the old 57. The ATM87R is also for drum kits primarily, a plate mic with integral pre-amp, and bass roll off switching facility.

**Turbosound** had three new products to bring along to PLASA. The THL811W is a wide angle box to add to the HiLight range launched last year. A two by 10" with a 1" compression driver on a custom waveguide, the 811W has a 90 degree dispersion (horizontal) from a relatively small cabinet ideal for dancefloors and AV shows where you want a bit of punch over a wide area. New to the Impact range are the 121 and 121A, the former a two-way passive (12" and 1") mid-high unit, the latter with the same contents, but self-powered with



Adam Hall's Bob Mundy (left) shakes on a new exclusive distribution deal with Hz International's Fernley Roch.

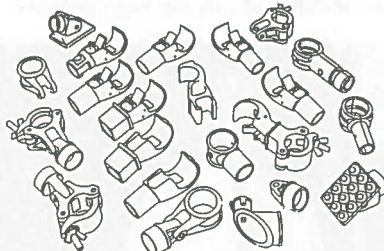
integral 150W and 75W amps to suit. Both come in the standard rotational moulded plastic enclosure (using right-on partially recycled products) in Turbo' Blue or virtually any colour required by the themed environment installer. The THL2 is a full-range speaker in a slightly wedge-shaped enclosure (symmetrical) that is specifically designed for the contractor or mobile DJ who wants a powerful one box system. A fourth new product, the TFM330 is a high-power wedge monitor, again symmetrical for right-left alignment. Known in Turbo' circles as 'The Nutter Wedge' this 15" and 2" active two-way seems to have a big performance capability.

**Adam Hall** seem to be able to accommodate the mundane with the high tech. Their new cable ramp - interlocking one metre sections with cable runs that can comfortably accommodate 95mm cable - is a case in point. Re-designed by the German manufacturer, the ramp lid now Velcros down, and some new turns and corners are to be added to the range of special parts. Alongside is the re-launched Crescendo line of speakers from **Fane**, whom Adam Hall took over last year. Aimed at the modern audio application, the range comprises two 10" for mid and low-mid respectively, 12" for low-mid, and two 15" covering low-mid and bass. There's also a dedicated 18" bass speaker, and an 8" dedicated mid speaker is soon to be added. Similarly, the existing Colossus line is to be augmented by a new 15" and 18".

Following the news that they had taken on distribution of **Hz International** speakers, they

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Emma Horne (left) Neil Becket (centre) and Jo Richards of Jamo.

announced at the show that they are now exclusive distributor and will be taking on responsibility for all existing clients. Looking to breach the install market, they were displaying the prototype E100, another injection-moulded cabinet with perhaps a little more style than the standard moulded enclosures Hz produce for their small portable PAs. Aimed directly at the small venue, the cabinet comes in sand finish or textural effect, and in two versions (100W and 200W) with a 6.5" and tweeter in each.

Pride of place on the 3G stand went to their Fireball console, their first venture into the world of large format professional FOH mixers, successfully launched last year. A little more modest, but new for the show, was the Tempest - a four-bus console with built-in compression, again with the live show in mind. 3G were also promoting the ease of use to be found with Cakewalk, the software, in controlling complex cued shows in conjunction with a Fireball via its Mix Genie automation.

**Audio Projects Inc**, stockists of **Renkus Heinz** and **Furman** products had several new items to show. From Renkus, the Qube - a mid market speaker from 6" to twin 15"s, with their own CDT horn which allows two elements to operate in the same source position, giving seamless crossover and time alignment. To match the Qube, the P series amplifiers, but these had literally just arrived and no detail was available. Furman, meanwhile, seem to have improved on the impossible. The new PL-Pro power conditioner and light module is an improved version of the industry standard PL. Now able to handle 16A as opposed to just 10A, the PL-Pro claims more sophisticated protection circuitry, new line voltage display, and a nice subtle touch, the rack lights automatically turn off when you push them back into the 1U rack fascia. Hurrah.

**Opus Audio Developments**, a well known producer of integrated ranges of speaker cabinets, announced the launch of its own amplifiers and crossovers to match their systems. The HD2000 and 3000 are very stylishly packaged power amps capable of delivering 1kW and 1.5kW into two ohms respectively. Features include standard



Julian Young, Céline Occhionigro and Sandy Macdonald of EAW on the LTP Audio stand.

electronic protection, thermo magnetic circuit breakers, soft start, and a sophisticated temperature management system. The XS-134 and 234 system controllers are similarly spec'd two- and three-way active stereo crossovers matched to Opus PA systems.

The Sound Ceiling from **JBN** is a different beast for the audio installer. As the name suggests, it's a substitute ceiling tile (600mm square) with speakers flush mounted above. Available in two versions, QSP for quality sound pressure - a 200W module; and SMD the soft music dancing version - an 85W module. What's most attractive about this world patented idea is the almost immediate drop (-10dB just a metre away from the field of the ceiling panel) in sound levels. Ideal for the less hip establishments like hotel discos, travelling businessmen can now actually talk to their clients at the tables surrounding the dancefloor while they watch the hookers - sorry, professional escorts - strut their stuff beneath the pounding disco beats.

**Stirling Audio** presented a new optical solution to multi-channel analogue audio signal transfer from Otari. The Lightwinder uses optic fibre cable as a substitute for the large FOH multicores that normally snake their way around concert venues. Two boxes, the Stage Master and Console Master, as you might suspect from the names, are position-specific devices that take up to 48 channels of analogue audio signal and either encode or decode into 20 bit digital audio signal. The Stage Master has high level analogue parallel outputs for use as splitter signal, whilst the Console Master also has 16 channels for analogue inputs for use as stage returns.

The **BSS Audio** product launch for the show was the Soundweb: previewed in April of this year, BSS expect it to ship next January. A PC-based control system for use in conjunction with the BSS 9088 DSP device, it's ideally suited to the installer and designer. Probably the greatest advantages of the two items are the ability to model your control system on screen, especially for large, highly distributed systems, and the capability to not only relieve the cost for the installer of running huge networks of



JBL's Michael McDonald (left) and Simon Jones with the new Soundpower series.

multiway audio cable, but also to make maximum use of all your installed controllers. This means the control network will be established to perform a primary function, but secondary configurations will almost certainly be necessary, yet may not conform to the control needs dictated by the main control layout. With the flexibility of this system, extra required functions in one area can be sublimated discretely to another 9088 elsewhere, and that control parameter can then be routed back to the area in question. Such optimisation of component usage should also prove a cost saver for installers. Also new was the latest addition to the Opal series - the DPR 944 a two-channel compressor/limiter with gate and parametric EQ.

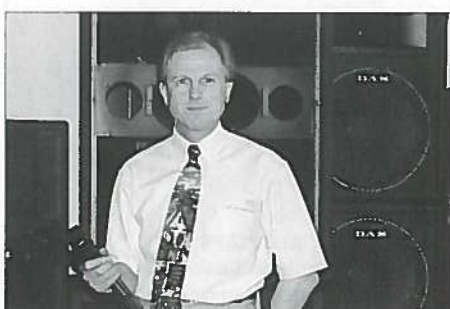
**TW Electronics** announced at the show that they had taken on distribution of the **Alcatel** range of XLR products. For some time they have been looking for a branded product which would fulfil their quality criteria and Alcatel, they say, fitted the bill perfectly.

**LTP Audio** had several new additions to the **EAW** product range on display. For the LA range models 212 and 118 have been added (a two by 12" and single 18" respectively), the 118 giving a frequency response as low as 25Hz. The KF855 is the latest addition to the successful KF concert series, a 70 degree wide angle enclosure for use as a mid-high downfill from flown arrays. A 10" horn-loaded speaker covers the mids while a pair of 2" compression drivers are set to CD horns at 10 and 45 degrees from the vertical respectively.

**Logic Systems** launched a new range of speakers aimed at the larger venue, possibly for install, certainly touring. The CS range comes in six variants; the CS1290s are three slightly smaller matched boxes in mid-high, (12" plus 2" compression on CD horn), bass (2" x 15") and sub-bass (single 18"). The physically larger CS1260 range has a 12", 1.5" compression driver on CD horn plus 1" super tweeter for the mid-high, 2 x 15" horn-loaded for the bass, and push-pull twin 18"s for the sub. The systems come with their own matched controllers and can be integrated with existing LS systems having similar characteristics.



AKG's Max Lyndsay-Johnson and Justin Frost with the new EMS1 in-ear system.



John Wheeler of Sennheiser with the SKM 3072 UHF hand-held radio microphone.



Derek West (left) of Tannoy with Christopher Richards (centre) and Colin Schiele of Cepial.



Studiomaster's managing director, Malik.

The Dynamix Stagemix from distributors MTR is the latest member of the Dynamix family of mixers and is a bit above the entry level mixer for the club small band engineer. Inputs include four mic and two stereo and the desk has built-in A.R.T. 16 bit stereo digital effects. On board amplification is available in either 300W or 600W versions. Built under their own badge, the PPS-48 from MTR is a four-channel 48v phantom power supply in a neat little box of approximately 1U. Though just 10" wide, the unit has phantom present LED and a rear panel ground lift.

Also direct from MTR, the SPA400b, a remarkable little 1U rack-mount power amp with 200W per channel power output. The McGregor CD Mix console is a self-contained rack unit with integral flightcasing for the mobile DJ designed to take the CD player of your choice and comes with the McGregor SD12 mixer and built-in SD12/200 or 500 power amp. Also on show from McGregor, the restyled versions of their established range of cabinets.

Pro audio supplier Turnkey Sound Systems



Gordon Gerstheimer of Selenium loudspeakers (left) with Proel's Paolo Burocchi (centre) and Paul Summers.

were at the show offering their installation services. Among their recent installs is The Arc, a 2,500 capacity club in Birmingham. This London-based company have just moved to new premises in Covent Garden, in the original Crosse & Blackwell food processing factory! Here they plan to provide a state-of-the-art demonstration and training facility, and become an official service centre for a number of major manufacturers.

New from Metro Audio, there was the MA-SMAC stage management audio control unit, which gives a greater degree of flexibility than has been available before, bringing together the various strands of front-of-house and backstage paging, show relay and intercommunications. The innovative control routing matrix allows up to six paging and show relay inputs to be set on a 'priority ladder'. This in turn is regulated by a mode switch for Day/Show, and restricts certain inputs to certain outputs in either mode. Also new from Metro was the MA-Clubs full duplex UHF wireless base station and the MA-RKLI rack light unit. All three products are integrated into



Oliver Reed of ARX on the LTP Audio stand.

a stage manager's prompt desk.

Attracting a great deal of attention was the 'Passport' - a portable sound system from Fender. This is effectively a stylish plastic suitcase which snaps apart, transforming into two speaker cabinets and a free-standing unit consisting of power amps, an eight-channel mixer with digital reverb and a compartment at the rear containing two microphones, mic cables, speaker cables and power lead. Clever, eh? You'd definitely want one.

And you should definitely make plans to be at PLASA next year, because this show is taking great strides and is the key international show for the entertainment technology market. This was the 20th anniversary year of the PLASA show itself, an event marked merely by the success of every facet of the event: the products were interesting, the crowds were well managed, there were places to eat and, for the most part, the quiet end of the hall remained reasonably quiet. It will be interesting to see how next year's show - or indeed any of the other shows around the world in the next 12 months - top it.

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**SELECON**

# FESTIVAL SPIRIT

*Ian Herbert does the rounds at the Edinburgh Festival, where the unusual demands of production prove an ideal technical training ground*

At least the self-employed snooper can fix his or her own timetable in Edinburgh. I've been trekking up there for a good few Festivals now and have scaled down from the first, frenetic, must-fit-them-all-in schedule of seven or eight shows a day to a more acceptable what-the-hell three or four. Venues and their technical staff have less luxury. If St Pollock's Church Hall has seen fit to organise eight two-hour slots for shows from 10am to midnight, then some poor so-and-so will have to operate them until they drop. Which has been known.

You'll know that the Edinburgh Experience, theatre-wise, divides into the International (the 'official') Festival and the Fringe. The one features single shows in the city's fine stock of municipally-owned theatres and the occasional more unlikely venue, with short runs of what can be very complicated shows making technical rehearsals (often with overseas operators and equipment standards) quite an interesting exercise. The other will have shows running from one to three weeks, but usually needing get-in and get-out of scenery (and often refocusing) for every single performance.

In either event, you can expect a high standard of technical ability - and much of the time you'll get it. The Fringe is where good stage managers, lighting and sound men cut their teeth, many of them getting the bug while still at school, and learning more about backstage in a month than most will pick up in a year of less intensive study. They may be starting from scratch in a bare Masonic lodge and having to build seating, stage walls and dressing rooms, as well as dealing with sets and rigging for individual shows; or they may simply be having to meet the tight schedules of a venue that has laid on all the services for the show, from bar staff to battens.

The Pleasance, one of the Fringe 'supervenues', makes an interesting case study, not least because you can see in its present set-up how the enterprise (and Fringe expertise in general) has grown over the years. It started off on quite a modest scale as the big, flat-floored upstairs barn of a hall that the Edinburgh University Sports Association (EUSA) used for student hops, plus the bar below it, which Pleasance marked out for cabaret. Now Pleasance has 10 spaces, including two over the road in the Roxburgh



Theatre group La Cubana at the International Festival with their mixed-media presentation, *Blinded By Love*. photo: Toni Rieri

*"Behind me a couple of lager louts are throwing things at the stage, in front a middle-aged woman is complaining loudly about being molested by the man next to her."*

Halls, the big ones kitted out to a very good standard and the smaller ones (the 10th added only this year) ingeniously burrowed out from attics, storerooms and broom cupboards around the central courtyard that gives the Edinburgh operation its special, holiday character. I've raved in an earlier article about Pleasance London, which was the logical consequence of the Edinburgh seasons and has made year-round employment possible for many of the key figures in the Edinburgh venture.

Three weeks before the start of the Fringe, which runs with the official festival for the last

three weeks of August, a 45ft truck sets out from Pleasance London with much of the gear for building the venue. It's followed pretty soon by a seven-tonner and a couple of transits.

Pleasance London will have been stripped of its boards and much other kit for the journey North. More is stored permanently in Edinburgh, including the Theatre Futures Mirage seating (as used in the Young Vic) which EUSA now uses itself in the main hall for events over the rest of the year. Production manager Dan Watkins (Guildhall and Central trained), master carpenter Tim Powis and a four-man crew will then do the basic building of the spaces for two weeks, before the rest of the venue's 67-person crew comes in to do the finishing touches: drapes, rigging, painting, signage (some super new cartoon-style work this year in the Pleasance's trademark yellow by Paul Garner, a graphic artist who happens also to be performing his own show there).

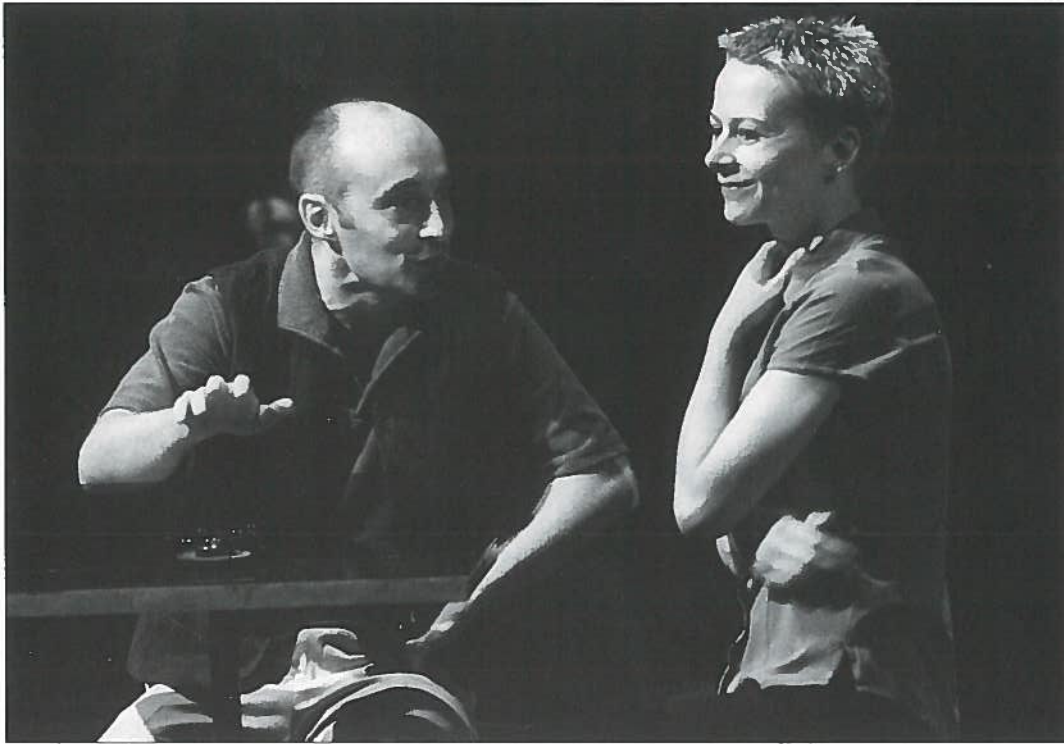
The Pleasance offers a full lighting and sound set-up for its visiting companies, who negotiate for slots in the various spaces and can order their own specials, within reason, on top of the basic rig. In Pleasance One (the big hall) they will get an ETC Express to run 72 ID12 dimmers from Zero 88, giving a two-colour

wash and backlight, and the use of four VL5s, which have replaced the scrollers used in previous years. Soundwise, there are two d&b 902s and two E3s run from an Allen & Heath 14-channel mixer. Pleasance Over the Road, now the big cabaret space with an amphitheatre of Sandler seating surrounding an arrangement of tables, has the Pleasance London board, another ETC giving 96 ways, with six Vari-Lite VL5s, while a 16-channel Soundcraft Delta feeds

four 902s, two 602s and some subsidiary sound on 1801s.

The smaller venues will use Zero 88 Sirius boards, Bose 101s, and 8/2 sound mixers. The lanterns come from Black Light, whilst the sound equipment is supplied by Orbital. Getting equipment for Edinburgh when several hundred other companies are looking for it can be a nightmare, and the Pleasance's use of Orbital is a clever move, since August is a relatively fallow period for their trade-show oriented hirings. (Probably shouldn't have let that tip out.)

All this lot is up and intensively running for



Above and opposite Keith MacPherson as Ian and Kate Dickie as Veronica in *Timeless*. photos: Keith Brame

the three weeks of the Fringe, at the end of which it's all got to come down again. In past years there has been a strike which took from 3am to 10am on the final Sunday morning, but a growing concern for the peace and quiet of the local residents means that this year the routine will be a little more leisurely, with any noisy outside loading taking place well into the daylight hours. Hitches? Well, there was the board in one of the smaller venues which wiped some 400 cues for its nine shows from their RAM cards just after they had been plotted, but let's not talk about that, nor about where in Scotland you find a spare board one day into the Fringe.

One of the most technically innovative shows in the 'official' Festival this year was in the equally innovative theatre space of the Edinburgh International Conference Centre, where the Catalan group La Cubana presented (for an unusually long two weeks) their mixed-media *Blinded By Love*, which took a year to put together and has since run for over 1,000 performances throughout Spain.

Almost before you sit down you feel there is something odd about the Iberian-accented ushers, one of whom sprays a noxious air-freshener around an unfortunate audience member who has been rash enough to take off her shoes. Then the credits roll on a scrumptiously awful kitsch Spanish film musical, with a full Sixties panoply of psychedelic dresses, dodgy flares and a mop-topped group backing some truly terrible songs.

The ingenue lead is about 50, her co-star one of those horse-faced Spaniards with a nose and teeth that would not disgrace Shergar and a blonde wig borrowed from Bob Downe (who may well have been the men's wardrobe consultant). Meanwhile, all is not well in the auditorium. Behind me a couple of lager louts are throwing things at the stage, in front a middle-aged woman is complaining loudly about being molested by the man next to her (later she is moved next to me and I too am

branded a filthy pervert - how did she know?). Those suspicious ushers range to and fro, and a whole set of live sub-plots builds up around us film fans. Then, in the evening's biggest surprise, the screen characters, who are now engaged in a backstage sub-plot about the making of the movie, complain about the audience interruptions, and the molested matriarch complains right back. She bursts through the screen and suddenly she's up there among the celluloid cast.

This is only the beginning of an astonishing series of transportations in both directions through the screen, which bring audience members into the film, on-screen personnel (and props to larger-than-life scale) into the audience. The first 'audience members' are of course members of La Cubana doing some very clever doubling, but by the end of the show a score of genuine show-goers have been dragooned out of their seats, kitted out in penitents' robes, drilled as a passable chorus line on stage and absorbed into a religious procession through the streets of Valencia on screen (please don't ask about the plot by now).

In all of this enjoyable mayhem, La Cubana are actually making a serious point about the superiority of live theatre over film, and for us the fascination lies in how they weld the techniques of cinema and theatre to their ends. The movie itself took a year to shoot, and means that understudies are out. Normally, its stage element doesn't require much more than individual mic'ing and some good followspots, but for Edinburgh the complications set in with the language. Already the original show features complaints about parts of it being in Catalan rather than Castilian, in another audience subplot.

Now the actors who appear out of the film are interacting with the audience in English, while the film soundtrack continues in Spanish (and, increasingly, in Catalan) while the surtitles struggle for the most part successfully in English, with occasional bursts of Catalan of their own. The kind of technical co-ordination

required to synchronise film, scripted live action, surtitles and improvisation, in two-and-a-half languages at once, is mind-boggling.

The hot Edinburgh summer gave outdoor performances in the cool of the evening quite an advantage over shows in poorly ventilated Fringe halls. One of them, Boilerhouse's *Seizer*, staged in the Old Quad of the University, offered an amusing comparison with La Cubana in its use of the big screen. Like the Catalans, Boilerhouse achieve huge effects with a small cast. With *Seizer*, the improvisation lies as much in the technical presentation as in the acting. A techno soundtrack bounces off the walls of the quad, while three Gladiator types, all mic'ed, prepare the audience for the entry of our game-show host Seizer, who finally appears mounted on an armoured car, with his DJ decks in its turret, to a pandemonium of arc lights and heavy sound.

In a fit of absent-mindedness, Seizer has already massacred his game-show contestants, so that the three 'gladiators' have to stand in as victims, each of them grilled intimately by the ghastly host. Their pain is emphasised in close-up, on a giant screen hung as a backdrop.

This is big theatre, with a small-screen theme: the way TV game and chat shows invade our lives and demand ever greater exposures of our personal privacy. To the technically-minded, what is especially fascinating about this apparently high-tech show is the minimal equipment with which it achieves maximum effect. The big sound comes from two columns of speakers only: the Nuremberg-rally lighting is achieved by two big followspots, with four floods at ground level and another dozen at most around the balcony of the Quad. The big screen shows a mix of pre-filmed videos shot in a single room and on-the-spot relay (by a stage manager with a hand-held camera) of the cast in close-up. The most complicated part of the operation is the sound mixing, which had its fair share of gremlins on the night I heard it.

An added piquancy comes from the knowledge that the entire Seizer lighting rig is set up in half an hour after the previous show, and struck in even quicker time. That previous show was *The Garden*, presented by Teatr Snow from Gdansk, who were able to capitalise on Carmen Funebre, a huge Polish hit (featuring rather more competent stiltwalkers than Snow's) in the same venue last year. The Poles used the Seizer bins for a fairly tepid synthesiser soundtrack, and their only other artificial aid was four small white floods to drive away the evening shadows as they did quite incomprehensible, but very soothing things with bits of wood.

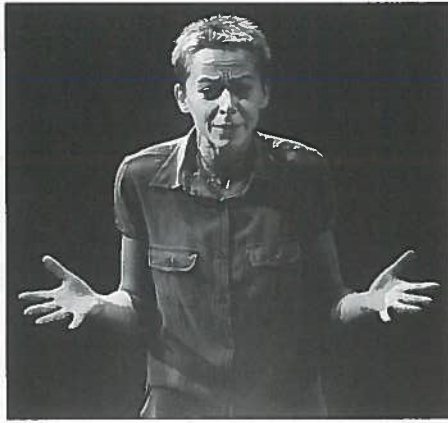
Equally minimalist in its lighting was the latest show from Toby Gough's *Theatrum Botanicum* in the Edinburgh Royal Botanical Gardens. This time they had gone to Africa for their inspiration, and *Preacher Man*, their story of David Livingstone's quest for the source of the Nile, had already been performed in daylight to delighted audiences all over Malawi.



In Edinburgh, for the promenade version, they had the added advantage of twilight and the two (only) positions in the gardens from which power could be run to provide more sophisticated lighting states, but it has to be said that the show's main lighting impact came from hand-held flares, and its sound quality from some superb, unamplified African drumming.

Edinburgh should be a place for experiment, in both festivals, and two experimental works from young Scottish companies made for an interesting comparison. On the Fringe at the Traverse, Theatre Cryptic offered their version of a Quebecois play, *Celle-La*, in which the actors emerged from pods and spent an hour or so clambering about a sculptured structure reciting tortured speeches against a background supplied by a couple of singers and another couple of musicians. What might have been quite a powerful play had been fatally overlaid with artistic accoutrements. In the Festival, at the Gateway theatre, an old STV studio, the equally innovative Suspect Culture company offered *Timeless*, in which four actors presented a simpler (well, I understood more of it) story using a similar musical background, this time from a string quartet. It didn't seem necessary to electrify the instruments, but they certainly came over loud and clear. The mix in this modestly mixed-media show was much more effective, the result of good collaboration between writers, actors and musicians.

A shadow was cast over this year's Fringe by the death, weeks before it started, of Lance Buckland, who over the last few years has built



up the Southside venue to rival the big venues like Pleasance and Assembly. In true Fringe spirit, his widow Sarah, who as well as looking after a new-born baby is co-director of his presentation company PSN, decided that the show must go on, even though this year brought the added complication of two new venues to add to the established Southside.

During the rest of the year, PSN does rigging and set-ups for indoor and outdoor shows (from a Summer Festival in Swindon to Laserquest set-ups in Indonesia) and has accumulated quite a lot of kit that can come to Edinburgh. I asked Sarah whether Edinburgh was a calling-card for the company. "No, the trade think of it as our hobby - though the Sony guys who set up the Flux music venue this year are beginning to see that it's real work."

Even more than Pleasance, perhaps, Southside and its satellites is a great training

ground. The big Southside venue, for instance, puts on musicals, some of them quite sophisticated in their lighting and sound requirements and there is equipment to match, like the six Golden Scan HPEs from Clay Paky. But there are also youth and schools groups using the same kit, and the Shrewsbury schoolboys putting on *The Time Machine* are going to get a very handy introduction to big boards and Golden Scans during their stay. (The average age of the full-time Southside crew is only 23.)

A Southside innovation this year was the Laboratory in their new courtyard venue, with only 25 seats, but the acting area of a large-ish studio, where fledgeling companies could put on work for the cost of an entry in the Fringe programme. There was some pretty rough stuff on show in the Laboratory, but again the learning experience for young companies was huge, and will doubtless result in more polished work in the future. You've got to start somewhere, and the Fringe, thanks to the Bucklands and others like Pleasance's Christopher Richardson, is one of the best places to do it.

Finally, the best use of sound that I came across in Edinburgh was not in the theatre, but in a smart little brasserie behind the Festival Theatre, near the Fringe Club. A guy behind the bar had a headset and a battery pack in his belt.

"Are you the DJ?"

"No, this is to keep in touch with the kitchen," he replied, "It saves a heck of a lot of shouting downstairs."

I call that neat.

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# SOUNDING THE WRONG NOTE

Graham Walne looks at the recent controversy surrounding musicals

In June this year, Andrew Lloyd-Webber broke the news in *The Times* newspaper that his Really Useful Company was expecting a £10 million loss. In his announcement, the composer indicated that the modern musical is in 'parlous times' and that 'the day of the musical is ending'. Coming from such a pivotal figure, whose shows have rejuvenated theatre buildings, employment and suppliers the world over, these comments had the potential to send seismic shocks around the industry. However, hot on the heels of the Lloyd-Webber piece came another, also in *The Times*, from Sir Cameron Macintosh headed 'My shows are fine, Andrew'.

The big musical is not just a feature of our times. *Chu Chin Chow* made the Guinness Book of Records for many years as the longest running musical, a record now held by *Cats*. Post-1945, almost all Rogers & Hammerstein musicals were made into equally successful films and their *Oklahoma* was credited with creating a watershed in the format of the stage musical because its songs continued the narrative, rather than interrupting it as many pre-war examples had - a claim made later for *West Side Story*, another stage show made into a notable film. *My Fair Lady* was so successful on Broadway that Cole Porter even referred to it in a song which includes the lyric, "... we both may see it close some day."

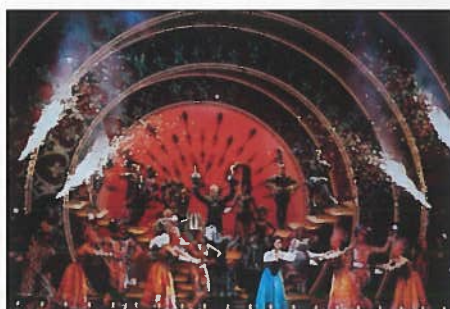
Mega musicals are at the cutting edge of the theatre with their big budgets making the development or implementation of new technology not just a dream. Andrew Bridge's use of Vari\*Lite VL1s on *Time* (1986) was described by one reviewer as 'seminal'. David Hersey in particular has brought into play numerous moving lights and scrollers (first for him on *Miss Saigon*) and he, and others, have developed new gobos or colours for a particular effect. The Vari\*Lite, once a novelty in musical design, is now standard, although audiences are more familiar with moving beams and many such units are used as refocusable specials rather than seen in actual motion. Designers have previously been wary of the use of moving lights, partially because of control issues, but again through the influence of the concert market, new products are overcoming the drawbacks. PLASA devotees might recall Richard Pilbrow's 1995 demonstration of a moving light controller now in use on *The Life* on Broadway. In the past, more relaxed union rules in the UK have made the West End, rather than Broadway, the more likely location for the introduction of new technology of this nature.

Pilbrow was perhaps the first designer to import new technology to the modern musical. Many of us recall his use of 24v beamlights in *Blitz* (1962), piercing the smoke and balancing the diagonal of the clerestory painted into a station backcloth.

Projection too has fared well in musical theatre, *The Hunting of the Snark* (1991) using more AV projectors than any other theatre installation at that time. Some of us recall Robert Ornbo's ingenious composite back-projection on *I and Albert* (1974) which



Above, Superstar at the Lyceum and below, Disney's *Beauty & the Beast*.



required developments to the ubiquitous carousel. Earlier still, Ornbo perfected the joining of large screen images on *One over the Eight* (1961 - with Pilbrow) and *On the Level* (1966). More recently *Tommy* (1996) boasted a true multi-media experience, using live and animated projections. In fact, in today's musical, projection is the rule rather than the exception, although occasionally the units are being used as a single large controllable profile, than as a deliverer of images (for example on *Superstar* at the Lyceum).

A case could perhaps be made that sound has made a bigger development than lighting through the big musical, particularly in terms of style. Contemporary sound systems can deliver either hard rock or elegant reinforcement with an ease and fidelity denied counterparts of years ago. This latter is vital, because today's musical delivers the plot through the lyrics as well as the text, and intelligibility is a key criterion. For *The Hunting of the Snark*, John Del'Nero made several recordings of the actors with their radio mics in different locations on their heads, so that they could see the difference a slight repositioning would make.

There is a fundamental difference between light and sound in that there is less flexibility about the positioning of loudspeakers, and many sound designers have come up against serious location problems, particularly in our older theatres, causing a close alliance with

lighting designers as the two negotiate for places. A feature of recent years is the centre loudspeaker cluster (coupled with delayed loudspeakers to reach rear seating areas). So common is this approach now, that one designer has suggested this section could at least be permanently installed.

The logistics of the big musical demand modern technology. Again, David Hersey is a notable leader, daily updating his original computer-drawn plans and plots. Sound, too, is now planned through computer drawings and, of course, the acoustic calculations of reverberation time and the distribution of sound pressure levels are considerably more accessible today.

The sheer size of modern sound systems demand this kind of technology. Inputs above 40 channels are common and *Superstar* uses 89. Control technology is not just used in the planning either. MIDI now enables sophisticated changes to be made between equipment during the performance. Sound designers use this technique to shut parts of the system down for some numbers and for changing equalisation for others.

Of course there is a risk in vesting so much control in high technology and many a modern musical has been literally stopped in its tracks because the software froze, the most notable example of recent times being the (delayed) opening of *Sunset Boulevard* in 1993. Another feature of musical logistics is the long generation period. It is well known that a lengthy 'try-out' period enables changes to be made and, whilst the catalyst for these might arise out of the performance, the previews do enable changes to be made to the designs. This breathing space makes it possible for designers to experiment.

It has been suggested that the high cost of mounting productions on Broadway is one reason for the UK's dominance on the musical scene, not lack of talent. But the vast sums

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spent on the technology of the modern musical are not new either. In 1931, the London Coliseum opened with *The White Horse Inn*, which cost £60,000. In today's terms, this sum would be greater than the cost of any musical we have yet seen. In December 1960, the Aldwych Theatre was transformed by the addition of an apron stage so that plays could be transferred from the Memorial Theatre at Stratford. Not all musicals in recent years have been mega. A particular feature of being small-scale has been made for *She Loves Me*, *Once on this Island*, *Piaf* and *Cabaret* to name just four. It is worth noting, however, that what you and I might call 'small', is not what the West End does. *Moby Dick* was not intended to be mega, but it still used 25 radio mics (and closed early) and the budget could still run anywhere from £500,000 to £2 million. London's current biggest is *Beauty and the Beast*, costed at £10 million and which involves techniques new and old, from painted cloths to VL5s, hydraulics to pyrotechnics. Despite the cost and complexity, experienced theatre people are not easily impressed. I particularly liked one comment aired on a backstage visit by the ABTT: "It's Drottningholm with motors!"

In some rather crude research I did for an article in 1974, I found that the percentage of theatres in London staging musicals had not materially altered over the years from 1951 to 1974, despite the changes in the actual number of theatres themselves. The statistics showed that 33% of all London theatres showed musicals over this period, By 1984 the figure had dropped to 30%, but today it has risen to 45%. The more sophisticated research given in Cultural Trends bears this out. In 1990, 34% of performances in London were of modern or traditional musicals. By 1994, the figure had risen to 39%. In terms of the number of seats available these had risen as well from 45% in 1990, to 51%, but here too the statistics rise. In 1990, 51% of the London audience saw musicals, and by 1994 this had risen to 57%.

Because of the technology, many large West End musicals require near full capacity to break even: one show was rumoured to have achieved 80% capacity - and still failed. No subsidised theatre would project this kind of return. The risk is always present, and famous producers do not always guarantee success, as Sir Cameron found with *Moby Dick*. Famous stars, on the other hand, can keep alive a show panned by the critics - witness *Heathcliff*. Closures in recent weeks include *The Goodbye Girl* (interestingly partially financed by invitations on the Internet), *Romance*, *Romance*, and *Always*, but at the time of writing London's West End seems to have avoided its customary search through the entrails for someone or something to blame for these.

Touring large musicals brings particular problems. The tour of *Les Miserables*, now in its 12th year, uses an even more high tech approach than its West End run to minimise labour costs and get-in time. The problem of standardisation of lighting in touring musicals was identified 30 years ago when John Wyckham was charged with reproducing his landmark design for the tour of *Oliver!* He settled on pre-rigged bars - standard now, but an innovation then.

There is a suggestion that audiences paying in excess of £30 per seat expect to see where their money has gone and this is used as a justification for the spectacle. But in the end, musicals are about music and if the muse is not there then no amount of technology will paper over the cracks. Commercial theatre is notoriously bad at taking risks on new talent, but both Lord Lloyd-Webber and Sir Cameron recognise this and work to encourage budding writers, performers and composers through workshop and concert try-outs. There have always been ground-breaking musicals, and there seems no evidence that we have seen the last.

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

**A**fter nearly 10 years freelancing, the worst nightmare has happened. Often contemplated in the wee small hours, but then dismissed as too unlikely to happen to an oick like me, I find that lightning does strike in a random fashion and I got in the way. I should explain. I was asked to do a couple of days as a stand-in on an established show made by an independent and naturally asked who the producer, director and designer were, but forgot to ask where it was - too late I discovered it was at TV Centre! I hasten to add that my misgivings have nothing to do with the facilities or people there. On the contrary, they have led the world for some time; but it was more the aura of shows and lighting designers past and present that unnerved me. Having said that, I had a niggling suspicion that it was all going to be a bit too organised to make yours truly relax - never mind I was committed, so head down and go for it.

**F**irst up, going through my usual checklist strictly in priority order: 1) Car parking 2) Food. 3) Who is the Gaffer? (he would be first on the list, but he can't fix car parking). 4) Crew call times (all shows should be rigged and rehearsed after lunch and transmitted or recorded after dark). 5) Equipment availability. 6) Does the control room have a swivel chair that revolves and reclines? 7) What sort of cameras are they?

The BBC are now customer-oriented so you get issued with a liaison man who makes things happen for the away team (unknown to him there is a bigger department stopping things happening). He's got a clip board (always a confidence booster). 1) Car park: OK - tick. 2) Food: lots of places, canteen, coffee bars etc, so no problem (10,000 flies can't be wrong) OK - tick. 3) Gaffer, or console op in their lingo, is John Bradford so OK - tick (this seems an understatement for this dapper, pleasant and skilled man with an unusual dress sense - white shirt, tie, smartly pressed trousers). 4) Crew call times and numbers: oh no you don't, four guys can't rig 120 lamps + groundrow and doms (what are they?) in two hours. He explains that they have electric hoists. I don't care if they've got rocket assisted hoists you can't do it in two hours! We compromise at four and a half so OK - tick. 5) Equipment: a bit of haggling over something they've never heard of (which is strange because if I've specified it you can bet it's bog standard issue). 6) Control room chair: 'if it was good enough for John Treays it will have to do for you' so OK - tick. 7) Cameras: Thomson - oh well, six out of seven ain't bad.

Come the day, I turn up good and early to get my act together before the crew arrive and drive into the car park, whereupon I am accosted by him in charge (mark two clip

board). "I'm John Watt, visiting lighting designer extraordinaire - star of stage, screen and Grantham job centre and I'm working on . . . (name withheld to protect the guilty). I have a car parking place booked in person by head of car parks." "You're not on my list mate, never heard of you." He consults about 40 dog eared A4 sheets on the clip board, whilst the regular BBC staff (all in four wheel drives to get them to Sainsburys at Putney) back up halfway round Shepherd's Bush.

To avoid further congestion and because he's decided I've got an honest face (not the first to make this mistake), he says "you'd better go in and park where you can, but preferably not in the spot marked 'John Birt Only'", whoever she is. There's a quick way in through the back gate, but you need a pass and you can't get a pass until you are through the back gate - unless your name is on a list and mine clearly isn't. By now, I'm losing the will to live and so set off on the hike down Wood Lane to the new main reception which will be very nice when it's finished. Beware the railway bridge: incontinent Pigeons roost on the girders and are no respectors of passers-by as I can personally testify having been the recipient of a direct hit on my way to an STLD committee meeting one night.

**I**'m getting even more bored with this than you dear reader, so regard the next two paragraphs as optional (he probably won't get round to any lighting at all this month). I arrive at reception having negotiated the revolving doors; unlike some independents' receptions who boast powered revolving doors, the BBCs have to be pushed. They deduce, quite reasonably, that if you haven't the energy to shove the door, then your chances of putting together three episodes of *TeleTubbies* is a bit thin. I approach the desk. "I'm John Watt, lighting director extraordinaire - star of stage, screen and Grantham job centre working on etc etc." A pretty lady helpfully consults lists on a clip board and whispers to the man in charge. I think I know what is coming. "You're not on my list - please take a seat."

**T**hese set-backs mean that all of a sudden I'm not that early. My coffee and bacon butty are in jeopardy and I begin to wonder what the chances are of that list of lights and gels ever materialising (or, for that matter, ever getting hung, since I seem to be doomed to a day in reception). My mind begins to wander and go out of focus: I study the austere surroundings. There's a lot of grey marble of the slippery kind. I once stepped on a slice of cucumber carelessly discarded from a British Rail Traveller's Fare sandwich on Charing Cross station and skidded at least a hundred feet narrowly missing Knickerbox's window. What if a piece of BBC cucumber with its BBC spec high coefficient of friction lay in

wait for the unsuspecting John Birt near those revolving doors . . . I'm woken with a start. John Bradford taps me on the shoulder and wonders what I've been doing. I don't even try to explain, but ask that he signs me in - which he does, simply really.

**O**nce in, the crew are there and surprisingly, so is most of what I have ordered, though there are just enough bits missing to make me feel I am amongst friends. Later, I find a few jammed barn doors and no pinch screws in the turtles and once in a while a face departs and is replaced with another - all of which makes me feel at home.

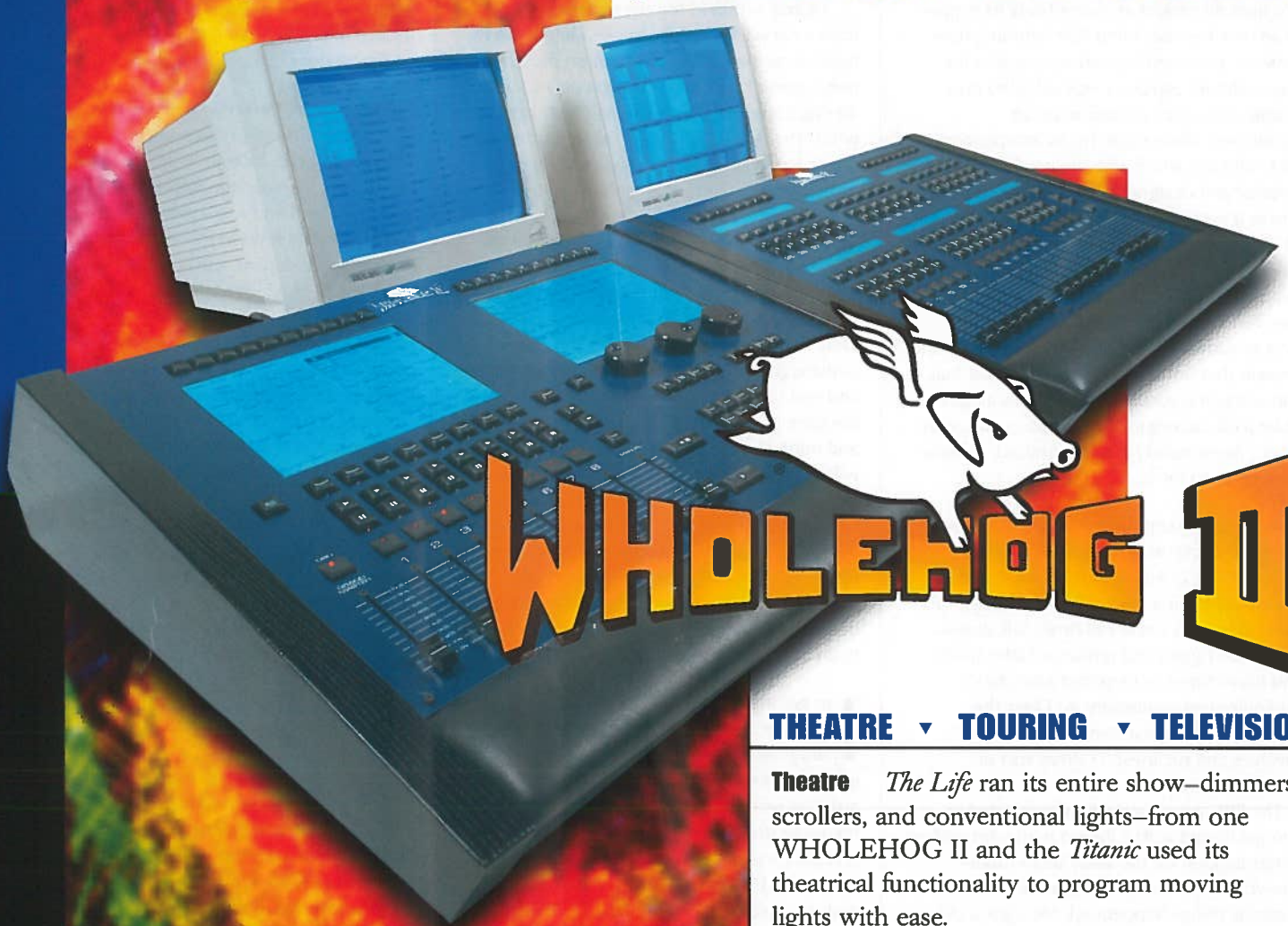
We lunch in the bar. I expect to brush shoulders with the stars and, more to the point, catch up with old friends - that celebrated, but dying, breed of staff lighting directors. But the word has got round and they've all found pressing things to do at Elstree (11 LDs on *Eastenders* - no wonder the cast are always miserable), except, that is, for Graham Rimmington, who has taken his first day off in years to avoid me. The rig gets completed as the afternoon wears on - good job we upped the crew though. We then rehearse till supper time. In the evening we record and, surprise surprise, it's OK. What's more a ghost has been laid to rest - Watty has lit his first (and probably last) show in the holy of holys.

**W**ithout wishing to add overmuch to the deforestation that's occurred due to the acres of newsprint devoted to the devastating death of Diana, Princess of Wales, I must say how professional the coverage was (I didn't know there were that many cameras in existence). A special mention is due to the lighting director at the Abbey Chris Bretnall who suffered a double lumber that week.

On the Sunday of Diana's death, he lit a special service from Saint Paul's Cathedral with only 10 hours notice. Yes, there is an existing plot for the Abbey normally lit by Peter Greenyer, but he was sitting in Red Square at the time lighting the 850th Anniversary Celebrations and the plot for the Abbey was with him in his laptop. Suffice to say, these problems were magnificently overcome as many millions saw.

A pity the same cannot be said for the Queen's broadcast from Buckingham Palace. Yes, I expect reflections were a big problem and no doubt the get-in was tough, not to mention all the protocol, but what happened to portraiture. Glasses are always a problem I know; there is going to be a shadow somewhere, so we just make sure it's not across the middle of the eye don't we? As for two keys and the subsequent two shadows, well, God doesn't do it and neither should you. Do I smell a news cameraman at work? Of course, I've never lit *Royalty*, but I once lit a Des O'Connor series, which is close.

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# INSPIRING LIGHTING

*Jacqueline Molloy charts the lighting of the Victorian Arts Centre Spire in Melbourne*

It's quite an impressive sight to see what 6.6km (21,780ft) of fibre-optic tubing can do for a 162m (534ft) high spire against the backdrop of the night sky. Coming up with a concept to light the recently reconstructed Victorian Arts Centre Spire in Melbourne is probably not everyone's idea of fun, but for Barry Webb & Associates (BWA) in partnership with Bytecrafft it proved to be an exciting challenge.

The centre's original spire was dismantled three years ago, due to an increasingly unsound structure, to make way for the stunning new spire, a proud nod in the direction of innovative lighting design and technology. Complete with a 10m mast, the spire rises up from the Victorian Arts Centre, one of Australia's premier performance complexes, situated on the banks of the Yarra river just a short walk across a bridge from the heart of Melbourne - the vibrant capital city of the state of Victoria.

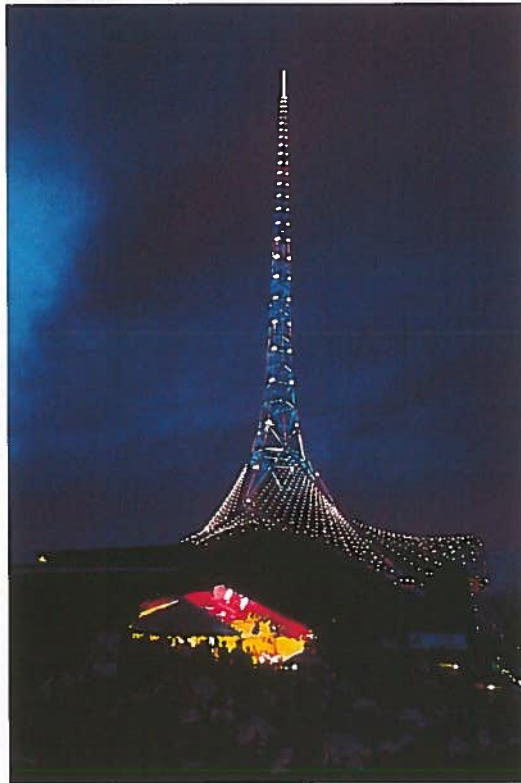
The complex consists of the State Theatre (2,000 seats, proscenium arch with a stage area of 150ft wall to wall, making it one of the largest stages in the world), the George Fairfax Studio (black box with seating for 367), the Playhouse Theatre (750-884 seats, proscenium arch), the Melbourne Concert Hall (seating for 2,677 with renowned acoustics) and the Sidney Myer Music Bowl (an outdoor venue with tiered seating for 2,030 and grass seating for a further 10,000, which also boasts a permanent ice-floor for easy conversion into an ice skating rink during winter). The National Gallery which adjoins the complex, is the oldest public art gallery in Australia.

The site of the centre and spire is steeped in Australian entertainment history. In 1877, Cooper and Bailey's Great American International Circus was the first circus to pitch its Big Top tent on the site and thus start a circus tradition that would last into the 1950s. Over the years, a roller-skating rink and a new circus Hippodrome was added and several theatres, a dance hall and a cinema also sprung up. The area had caught the entertainment bug!

The depression of the 1930s and the trauma of WWII saw this thriving entertainment area collapse into despair. The circus tradition was finally killed off by a massive fire in the early 1950s which doomed the site to more than 20 years of obscurity as an outdoor car park.

But plans were already afoot to rekindle the entertainment tradition that had once given the area its identity. As early as 1942 the idea for an arts centre was being touted. It was proposed that the National Gallery should have a new home and it was further recommended that the Gallery would share a site that could provide for the arts as a whole; an idea that was enthusiastically adopted though it took some time to secure the former circus site due to various outstanding leases.

An act of parliament was passed in 1945 to reserve the site for cultural purposes, but due to the fickle nature of politics the act wasn't



proclaimed until 1955, when a committee was finally established to turn this now 17 year old dream of an arts centre into reality.

In 1959, Roy Grounds, a prominent architect, was invited to design the Victorian Arts Centre Complex. Ground's relationship with the site already spanned some 37 years since he had performed in one of the original theatres as a 16 year old boy. This was a relationship destined to survive and make the history books. His design was approved in 1960 and was planned in two stages with the art gallery to be built first, followed by the performing arts centre and spire. The gallery opened in 1968 and had been a dream project: unlike the arts centre which hit a snag - money - or lack of it. The site also had geographic difficulties due to problems with the foundations and this added three years to the project, with the building finally opening in 1984.

The Spire was seen as acting as a signpost for

the entire complex, a striking visual reference to catch the eye. It had originally been designed to stand 126m high, but the growth of the complex to include an international concert hall and an opera stage meant that the spire had to be redesigned before it was ever built. Roy Ground's new design was to be a 137m high open lattice space frame. The design included gold coloured webbing around the lower spire which was designed to mimic the flow of a ballerina's tutu. This design was approved though it only ever made it to 115m. Financial constraints had struck yet again!

In 1994, the decision was taken to rebuild the spire after it was deemed structurally unsafe. It was also decided to extend the spire beyond the height of the original design, in order to give it a better line and to keep it in proportion with the complex as a whole. The new design was subjected to extensive wind tunnel testing and structural analysis on a 1:70 scale model.

The rebuilding proved an ideal opportunity to rethink the lighting. The original version had been statically lit with open white floods positioned at the base of the spire. Tenders for new lighting concepts were called for and the arts centre received submissions from as far afield as France, but it was a local submission from Barry Webb & Associates in partnership with Bytecrafft P/L that inspired the imagination of the VAC selection committee.

Morrie Robinson, the project manager from BWA said the "arts centre was so impressed by the proposal that they decided to go for it even though it would cost about four times as much as the allocated lighting budget". The final cost for the lighting of the spire came in at around AU\$2.5m (£1.3m).

One of the main attractions of their proposal was the idea to attach the fibre-optic lighting to the spire and weave it through the structure to make the spire glow rather than have it just floodlit from below - the usual approach in lighting a structure of this nature. Robinson states that their proposal also allowed for dimming equipment to be located all over the spire and to be weatherproof, lightning proof

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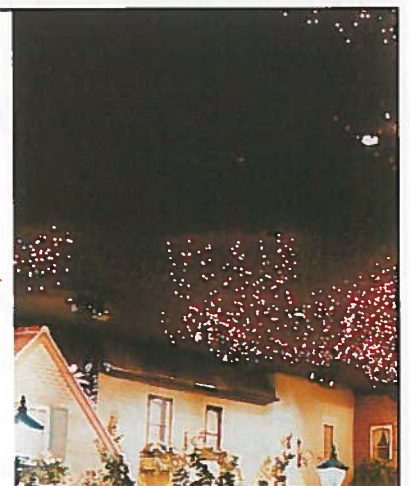
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and to operate long-term without maintenance. It also pledged to be environmentally friendly and energy efficient, to the extent that the entire lighting system draws a mere 25kW - not much more than your average stage preset.

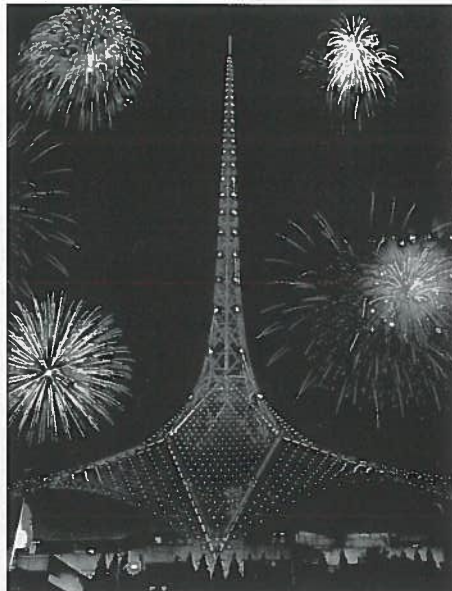
The next step was to source the technology and hardware that could support this innovative approach. An extensive search was mounted worldwide to find an appropriate weatherproof fibre-optic injector light source, but without success. Tenders were called for and Lightmoves Pty Ltd in association with Digilin were successful.

Bill Bell from Lightmoves explains their contribution to the project: "Our role was to supply side-emitting fibre-optic cable plus design and manufacture custom weatherproof fibre-optic illuminators. As a joint venture between ourselves and Digilin, a new fibre-optic light source was designed and manufactured." The company believes they have created a first for this type of product by having a dual rotation colour wheel and in-built thermal protection. The installation of the fibre optic cabling was constrained by the fact that no holes could be drilled in the structure and welding was prohibited, for reasons of structural integrity.

Along with the 6,600 metres of fibre optics, the spire is also lit with 14,000 incandescent lamps on the skirt of the spire and 150 metres of neon tubing on the mast, as well as strobes and twinkle effects. Ten custom-designed colour changers are positioned on the outer edges of the spire base, about 40m above street level and rigged onto Arena Vision floodlights. Lee Conlon from Showcraft (of Gam commander fame) was responsible for the design and manufacture of the 53kg weatherproof scrollers.

"As manufacturer of the Colourset scrollers I'd already had requests in the past for architectural colour changers, so I had a fair idea of what it would take to ensure that we got the longevity required for this type of installation. What we didn't have experience of was the design criteria for the electronics to survive a lightning strike. We fitted the electronics with as many voltage transient transformers as possible and protected the micro processors from hanging up: to date we haven't had a problem."

The next challenge was how to rig the system. Many of us feel uncomfortable hanging lights at 10m in the air on a motorised platform that is securely anchored to the stage. How



must it feel to be 162m in the air on a windy day? Graham Jones from vertigo specialist High Access Service, had first-hand experience: "I was the leading hand on the project and we were brought in to climb the spire and rig the lighting equipment. All of it was done off mountain ropes, sitting in a chair and yes it was a very hard climb to the peak." The team of six climbers hoisted equipment up with pulleys and were responsible for inserting the fibre-optics into tracks that were run down the legs of the spire.

It took six months to complete the lighting installation and the main problem was the weather. Barrels of extra clothing and wet weather gear were essential for withstanding the icy winds that swept in across the water.

Maintenance was a major issue in the planning stages as it is a long climb to change a gel or lamp at 162m above street level. A plan was devised that allows for five years of operation before technicians should have to access the spire for maintenance purposes.

This plan is based on several major features: each lighting effect is generated by two sources and there is a designed degrading feature of the lighting that allows for component failures over time, that won't be visible to spectators. To safeguard the effects of the fibre-optics, light is injected from both ends of the fibre-optic run and if one injector fails, the other can provide enough light to ensure continuity of the effect.

A major consideration of the re-design of the spire lighting was how to control the lighting in

such a way that it offered diversity of lighting states and protection from the weather - in particular from temperatures that range from below 0 degrees to over 40 degrees Celsius. At 162m high it was also crucial to protect against wind and lightning strikes.

The lighting for the spire actually consists of eight separate lighting systems with each one independently controlled to allow for co-ordination and diversity of lighting states. Since the spire has a wide range of lighting fixtures, from 3W strobes to 2 kW floods, it was a challenge to produce an integrated system that catered for the complete rig. BWA in partnership with Bytecraft saw the solution as "melding the technologies of theatrical and architectural lighting with high reliability engineering."

The result is a unique distributed lighting control system which Bytecraft christened 'Inspire' (get it?). It comprises of an ARC (Bytecraft's architectural lighting control system) as the head-end controller with two transmitters on each of the eight spire legs and 322 receivers distributed throughout the spire. The ARC is the central computer which runs the system using Bytecraft's 'E' language (an event control language very similar to BASIC) to determine the lighting states. The ARC is the source of the DMX512 signal that controls the system.

The design of the receivers has enabled them to be fault tolerant by incorporating transient protection, automatic load swap, soft start, driver swap and load isolation capabilities. Each control module has a stainless steel weatherproof enclosure and military spec connectors to protect against the harsh elements and, in particular, against lightning strikes.

The stunning new spire lighting, which currently consists of several changing states, was unveiled to a rousing reception as part of the Australia Day celebrations on January 26th, 1997. Though trying to keep the lighting secret up to this point had been difficult. How do you discreetly test and programme the lighting on a 162 metre spire? Morrie Robinson, from BWA, said they worked in the early hours of the morning and "always had lots of advice and comment from drunks, street kids and star struck lovers who frequent the early morning hours."

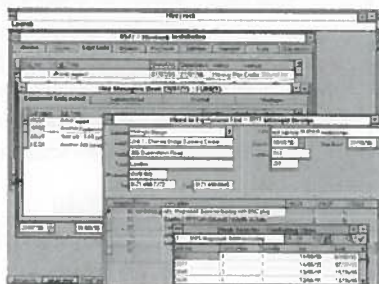
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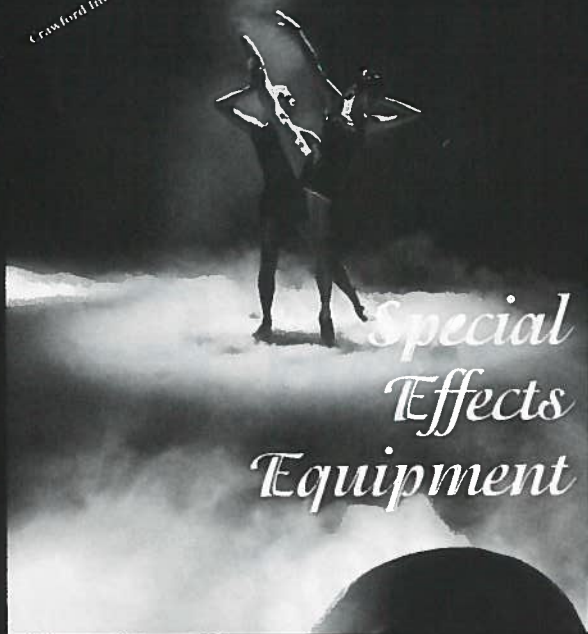
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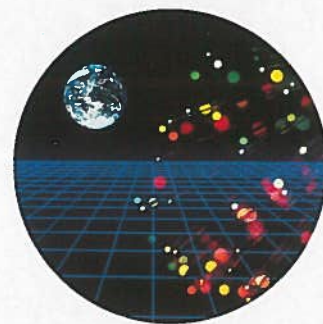
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# Afar in the Stalls . . .

Ian Herbert

**T**ravel broadens the mind, they say - or is it travel broadens the behind? I've had one or two very enjoyable trips abroad this year which have, of course, involved sitting in some very enjoyable theatres. Last month I was in Seoul, boring for Britain at the congress of the International Theatre Institute, and the week brought some strange echoes and pre-echoes of London theatre, as well as giving me a crash course in the dynamic new theatre of the host country.

Seoul is an amazing city, a huge and bustling metropolis which looks as if it was built last year, though many of its downtown buildings must in reality be at least 10 years old - lots of them were put up for the 1988 Olympics. I'm not entirely joking here: the first proscenium stage in Korea wasn't built until 1962, and the city's major theatre complexes, the National Theatre and the Seoul Arts Centre, date from 1972 and 1993 respectively.

**T**he Koreans may be late-comers to the international theatre scene, but they're losing no time in catching up. An astonishing number of festivals are bringing in groups large and small from all over the world. While I was there, it was the time of not only the prestigious Theatre of Nations season, but also the International Open Air Theatre Festival, the Seoul Theatre Festival and the Beseto Festival, an event which offers theatre exchange between Beijing, Seoul and Tokyo - hence the acronym. This meant an amazing choice of theatre for the visitor, who could select from the best of local productions or a range of overseas troupes that included Purcarete's Craiova company, Terzopoulos's Attis Theatre, Venezuela's Rajatablas and, in dance, Meredith Monk and Yvette Boszick.

**O**ne ambitious undertaking, devised for the ITI and presented in the Theatre of Nations framework, was a multi-lingual *King Lear*, featuring a leading Korean TV actor as the mad monarch with the support of a cast of drama students from all over the world, under the direction of the much-loved veteran Korean director Jeong-Ok Kim, who is currently the Institute's world president. Played on the full depth of the Seoul Arts Centre's main opera-house stage, the production was more notable for its intention than its achievement, and amid Jin-Hwa Chung's imposing sets the young actors looked small and lost for much of the time.

It was closer in spirit to Peter Hall's operatic *Old Vic* staging than Richard Eyre's more intimate Cottesloe production, but could not pull off coups de theatre like the splitting of John Gunter's backstage wall in the storm - and of course, it lacked the power of a Mark Henderson lighting plot. (Mark excelled himself at the *Old Vic*, with big floods for colour washes, plenty of atmospheric, and a willingness to go along



Oh Chang-Gun's *Toenails* at the Michu Theatre.

with the Hall penchant for followspots at well-chosen moments.)

**A**nother curious opportunity for comparison came with the staging, by the Korean National Dance Company, of Su-Ho Kuk's dance version of *Othello*. I'd just come from Sam Mendes' Cottesloe staging of the play, a small-scale approach with echoes of Trevor Nunn's stunning Young Vic version - remember Ian McKellen as Iago? Mendes' cast achieved a similar intensity, helped by Paul Pyant's evocative lighting but perhaps hindered by an Anthony Ward set of louvred panels with an uncomfortable hint of MFI about it.

The Korean danced version was quite a contrast, jettisoning most of Shakespeare's characters, but bringing on a huge dance ensemble to compensate. The story seemed to be reduced to a row over a handkerchief, but the spectacular costumes, crossover dance and a full orchestra of traditional Korean instruments (producing a surprisingly Western symphonic sound in Pom-Sok Cha's fine score) made it an occasion to treasure. It happened in the National Theatre, a well-equipped house which is home to the national companies for dance, drama, opera and ch'ang-guk, the country's own traditional music theatre. The lavish production gave an opportunity to demonstrate the National's mainstage revolve, together with its lighting designer's curious habit of blinding his audience by shining a bank of floods directly out from the back of the stage. The fixtures seemed mostly Japanese, although the occasional Clay Paky spot shone through.

**T**he overall impression of Korean stage technology I gained from a short, but intensive, week of napping in various auditoria (well, you would, too, with eight hours of jet-lag to get over) was that while their machinery compares well enough with ours, their lighting equipment is several years behind. This doesn't mean that they haven't got some very good lighting designers. A highlight of the week was the delightfully-named *Oh Chang-Gun's Toenails*, a bitter-sweet, Schweyk-like comedy (by Cho-Yeol Park) in which a simple-minded peasant is accidentally conscripted, disastrously trained, deliberately sent behind the enemy lines and finally shot in error as a master spy. The show has been around since 1988, but in this incarnation, in the

Cottesloe-like studio theatre of the Arts Centre, its staging was pared to the bone, relying almost entirely on some ingenious patterning and gobo effects on the stage floor, the work of Chang-Gi Kim, to establish its settings. They worked a treat. Jin-Chaek Soon, the very talented director of the Michu Company who produced this show, did part of his training with the RSC and the Western influence is clear. One of his main rivals, Yoon-Taek Lee of the Street Theatre Troupe, who also performed in the Arts Centre's small theatre, seems to have taken American influences on board. The Troupe's *O Gu* (Ritual of Death) is, in spite of its title, reminiscent of sixties musicals like *Hair* and *Godspell* in its exuberant informality, even though it deals with the traditions which surround death in Korea, where normal practice, whatever your religion, is to call in a shaman to conduct the formal mourning.

**P**erhaps the most striking feature of Korean theatre as I saw it (and indeed Korean life) is this mingling of the old with the very new. The shaman was a feature common to a number of performances, from incidental appearances in modern plays like the two above to the full-scale shamanic ritual enacted at sunset in the country garden of the designer Byung-Boc Lee by an 'Intangible Human Treasure'. Then there's the drumming: traditional drums, like the shaman, kept cropping up. The official opening of the ITI Congress, in the National Centre for Traditional Performing Arts, another fine hall in the Seoul Arts Centre, was marked by a superbly choreographed display by 40 or more traditional drummers, whirling about the stage wielding instruments from tambourine-sized hand-drums to monsters with skins six feet across. No need for amplification with this lot.

Ian Herbert



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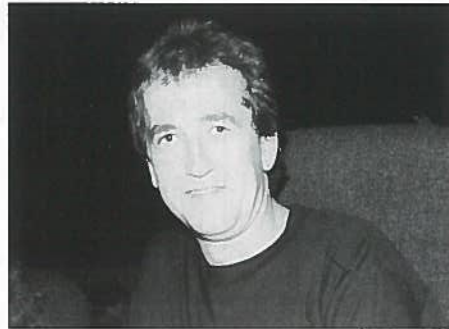
## Steve Moles talks to sound engineer Jim Ebdon

Jim Ebdon is one of those calm sound engineers, almost ruminant. He stands at his console, his boyish good looks creased to a contemplative frown, his chin resting in the crook of his hand, and considers. It doesn't take him long, but he's definitely not prone to a rushed decision. Just as well; had he not fought his way into the audio industry, then Ebdon had his heart set on becoming a commercial airline pilot. "Similar job really," he enthused. "I once went on the flight deck of a Jumbo on a flight to Tokyo. Same deal, thousands of knobs everywhere, hi-tech heaven and the comfort of several hundred people to look after. Only difference is if I mess up nobody dies."

A child of the sixties, Ebdon was the youngest of five with two brothers two sisters. His dad worked in the speculative area of property development, while mum raised the family. "A quite ordinary childhood really," said Ebdon, "except that every time dad started a new development we'd move into the first home and then the others would be built around us."

Thus he moved home virtually every couple of years "for as long as I can remember." His eldest brother William had a drum kit and by the age of five Ebdon had formed a close affinity with drumming that lasted throughout his childhood. "By the time I was 11, I had my own kit and formed a band at school. I even won a music prize for a drum solo once," and then added ruefully, "but otherwise I was not very academic. My only other great passion at school was cricket."

After completing his O-levels, Ebdon and his band spent the summer playing the local pubs and clubs of his native Surrey. Referring to an eclectic mixture of Madness, Motorhead, B52s and the Police as influences, they played all original material and did "moderately well". He also enrolled for an audio visual course at his local college, but before even starting his first term things were to change. "I was so heavily into music at the time that I would have done anything to get into the business. So I did. I went down to Surrey Sound Studios, introduced myself to Dr Nigel Grey (famous for



Jim Ebdon.

***"But, unusually for someone from a studio background, Ebdon absolutely loved the pressure of live mixing."***

having recorded the first three Police albums) who ran the place and said, 'I'll do anything - make the tea, anything.'" And that's exactly what he did, 17 years old, £50 a week, tea-boy to the stars. "But I watched and listened and pretty soon I was tape operator, then assistant engineer and by the end of my fifth year I was a full engineer."

Then one fateful day Wishbone Ash, whose latest album Ebdon had just engineered, gave him a call and asked him to mix for them at a festival in Germany, and off he went. "I remember this old Yamaha board with big clicky knobs. I'd been used to a Harrison in the studio so it was rather a shock. And, of course, I tried to set the sound like I did in the studio - low level, controlled."

Luckily for Ebdon, the German sound company, and particularly their system engineer held his hand and nursed him through it. Something he'd like to acknowledge but, "It was such a big adrenalin rush after five years in a studio that I completely forgot who they were." But, unusually for someone from a studio background, Ebdon absolutely loved the pressure of live mixing: "The knowledge that

you've only got 90 minutes and it has to be right. It was really exciting," he explains. And he's never really lost the bug.

After a couple of tours with Wishbone he got to know Lars Brogard and then in 1986 started working for Electrotec (who had a UK presence in those days). "I had to go right to the bottom of the pile and work as third man on a crew," he recalls, "which was actually just what I needed. The chance to learn about systems and how they worked, different venues, and . . ." reverting back to what he'd done when he first went in the studio, ". . . listening and watching other people do their job."

Working his way up through second man, to mixing the support act, Ebdon eventually resumed his rightful place at the controls for the main act thanks, he says, largely to Brogard and also Chris Beale at SSE, both of whom he cites as major influences.

He now has the usual CV littered with the names of the great and not so great - The Pet Shop Boys, James, Morrissey, Sting and Wet Wet Wet (see On Tour this issue), but is philosophical about his accomplishments. "You do have to have some musical awareness to do this job. I'm not particularly technical but I know what I want and how to make a mix work."

When Ebdon was still back in the studio he continued to play the drums, staying on late at night playing other people's kits: "But I realised I was never going to be as good as some of the drummers I'd seen pass through - musicians who were ten times better than me who were struggling, living out the back of a van."

One suspects those ruminative moments have stood Jim Ebdon in good stead.

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