

# LIGHTING+SOUND

## *International*

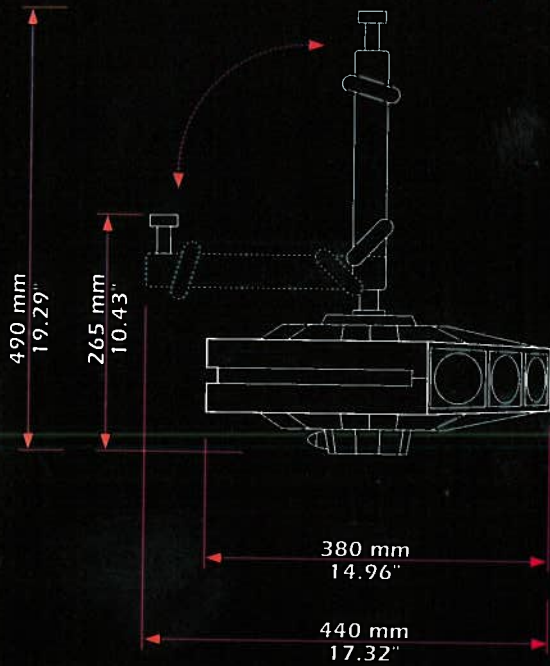


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- On Air: Ken Dibble reviews Garwood's Radio Station
- Company profile: a new look at Le Maitre

**FEBRUARY 1994**

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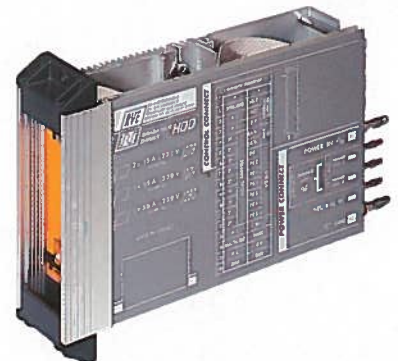


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FEBRUARY 1994

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# LIGHTING+SOUND *News* International

## A New Opera House at Glyndebourne

Glyndebourne's new £33m 1,200 capacity Opera House, nestling in the folds of the Sussex Downs near Lewes, is now complete - on schedule and on budget - and it was shown off to the press on 31st January. A newly mounted production of 'Le nozze di Figaro' opens the venue on May 28th to coincide with the sixtieth anniversary of the first performance at Glyndebourne.

Glyndebourne is often described as a 'corporate club', and Sir George Christie, chairman of Glyndebourne Productions Limited, and son of the Festival's founders, John and Audrey Christie, set out to dispel this myth. He said at the conference: "We now have an opera house substantially larger than the one we had in the old days. In the new theatre, over 90 per cent of construction costs has been financed by founder members and these founder members will not take up more than 28 per cent of ticket capacity. So 90 per cent of the capital cost is funded by generous and spirited people and organisations for the benefit of 72 per cent - an altruistic situation."

The reconciliation of the need for an increase in audience capacity of more than 350 with the volumetric and acoustic shaping requirements of an enlarged auditorium, allied with a deep concern that the integrity of the space would not be compromised, led theatre consultants Theatre Projects Consultants to propose a modified horseshoe form for the new Glyndebourne. "This horseshoe is neither a slavish imitation of an Italian opera house nor an untried departure from well established theatre practice," said TP's Alan Russell. "The team have in fact conceived an opera house for Glyndebourne which is radically different from almost all other modern opera houses of the last 50 years."

TP have also advised and overseen the implementation of stage engineering, stage lighting, technical lighting and sound equipment. Some of the many companies involved with the project include Tele-Stage Associates (stage equipment), Strand Lighting and Shuttlesound. Acoustic consultants were Arup Associates and theatre advisor John Bury.



*L+S will be including an exclusive major feature on the new Glyndebourne Opera House in its June issue in conjunction with Theatre Projects Consultants.*

## Calling all LDs

If you were only allowed five gels in your swatch for a show, what would they be?

No, not Desert Island Discs, but one of the questions from the 1994 Rosco Supergel Competition. There are no 'right' or 'wrong' answers to the five mind-expanding questions, but your entry could win you three days in New York for two, including dinner at Sardi's and tickets to a Broadway show, plus you'll have time to explore the Big Apple - all courtesy of Rosco.

The panel of judges, which will include David Hersey and Francis Reid, will be looking for originality, flair and an understanding of light and colour, so if you fancy your chances, get your entry form now from Roscolab Ltd, Blanchard Works, Kangley Bridge Road, London SE26 5AQ. Alternatively, you can ring 081-659 2300 or fax 081-659 3153.

Closing date for entries is 16th May 1994.

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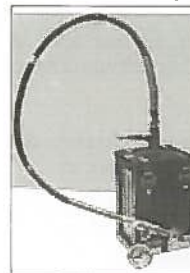
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Meanwhile, the world's most popular effects lighting controller, the **Pulsar Masterpiece** is now available in a compact version - the **Masterpiece 48**, which links direct to **MiniScan 300** to produce world-beating lightshows that make your venue come alive, without sacrificing the features that have made its bigger brother so successful.

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## Live! and Kicking

Following a somewhat disappointing launch last year, the Live! Show, which was held at the Royal Horticultural Halls in London last month, now seems to have found its footing. Visitor figures were up on last year with the organisers reporting just under 1,400 attending over the two days. The move to a January date, reduction to two days and probably the fact that it was held simultaneously with the Outdoor Event Show which ran at Wembley, undoubtedly helped swell the attendance. On the ground, there was a much more optimistic air with most exhibitors encouraged by the quality of visitor.

The event was also the stage for several new product launches. Soundcraft released the SM24, a new top-end stage monitor which features eight mono plus 16 mono or eight stereo sends, and an additional dedicated stereo sidefill send, with logic controlled solo system. Autograph Sales brought to the show a new multi-channel amplifier, the American-manufactured CyberLogic NC-800 Series. The first two models in the range integrate eight individual power amplifiers into a single 6U rack unit, which can generate over 11,000W. Based on CyberLogic's Power System Architecture, the NC-800 series combines the separate modular channels with a 13kVa multi-tap power supply.

The new Century Series LM 12 monitor console range from Crest made its UK debut on the stand of Audio Projects and the LM Series will be added to yet again when the LM 20 makes its debut at Frankfurt. Starlite Systems released their Stardraw 3D lighting design software package, Harman had the latest Sound Power Series from JBL, and HW International showcased the new range of Shure Beta Green microphones and the new Beta 87, the first electret condenser mic to join the Beta line, alongside new Flite mixers from 3G.

Meanwhile, updates on existing products were being offered elsewhere: Cerebrum showed Celco's now ready Aviator, whilst Coe-Tech's stand offered visitors a chance to scrutinise the recently-launched Coemar NAT TM2500. EAW were showing the first fruits of their recently formed alliance with Siemens, and the show was also the UK debut for the Clay Paky Shadow on the stand of Pulsar.

Hand in glove with the show come the Live! Awards which took place at the Royal Garden Hotel. Some 480 people from the live production industry sat down to dinner in readiness for no less than 26 awards with seemingly most of the names in the industry on the receiving end! A highly successful evening was reported.



Graham Paddon of Autograph with the CyberLogic amplifier.



Soundcraft's Mike Mann with the SM24 stage monitor.



Award winners: Simon Austin (LSD) picks up an award for Icon (left), Mike Lowe and Bryan Grant of Brit Row are awarded PA company of the year (centre) and Lee Charteris with Charlie Kail for production manager and concert stage and set design respectively.

## Lites Unite

Meteorlites Productions Ltd (UK) and Bandit Lites USA have announced the formal establishment of a working relationship that will serve to provide an international lighting service to the film, television and entertainment world.

While both companies will maintain completely separate and individual ownership, the firms are working together as one unit. Both companies use identical equipment from Thomas truss and fixtures to Avo dimming and control to Strand and Arri television equipment and both are firmly established in their respective territories.

Bandit Lites purchased the assets of Meteorlites Inc (USA) in June last year. At that time Richard 'Dizzy' Gosnell, formerly VP of Meteorlites Inc, joined Bandit Lites as general manager of Bandit Lites Nashville. Both companies are in the middle of large capital expenditures for the year and the relationship between the two will ensure a strengthened world-wide service network.

## Cumbernauld Installation

GB Professional Audio has just supplied a complete new sound system to Cumbernauld Theatre in Glasgow. The system comprises 16 Shermann Audio speaker cabinets powered by Chameleon amplifiers, a 24-channel Soundtracs Solo live mixing console, Yamaha and Sabine equalisation, CD, DAT, compressors and multi-effects. The patching and matrix system was worked out after extensive consultation with the theatre's technical staff and, despite a tight schedule for the refit, was completed two days ahead of deadline.



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## Spinnaker for Hire

Laser Grafix has developed a compact, budget-priced laser display system for hire. Called the Spinnaker, the system has just had its debut for UK company Mercury Communications through production company Spectrum Communications.

The Mercury 'Imagine Laser Spectacular' was successful enough to guarantee a second booking at Mercury's HQ at Milton Keynes. The laser system can be run on a single-phase supply and, although water-cooled, it is chilled by its own compact water recirculator. The system is available with either three or seven colour options and is capable of beams, sculptures, graphics, animations, instant text, tunnels, scans, chases and sound to light. The system comes with a full mirror kit, operator to rig, power distribution, and smoke effects machine. For details contact Laser Grafix in Royston, telephone (0763) 248846.

## Design Line Search

Design Line Lighting are seeking to appoint distributors world-wide to handle their range of tubelight products. In addition to the tubelight system, the line-up now covers chandeliers, stairnosings, ceiling panels and a new 'Outline' system to highlight the outside of buildings. The range is completed with toroidal transformers and controllers. A distribution package has been put together and further details are available from Design Line Lighting on (0954) 718118.

## Sweet Sixteen

Laserpoint celebrated their sixteenth birthday in January with the launch of three new videowall products. They also announced a new laser graphics controller which is shortly to make its debut in the UK (more of that later). The 16 years have been busy ones and orders flow steadily in from around the world for Aquarius and its new PC-based sister controller.

## Laser Technology for Planetarium



The recently-opened planetarium in the 'Deutsches Museum' in Munich is considered to be the best technically equipped planetarium in the world. Part of the reason for this is a sophisticated high-tech laser show.

LOBO electronic from Aalen in Germany, one of the leading companies in the field of show laser systems, undertook the conception and realisation of the laser technology, including the provision of the control equipment.

The system consists of four laser projectors, two of them on robotic arms which are mounted on pneumatic cylinders. Supplied with laser light via glass fibre optics, they are capable of projecting a myriad of graphic images including signs of the Zodiac, logos and trick-film animations onto the dome or into the audience. The laser projectors are controlled in real-time by a laser controller, the Lacon-3 plus, based on transputer technology.

The control system is integrated interactively into a network, together with all the other multivision systems, such as 'All Skys' (sphere projectors), fixed star projection or HDTV video effects and, last but not least, the 12,000W surround sound system.

## USITT Slated for Nashville

Plans are now finalised for the 34th USITT (United States Institute for Theatre Technology) Annual Conference & Stage Expo in Nashville, Tennessee on April 11th-16th 1994, at the Nashville Convention Center and adjoining Stouffer Hotel. The conference expects to top last year's number of exhibitors in addition to providing over 200 member-driven programming sessions and a myriad of special events and exhibits.

Pre-conference events will kick off on April 11th with this year's workshops covering a range of disciplines including risk assessment of a performing arts facility, theatre management and leadership academy, a costume and textile rendering master class and a Vari\*Lite workshop - which offers an overview of automated lighting.

The main conference offers a varied schedule of programmes, tours and workshops with subjects for discussion including the making of 'Tommy', the restoration of historic American theatres, distinguished artistes on sound design which will feature Arthur Kopit, a black designers forum, rigging for 'Phantom of the Opera', emergency evacuation and crowd management, virtual reality in stage design and lighting Dollywood and Opryland.

The adjoining stage expo features over 100 exhibitors of equipment, tools and supplies for the performing arts. A conference registration packet is available now and can be obtained by calling the USITT national office on (212) 924-9088.

Special savings on conference registration are available to those who register before March 11th, 1994. Registration is also available on site. For further information on exhibiting or attending, contact Rich Dolson at USITT in New York, telephone (212) 924 2835.

*We will be covering the USITT Show in a future issue of L+S.*

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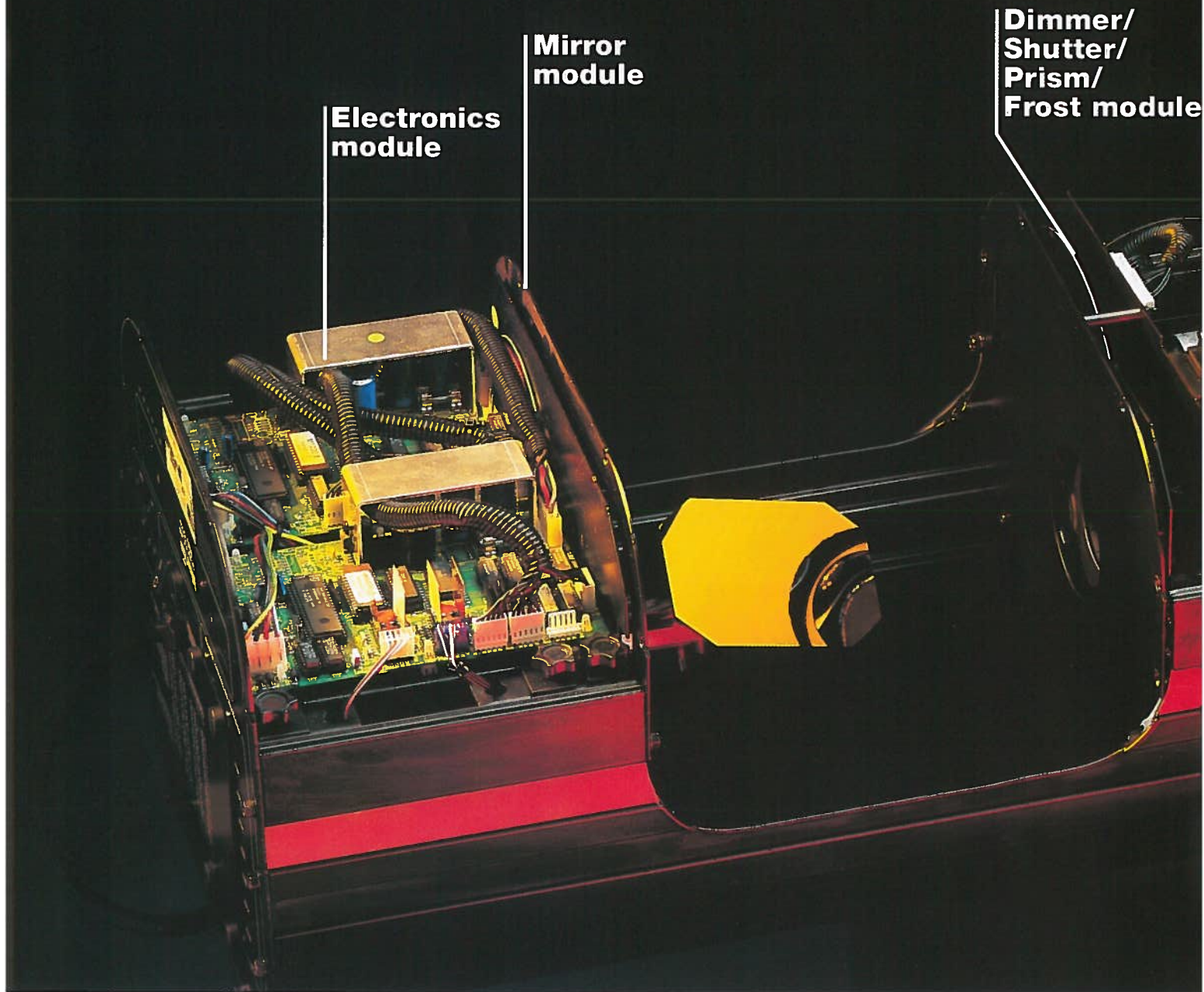
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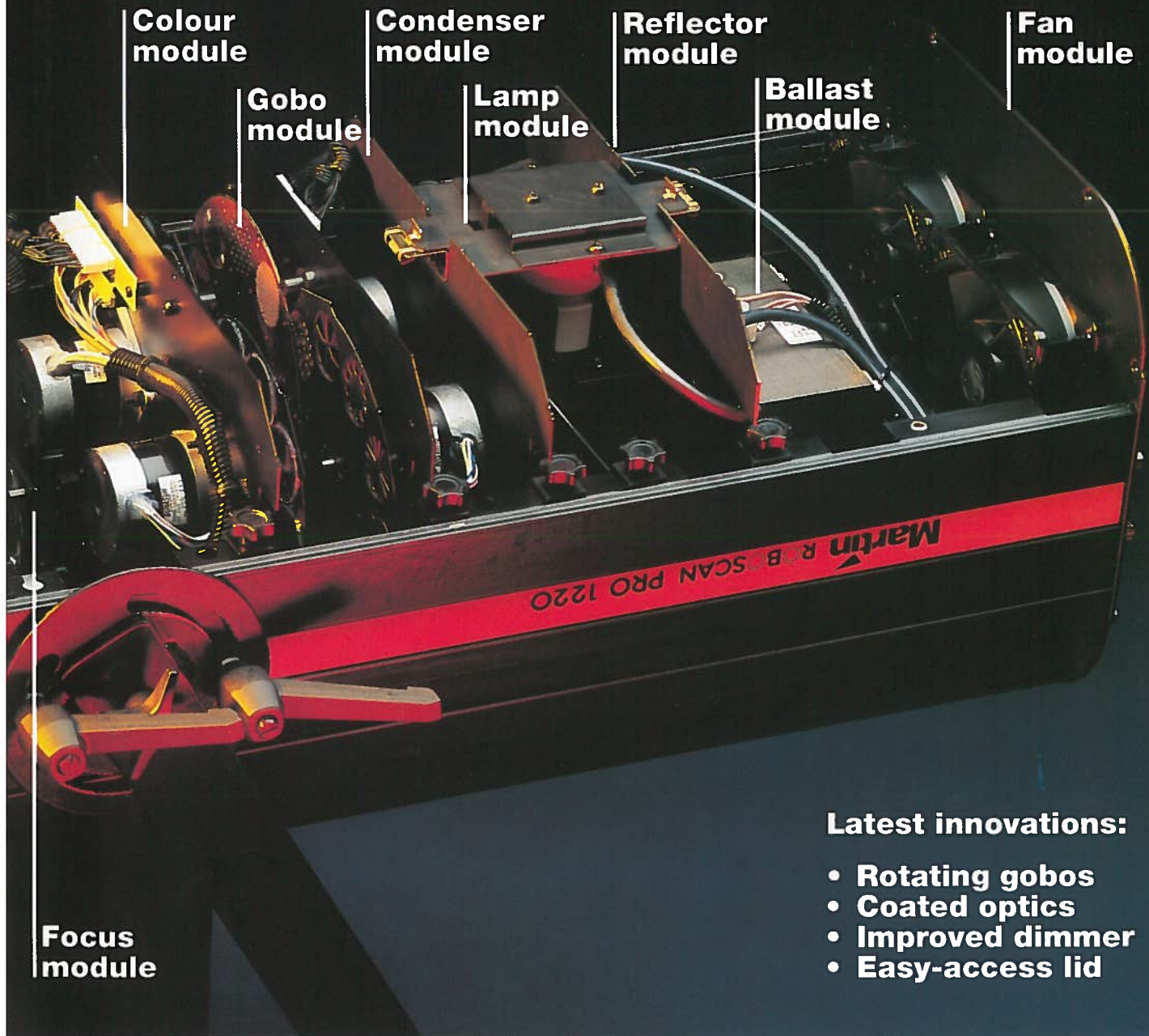
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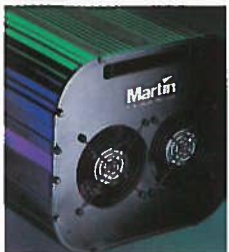
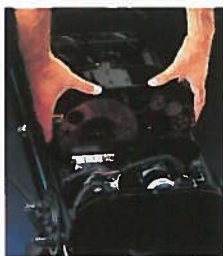
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For the '94 show, over 75% of the available stand space has already been allocated to renowned international manufacturers. The Italian Group organised by the Italian Institute for Foreign Trade (ICE) in cooperation with the Association of Italian Discotheque and Theatre Equipment Manufacturers (APIAD) and the UK delegation organised by Professional Lighting and Sound Association (PLASA) along with the British government will again support the '94 event. Many manufacturers of famous brand names will be participating in the large national pavilions.

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Above, the main dance floor at Xtreme and below right, the control set-up with Light Processor's Integrator desk taking the lead role. Photos: Graham Goldwater

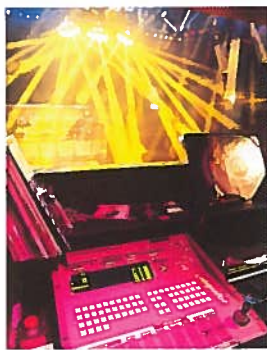
## Lightfactor got to Xtreme

When businessman Dave Quaintance visited the Lightfactor Sales' stand at the PLASA show he decided that High End Systems' intelligent lighting units were the ones he wanted for his new dance club Xtreme which is part of the Newbury Leisure Park complex.

Lightfactor's Dick Carrier then took on the task of incorporating the desired units into the lighting design. In addition, he also designed the sound system, and ensured that the project - installed by Voltalight - ran smoothly. The lighting design is based on five interconnecting Astralite hexagons that cover an area of 40 square metres. Lighting fixtures include High End Systems' Trackspots, Multirays and Raylites, plus pinspots, spinners, scanners, strobes and Galaxys together with multifarious pieces of blue neon. Control for the light show is provided by a Light Processor Integrator.

Above the main bar, facing the VIP balcony, are four High End Systems' Emulators creating a spectacular laser effect show under the main rig, which can be seen throughout the club.

Sound-wise, DAS Audio units are used for the main and infill system. The former consists of four DAS R115 trapezoidal cabinets positioned at opposite ends of the dance floor and four DAS 018 bass bins built into the dance podiums. They are powered via PPX 1600 amplifiers with BSS and Formula Sound signal processing. The infill system in the VIP bar and restaurant utilises 12 compact DAS Factor 5 speakers, powered by PSX 4 amplifiers.



## Star Tours

Star Hire have been contracted to provide the outdoor staging, using a 30m x 15m roof, for the next leg of the Eros Ramazzotti world tour (see L+SI, November 1993). This will total around 45 major concerts throughout South America and Europe, from early March to the middle of August.

From early June to mid September, the company have also been contracted to provide a package of an Mk3 StarStage, a 16kW Turbosound PA, lighting, power generators and distribution for 30 concerts in the grounds of stately homes for Performing Arts Management.

On a different front, Roger Barrett of Star Hire recently delivered a paper entitled 'Safe Stage Design' at the Home Office seminar on the new guide, and is to repeat this at the next seminar in the series, to be held in February. The paper provides a classification system for methods of construction, with the pros and cons of each. A check-list covers all the main areas that can be monitored by anyone without engineering qualifications. The paper finishes with details of the risk assessment technique used by Star Hire to monitor all design and work activities.

## V-L US Dealer

Starlight Services Inc, with offices in San Marcos, California, has been appointed as a Series 300 dealer for Vari-Lite Inc. The company will carry an inventory of Vari\*Lite equipment which currently includes the VL5 wash luminaire and will also provide a rental service.

## SEDA Show on Move

Britain's largest regional exhibition of discotheque equipment and allied services, organised by the South Eastern Discotheque Association (SEDA), will be moving this year from the Woodville Halls in Gravesend where it has been held for the past eight years, to a larger venue, the Cygnet Leisure Centre in Northfleet.

SEDA also announced that they will be returning to the original concept of the exhibition, whereby stand space will be allocated only to manufacturers. This move has, according to SEDA, been welcomed by many, as some felt that the exhibition had taken on the appearance of a market-place.

Association chairman Roger Eagleton pointed out that as a result of having a larger venue, it has been possible to increase the size of the individual stand spaces to nine square metres whilst retaining the old cost of £50 per unit. The exhibition, now in its fifteenth year, is one which is thoroughly enjoyed and appreciated by all those who attend and in previous years it has attracted upwards of 800 visitors.

The new venue offers many facilities not previously available including plentiful on-site parking, easier access for loading/unloading, a bar and full restaurant away from the main hall, and, should it be a hot day, a pool for a quick dip!

The exhibition will be held on Sunday 5th June, and the doors will open at 12 noon. Further information can be obtained from the exhibition co-organiser John Clancy at 67 College Avenue, Gillingham, Kent (0634) 853992.

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## ADB Luminaires

In Jackie Staines' piece on the ABTT North 1kW shoot-out (L+SI, July 93) she posed some rather open-ended comments about ADB. L+SI invited her to write a follow-up to that piece.



The internals and externals of ADB's DS104.

In the 1kW shoot-out feature, I expressed some disappointment in the ADB profiles on show, but understood that they were not the latest models and had been loaned from hire stock. I stated that I would, in future, make sure that I acquainted myself with the new products. Having recently returned from a visit to their factory in Brussels, I now feel able to comment on the product range.

I had access to the whole range of luminaires currently in production but was running rapidly out of time, so I concentrated mainly on the DS104 and DW104, both condenser optics, side by side with the Neithammer for comparison. The DS104 is a 15-31 beam angle and the DW104, 15-42 and the only difference is in lenses. The chassis of both models are the same and they measure and weigh the same. Historically, the DS is older, copying its ellipsoidal cousins in beam angle, whereas the DW takes full advantage of the condenser optics with the extra 11 degrees. It is likely that the DS will soon be withdrawn as it does nothing that the DW can't do to at least the same standard. When focusing to a hard-edged gobo image, the Neithammer is always slightly out of focus either around the edge or in the centre. The ADB profiles produce a consistently even focus across the whole beam to create a perfectly focused image. Unlike most condenser optic profiles, the ADB luminaires do have a peak field adjustment which assists in producing the smoothness of the beam. This adjustment moves the lamp and reflector in relation to the condenser lens.

When hard focused in this way, there is considerable internal reflection creating the image of the edge of the gobo or a negative image if a gobo is used in conjunction with shutters. This effect can be lessened by adjusting the peak field and cured by inserting a second gobo holder in the extra wide gate. (All ADB accessories are manufactured in matt black). This second accessory slot could lead to some interesting effects using two gobos, one out of focus, for break-ups and abstracts.

It is possible to focus either to the front or back of the lens, thus a speck of dust on one side of the lens may be clearly visible but with a fine tune of focus it will vanish leaving the rest of the image in focus. A more useful application of this phenomena is the shift in frequency of the chromatic aberration so that whilst it will never disappear completely, with fine tune focusing it can be blended in to suit the colour filter in use. There are also accessory slots on the lens mountings inside the lens tube for the insertion of dichroic filters or the range of high temperature frosts that ADB are producing in response to customer enquires. These glass slides can also be coloured by the user to create coloured gobo slides.

The trunion can be mounted either on the lens tube or the lamp house by simply loosening the two bolts and sliding the trunion assembly across the gate. (There are three different trunions available to cope with different rigging requirements). Whichever part of the lantern is fixed, the other is rotatable in relation to it. This means that the gate is not truly rotatable, but moves with the rotation of the lamp house. This can aid in the focusing of gobos and shutters just like a rotating gate, but one should always consider the lamp burning angle. If the lens tube is rotated, for example, to mount the lens focus knobs on top, the colour runners cannot unfortunately be counter-rotated to allow also for top access - a consequence of the lens tube and colour runners being all one casting. However, ADB are aware that this is not ideal and have taken the suggestion of separate castings on board. I feel that this is a development that we will soon see on the product.

To sum up, I am not only suitably impressed with the ADB range, but also by the way in which the company listens to the comments of the customer, respecting the views of the people actually using the products.

Jackie Staines

## Big Sound for Joseph

Joseph and the Amazing Technicolour Dreamcoat is currently on tour in the UK. A feature of the production is a spectacular sound system designed by Martin Levan and implemented by Chris Jordan, with Theatre Projects supplying the sound equipment. A 74-input Cadac J-Type console - the largest J-Type ever to tour in the UK - provides the control and comprises two frames (containing 38 modules and 56 respectively), with a 12 x 24 matrix, two programmable routing modules and 12 x VCA Masters. Mike Walker is handling the production sound for the tour. Featuring full surround sound and sub bass on three levels, the design also includes a full complement of Sennheiser radio mic systems, covering a total of 28 frequencies. 28 SK 2012 miniature body packs are operating with an 18 channel EM 1046 receiver system and a further 10 channel EM 1036 configuration, along with two computer monitoring interface systems. In addition, four of Sennheiser's brand new 1051 hand-held radio mics get their first professional outing.



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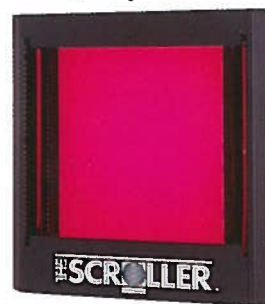
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## Shaken, but not Stirred

Somewhat shaken but nevertheless ready to carry on with work, lighting designers and theatre consultants Richard Pilbrow and David Taylor of Theatre Projects Consultants survived the Los Angeles earthquake on January 16th located only a few miles from its epicentre. Asleep in their hotel rooms in Santa Monica they were awakened by the 6.7 richter scale quake at 4.31 am with a bump. "Richard was thrown out of his bed on the fourth floor and I had a mass of stuff crash down into mine," said Taylor after their ordeal in California.

Both designers were in Los Angeles to meet with the architects for the renovation of the Ahmanson Theatre in downtown LA. "It was an experience I never want to go through again," said Taylor. "My hotel room was trashed and my notebook computer squashed when the furniture smashed down onto it. A huge table-lamp fell into bed with me and part of the ceiling finishes and sprinkler caps fell down. It sounded as if a train was running through the room." He told L+SI that the experience of evacuating from his room on the sixth floor had changed his perspective on emergency lighting. "The quake took all the power in the city out in the first few seconds - but the bright emergency lights of the exit stairway glowing through the dust and debris at the end of the corridor were tremendously reassuring. There were many large aftershocks soon after the main quake and we were absolutely terrified," he confessed. He related that the hotel staff were very organised. "We were impressed with the application of the earthquake procedure by the staff - the codes and analysis of disasters informs much of the work we do, and it was very interesting and reassuring to witness it first-hand." (Theatre Projects has a number of projects in earthquake zones).

"Richard managed to dress and pack his case complete with his brand new Apple Powerbook, radio, cellular phone and important stuff," continued Taylor. "I just grabbed my credit cards." Their hotel had recently undergone a seismic upgrade. "The California code requires considerable attention to be paid to the securing of equipment in our theatres, such as dimmer racks, rigging systems and stage lifts. The forces we experienced during the quake, which cracked the building facade, makes it easy to understand why such precautions are necessary," he said.

The consultants' meeting was postponed as the architects' office in Beverley Hills was very badly damaged. Pilbrow and Taylor visited Frank Gehry's office for whom they are designing the Disney Concert Hall and found the concert hall model was severely shaken. Later in the day they were sheltering from the massive 5.7 strength aftershock under a table in architect Barton Myers' office. "We designed the Cerritos Performing Arts Center with Barton with the very latest earthquake survival systems," said Taylor. "It felt quite safe beneath his conference table! Richard kept comparing it to the Blitz, but I'm not sure whether he meant the show or the historical event!"

Richard Pilbrow stayed another day in Los Angeles whilst David Taylor flew up to San Francisco where he is consultant for the refurbishment of the ACT Geary Theatre after the 1989 earthquake which destroyed much of the interior.

## ProQuip Concert Tours Launched

Videowall company ProQuip have launched a new division dedicated to enhancing the presentation of concerts and outdoor events. ProQuip Concert Tours (PCT) will bring together the talents of Laurence Delany, best known for his work with Lenny Kravitz and Eric Clapton and Adrian Jones, formerly of Electrosonic, who has recently worked on productions for Walt Disney, The Beat and Top of the Pops. Based in Surrey, the company will hold a large stock of videowall cubes, monitors and production equipment which has already been put to use on the tours of Madonna, The Rolling Stones and Duran Duran.

## Lightfactor Faces

As promised a photographic follow-up to Lightfactor's Open Day (see news, January L+SI) which previewed High End Systems' new Cyberlight to an assortment of industry people. Below are just a few of those who attended.



Tony Panico (Meteorlites) with lighting designer Paul Sellwood.



Kevin Forbes (LSD), lighting designer John Dipple and Dave Smith (LSD).



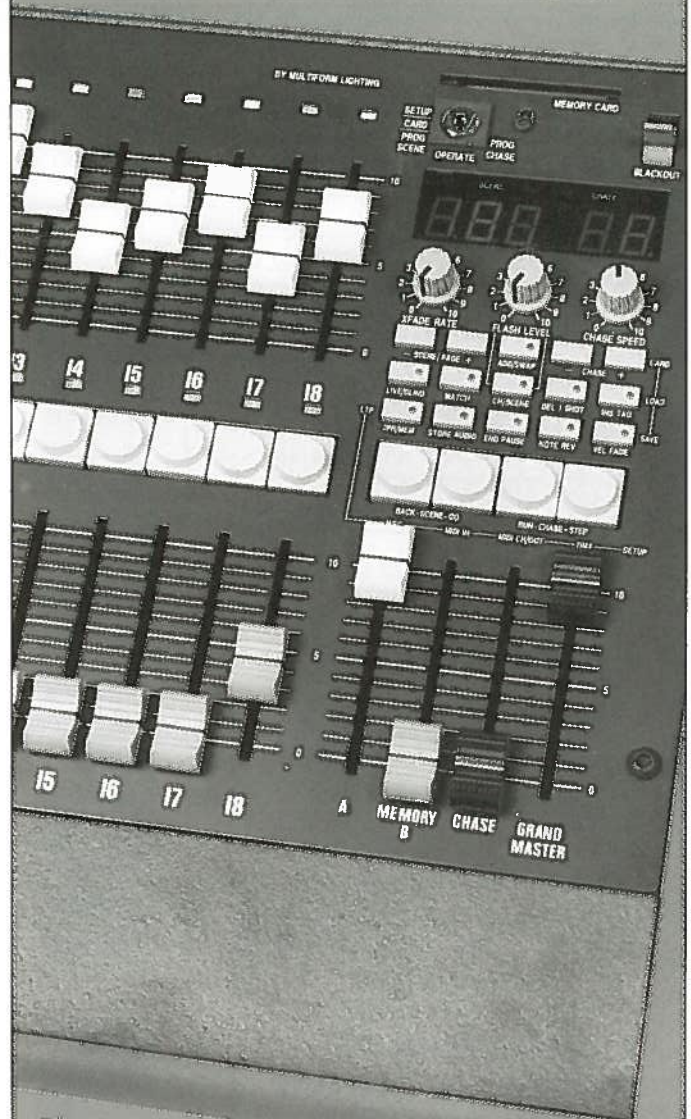
John McDowell (High End Systems) and Marco van Beek (Vari-Lite).



Designers Tony Gottelier, Simon Tapping and Richard Knight with Larry Cotten of Lightwave Research.

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## Haymarket Update

Basingstoke's Haymarket Theatre has recently completed its transformation, including a top-to-toe refurbishment and a whole new sound system. With all the building work now behind it, it has also tied up the final loose ends in its control room, with the help of Autograph Sales - including the supply of a range of ancillary sound equipment, from a console through to mics and outboard gear. The equipment has already been commissioned on the theatre's current schedule, including productions of 'Way Upstream', 'Veronica's Room' and 'Time and the Conways'.

At the heart of the control room is the main PA sound desk - a Soundcraft Delta 24:4:2, which also has its own dedicated stalls position. This is complemented by an Akai S01 sampler, a pair of Revox P77s, and a Yamaha Q2031 graphic equaliser. DAT also features extensively, in line with the team's wish to create more of their own effects - investing in a Tascam DA30 as well as a portable HHB Pro-1 DAT unit. The microphone stock ranges from AKG 451s and D112s, plus CK1s, CK5s and CK8s, to Milab PZM and D37 mics. The core PA and communications systems were handled as an integral part of the overall refurbishment project (installed by Shuttlesound under TechPlan's aegis).

Given an overall budget of £30,000 to split between the lighting and sound requirements, we wouldn't have been surprised to hear that sound came off the worst. However, according to head technician David Ripley, this was not the case: "We are a classic example of a rep theatre, staging around six of our own productions each year, with an active selection of local amateur dramatics shows and tours. Given this mix, we wanted to ensure that we could handle the sound reinforcement requirements of a wide range of productions, investing in a good basic complement of equipment to last us for the next five year period - at least!

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equipment relatively easily, so we took the decision to focus on the sound element. Three companies were invited to tender - we elected to go with Autograph Sales because we felt they understood what we were trying to achieve."

Space, as always, is at a premium in the Haymarket's control room. David Ripley's requirement was for a compact, neat rack containing the patchbay and cable looms, which mirrored the main theatre multicore inputs. This was supplied pre-wired by Autograph, reducing the amount of time needed for installation (in the event, Autograph's Richard Barman needed less than a day in total to put in the equipment).

To give David Ripley the last word: "Autograph did a great job for us and we have achieved a good balance of equipment, which will cope with everything we are likely to throw at it. Sound reinforcement is still a largely under-utilised resource in regional theatre, and we hope to make some inroads towards raising its profile in future productions."

It's good to see theatres such as The Haymarket focusing on the sound aspect of modern productions, on the basis that effective use of sound reinforcement techniques can make a major dramatic impact in their own right.

## Show Dates Change

If you plan to visit Photokina, Expo Musica or Broadcast Asia 94, then you should note that the dates of all three exhibitions have changed.

Photokina in Cologne has moved from the 7th-10th September and will now run from the 22nd-27th. Expo Musica in Madrid has been moved on a month and will be from the 11th-15th May, whilst Broadcast Asia has been rescheduled to the end of May and will now run from 31st May until 3rd June.

## Strand Asia Move

With effect from early February 1994, Strand Lighting Asia Limited will relocate its three present facilities in Hong Kong into one new location, combining sales, service, engineering, production, distribution and administration. The consolidation will improve customer services and communications while simplifying operating logistics. All employees in the current locations will be transferred to the new facility. The new address is: Strand Lighting Asia Limited, 7/F., Corporation Square, 8 Lam Lok Street, Kowloon Bay, Hong Kong, telephone (852) 757 3033.

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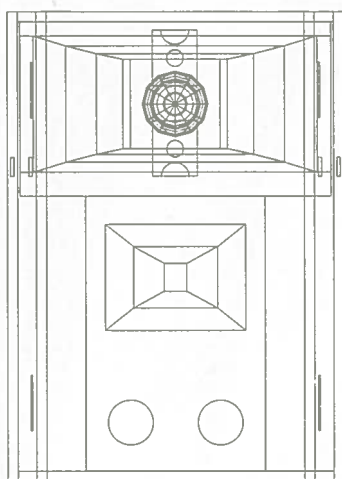
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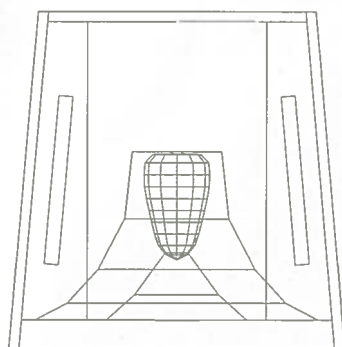
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## Hair Today

The post Christmas period seems to have had a strange effect on some people in the industry, writes Tony Gottelier.

During a visit to the Live! Show L+SI's roving reporter was amazed to run into what purported to be a complete stranger on the LSD stand masquerading as a latter day Peter Johns, the company's general manager and iconoclast. Could this really be he, the hairless and close-cropped individual? Indeed, as one looked closer one could see the faintest traces of the previously pony-tailed Johns, now sporting a liberal sprinkling of designer stubble on the other side. The question is, has corporate rock and roll finally hit the men of Gravelly Hill, and will Simon and Terry follow hirsute? (If you don't want any more of this guys, you'd better send one large LSD black rugby shirt post haste to L+SI's News Editor now!)



Hair-razing: LSD's Peter Johns sports a new look.

On top of all this you could have knocked your scribe down with Dolly Parton's pink wig if, on a visit to Lighting Technology, another hairy shock wasn't in store. Wait for it - the venerable Bev Bigham, source of all sources and a director of that fast-expanding lighting distribution company, has removed his moustache of 23 years standing! "It was getting in the way when snorkelling in the Bahamas after LDI," was the somewhat lame excuse from the erstwhile bewhiskered Bigham.

But the quote to cap it all came from LT's, recently promoted, new business development manager, Paul De Ville: "Bev's lost a lot of respect around here," Paul told L+SI wryly, "most people think he's our latest recruit from the YTS scheme." L+SI still awaits news on whether Zero 88's Peter Brooks kept his New Year promise to shave off his beard for charity.

## BSS in Auckland Concert

The Whitbread Yacht Basin in Auckland, New Zealand, was the venue for an outdoor concert by Dame Kiri Te Kanawa in January, where over 8,000 people gathered for the diva to perform a programme including operatic arias, Broadway songs and her favourite jazz songs. Moored in front of the stage were 70 boats holding 2,000 of the audience!

The concert was organised in aid of the Spirit of Adventure trust that runs a 34 metre top-sail schooner as a training vessel for young people. The sound system for this unique concert was provided by Oceania Audio, BSS's distributor in New Zealand, to a sound design by John Scandrett of System Sound Ltd of Melbourne, Australia. BSS signal processing featured extensively in the system, including three Varicurve systems in 12-way mode for the front-of-house system, and two others used in ganged 60-way mode on a Meyer delay system and Dame Kiri's monitor and the mix position listen wedge. The BSS FCS-960 graphic equaliser was used on Meyer delays, while a DPR-402 compressor in over easy mode kept the delays in line with the Turbosound TMS-3s, used front-of-house, during the louder passages. FDS-360 crossovers and the MSR-604 active signal splitter system were also extensively used in the system.

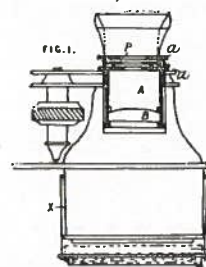
## A HUNDRED YEARS AGO THIS MONTH

BRITISH THEATRICAL PATENTS 1801-1900

### Intro' to Patent Abridgement 3954 of 1894 (R.H. Butterworth)

Just 100 years ago people were beginning to think about killing the auditorium lights during the performance. When they began to do it at Covent Garden for performances of Wagner's 'Ring Cycle' there was a great fuss. After all, was it quite proper for a lady to sit in the dark next to a gentleman who was neither her husband, her father nor her brother? In many theatres the lights remained on as they had always done. Not only could the audience see the players, but the players could see the audience and, more importantly, the audience could see one another. In theatres (as with the opera) subscribers would receive a seating plan showing all the boxes and the names of those who had taken them. So, whenever you found the performance less than interesting you might just look about and see who was with whom. Then, if you owned a pair of those tricky opera glasses and you saw something which you thought was - shall we say - 'interesting', you might quietly photograph it - or them. Always allowing, of course, that your film was fast enough.

3954. Muttonworth, R. H. Feb. 24.



Opera and field glasses and photographic cameras combined. From one tube of the field glass the eye-piece is removed, and in its place is inserted the tube A with lens B and dark-shutter P, arranged so that on pressing a lever the shutter falls and brings for an instant an aperture therein coincident with the apertures in the plates a, a. Means are also provided for holding the shutter in this position when time exposure is desired. At the object glass end of the tube a folding frame is fitted into a rim T which can be slipped into the hood X or over the casing. This folding frame receives the plate holder which is covered, until the whole is firmly in position, by a sliding lid.

## Light Opera for Gobos Plus

Based in South Staffordshire Light Opera have notched up 25 years' experience providing a wide range of technical services to the entertainment industry. The company's own hand-crafted gobos allow end-users the chance to introduce an air of individuality to their productions. With their one-off counterparts in etched stainless steel, Light Opera gobos are manufactured in 3mm aluminium and are available in fixed or rotatable form. The company's activities don't end with gobo manufacture. Paul Owens and Richard Archer who head up Light Opera also offer a lighting design service as well as being specialists in the repair and restoration of lighting and sound equipment for the entertainment industry.

## UK Firms in Strength at AES Amsterdam

The strength of UK companies in the field of professional audio equipment and services will be underlined at the AES Exhibition '94 (Amsterdam: 27th February - 1st March) by the presence of over 30 exhibitors grouped in a joint venture organised by the APRS (Association of Professional Recording Services).

## High End SonoVista

SonoVista from Tecnation is to be distributed through the High End Systems dealer network world-wide. SonoVista is an audio triggered video effects generator utilising powerful Atari graphics and audio processing hardware. This works with Tecnation's Bit Bopper software to manipulate and generate computer images in response to an audio source.

SonoVista's real-time effects include dynamic sound-to-light illumination and animation, layering, glide wallpapering, kaleidoscope, random sequences and strobing. SonoVista's Visual Rhythm pattern generator allows sound-to-light synchronisation, whilst various automatic and sound triggered VideoGobo and Colour Filter Change effects mean it can be left unattended. Another major feature of SonoVista is the Cyberwriter Intelligent Video Typewriter, which automatically scales text to fit the screen and allows messages to be displayed over an animating Video Gobo. According to HES president Bob Schacherl: "The SonoVista system was previewed at the LDI exhibition last November, and the response from our customers world-wide has been exceptional."

The product, which is the second generation of the Alex Blok-designed Bit Bopper, is a much more reasonably priced item than its progenitor, and will also be available in Europe through Craze Communications who are based in Germany. Craze's telephone number is (49) 521 208 000, whilst High End Systems in Austin, Texas, can be reached on (1) 512 836 2242.

## Pigs Flying



The Wholehog lighting control system seems to be 'hogging' the limelight at the moment. Record sales are reported, with no less than three entering into the UK rental market this month alone. Entec were the first to invest with the opening ceremony of the Channel Tunnel giving them an excuse, whilst both Theatre Projects and Meteorlites are adding to their rental stock to meet the requirements of the Pink Floyd and Phil Collins spring tours respectively.

Marc Brickman, Pink Floyd's lighting designer for their new world tour, which starts in the United States at the end of March, made his decision during his visit to LDI in Orlando, though it wasn't confirmed until several weeks later. The Pigs' ability to respond fast to such orders is underscored by a minimum stock policy operated by their distributors A C Lighting.

It is in the friendly and global nature of the business that Brickman caught up with Brian Croft of Vari-Lite Europe and with the new American-made Cyberlight at the London showing at Lightfactor - their premises are just a few doors down from Vari-Lite and sister company Samuelson Concert Productions who are the lighting contractors for the tour. Hence our picture of the two above. Happily for Brian (pictured right), the Cyberlight wasn't going to be quite ready in time for the Floyd rehearsals! Amid accusations of nepotism, it turns out that Croft's daughter-in-law Carol, nee Welsh, is the crucial person at SCP.

The Wholehog seems to be catching the imagination of many of the top rock and roll lighting designers. Its soon to be released updated fixtures library, inspired by the requirement on Phil Collins, allows the desk to control the new High End Cyberlight. It will also add other fixtures to the library (see Equipment News this month).

## European Link Up

Siemens AG Osterreich, Professional Audio Systems have joined forces with Bruce Elliott's Oxford-based Multiremote Ltd in a partnership to service the UK and Eire.

Siemens manufacture a substantial range of equipment for different applications which vary from underground railways to theatres. The company hope that the new partnership will help them attain the strong market share in the UK that they currently enjoy in mainland Europe.

## People News

Paul Whiting has been appointed general manager of Sennheiser UK, following the departure of Ralph Martinke. Whiting has 19 years' experience with Sennheiser products, and as marketing manager, has been instrumental in building the growth of the company since it was established in 1990. Rob Piddington, who takes over as sales and marketing manager, has eight years' experience marketing with Sennheiser and was previously area sales manager, southern area.

Further to the acquisition of AKG Acoustics PLC at the end of last year, Harman Audio has announced that key staff from AKG's sales, marketing and service departments, have transferred to the Harman office in Borehamwood. AKG personnel who can now be contacted there include Justin Frost, marketing manager; Ian Bray, technical manager; Steve O'Neil, sales office; Rod Geary, London area sales manager and Neil Howe, Midlands area sales manager.

Andy Sugars has joined Mike Clemo's Talk Talk Production team as lighting effects designer, having spent three years previously as production designer with Laser Grafix.

High End Systems' product specialist Gene Brummet has joined Towards 2000 in Burbank, California. He will represent all of the HES' products at Towards 2000, and also head up a colour matching service which incorporates the Hunter Lab line of spectrophotometers.

Alan Kibbe has joined TPC in Ridgefield, Connecticut as technical production director. His responsibilities include the oversight of technical operations for the company, technical design and documentation. For the last eight years, he has worked as regional sales manager for Strand Lighting and Colortran.

Rod Bartholomeusz has joined Lite Smiffs following his departure from Cerebrum Lighting in the New Year. He will handle the company's export sales.

John Jeffcoat has recently joined Multiform Electronics in Uckfield as UK and international sales manager. His role will be closely allied to dealer support and promotion, not only for Multiform, but also for sister-company MEC Systems and its range of trussing.

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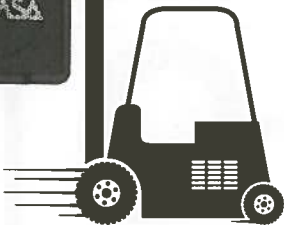
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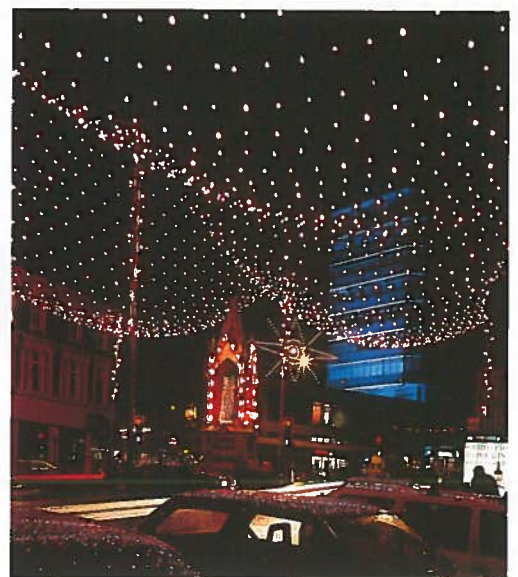


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## From Power to Light Shower

Map Productions have recently been involved in two rather unusual projects. The first involved the disused Bankside Power Station opposite St Paul's Cathedral in London (pictured above left) which was transformed into a monumental fire and sound installation by Map's Anne Bean in collaboration with Paul Birwell and 30 drummers. The 20 minute event heralded the opening of the London International Festival of Theatre and utilised, amongst other effects, model helicopters carrying pyrotechnics, 75m long sections of rising fire rope, as well as a 30 foot high flame on top of the chimney which could be seen across the capital.

In Maidstone, Kent, Map's Anne Bean was joined by partner Peter Fink in a collaboration with light engineer Wyndham Sheen for the design and implementation of Maidstone's festive lighting for the Christmas season (above right). The commission was the result of a national competition held amongst UK artists.

The lighting scheme avoided any reference to traditional Christmas imagery and instead developed the notion of using colour light animated by electronic programming. The installation used 4,000 carefully shaded lacquered bulbs intercepted with Starlite strobes to create a wave of colour in the streets approaching the main square. The street level installation culminated in the illumination of a 12-storey office block with blue MBI floods, with further internally-placed Starlite strobes creating an ever-changing chase of colour across the fenestration. The scheme also employed a Colourscope light fitting from Sound Tech to create constantly changing pools of light on the pavement. Maidstone Borough Council is currently planning a number of other lighting commissions for lighting designers, craftsmen and artists as well as a major conference on lighting cities to be held this year.

## LD Brochure

A new four-colour brochure from the International Association of Lighting Designers (IALD) describes the role of a professional lighting designer and highlights the importance of quality lighting design in a project.

Services offered by professional lighting designers as well as the benefits of successful lighting solutions are also covered, as are the potential cost advantages of using a professional lighting designer.

Brochures are available from Maria Becerra at the IALD, 18 East 16 Street, Suite 208, New York, NY 10003 USA, telephone (212) 206-1281.

## Bill Stiles

Bill Stiles died on December 29th, 1993 in Sussex. He was a founder director of Theatre Projects, a distinguished general manager in the West End, responsible for Forum Ventures (the Theatre Projects Associates/Hal Prince Productions) as well as most of the major Rodgers and Hammerstein hit shows of the fifties and sixties. As head of the amateur theatre department for Chappell's, the music publishers, for many years, Bill had innumerable friends and contacts through the field of amateur operatic and dramatic societies across the country.



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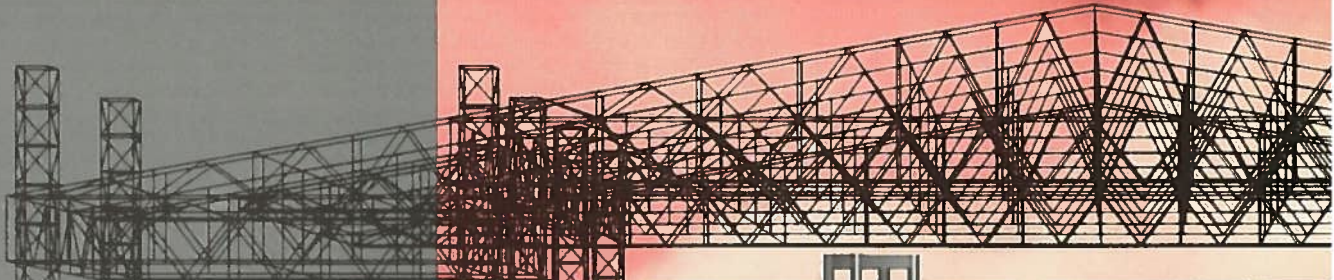
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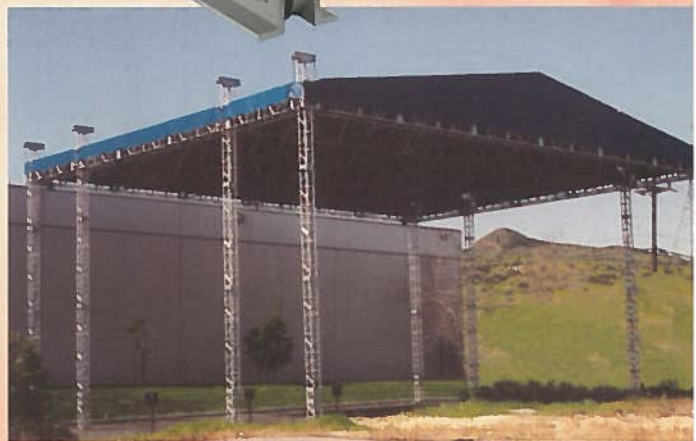
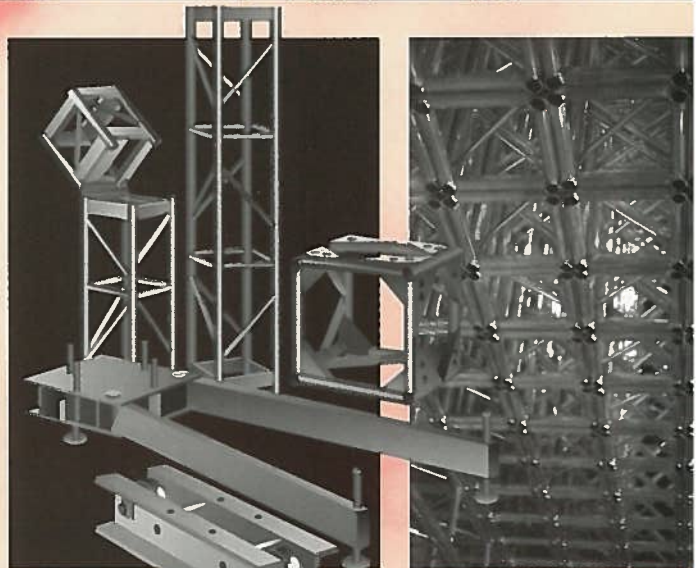
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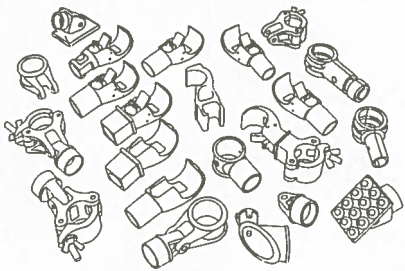


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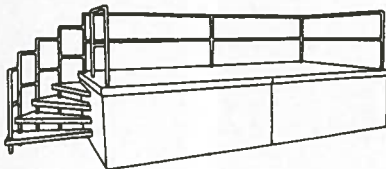
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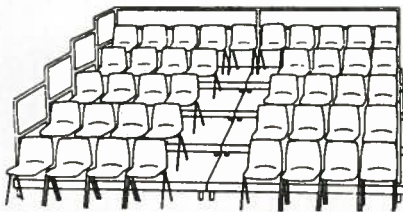
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## Beauty and the Beast

Beauty and the Beast at Houston Music Hall provided the venue for a recent installation of DHA Digital Light Curtains. Five 8-lamp units were ordered at the LDI show in Orlando and, due to the urgency with which they were required, DHA were able to deliver them within four days of the order being placed. They were then installed under the supervision of DHA's Philip Nye.

The DLCs were rigged on an upstage light wall and used extensively to backlight a series of five drops. The units were fitted with wide-flood lamps - the first time these have been used on a major show - and were easily refocused remotely for each drop. The smooth movement and high resolution made them ideal for live moves, e.g. creating sunrise and sunset effects along the horizon line using colour change and movement. They were also used to skim a reverse projection screen from behind and to track the movement of the castle downstage. Ted Mather, who assisted Natasha Katz on the lighting design, told L+SI: "they provided us with a degree of colour selection and focusing flexibility that we've never before had in lighting a drop." The versatility of the DLCs was put to the test when it became necessary to fly out the light wall to move a piece of set, whilst the DLCs were still back-lighting the drop. This was achieved by tilting the units downwards at the same rate as the wall was flown out with virtually no visible change to the lighting state.

The DLCs were controlled by 'Light Moves' software, triggered from an ETC Obsession desk. The Apple Macintosh computer was bought from a local store whilst the DLCs themselves were still in transit. "I found them easy to programme," said Natasha. Installation was easy since the electronic alignment reduced rigging time to a minimum, no mechanical focusing being necessary. This proved especially valuable since one unit had to be hung at a different angle from the others to clear a piece of scenery, but was easily aligned with the others electronically.

## LSD Centralise

As L+SI was closing for press, Light & Sound Design announced that in line with their ongoing strategy to re-focus the company on its known strengths, it has ceased operations at its Gravelly Park location. The move has led to 16 redundancies but has allowed LSD to carry out a major refurbishment of its head office in order to re-house all their staff under one roof. It is the firm belief of the management team that the move is necessary and leaves the company with a structure that will allow maximisation of the opportunities available.

## Icon Superbowl

Newbury Park-based Light & Sound Design Inc recently supplied lighting services for the 'Rockin Country Sunday' half-time show at Superbowl XXVIII. The spectacular lighting, designed by Bob Dickinson, was the centre-piece of the largest production ever mounted at a Superbowl and the first time ever that the National Football League allowed the stadium lights to be turned off for a half-time show.

LSD supplied 100 Icon automated lights used as backlight from the side of the stadium and as effects lights on the stage. They also supplied 50 Molefay with MoleMags that were used as front light, 24 Gladiator xenon spotlights used as keylights, and an onstage package that included Moles and MoleMags, Pars, Ministrips, and Nook lights. Additional lighting included 32 xenon Britelights, 300 neon rods carried by dancers, and over 70,000 flashlights used by the 1,500 dancers and the 70,000 attendees.

The format of the half-time show allowed only five minutes to set up the entire stage which was approximately 120' feet by 80'. This was accomplished by 500 stage hands and volunteers who pushed the stage onto the field, dragged the mains cable on, and wired up the lighting, sound and pyro all in only four minutes, 29 seconds. An 11 minute show followed with five minutes to strike the show and get the 1,500 cast members off the field - and restart the football game.

The event was watched by 70,000 people in the dome, 135 million television viewers in the United States, and an estimated world-wide audience of over 500 million.

By the way, the Dallas Cowboys beat the Buffalo Bills by 30 to 13.

## MM Active

MM Productions have surpassed their aims for the Christmas Season 1993. Having set a modest target for providing sound equipment for three theatre shows, they rounded up the year with no less than nine professional venues being catered for around the country. These include a Renkus Heinz speaker system for Derby Playhouse, AKAI S3200 and S01 samplers supplied for the Wolsey Theatre Main House and Studio shows in Ipswich. 22 Micron UHF Diversity radio microphone frequencies used at York Theatre Royal, Leicester Haymarket and Ashcroft Theatre in Croydon.

And it hasn't stopped there. In amongst they have been busy at a number of smaller venues. Watch out for MM Productions at the ABTT Show with their new midi events unit and following the success of the Sampler Day held last year, they will soon be embarking on 'Sampler Day 2'.

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# CREATIVE STAGING

Rob Halliday looks at 'An Inspector Calls' and 'Machinal'

I'm sure that there are some people on this planet who just don't think in the same way as the rest of us - who see things differently, imagine things differently, and so create things differently. And I'm sure that Stephen Daldry and Ian MacNeil are two people who fit into this category.

Daldry and MacNeil are the director/designer team who have now taken the London theatre scene by storm not once but twice, with productions at the National Theatre which have received huge critical acclaim, won countless awards, packed theatres for long periods of time - yet have never been the safe, conventional pieces of direction and design that the public and critics often go for.

J B Priestley's 'An Inspector Calls' came first. When it appeared in the National's publicity leaflets many peoples' thoughts ran along the line of 'what are the National Theatre doing reviving that tired old warhorse, the story of a fake Police Inspector visiting a wealthy family and revealing that each was independently involved in a young girl committing suicide' - familiar from amateur productions staged in traditional box sets. When the play opened, the critics were, for once, united in acclaim. The play left the Lyttelton, toured Britain, returned to the Lyttelton, moved next door into the larger Olivier to let more people in to see it, and has now moved across the river to the Aldwych Theatre. And it is soon to spread to New York and Tokyo.

It is also the best production I have seen in a long time. I'm afraid that with theatre my cynical nature often comes through; I'm sure the same is true of many other people who work in theatre. If a show is not perfect, they lose interest and start looking at the mechanics of the show and its effects. I've sat through 'An Inspector Calls' twice, and been riveted both times. Put simply, it is a superb production.

The show opens with an almost conventional look - red tabs in, a wooden floor on the forestage in front of the tabs. A more careful examination reveals that things may not be all that they seem - on stage right is a traditional red telephone box, its door lying on the floor; on stage left the floorboards are splintered and bent upwards, with an old radio sitting on the ground. Then as the show starts, with distant air raid sirens and battle sounds, a small child appears from a hole in the forestage, plays with the radio, then tries to lift the tabs and peer underneath. The music builds and the tabs fly to reveal a devastated landscape with smoking craters, surrounded by a huge grey sky and, centre stage, a doll's house sitting suspended on wooden stilts. Inside, the Birling family are having a celebratory dinner.

Even this early into the show, Daldry and MacNeil are daring. The audience are still adjusting to such an unconventional setting and Daldry just lets them look at it - for the first five minutes the cast stay inside the house, visible only by peering through the windows. Later, as the Inspector, with a quite superb



The Royal National Theatre production of J B Priestley's 'An Inspector Calls' which has received huge critical acclaim for its design.

performance by Kenneth Cranham, appears, and the action expands, the front section of the house splits and swings open to make the inside of the house visible, and to allow the cast to climb down to stage level and back into the house. This sets the tone for the whole production - the blasted landscape is treated as the house and most of the action takes place there rather than in the dining room, as it would have been in a traditional production, yet it is played with such assurance and conviction that the approach is quickly accepted by the audience.

But the house still has a purpose, and comes into its own as the family collapse into disarray once the Inspector has revealed each member's involvement in the girl's suicide - the whole house suddenly tips, sending crockery and furniture flying out and down to the floor below, smashing around the family. Later it rights itself again as, once the Inspector has left, the family reassert themselves and block what they have done from their minds. But Daldry doesn't just use scenic effects to get his point across - he also has 16 supernumerary cast members, who appear as the ghosts of the future to view the family's collapse. Remember, this is a commercial West End production, yet without these extras a whole dimension of the show would have been lost.

Technically, the show isn't that complicated, although its move through so many different theatres has led to changes at each stage. Ian MacNeil's design is based around the perspective of a conventional Victorian theatre, for example - a pros arch and red tabs - and so

when the show transferred into the open stage Olivier Theatre at the National, a false pros arch was constructed. In the show itself the depth of the Olivier stage only helped the play, with the huge wraparound cyclorama seeming genuinely epic, and the vast area of the blasted landscape giving a beautiful sense of space and distance to the action.

The more cramped confines of the Aldwych have caused some re-design and the action is more compressed, especially the entrance of the supernumeraries. The weight of the house, with its steel frame and the two hydraulic rams used to tilt it and then pull it upright again, also caused concern to the Aldwych production team, but in the end caused no problems. Some re-engineering was however required to make the house lower, to overcome some particularly nasty sightline problems from the rear of the stalls.

A new floor was constructed for the Aldwych, since it is so much smaller than the Olivier. This also incorporates a waterproof lining, to make possible a great effect: inside the proscenium arch, a copper pipe fitted with sprinkler-type nozzles has been installed. This is connected to a tap and at certain points in the show water is fed along the pipe and appears as a fine haze, giving both depth to the stage and making the early scenes look

as though they are taking place on a cold, rain-swept evening. The effect works well on its own, but the falling water also tends to catch and pull down the dry-ice and Skywalker-generated smoke which are also used, improving those effects as well.

Supporting the set, effects and action is Rick Fisher's superb lighting which, though a comparatively tiny rig, adds an unbelievable amount of atmosphere to the show while always keeping the actors clearly visible. The main rig consists of a few Silhouettes on the front-of-house upper circle slip positions, which light the pros arch and make it part of the show, some Sils and beamlights on the lower circle, Sils and Parcans on the pros booms to give crosslight on the forestage, and a bunch of Sil 30s on the downstage electrics bar. Slightly further upstage Patt 243s give toplight and backlight, and there are ladders and booms on stage to give more crosslight.

The most difficult element, access-wise, is the curved bar containing 24 1K Patt 743 fresnels and 24 2K Patt 243s fresnels, which are used to light the cyclorama, avoiding all of the nasty lines that often appear when a curved cyc is lit with conventional floodlights. The rig was supplied by White Light, but is run through the theatre's own dimmers and controlled from their Strand Mini Light Palette 90.

Mark Bloxidge, the Aldwych's chief electrician, explained that the rig is really a large series of specials, and in performance the cues will gently fade from a special on one person to a special on the next, so that the stage is always kept fairly dark overall. The only



Sophie Treadwell's 'Machinal' given life by a combination of artistic and technical flair.

effects are an HMI lamp, used as backlight for the entrance of the ghosts of the future, and a barn-door-less 5k fresnel on the front of the upper circle. I remember when I first saw this show - the moment when this fresnel came on, washing the stage and illuminating most of the audience - was the only moment when I went back into technical mode and started thinking about the lighting as lighting. But then as the Inspector rounds on the audience in his central speech about collective responsibility, the play's main theme, this lighting makes perfect sense. Once again, Daldry and his team had made the unconventional work.

But while Fisher's lighting supports and creates the visual atmosphere, the play is also lifted by its use of sound (designed by Rod Mead) and music (by Stephen Warbeck), which underscore the action at crucial moments. At the National, the music was played by a live band and the sound effects were replayed from the National's mixture of samplers and cart machines.

At the Aldwych, the limited space led to an agreement being struck with the Musicians Union and the band being recorded. The score and effects are replayed from six Denon 2000F CD players and, since the opening sequence stretched even that set-up to the limit, a cassette player for the recorded rain! Operator Gary Newman is kept busy. The effects are taken through a Soundcraft 8000 16-8 desk and through a mixture of Hackney Cabs and EV S200s, which are supplemented by Bose sub-base units and JBLs at the rear of the auditorium. The system is beautifully clear, giving a very wide sound, but a sound that is made all the more exciting by the fact that when it stops, the Aldwych is wonderfully quiet, without the now-common hum of air conditioning, scrollers and all the other

paraphernalia of modern theatre. The sound rig was supplied by Orbital Acoustics.

The only question arising out of 'An Inspector Calls' really was how Daldry and his team would follow it up. The answer was 'Machinal', a largely unknown piece by American author Sophie Treadwell which appeared in the Lyttelton Theatre in October last year. The play centres around one lone individual in a time when lives were becoming increasingly mechanised and standardised.

'Machinal' - French for mechanisation - was part of Theatre Projects Consultants' original design for the Lyttelton back in the 1970s, and the theatre was equipped with a full stage-size truck with built-in revolve, mainly to speed the change-overs between shows in the National's rep system. This truck can move into an upstage storage area, which is separated from the main stage by a steel fire door. When on the main stage, it can be lowered so that it's flush with the wings, it can be raised, or it can be tilted to give a raked stage. The theatre was also equipped with three forestage lifts, to allow a forestage or an orchestra pit to be formed quickly and easily. There is also a huge side stage area, again for storing shows - this originally had a stage truck as well, but that was removed some years ago. And finally, the safety curtain is a once-novel split design, half of which lowers to the floor while the other half lifts.

In 'Machinal', Stephen Daldry and Ian MacNeil use every piece of that stage equipment. And they let the audience see what they are doing - there is no masking in the show, and the cast use the fly floors and walkways as acting areas. Even the front of the stage has been replaced with metal mesh so that the lift machinery in the basement is visible. The problems caused were enormous. As Stephen

Rebbeck, the production manager responsible for 'Machinal' explains: "the stage equipment hadn't really been used in this way before, and our engineering department were kept very busy during the technical period servicing and repairing all the machinery."

To all of this equipment, Daldry and MacNeil added their own centre-piece: the roof, a huge steel construction which lifts, lowers and tilts throughout play, sometimes with actors underneath it, sometimes with them on top of it, and once with it lowering down and then appearing through it. Rebbeck's original plan was to construct the roof from wood, but when it was decided to use it for acting on, the construction was changed to steel. Calculations by structural engineers showed that its unusual design, with a hole in the centre, meant that if one of the four support points was lost for any reason, perhaps because of the failure of a hoist, the structure would twist, and so two diagonal cross pieces were added to prevent this. This took the total weight up to eight tons, and necessitated the purchase of four new four-ton hoists, which are attached to the theatre's roof trusses. The hoists are fixed speed, and so the rest of the action in the show had to be worked around the roof. They are also low tech hoists, with no positional information, so positioning during the show is done by string marked with tape.

To match the roof, the theatre's back wall and fire shutters were painted rust-coloured, but other areas were left untouched. "Ian MacNeil loved the stage floor, with its broken paint and old tape marks," says Rebbeck, "so when we added new floor panels to the downstage lifts we actually had to break them down to look like the floor on the rest of the stage."

Technically, therefore, the show is complicated, and the kind that theatre crews

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Daldry and MacNeil used this huge steel construction which lifts, lowers and tilts throughout the play to underscore the message of 'Machinal'.

can often get annoyed with, especially given that Stephen Daldry likes to create as he goes; elements of the show were still being added right up to the technical rehearsal. Yet, according to Stephen Rebbeck, the crew feel very involved with the show, "Daldry is very good at making people feel involved and taking their suggestions on board, and the technicians now appear in the show, riding down on the roof in the opening sequence making sparks fly by grinding the steelwork, and being in view when the trucks move - but it all fits with the concept of the production."

With the show now part of the Lyttelton repertoire, change-overs have to take place very quickly. The roof is stored flat on the upstage truck (it can be split and left suspended, but the 100-odd bolts make this process too time consuming) and, when needed, the truck is brought downstage, the hoists are attached and the roof is lifted out, leaving the truck clear to have the rest of the set built on it. The majority of the work is completed in three hours.

For 'Machinal', Daldry and MacNeil were again joined by Rick Fisher for lighting and Stephen Warbeck for music. Fisher's challenge on this show was less to add atmosphere, since the roof and size of the acting space have an atmosphere all of their own, and more to control that vast space, which he does with the help of a centre followspot to pick Fiona Shaw, who plays the heroine, out of the more general wash lighting, which gives different shapes and moods to the roof and the theatre as a whole. The overall look is very stark, with some tight specials again being used to isolate scenes. But there are also a few moments of lighting effects, such as the mirrorball under the raised stage to suggest a club, and the rotating guilty gobo used at the end of the trial scene to give the feel

of an old black-and-white film. Control in the Lyttelton is from a Galaxy, and the house rig is now largely Strand gear.

Somehow, though, the sound is of more importance in this show. In 'An Inspector Calls', it was used as underscoring. Here, the sounds of life in the twenties - the office equipment, the industrial machinery - are part of what drives the central character to her madness. Christopher Shutt, one of the National's sound team, was responsible for the sound design of the show, in conjunction with composer Stephen Warbeck. Shutt asked to do the show because of his familiarity with Daldry's earlier work, and echoes Rebbeck's comments about the directors way of working. "He surrounds himself with a bevy of people, and asks them for their ideas. If he likes the ideas, he lets you have a pretty free rein, which makes people feel involved to a great extent."

An example of their work is the show's opening sequence, set in a busy office filled with people working typewriters, filing papers, sending telexes and so on. In performance, the office sounds become underscoring as well as sound; music rising and falling with the tempo of the scene. And in fact it is *music*, developed through the rehearsal period - a percussionist plays a filing cabinet, some dustbin lids and a selection of chain and metal suspended from a wardrobe rail. The cast play their machinery, and Shutt supports them with recorded sounds of phones ringing and typewriters clacking. The overall effect, as it runs for perhaps ten minutes, is that the sounds get to the audience, and they too feel the overwhelming effect they are having on the young woman.

Shutt's effects (every real piece of stage equipment in the show has its own recorded sound) are replayed from a combination of Akai S1000 samplers and cartridge machines, and

are then mixed with the sound from the sub-stage four-piece band through a 30-channel Cadac J-type console and sent out through the Lyttelton's standard system of EV Deltamax hidden in the pros arch, EV Dominators on the back wall, and base bins of various origins. Shutt also attached two old EV horns to the roof piece. "They had been in the roof of the Olivier Theatre since the building opened, but had never been used, so I stole them," he explained. "The designer saw them, and told me to leave the dust on them!"

Having designed the show, Shutt now operates it in performance as well, aided by PC-based MIDI sequencing software written by Matt McKenzie, that was brought in to cope with the complex sequences in the show. He likes operating because he feels it is the final realisation of his design and also because, on a more practical level, "I have everything in my mind, whereas if another person were to operate the sound they'd be looking at cue sheets, which you don't really have time to do with a show like this which is so busy from beginning to end."


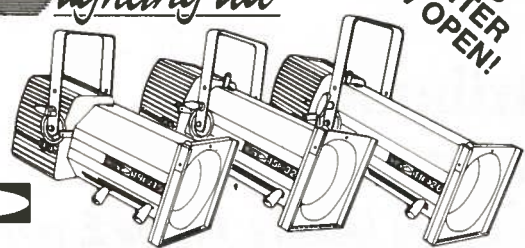
'Machinal' is not, I suspect, going to have the longevity of 'An Inspector Calls', due to the practical problems of transferring it into any other theatre. I also have to admit that, whilst I thought it was a great piece of work and quite superbly staged, I didn't enjoy it as much as 'An Inspector Calls' where the actors, rather than the technology, were in control. But then I also suspect that that feeling is exactly what 'Machinal' is intended to evoke - so perhaps it succeeded after all.

Stephen Daldry is now artistic director at the Royal Court Theatre. I'm looking forward greatly to seeing what his imagination, and the imagination of the rest of his team, come up with there.

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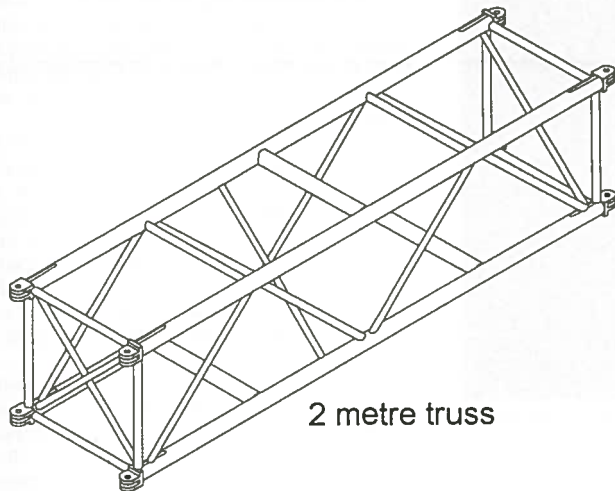
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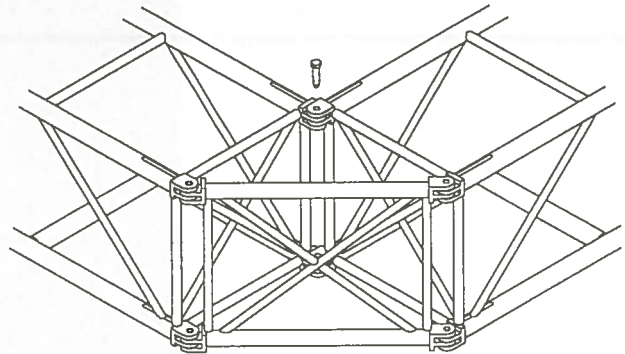
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# ON TOUR

## AND PRODUCTION NEWS

**Gary Glitter**  
**Sheffield Arena**  
**LD: Chris Clow**  
**SD: Tim Warhurst**

There is an unstoppable momentum to a Gary Glitter show; long before there is even a hint of activity upon the stage the audience are already excited and larking about. Grown men sporting chest rugs, appallingly tacky silver lamé jackets with unfeasibly large shoulder pads, and wearing anvil-shaped wigs atop their heads, openly humiliate themselves by parading in a camp and flamboyant manner. It's hard to find a single member of the crowd not showing off some Glitter paraphernalia or other. Giant foam rubber hands with the word 'leader' emblazoned across the palm, silver tinsel wigs, glitter baseball bats - all this is the magic of the Gary Glitter show. For one night every Christmas, great crowds of people are able to be performers; everyone has the right to be a show-off in the company of Britain's greatest show-off. This is a no-holds-barred riotous assembly, larger than life. Gary Glitter, a parody of himself, is a licence for sheer fun.

On the surface this is an easy formula; lots of glitzy tat, a couple of anthemic songs that we can all sing to like demented football fans elated by victory, and a superhuman egomaniac to whip-up the excitement. The latter is certainly true: not that such egomania in any way diminishes the man - the performance would be impossible without it but the apparent superficiality of such a show is deceptive. The contrivance of a great tacky show takes all the skill and ingenuity that we associate with any other star capable of filling a 10,000 seat arena; like Jack Benny's awful violin playing, you have to be capable of a virtuoso performance before you can begin to countenance a well-played terrible one.

For Glitter, a need to distance himself from the role he plays is required. Steve Nolan, the tour's production manager, explained it this way: "Weeks before the tour started Gary, myself, lighting designer Chris Clow and Jef Hanlon (Gary's manager) would discuss ideas for the show. Gary would say things like 'Oh Glitter wouldn't do that'. He is able to detach himself from the man on stage. Jef Hanlon, more than most managers, is strongly involved in the concept of a Glitter show; he has, for example, employed Chris Clow for the past six tours. Chris knows the songs, all the cues, and can always be relied upon to



**Larger than life itself: Gary Glitter, the perennial showman, on stage.**

perform."

Chris's lighting design for this tour appears deceptively simple. The grid is a 60 x 40 foot box truss, with two spans of truss running up and down stage eight foot either side of centre. To each side of these spans are, for want of a better description, two identical hang-gliders of truss. In essence, they each consist of three lengths of Telestage truss arrayed like fingers emanating from the on stage end. Between the fingers are triangular sections of silver grey cloth, ruched like Austrian drapes. The backdrop is the same silver grey Austrian drape, all supplied by Blackout, as are the sumptuous blue velour tabs and border.

Spread about this system, and at first glance looking quite sparse, are 120 Parcans, 64 of which are ACLs, 17 Mole 8-Lites, 32 VL5s and 16 VL2Bs with the 600W conversion - not a lot when you consider there is over 500 foot of trussing. The overall impression with the stage lit, is Gothic. This is further enhanced by the two hang-gliders which move several times during the show. (The Lodestar hoist system is controlled by the Mott Motor Controller, which, in turn, is controlled by Jerry Mott, Samuelson's lighting crew chief and the man who designed this particular computer control system).

The gliders twice descend to enshroud the stage in leathery wings, like Dracula's cape. Chris Clow

and Sean Nugent, his Vari\*Lite operator, both use combinations of heavy saturated colours and light the stage quite simply - perhaps 20kW (including VL5s) of dark blue wash across both stage and backdrop, and Gary picked out by six followspots, two underhung from the rear of the grid, four front of house, in blood red. What makes the looks special are the little touches like the single Raylite above Gary's head to give just a hint of natural colour to his face. Chris is fortunate in being able to do this as Gary's show is well choreographed and his often rooted posturing enables such devices to work.

Other well-made effects included a 20 foot wide roll down projection screen backstage centre for video, a full width star cloth which was enhanced by being replicated on the front truss border as well, and two 12 foot high 'G's made from Slick Minibeam hung from the backdrop truss. The 'G's were festooned with 20 Dataflash strobes which were punchy enough to read even when all 17 Mole 8-Lites were turned upon the audience - which was often.

Gary's sound system (Martin F2) is supplied by Capital Sound Hire and Tim Warhurst mixes front of house on a Midas XL3. With 21 cabinets flown per side, 17 each side on the floor, and a cluster of eight for the delay, there is no shortage of power, and the system certainly moves a lot of air. It's not unpleasant though, and, despite the provocation, Tim is never tempted to try and overcome the even louder screaming of the crowd. This is the type of music that rattles your gonads but doesn't deafen you; these people want to hear Gary, but in turn they want him to be able to hear them, a point never lost on Tim.

The stage set was built by Brilliant Stages, a simple affair of two drum risers, either side of a central posing platform, employing two theatrical devices. The stairs that led down from it to the stage could be raised to permit dramatic exits via a tunnel which was, at times, revealed beneath it. To the rear of the platform was a set of doors that could be raised and lowered as the occasion demanded. The set was dressed to the front with more of the silver grey ruched cloth.

You could say that this show was vulgar, the lighting combinations garish, the sound loud and that the set owed more to pantomime than rock and roll, but that would be missing the point. By definition, the presentation needs to exaggerate; in the best tradition of popular attractions, people go for and expect a bloody good time. Gary Glitter has become a British institution, and rightly so. No doubt if he was sawn in half you'd find the word 'Glitter' in silver letters written right through him.







Mark Brickman daringly underplayed the lighting to emphasise Tears for Fears' enigmatic performance.



## Tears for Fears Manchester Apollo LD: Marc Brickman SD: Robbie McGrath

Tears for Fears are not an easy band to categorise. Protective of their privacy in the past and with a lengthy gestation period between albums, the band has always been slightly nebulous, its achievements dispersed by time. Now with only one half of the original song writing duo, Roland Orzabal, holding the helm, the band appears conversely slightly more cohesive. Although always well respected for their musical output, with quirky, but well crafted songs, Tears for Fears have never been renowned for the dynamism of their live shows. Shy, self-conscious and awkward has been the marque of their performance, but then the playing has always been superb and the fans loved them for that.

It was therefore most refreshing to witness the show at Manchester Apollo on their recent tour where, half way through the performance, a new mood overcame Roland and his stilted repartee with the audience blossomed into witty and engaging chatter, with all the conspiratorial familiarity of a seasoned stage performer. The crowd certainly knew they were privy to something out of the ordinary and rewarded him accordingly with an outpouring of spontaneous affection.

Sound engineer Robbie McGrath used a Flashlight PA from Britannia Row, with 18 cabinets flown per side in a chequer-board array. Amongst these were four floodlight cabinets which in Robbie's words, "give a much sweeter sound because with their wider dispersion, they're ideal for these small theatres, keeping a full sound at close range." As ever, a Yamaha PM4000 sits

front of house, and Robbie has a CP10 Parametric inserted across the board which he was keen to recommend for its "nice sound to the EQ, good personality and lack of harshness." He also uses an Eventide H3000 which he described as an "elaborate harmoniser" for Roland's vocals. The sound was loud, but of good fidelity. Robbie, as well as being a lucid exponent of his craft, is a conscientious engineer and works to an ethic which many sound engineers may find refreshing. "I'd like to see a return to thinking for yourself. Just because something is digitally-processed doesn't necessarily mean it is good." He is ably assisted by Kevin Puce on monitors and crewman Paul 'Paddy' Addison from Brit Row.

In keeping with the enigmatic nature of the band's history Mark Brickman's lighting design was restrained and quite daringly sparse. In fact, considering they were to play the International Arena at the NEC a few days later and Wembley thereafter, it was frighteningly small.

The lighting system appeared at first to be all Vari\*Lites and small (10 to 12 foot high) towers of folding truss standing three down each side of the stage, hidden by elaborately adorned legs. Twelve of the new 600W VL2Cs were spread about these towers with a further pair placed atop, suitably masked by up-turned flight cases to each side of the front of stage, at approximately head height. This array of spots was augmented by 40 VL5 wash lamps, likewise spread around the towers and also dotted about the floor to the rear of the modest riser set up.

There was what might be considered a nod to conventional 'rock show lighting', with six 800W Redheads placed in and around the musicians' feet. Suppliers LSD certainly won't clear the overdraft with this tour. What was most interesting, however, was Mark Brickman's solution to Roland Orzabal's dislike of front light, especially followspots. In discreet low-profile wedge-type boxes at the foot of the mic stands

were pairs of four foot dimmable fluorescent tube up-lights. These lamps, despite their low wattage output, gave a surprisingly adequate wash of white across the front of the performers. In fact, so effective were they that it was easy to forget there were no followspots.

The dominant effect was of a club rig and within the confines of a 2,500 seat proscenium arch theatre this worked well. The auditorium at the Apollo is wide, and thus the audience is, for the most part, quite intimate with the stage. According to Rusty Lowery who was operating the show, this effect is still appreciable in larger venues. For the most part the lighting was stark: the opening number, for example, was all in white, whilst the second song was a combination of steel blue and white. With near horizontal light coming from down, mid and up stage there was little relief for the eye, and the band were almost always heavily shaded in one dimension. The potential for varied looks was ultimately limited and the inter-play between side and back light eventually became boring.

However, the rig was worked for all it was worth and some notable looks were achieved; as early as the third song a particularly tasteful sunrise effect was run from the VL5s across the rear of stage as a backdrop to a colour chase of both VL5s and 2Cs at the side. Even though much of the repertoire had a propensity towards earnest introspection, there were plenty of a lighter and more jolly air; unfortunately the lighting was unable to reflect this adequately.

As was mentioned earlier, despite a certain stiffness on stage, Roland Orzabal did manage to lift the audience later in the show by his wit and candour. He also took the brave step of singing an unaccompanied encore down stage of the mic line, just him, a guitar and a stool. For this number a front of house followspot high in the balcony was used. It could have been lit no other way and I congratulate Roland for his courage in allowing it.



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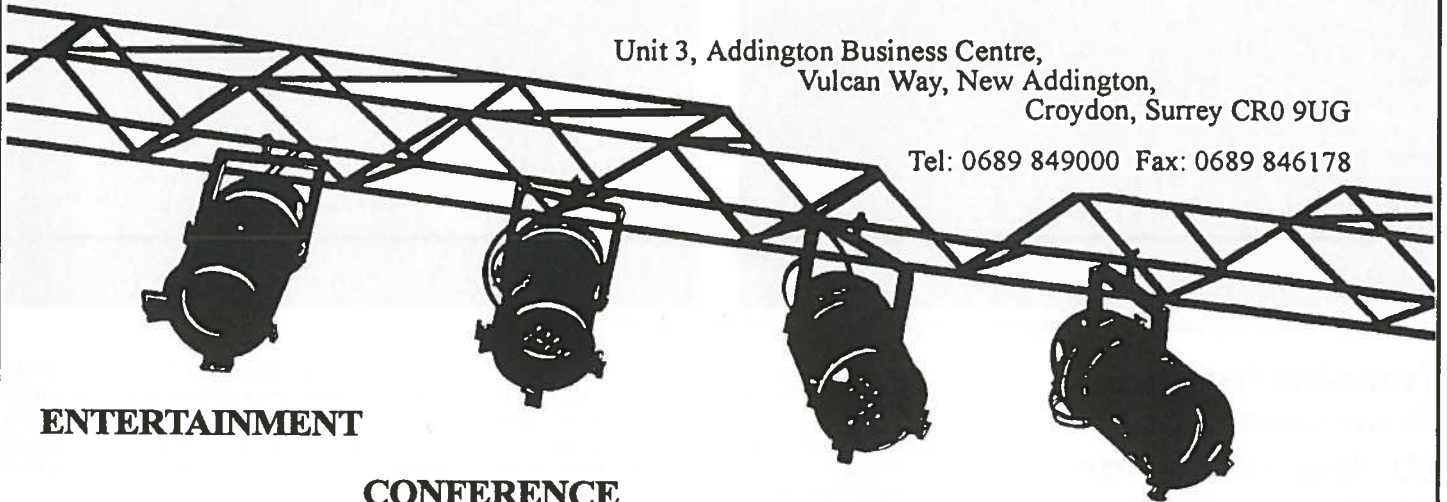
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# A NEW LOOK AT LE MAITRE

## John Offord visits the company's new base at Mitcham

After 15 years of high profile presence in the special effects business, largely the legacy of an extrovert team of directors who propelled the company along, Le Maitre recently found themselves at a pivotal point in their history. Despite a good international reputation and a range of established products, it was decided that a better organisational structure was needed, coupled with a more pro-active and professional approach to business.

The clock had stopped as far as the old-style way of running things was concerned. The directors of Le Maitre realised this and had to accept that they badly needed someone of strong character to make the right business decisions and ensure they didn't lose all they'd built up - not an easy formula when it's a family business and someone from 'outside' starts to tell you how to run your own show.

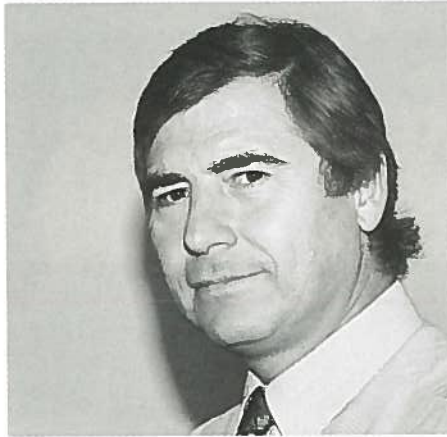
The man they installed to take a fresh, clean look at the business and marry the best of the past with the maximum potential of the future was Colin Lane, appointed in July 1993 as managing director of the Le Maitre Group. He had already deduced that taking on the task was worthwhile.

"The first thing we had to do was to sort out the profitability and the cash flow of the company," he explained. "After studying the accounts and the structure of the operations we went through the unfortunate exercise of having to reduce the work force. We had to carry out expenditure cuts in terms of personnel and overheads and we quickly got the company back into a profitable position. This first phase was carried out in August and September last year. In early October we moved into new premises at Mitcham."

The first and most obvious thing about the new Le Maitre in its new surroundings is that you can actually start to understand it as a living organism. And if I could quickly comprehend this from a brief guided tour of the building then it must have made an equally big impression on the people who work there every day. There is now a very evident unity of company and purpose.

"The new premises are more compact and, as a result, much more efficient," continued Colin Lane. "They are less expensive and far more conducive to manufacturing. Compared with the old place (a few miles away in neighbouring Croydon), it is a much better facility."

The next thing on Colin's list of priorities was to take a close look at the 'business' itself, and



Colin Lane, MD of Le Maitre, was a former general manager of Rediffusion's entertainment division. "The good thing is that having analysed the assets of Le Maitre in terms of its name, its reputation, product line, the time it has been in business, its customers and the penetration it has achieved in the past - they are all good solid things. I think the company lost its way somewhat, but we recognise that now, and we are doing our best to put it back in a position to offer a service that the customer wants - and hopefully better than the competition."

what Le Maitre was offering its customers. "We had to look at the product range, the pricing structure, the promotion of the business and where we were actually selling our products," he continued, "not forgetting that we are operating on an international basis."

What Le Maitre have set out to do is 'market research' the industry to create a consumer profile. "We are talking directly with customers and end-users about smoke machines, ancillary products and pyrotechnics to see what they think so that we can utilise the feedback to good effect. From this I will be producing a business plan covering the next 12

months with the intention of increasing the sales of the company and its profitability. We also have to take into account the size of the market world-wide and the competition - how well our products compare with others - and how we are going to penetrate the market.

"The first thing we have got to do is make sure that our products are right, and following that we have to develop tomorrow's products. All these things are being looked at in a progressive way: the design of the product, the appearance, the reliability, service ability, the warranty, constituent parts - both with individual products themselves and across the range as a whole.

"The second thing we have to consider is how to increase our market share, promotion of products in terms of exhibitions, new product leaflets on the entire product range, editorial in publications, point of sale literature, and so on. We have to evaluate everything associated with selling the product to our customers, make sure the message is the correct one and that it's getting to the right people.

"Following from that is the size and breadth of the market and who we are talking to in that market. We have a world-wide distributor network and we want to support that structure. Additionally, when you look at the global market there are business opportunities, particularly in Asia, which we need to exploit. With this in mind we are exhibiting at Pro Audio & Light Asia in Singapore in July. There are further market opportunities in Europe, and particularly Eastern Europe - in Russia, Poland and Hungary, for instance. There are also one or two gaps in Western Europe which we need to sort out as well. We have a tremendous opportunity to develop the North American market further through our associate company Le Maitre Special Effects Inc, located in London, Ontario, Canada, which manufactures smoke machines and pyro hardware. And then there are the potential market opportunities in South America to be considered.

"There is a great deal of work to be done, and in terms of the size of the company I would like to see our output doubled within the next four years. We have the ability to treble our turnover in Peterborough in terms of stage pyrotechnics and double our turnover here in Mitcham."

Moving on to fireworks, which is where Peterborough sits in the Le Maitre equation, Colin Lane sees yet another area for significant development. "In a way, it is a big



Sales director Rick Wilson: confident the company will reach its previous heights.



Chairman Harold Berlinski (standing) with sales manager Dave Winfield.



David Roffey, Le Maitre's R&D manager.



Adrian Segeren, general manager of Le Maitre Special Effects Inc.



Stuart McWaters: works manager.



Pyrotechnic effects are used widely in the entertainment industry to add dramatic effect to theatrical performances or rock concerts. As productions become more ambitious and spectacular, so too do the pyrotechnics. Above, Tina Turner on her 1990 European Tour has a taste of the Le Maitre action.

public relations exercise and we get large contracts for both indoor and outdoor events. We have extremely well-qualified pyrotechnicians working for us. What I want to ensure is that we are getting our share of the market, and to consider whether we need to improve anything concerning our fireworks display business. It may well be that we can win more international work, for instance. The two areas of our operations seem to run together well; they are both strong parts of the entertainment business for which I think there is a big future."

A great deal of change has taken place over the past six months, and the Le Maitre we knew of old has largely disappeared - a newly devised personality and structure has taken over, and a new confidence is already emerging. "When I arrived on the scene I produced a budget which covered the period from the date I started to the end of the financial year six months away," explained Colin. "I am happy to say that we did better than budgeted both in terms of turnover and profit."

Having got the first few pieces of the jigsaw in place, he is now getting out and about in the industry, and trying to fit in at least two visits every week to customers and find out what they think about Le Maitre and at the same time 'learn' the industry. Aiding and abetting Colin in this is sales director Rick Wilson, the key connection with the heart of the old Le Maitre.

"I have to admit when Colin arrived at Le Maitre it was a bit of a culture shock," he told me. "He is a full-blown professional who has

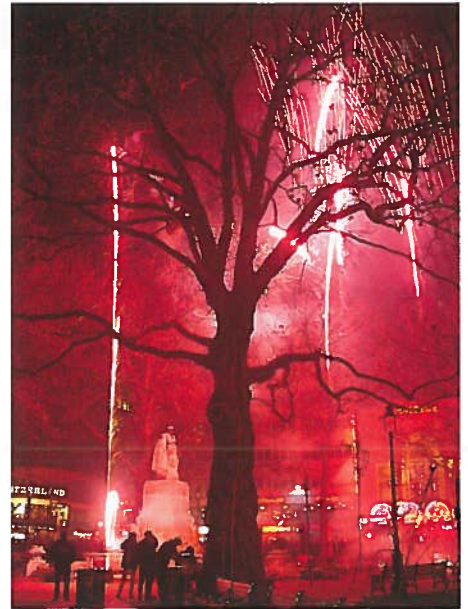
been brought kicking and screaming into the entertainment industry and he has polarised my thinking into how this company has had to take a new direction. I am totally confident that the company will reach its previous heights because of Colin. He is already getting the best out of the excellent talent here at Le Maitre, and I am very happy with the situation."

Colin Lane is taking care to maintain the best of the 'show business' tradition. "I recognise the fact that there was a strong show business feel about the company and I think this is a good thing - but it has got to be backed up by solid products and good service along with a strong business foundation."

With five main smoke machine products in their range, Colin emphasised the important role that David Roffey, the company's research and development manager, will be playing in putting their products to the fore. "He's highly innovative, and I feel that we can use his time more effectively by focusing on developing new products for our customers."

"Our business strategy on new products is that we will talk to customers as much as we can to find out what they think about our existing range, and what they'd like to see in the future. We will obviously be keeping a close eye on what the competition is doing, but we will be getting David to further develop existing products whilst also considering the products for tomorrow. Essentially, I want to see the company redevelop its entire range over the next two years.

"We can't do it all at once, obviously, so we



The company provided a spectacular launch-pad for the new Disney film Aladdin. London's Leicester Square was on the receiving end.

are starting by studying the top end of the market. We are looking at redeveloping one of our top of the range machines and hope to have a new machine at the Singapore show. We are launching a new family of 'Popular Series' machines and a new product available now is Microfog - an aerosol-style unit suitable for discotheque applications, whilst promised for late spring is the 'Red Devil', which is aimed at the top end of the discotheque market."

Daily sales reports, weekly sales meetings, and regular monitoring of activities are now all part of the regular routine at Le Maitre. "When I joined the company I got the impression that we were rather reactive and complacent," said Colin. "The whole idea is to monitor the activities of the sales force for the previous week and plan for the following week in terms of visits made to customers, proactive telephone calls made and feedback from our customers regarding the company's product line and our service. The next stage will be to get the whole operation onto our computer system, and this is part of our overall business strategy. It's already been very successful. We are getting new customers from areas we've never dealt with before, and that's really come from calling people and being more aggressive at trade exhibitions, for instance. I'm happy to say things have been expanding very quickly."

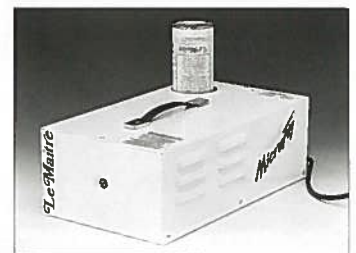
So, expect to see Le Maitre expanding further in a purposeful way in 1994. They'll be exhibiting at the 'big four' trade shows (PLASA, LDI, SIB and Singapore) and 'looking in' on most of the rest.



Blast off: Le Maitre's comprehensive and colourful pyrotechnic range.

The new Microfog (pictured right) just launched by Le Maitre has taken its lead from the Genesis (pictured below) principle of low-cost reliability and as such its natural habitat will be smaller venues.

It features the latest Genesis technology and has a powerful smoke output with a manual Variflo fitted as standard. Operation is straightforward and the canisters are able to work on and off the power supply making the unit



fully portable. The system can actually operate off mains for up to 20 minutes. It also features full electronic temperature sensing and mechanical fail-safe should the need arise. The heater block is fully serviceable with every part being easily or cheaply replaced. It comes complete with five year warranty.

# THE ITALIAN COLLECTION

A series of L+SI fact sheets giving information about leading Italian manufacturers of entertainment lighting and their products. Previous issues have covered FLY, FAL, Coemar, Clay Paky, Griven and Lampo. The last in the series will provide similar facts on TAS.

## La Novalight srl

**Directors:** Marcello Bertini and Maurizio Marchiorri.

**Background:** Marcello Bertini fell in love with lighting when he was an architectural student some 12 years ago. Like so many of the post sixties generation in our industry, his love of music led him, while at college, to become a campus DJ. It was this hobby, and provider of pocket money, which turned his attention to effect lighting. As an architect he was unable to indulge fully in what had now become a consuming passion to be creative with light, so seven years ago Bertini, the architect, teamed up with Marchiorri, the engineer, to form La Novalight. Since then they have been opening eyes everywhere to their innovative lighting ideas.

For them light is an art form. If they can make a living from their art that is gratifying, but they are not going to compromise their principles along the way, solely for commercial gain. From the launch of Diamond and Funny Fan, they have been attracting major league interest and no more so than at SIB Rimini some four years ago when they launched Discovery which also brought them world-wide attention. From a single 575W discharge light source Discovery did the job of four robotic projectors. One year later the product, briefly called Asterix and the first of the circular centre-pieces driven by a single discharge lamp with moving mirrors at the perimeter, became the product for others to copy - but not before the threat of a ludicrous law suit from the French comic book people forced a change of name to Galaxy.

More recently, two new products - Booster, an unusual sky-tracking effect luminaire and Revolution, billed as a laser simulator - have had patents applied for. "It is always flattering to be copied," Bertini told L+SI. "It shows you got it right. But we would never copy anything - I would rather die!" Nor will La Novalight manufacture for others. They wish to stay original and ahead of



Marcello Bertini (left) and Maurizio Marchiorri, the partners behind La Novalight.

everyone else and in that way, they say, they will continuously re-invest in the name La Novalight.

This year's SIB saw the final bow of the Bubble, Joker and Flutter. This policy has worked for them so far. They have doubled their turnover annually since the beginning, and in 1993 they moved into larger premises. And, as you can tell by the disappearance of the aforementioned Diamond and Funny Fan, they will not rest on their laurels. Once a product gets a little tired - out it goes.

**Company philosophy:** To create new ideas in light and thus to be commercially successful through inventiveness.

**Selected product: Booster** is a panning sky tracker device which relies on its 2.5kW light source and unique configuration with a reflector, both for its power (the beams can be visible from 8-10 kilometres away), and its beam movement. What emanates from Booster is an exploding cone of white beams of light, which expands and contracts like a giant, slowly pulsating and revolving starburst of intense white light. The effect is actually achieved by moving the lamp itself in relation to the reflector, rather than the other way round, while the reflector will also rotate, and it is this mechanism which La Novalight have patented. All of this is achieved without the use of a Xenon source, which has to be a user bonus. Anyone who has visited Rimini at show time will recognise this as the effect

attracting all the attention on top of one or two of the hotels on the front.

**Recent releases: Cometa** takes the principle of the Galaxy centre-piece, originated by La Novalight, and turns it into a straight light batten. Thus, eight directional beams emanate from the batten which can be panned and tilted via the matching mirror deflectors. In addition, starburst rotating reflectors are also included to split up the beams - in this case, the sources are eight 12V, 100W halogen lamps. The fitting has a built-in automatic programme, so no control is required, and within this the motors are both synchronised or driven independently. Gel may be added for colour. **Revolution:** This powerful projector, which uses a single 575W MSR lamp, generates a selection of mixed colour and single coloured beams in wide conical dispersions or flat sheets of light, not unlike laser scans. It also has built-in programmes but comes with a small hand control which provides speed selection and blackout.

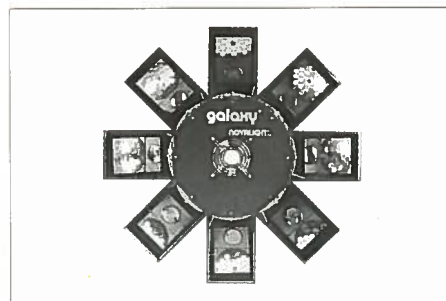
**Other products: Lighting effects: Discovery:** In a set-up like a small laser table, a single 575W HMI lamp is co-opted to generate four focused beams of light, each of which is provided with independent movement via individual stepper-driven XY mirrors. In addition, there is a shutter and eight gobos, organised so that all four beams can produce the same pattern, or so that each adjacent pair of beams can throw a different image from the opposing pair. The system is capable of storing 32 configurations and comes with a rack-mounting control panel which provides manual, automatic or sequential control of these effects with speed adjustment. **Galaxy** is the centre-piece which started it all. From a single 575W HMI lamp, eight directional beams are deflected by controllable mirrors placed around the circumference of the octagonal fitting. These beams respond to the beat of music taking on different positions in a sort of balletic dance. In addition, the beams may be deflected off mirrored discs to create the starburst effect, which the Italians call 'flower' and which has become a bit of a Novalight trademark. The fitting can be installed in the vertical or horizontal mode and comes with a small hand-held controller.

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**UK Representation:**  
Nu-Light Systems Ltd,  
1 Athertons Quay, Warrington,  
Cheshire WA5 1AH.  
Tel: (0925) 243075 Fax: (0925) 243077



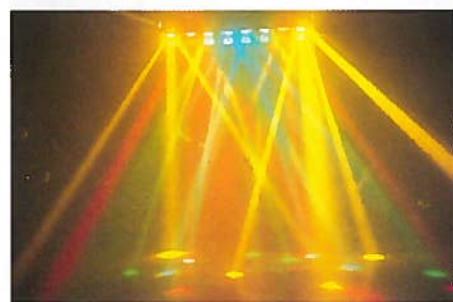
Cometa light batten.



The Galaxy centre-piece which started it all.



The powerful projector Revolution.



Cometa with its eight directional beams in play.



Still going strong, the Galaxy in action.



The stunning Revolution offers a range of effects.

# COMMUNICATING DOORS

Jackie Staines, Alan Ayckbourn's resident LD at Scarborough, had a brief from L+SI to watch and report on guest lighting designer Mick Hughes and director Alan Ayckbourn in action

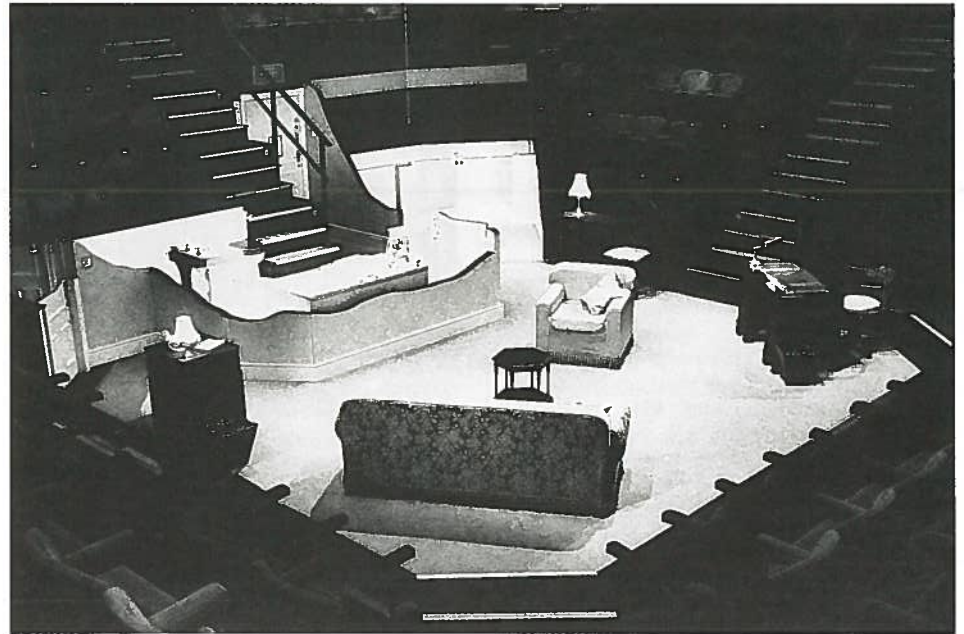
Alan Ayckbourn always has many ideas for new plays, and a finalised script will often materialise as an amalgam of several ongoing plots: in Alan's own words - 'a soup of ideas'. This is why the play that actually emerges from his word processor is not necessarily the one that is advertised in the Theatre's brochure.

His latest and 46th offering, 'Communicating Doors', has just opened at the Stephen Joseph Theatre in the Round at Scarborough, and, true to form, you won't be surprised to learn that it began life as 'Private Fears in Public Places' and was originally set in an airport. However, the 'communicating doors' in the title are in fact those found in hotel rooms, and in this new show the action centres around Ms Poopay Dayseer, who while fleeing for her life, manages to get one such door open, only to find herself back where she started. Or is she? Well yes, and no. She is back in the same room, but not in the same time. And so Ayckbourn works his subtle craft around the concept of doors, which lead to the past, present and future.

Lighting designer Mick Hughes first worked with Ayckbourn on 'Time And Time Again' and 'Absurd Person Singular' in the early seventies, but the partnership lapsed until the playwright took a 'sabbatical' at the National Theatre in 86/87 when he worked on 'A Chorus of Disapproval', 'Tons Of Money' and 'View From A Bridge', all directed by Ayckbourn.

Since then, Mick has lit all but one of Ayckbourn's London shows and it was in 1989 that he travelled to Scarborough to light the five-hour two-part epic 'Revenger's Comedies'. He then had regular 'guest' appearances in the resort, culminating in the lighting of 'Time Of My Life' in 1992 before the current production. Having recently returned from his first venture on Broadway, Mick is now in an 'Ayckbourn stretch'. He has just lit 'Time Of My Life' and 'Wildest Dreams' in London and is now preparing to take 'Communicating Doors' onwards to Bowness on Windermere and then Chicago.

The play under discussion is set in 1974, 1994 and 2014 using the same set, so there was much discussion on how to differentiate between the three time zones. It was tempting in the early days of pre-production discussion to settle for some sort of colour coding of the



The stage set for *Communicating Doors* at the Stephen Joseph Theatre.

photos: Adrian Gatie

general light in a similar fashion to using colour to distinguish between the floors of the house in 'Taking Steps'. However, as rehearsals progressed, Alan decided that all three time zones should be lit in the same manner (after all, the set didn't change) because the concept would come from the performance and the script. Any more help would give the game away too soon. Consequently, what originally appeared to be a tricky lighting job became reasonably straightforward.

This situation is quite unusual, as Mick pointed out. Ayckbourn shows are usually more about problem solving than making pretty pictures; his use of time and space often creating many problems for the lighting designer. For example, in 'Taking Steps' there are often several different actors on stage at any one time and they are on different levels but are blocked to move past each other, oblivious to what is around them. It is up to the lighting designer to make clear who is where. Often there are 'sets within sets' like the bathroom in 'Communicating Doors'. The three sets in 'Wildest Dreams' require very tight focusing to

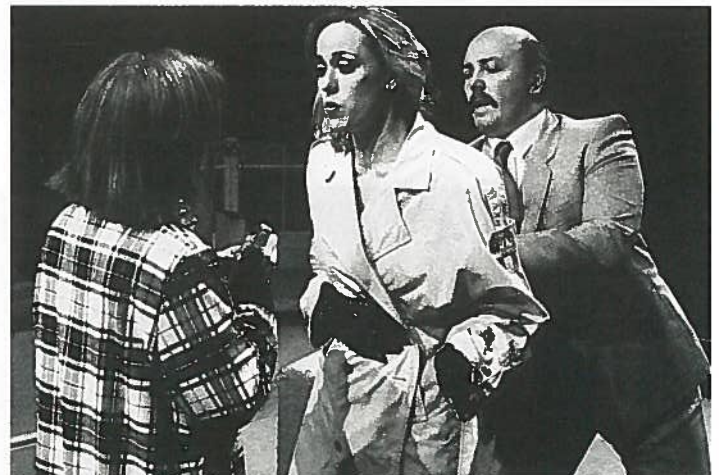
avoid cross contamination of light spill - but this in turn limits the lighting angles and so can create its own inherent problems.

'Communicating Doors' combines the ideas of a comedy thriller, time travel and the anonymity of a hotel room coupled with the mysticism of locked doors. Time is a familiar concept with Ayckbourn's plays, and even if it is not used as a concept within a piece, as a director, grasping the concept of time-scale is one of the fundamental problems to solve. In terms of writing, the author must learn when to start the narrative and to give the audience all the right clues and get down to the storyline before they become bored. More importantly, Alan stresses the art of knowing when to stop. It is often tempting to write-in all sorts of conclusions and happy endings, but often this will lead to a less memorable piece of theatre.

Space is another interesting concept to Ayckbourn, either by creating small areas or sets within the set or making a single set become several different places. In the case of 'Communicating Doors', the one set not only represents the same room in three different time



Alan Ayckbourn (left) with lighting designer Mick Hughes.



A rehearsal of *Communicating Doors* in progress.

zones but also a different room within the same building.

For the current production Ayckbourn hailed Roger Glossop, a contact from earlier years who worked with him on 'Woman in Mind' for his National Theatre productions. Alan feels that Glossop and Hughes function well together as a team, not only because they mould ideas around each other, but also because they both acknowledge that they are there as the support team to the actor/audience experience - something that Ayckbourn himself was taught by Stephen Joseph. Both believe in the integrity of the show and are anxious to serve the dramatic ideal rather than create showcases for themselves. Mick, in particular, will constantly seek the opinion of others.

I asked Alan if he had ever had a serious disagreement over the concept of a show. He replied that Mick was far too diplomatic ever to get precious about his work and would always flex his thoughts around other members of the team. Also, he suggested that a confrontation is unlikely to arise if a clear brief is given in the first place.

Alan tends to put his ideas across in a way that leaves enough space for designers to add their own interpretation. He will tell you exactly what he wants if it is something very specific in his own mind, but on the whole he gives the briefest of instructions, such as: 'It's night' or 'I want to do it all with light'. With 'Communicating Doors', the brief was to create a feeling of film lighting.

Mick appeared a little apprehensive when I asked him about his interpretation of 'filmic', worried perhaps that he had misunderstood Alan on the point. We then had a discussion about what the term meant. Taking it to mean 'strong direction', he had decided to light 'Communicating Doors' primarily from two opposite sides, rather than in the traditional way from all four sides. On the whole this was successful, but a few problems were caused by the necessity of tight focusing around the onstage (practical!) bathroom in order to prevent light spill through the invisible walls.

Dramatic lighting is difficult to sustain in the round because of audience fatigue. In a show of many scenes one can get away with remarkably low levels of light because the scene changes after a few minutes and the eye is constantly adapting. In a relatively static piece like 'Communicating Doors', the audience would get terribly restless in such light. In films, the dramatic selection is helped by the camera work, but in theatre, and particularly performance in the round, one is constantly aware of the complete 'stage' picture.

Hughes' lighting ideas are never set in stone, he is always very flexible. He will make improvements to a production throughout the previews and Ayckbourn has learned not to judge at first sight as any potential problems will be resolved as they arise. At technical rehearsals Alan will warn the cast not to worry if they feel something is wrong with the lighting and to stay just where they are supposed to be, so that the team can see the problem and work out the appropriate solution. Mick Hughes is always relaxed about the situation. "All my lights are whores; they'll move for anyone!"

Because lighting in the round in the traditional manner automatically provides side and back light, Mick feels that it is visually much sharper than end-stage. However, the most difficult scenario to create is a typical British 'grey day' because of the 'directionlessness' of the light. He has always been very aware of the importance of backlighting for shape, and sees this as a legacy of his time in television and considers himself



Jackie Staines pictured with Mick Hughes during technical rehearsals.

as one of the pioneers of this technique, having established backlight bars as a basic necessity back in the early sixties.

Hughes sees very few comparisons between lighting Alan's shows in the round and in proscenium, other than that the former provides less of an opportunity for all the reasons already discussed. In the broad sense he likes the 'honesty' of theatre in the round. "There is much more theatrical truth because of the proximity of the audience. All the small details of set, costume, light and props have to be spot on because whatever it is, there's an expert in the field in the front row!"

However, he doesn't feel that theatre in the round is either the right or best way of performing. "It does mean that the product has to be at least as good, if not better, than the same piece performed in an end-stage venue because of the necessary attention to detail." And he is very much at home in Scarborough where all the seats are priced the same, and has a classless atmosphere. The physical layout of the building backstage makes it a bit of a social centre, with actors, directors, stage management, designers and technicians all sharing the same space and are as 'equal' as the same-price-paying audience.

Mick is a perfectionist, almost to the point of frustration for the technician, but because he always values other opinions and suggestions, everyone concerned feels part of the creative team. Much of the problem-solving in Scarborough comes about because we can't afford to keep buying equipment. Between us we have to devise solutions to the easier problems. With the long runs in the summer repertoire, the hiring cost is also prohibitive. Luckily Mick seems to enjoy getting some hands-on experience here and likes to focus his own rig. He will happily experiment with us and use cheap materials to create an otherwise expensive effect.

When 'Communicating Doors' transfers to the Old Laundry Theatre in Bowness on Windermere for the first two weeks of March it will be a replica of this Scarborough production, but when it goes onwards to Chicago Mick is toying with the idea of making it more 'filmic'. There is a very important balcony window in the show which provides the possibility of very strong light streaming through - except that the scene involved is at night. Yet another Ayckbourn challenge, and another problem to solve!

### **Communicating Doors**

**Writer and Director:** Alan Ayckbourn  
**Designer:** Roger Glossop  
**Lighting Designer:** Mick Hughes  
**Music:** John Pattison  
**Stage Manager:** Philip Rees  
**Cast:** Richard Durden  
 Adie Allen  
 John Hudson  
 Liz Crowther  
 Nick Stringer  
 Sara Markland

*First performance, Stephen Joseph Theatre in the Round, Scarborough, January 27th, 1994.*

### **Mick Hughes**

Mick Hughes began his career in 1961 as an electrician for the Margate Stage Company. The first West End production he lit was 'The Fighting Cock' in 1966. Between 1967 and 1972, he directed 40 plays for Worcester Rep. He lit all the plays at Chichester Festival Theatre from 1966 to 1969 and from 1974 to 1979, and was consultant for the Hong Kong Arts Festival from 1978 to 1982. For the Royal National Theatre, his work includes 'The Caretaker', 'A Chorus of Disapproval', 'Tons of Money', 'A View from the Bridge', 'A Small Family Business', 'Tis Pity She's a Whore', 'Fuente Ovejuna', 'The March on Russia', 'Invisible Friends', 'Angels in America', 'The Rise and Fall of Little Voice', 'Square Rounds', 'Stages', 'Mr A's Amazing Maze Plays' and 'Sweeney Todd'.

For the RSC, he has lit 'Passion Play', 'The Danton Affair' and 'Wildest Dreams'. His work in opera includes the Wexford Festival from 1982 to 1985 and 'Don Pasquale' at The Coliseum. For the Stephen Joseph Theatre, he has lit 'The Revengers' Comedies', 'Body Language', 'Wildest Dreams', 'Othello', 'Taking Steps', 'One over the Eight' and 'Time of My Life'. He also lit 'The Revengers' Comedies' in London.

Other recent work in the West End includes 'Steaming', 'Crystal Clear', 'Messiah', 'Circe and Bravo', 'Other Places', 'Sweet Bird of Youth', 'Breaking the Code', 'The Best of Friends', 'Henceforward', 'The Cherry Orchard', 'Veteran's Day', 'Man of the Moment', 'Burn This', 'Kean', 'The Caretaker' and 'Hayfever'. In 1986, he won the Harvey Award in Dublin for Frank McGuinness' 'Innocence at the Gate'.

# THE VIDEOJOCK - TECHNOLOGY WITH FEELING

John Offord charts the rise of a new hybrid on the music scene

I was routed to a typical East London terraced house in Hackney Wick to source the man at the centre of this story. My informant had supplied a very brief, but none-the-less enticing background situation. "He's doing interesting things in projection and may well be opening up some new dimensions. Possibly worth a look. Might well be interesting for the magazine. One of a new breed."

The man under study, Giles Thacker, 29, now has his own small company called Ultrascope, and is in demand as a man of many skills (and parts) when established companies and organisations want a specialist to design and install video projection equipment, work on video mixing, or as one of his current projects states: 'create the precise visual audio synthesis for live presentation and video presentation'. My broad intention in talking to him was an endeavour to highlight both him and his kind, to pick out a trend, if in fact there was one.

But back to basics. Thacker's front room is his base, and it's a mix of bits and pieces akin to our age. Odd objects in metal plate and wire survive alongside the computer equipment and video projectors. He's deep into the projects and modules of the Maplins Kits catalogue. A sort of latter-day Meccano man.

Having completed an arts foundation course at Goldsmiths College he got involved in community arts work for three years before moving fully into video production work in 1989. Along the way his first home-made equipment consisted of a couple of outrageous, very heavy and difficult to move sound-to-light boxes whose weight and size to resultant effect ratio was, to say the least, minimal.

"I started building from there. I spent time studying clubs, shops and shows. I grabbed inspiration from all over, and from different sources, and then pieced together equipment that was my own. I was borrowing ideas, and doing my own thing with them - mutating them." His first bit of trickery was when he got hold of a Panasonic LCD monitor, took it to bits, and used the light source in an Optikinetics projector. Having sorted out the optical and heat-related problems he ended up with a very cheap, but working, video system. "It was low on power, but good enough in a darkened situation to produce a 10 foot image - big

enough for a lot of small clubs. I built three of them, and at the same time worked on computer animation, video editing and various film projects, and this gave me an opportunity to put my own material on show. From there I could see which material worked well on a large scale, and I was able to identify the right kind of source material."

The next step was the purchase of a vision mixer, more regular work, and arrival at a situation where the video mixing became an art form in its own right. "I got to the stage where you really know what you are doing and tuning in very closely to the music. I was also learning about different ways of projecting. Much of this wasn't my own idea, but I developed techniques from things I'd seen: flip-flopping screens, creating mirror and kaleidoscope effects by projecting from both back and front, and so on. All this became endless fascinating, and it helped to liven up the material."

Giles Thacker emphasised that his underlying incentive was largely one of getting as close to the music as possible. "It was to do with feeling that music is very expressive and emotive, and simply flashing lights in most cases doesn't convey the true meaning. Imagery projection is much more capable of doing that. The flexibility to change from mood to mood with a great deal of contrast is much easier with video. It has a lot more power than slide projection. It didn't take long to realise that incorporating video into a lighting show was the way to go."

As Thacker's expertise has expanded, so has the magnitude of the work Ultrascope is entrusted with. Nowadays it ranges across everything from videowall installations to projection work involving multi-video set-ups (no less than 13 video projectors were used on one epic occasion), turning video projection into a 'chase' system and similar complicated work.

He works on a regular basis for United Artists with the promotion of their cable network and he was recently involved (for Virtual Vision) on the recent 'Sporting Glory' exhibition at the V&A in London. I wondered, however, whether he was beginning to stretch himself away from the art and craft of his grass roots. "Video on its



Giles Thacker pictured in front of one of his projection tools.

own is too much of the same thing, and boring from that point of view. You need to be able to change focus, and there is certainly the need for video to be combined with other lighting effects. I still keep an eye open for other items, and continue to play around with lots of different ideas.

"The bulk of my projects are in clubs working on video projection, usually operating, as well as video mixing using my own material. If there's a fashion show or a band on stage I'll often look after the vision mixing from the live camera set-up." He admitted to enjoying club work best. "You have some freedom and can also develop the production aspect. Computer graphics, animation and video editing obviously tie in very well with what I'm doing. Various clubs now call on me to look after particular lighting effects or a piece of imagery and material for a video projection. I'm often called in for special occasions such as New Year count-down sequences, or projecting onto bubbles at the Ministry of Sound!

"My particular interest is in achieving a very tight synthesis between the music and visual elements. We're using a bass audio feed into



Fluid projection onto a sphere.



A scene from BBC2's 'Dance Energy' programme.



the equipment, and changing the signal into a visual interpretation gives a basic foundation of live imagery to work from. To be mixed with that is other computer animation or video effects to provide a background.

"You need someone there to add the extra dimension if you want a good show. You can't leave the machines to do it that far. A great deal of club work tends to be hit and miss. On the night you don't know what the DJ's going to play. I prefer to work on much much tighter presentations.

"Bands are thinking much more about visual style as well as making music. They've got to come across on stage, and they've also got to have an element of 'spectacularness'. If they're highly involved with their music, for instance if they've got to stay behind their keyboards or drums, then the lighting is very important to them to make a visual impression. We've got to create something very special with video where we're not simply dealing with abstract patterns and shapes - we're looking to put across ideas - in the same way the music does. At the same time we mustn't force ideas on an audience, it is all about making suggestions."

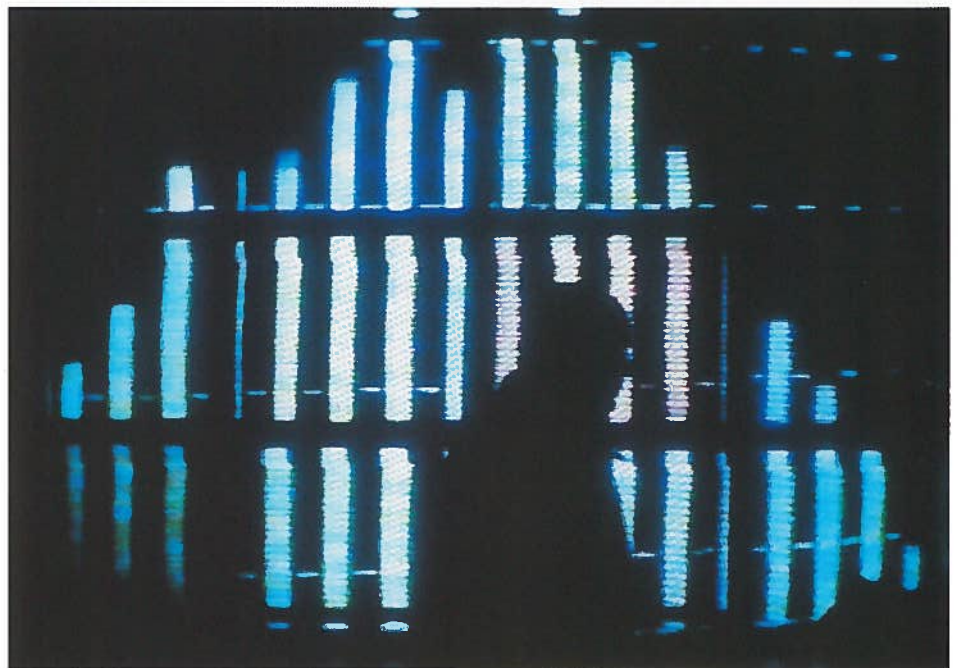
Giles Thacker was closely involved with Dance Energy '93 on BBC2 television, and it's rather difficult to show you the video in a magazine, although the accompanying slide pictures will give you an idea of the effects achieved. Equipment used involved two Barco 5000s projecting onto two 10' x 8' screens using four inputs: two VHS VCRs, one S-VHS VCR and one camera feed. Mixing was provided by Panasonic MX50 and E5 mixers.

Ultrascope's work now covers pop promos, exhibitions (Clothes Show etc), a great deal of night club work including at least five installation projects, lighting installations at major festivals and a wide mix of major 'events' ranging from the ICA to West End hotels. Right now he's working for Orbital on live video projection using sound activated technology, for Node Studios on the project I mentioned at the beginning of this piece and at the Ministry of Sound he is involved with the permanent installation lighting for two new rooms. For Sybil Twirl he is collaborating with performers and artistes in the presentation of a wide range of media.

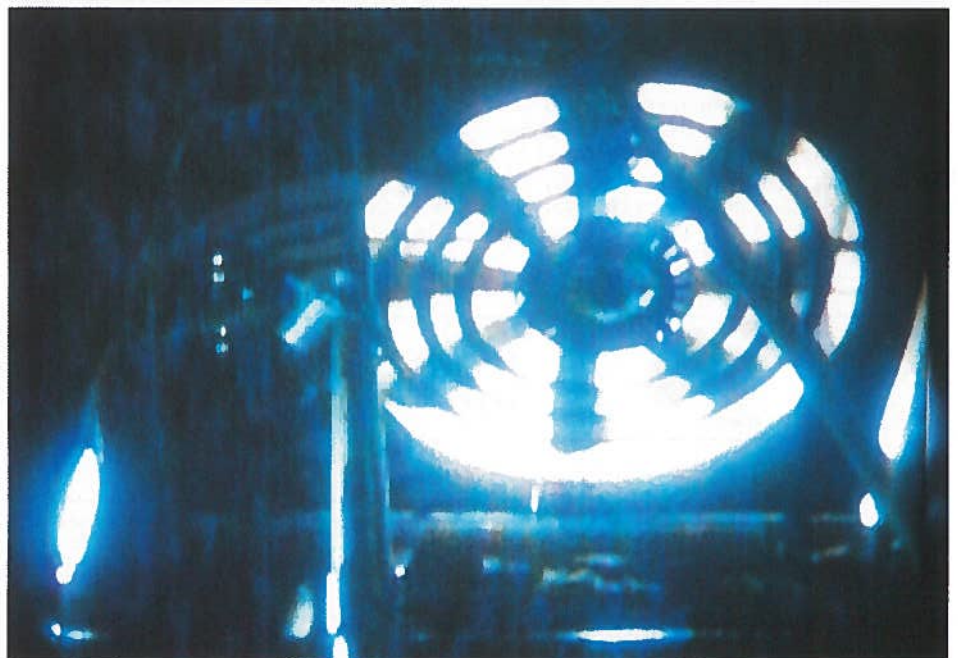
I came away feeling the term Videojock wasn't quite right for Giles Thacker, although it would suffice in a club situation, perhaps, and certainly indicates the energy involved in a live situation. But there must be a high-tech term lurking out there somewhere to more aptly describe what he and his kind are doing.



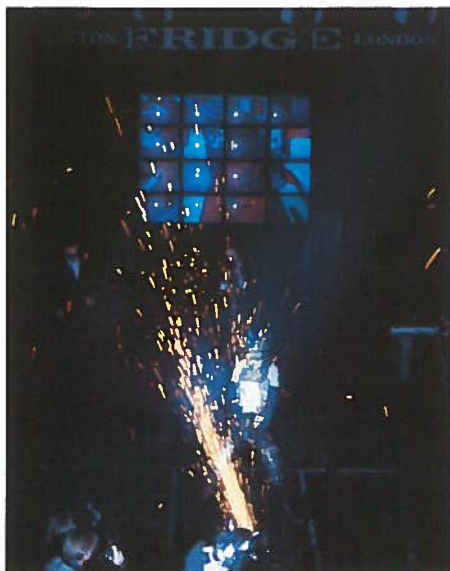
Projection using wooden sculpture shown in portrait picture on page 40.



Videowall installation.



Fan installed at the Ministry of Sound in London.



Cyberseed at The Fridge.

# WIRED FOR SOUND

## Ken Dibble assesses Garwood's Radio Station System

Hearing impairment to performers arising from the high levels of foldback used at many concert performances has long been of concern to the Health & Safety Commission and to the medical profession generally. Also, the susceptibility of high level foldback systems to howlround has been the bane of every monitor engineer's life for decades. Many artistes do not like to be confined to the feedback null of their monitor loudspeakers, and producers and set designers do not want the stage apron cluttered with an unsightly array of battered wedges. Also, the bulk of a large foldback system can be quite considerable and take long hours to set up.

Now, a British company, Garwood Communications Ltd, have come up with an alternative which is rapidly finding favour amongst the illuminati of the music business, including U2, Peter Gabriel, Duran Duran, Pet Shop Boys and the Grateful Dead. I can foresee many applications in theatre productions, musicals and clubs. It's called The Radio Station and is exactly the opposite of a radio microphone system.

### System Overview

In effect we are looking at a pro version of a personal stereo but with the player unit replaced by a radio receiver. The monitoring signal is mixed in the usual way, but is transmitted in high quality stereo from a dedicated transmitter unit and ground-plane antenna mounted on a stand. Just by looking at the kit and reading through the operating manual it is clear that a lot of thought has gone into the concept and that the equipment is designed and built to full professional specification. The reception range is specified at 60m, frequency response as 20Hz-15kHz +/- 1dB, distortion at 0.5% at 1kHz with 0dBu input to the transmitter and receiver volume control at maximum, and channel separation at 40dB.

There are four elements to each system, the 'Moulds' as the earphone assembly is called, a belt-pack receiver unit, a 1U rack mount transmitter and the antenna.

### The Moulds

These comprise a pair of specially formed acrylic ear plugs carefully shaped to fit snugly into the ear in such a way that they will not fall out and external noise is effectively excluded. This is an important aspect as the high in-ear sound levels necessary to overcome the stage ambient noise levels generated by many bands would almost certainly be dangerous. Because this is a crucial factor in the operation of the system, detailed



Garwood's Radio Station wireless personal foldback system.

instructions are provided for fitting and removal of these Moulds and safety warnings are given drawing attention to the possible risk of hearing damage, advising caution in setting the volume levels and giving hygiene guidance in the use and care of the Moulds. In addition, the manufacturers provide a custom-mould service in which the Moulds are tailor-made for each ear of the wearer from an impression of the ear lobe and canal taken by an audiologist.

A pair of high quality Sony transducers are inserted into the Moulds and are connected to the receiver unit by means of a robust quality, right angle 3.5mm jack with gold-plated contacts.

### The Receiver

This comes in a durable ABS carry-case with sculptured foam inlay which includes a compartment for the Moulds as well. It comprises a robust cast aluminium case just 90mm x 65mm x 29mm deep and weighing in at just 246g including the PP3 battery (the specification actually gives the weight as 220g and the size as 900mm x 630mm - which might be a little on the large side for a belt pack and more like the size of the wedge monitor it seeks to replace!). It has a comfortable rounded shape with the on/off switch, volume control, Lemo antenna socket and 3.5mm output jack on the top edge. A 1/4 wave antenna, about 40mm long and with a Lemo connector at its base, is supplied with the unit.

The battery compartment is a swivel plate which forms the lower part of the casing front. This is released by a single action of pressing the release catch and pivoting the cover to one side, thus enabling the battery to be changed

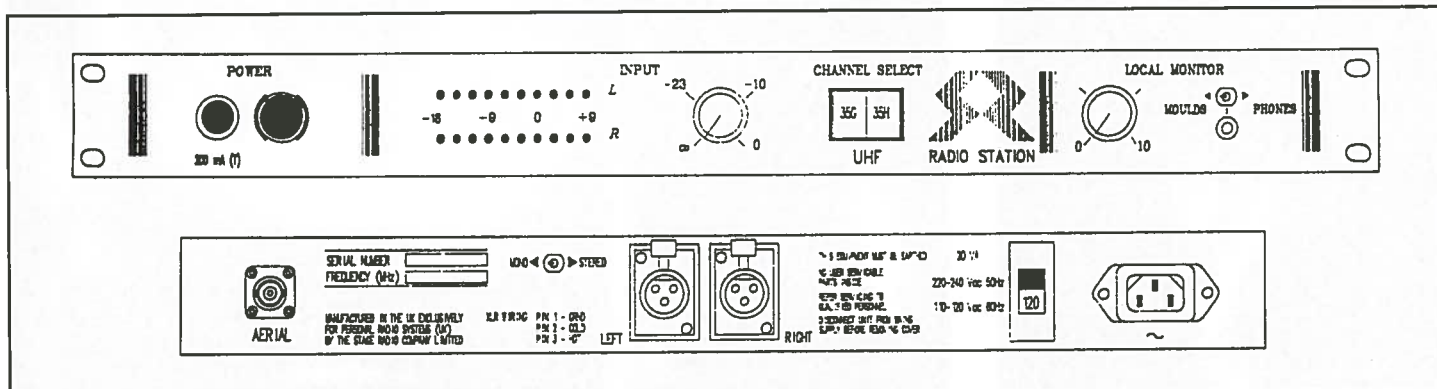
quickly and easily without removal of the unit. Battery life is given as between four and seven hours according to the volume setting used.

The maximum audio output power is specified as 70mW into 32 ohms per channel and the unit can be used with any standard head/ear phones of the correct impedance. Two small switches are recessed into the rear cover. One is used to select the correct EQ for Moulds or standard 'phones the other to select between two transmitter frequencies in one of three groups (see transmitter details). The RF sensitivity is given as 4uV for 20dB SINAD @ 1kHz and adjacent channel rejection at better than 60dB.

I have just two criticisms of this otherwise well-conceived and very well made unit. Firstly, the belt clip is a crude strip of folded stainless steel which has sharp edges and is not user-friendly in use - I've seen better on a Stanley tape measure! It is intended to allow the receiver to be rotated to a horizontal position, or even to be mounted upside down - although quite why anyone would want to do this I cannot imagine. The second is that the volume control is cramped between the antenna connector on one side and the on/off switch and earphone jack on the other, making it necessary to rim-feed the control knob between the fore-finger and thumb by its inner and outer edges. You do get used to this after a while, but it is a fiddle.

### The Transmitter

To judge by the dents, scratches, scrapes and general grubbiness it seems that my review sample had already done the evaluation rounds at least once, a world tour with The Bozoz and



The front and rear panels of the transmitter.

was probably on its second trip around! It comprises a 230mm deep, 1u rack-mount unit with all control on the front panel and all connections at the rear. The inputs are specified transformer balanced as standard but wired pin #3 hot, which is contrary to the IEC-268 standard. Upon inspection however, I was unable to find any input transformers - just two boxes on the pcb marked TX1 and TX2, so maybe these are optional after all!

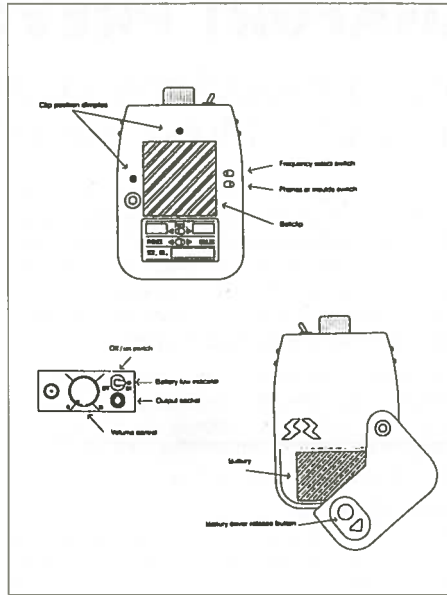
The input sensitivity is a nominal 0dBv with a front panel attenuator scaled between 0dB and - infinity. A 50ohm BNC antenna connector and CEE/22 mains connector are also provided. A recessed selector switches between 110/120V 60Hz and 220/240V 50Hz operation and a small shrouded toggle switch selects stereo or mono operation.

The mains power fuse and switch are both on the front panel, along with the input attenuator and its associated bargraph metering, a channel select button and a local monitoring facility. This latter enables the operator to monitor what is being fed to the transmitter using either Moulds or standard headphones and as with the receiver unit, a switch is provided to select the correct EQ.

The system operates in the UHF band and is available in three options each with a pair of switch selectable frequencies. These are Channel 24E/24F, 35E/35F and 35G/35H, all of which fall within the radio-microphone frequency allocation and require a license in the UK. Other frequency bands are available for export. It is standard practice, and in many countries mandatory, that a dynamics limiter is incorporated to prevent over modulation of the transmitter to avoid side-chain interference between adjacent channels. In the operating instructions it states that "... to maintain the best possible sound quality the Radio Station transmitter is NOT fitted with any input limiting or compression circuitry..." and goes on to stress the importance of driving the unit correctly and recommends the use of an external compressor to control programme dynamics. This however is totally contradicted on another page of the manual where it states with equal authority that a limiter is fitted and gives instructions to enable it to be disabled when not required by removing a couple of internal links. Which is correct is anybody's guess!

The build quality of the unit is excellent with RFI suppression on the AC mains supply, additional screening to the AC and RF parts of the circuit, sleeving on all exposed connections and high grade components throughout. However, upon dismantling my review sample for inspection I found half the top and bottom cover screws already loose, some almost falling out. I don't know whether someone with my own sense of curiosity had removed the covers previously and didn't have the bastard size (5/64") allen key necessary to re-tighten, or whether this was a consequence of being used on the road. Whatever the reason, I think the use of slightly larger screws with a different thread pitch might be a useful improvement.

My one other comment concerns the front panel. The switches and controls are mounted on a chassis sub-panel so that when the rack-eared front panel is fitted the switches are neatly flush and the control knobs recessed. In practice however, this means that the two level controls are too short for the usual thumb and forefinger rolling action and necessitates 'end-on' control, with the result that thumb and finger nails scrape on the grainy anodised aluminium surface of the panel. Not only does this trigger 'the blackboard chalk effect' but also tends to mark the rather attractive panel.



The receiver.

### The Antenna

This is an end fed ground plane aerial which looks very high-tech, resembling a communications satellite. It has a standard 3/8" Whitworth form thread in its base to facilitate mounting on a mic stand and an SO-238 UHF connector. A 3m 50ohm SO-238 - BNC downlead is provided and the manufacturers warn that losses may result from the use of an extended antenna cable.

### But does it work?

Indeed it does! I did not have the opportunity of doing any lab tests on this system, nor to try it out on stage. Instead I fed music from a CD player into the transmitter unit whilst washing the room with broadband pink noise and/or a different music CD, in order to test the attenuation capabilities of the Moulds. I have to say that the audio quality is excellent and the ambient noise attenuation impressive once I had acquired the knack of fitting the Moulds properly. With the transmitter in my ground floor test lab I wandered about the house up three floors to the attic bedroom with ne'er a hissp or a pop, no hint of drop-out and no deterioration in signal quality all the way.

### Application and Hints

It is important to realise that you cannot simply shut off someone's hearing and replace it with a foldback mix straight off a backline, backing vocal group etc. It is necessary also to include a pair of ambience mics within the foldback mix in order to maintain some sense of real world presence. The manual suggests the use of bass only side-fills to add further to that confidence.

It's also necessary to ensure that the receiver unit is turned off when balancing the foldback mix and setting up transmitter levels. Otherwise, dangerously high levels of overmodulated programmes, or screaming howlround from the main PA stacks could be inadvertently fed directly to the wearer's ear canals. So the system operators need to be alert to what is going on and use the system with caution.

Some hints on basic RF practice are also probably in order. Firstly, the available ERP is directly related to the matching between the transmitter and its antenna. Therefore the supplied antenna cable should not be extended and should not be linked to a rack patch-bay unless you know what you are doing. Also, whilst more than one receiver can be used with one transmitter, you must not attempt to combine the outputs of two or more transmitters into a single aerial. If a common

aerial is required for a multi-channel system, it will be necessary to obtain an aerial combiner unit suited to the impedance and channel frequencies of the system.

The antenna should be sited so that it has line-of-sight to the receiver unit without interruption. If drop-out occurs under these conditions this will probably be due to reflections off some steelwork causing phase cancellation effects between the direct and the reflected wave. Moving the transmitter antenna just a few centimetres can often cure this type of problem.

### Multi-Channel Systems

It seems to me that this type of apparatus is likely to be used where more than one channel of personal monitoring is required and where radio microphone systems are also in use.

Unless great care is taken there can be many problems in operating multi-channel radio apparatus in close proximity, which is why multi-channel radio microphone systems are so expensive.

Firstly, great care will be needed in selecting the correct frequency band for each system so as to provide maximum separation between channels. These problems may be simplified if UHF bands are used for The Radio Station channel and VHF for the radio mics. This is an absolutely critical factor to a successful system and if more than two or three systems are likely to be used simultaneously, expert advice should be sought.

If the performer(s) are using both radio mics and Radio Station personal foldback, it is necessary that the two hip-pack units are located one each side of the wearer. If a hand-held radio mic is used then the Radio Station receiver should be at the back of the wearer, the approach being to separate the two systems physically as far as practicable in each situation.

In fact, separation is the key to most of the precautions - the antenna of the various transmitter units should be spaced at least half a metre apart, or if more than two or three channels are in use, then an aerial combiner unit with a common antenna is recommended. If several transmitters are housed in a common rack, they should be spaced apart by at least 1U and Radio Station transmitters and antenna should be kept well clear of any radio microphone receiver units or their aerials.

To be honest, having regard to the extensive use of radio systems in the entertainment business these days, and with their obvious expertise in RF technology, I am surprised that Garwood Communications do not themselves manufacture a two and four channel system with inbuilt aerial combiners, or at least a 4-way add-on aerial combiner - but maybe that is in the pipeline.

### Summary

The Radio Station is quite different from anything else I've reviewed and necessitated a rather different approach. I've tried to be objective and pick up on those aspects I consider to be relevant in the real world of the technicians likely to be responsible for the operation of such equipment. My overall impression is of a very well-thought-out concept built to a high standard. Its performance is indeed impressive. I hope my application guidance and cautionary notes will be of some value to those contemplating this radical new approach to foldback.

**The Radio Station is distributed in Europe by Personal Radio Systems Ltd, Unit 2, 12/48 Northumberland Park, London N17 0TX. Telephone 081-801 8133. The end user price in the UK is £3,821.17 + VAT.**

# FRANKFURT PREVIEW

L+S presents a product line-up in readiness for the Frankfurt Music Fair in March

**Nexo** is set to launch the latest addition to its PS range of speaker systems. The PS15 (pictured below) offers the same versatility as Nexo's PS10, but with greater power handling.



The PS15 is suited to wedge monitor and free standing or flown applications, where it can also be arrayed. It comprises a 15" driver and asymmetrical dispersion horn, and features stand fitting and optional flying rails. Bass response is very good due to the custom-built long excursion 15" LF driver with a very high strength spider. The result, say Nexo, is good power handling for an enclosure of this type. The system uses the new PS15TD controller which can switch between PA and monitor mode, providing optimum response for each of these applications.

**Nexo can be found on Stand 9.2 E89.**

**PSL** will launch their latest range of power Mosfet amplifiers. Seven models make up the PSL series: PSL300 offers 150W RMS per channel into four ohms, PSL500 offers 250W RMS per channel into four ohms, PSL10-12 offers 500W/600W RMS per channel into four/two ohms, PSL12-16 offers 600W/800W RMS per channel into four/two ohms, PSL16-20 offers 800W/1000W RMS per channel into four/two ohms and the PSL20-30 offers 1100W/1500W RMS per channel into four/two ohms. All models have the option of being mono-bridged into 8 ohms and the four largest can be mono-bridged into 4 ohms.

The new series will offer input options which are easily installed. The installer can choose from the DX1 compressor/limiter with variable attach/delay/threshold and ratio and the AX1 2-way crossover with selectable 12,18,24 dB/octave filters. A new aerodynamically designed heatsink allows heat transfer keeping the units cooler. PSL are in the process of patenting the design.

**PSL are on stand 9.2 F23.**

**Sennheiser** will show the BF 504, a new mic specifically designed for use on drums and the Set 1042 which is a guitar radio system.

**Renkus-Heinz** will be featuring several new CoEntrant loudspeakers. The new CoEntrant Waveguide Technology (patents pending) represents a new loudspeaker construction where multiple low/mid and high frequency drivers share a common horn - creating a true broadband point source. Much improved vertical coverage characteristics are possible because of the size of the horn.

The CE-2MH utilises the co-Entrant Waveguide technology to combine six 6.5" carbon fibre mid woofers and six extended range high frequency 1" drivers into a common 60 degree by 40 degree horn. This compact cabinet delivers 136 dB SPL output, and a continuous frequency response from

250Hz to 20kHz. An associated CE-3Low enclosure comprising four 12" woofers extends the system performance down to 60 Hz in a same size cabinet. Renkus-Heinz will also be premiering a line of two-way cabinets incorporating a revolutionary new horn design.

**Renkus-Heinz are on stand 9.2 F20.**

**Le Maitre**, to be found on the LMP stand, will be showing the Microfog and Red Devil smoke machines, both recent additions to the 'Popular' range (see Le Maitre article, pages 35-36).

**Le Maitre are on stand 9.2 E60.**

**Cloud Electronics** will be exhibiting with their German distributors Lightronic Licht & Lampen GmbH. The full range of CX products will be on show with particular emphasis on the recently introduced CX mixer zoners.

**Cloud can be found on stand 9.2 E71.**

**Soundcraft** will show the SM24, a new top-end stage monitor console. The desk features 8 mono plus 16 mono or up to 8 stereo sends, and an additional dedicated stereo sidefill send - a total of 26 busses that can be reconfigured at the touch of a button to give almost any combination of mono and stereo mixes, and is available in a choice of three frame sizes (32, 40, and 48 inputs). Other features include a sophisticated linking system and a new output design that allows the console to double as a fully-featured front-of-house board. Eight VCA groups, eight additional Mute groups, and long-throw faders allow total control over the mix, and the logic-controlled soloing system ensure that any signal can be quickly monitored. Also on show will be a new version of the Delta DLX, the patchbay variant of the DC2000 digitally controlled analogue recording console, and new desks from Spirit division.

**Soundcraft are on stand 9.2 E24.**

**Fane Acoustics** will show a number of new products including the Colossus 15XB bass chassis and Colossus 18XB sub bass chassis, the latter featuring a dual coil suspension in a spaced configuration in order to centralise and stabilise the voice coil. Another new product is the MD 2151 horn driver that utilises ferrofluid as a coolant to speed up heat dissipation.

**Fane Acoustics are on stand 9.2 E40.**

**Kelsey Acoustics** will be showing two new versions of the Kelsey Cable crossover featuring lids attached to the bases by either velcro or hinged lid. New products include the ATM MPL-32 32 pair cable, ATM JTC-04 and JTC-12 jacketed multi-pair. The KAD connector cable drum has been completely redesigned and the JTC Series of individually jacketed multipairs is now available in 4,8,12,16 and 24pr configurations.

**Kelsey are on stand 9.2 F56**

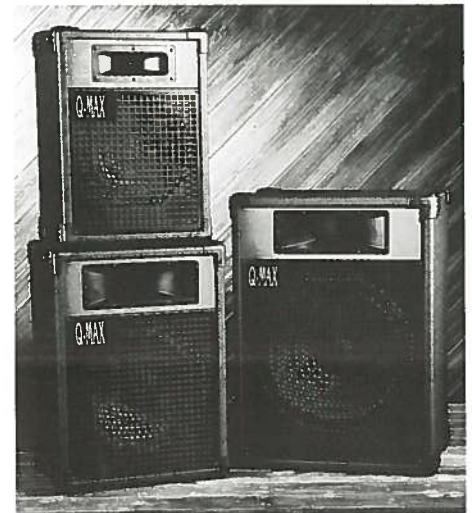
**Audiomation Systems** will be showing its newest 'Live' sound automation package. This has been specially designed to fit the Midas console. There will also be continuous demonstrations of the latest software that runs the Uptown 2000 and Uptown 990 series systems.

**Audiomation Systems are on stand 9.2 E07.**

Being introduced by **Carlsbro** are the Celestion-loaded, Alpha 94 series of loudspeaker enclosures. Designed as a portable range of cabinets to match any of the company's mixer/amplifiers such as the new GDX7, the Alpha 94 series features a curved kickproof grille that does not suffer from noise resonance. All models operate at eight ohms, and have newly designed corners and an integral stand adaptor.

**Carlsbro are to be found on stand 9.1 D94.**

New from **Soundmaster**, Q-Max Series enclosures (pictured below) are designed for fixed installation or touring systems and can be built up to form a modular PA. Internally filtered to give the correct drive unit separation and protection whilst smoothing and extending the frequency response, Q-Max offers up to 17 choices of enclosures. Designed for PA and disco installation, the MS series offers both 1 x 10" and 2 x 10" units that can be complemented by 15" bass or sub bass enclosures. Bow front styling forms the horn-like reflex port for optimum Q alignment and bass response.



Q-Max CS full range units comprise horn loaded cabinets with a choice of 8", 10", 12" or 15" loudspeakers, ranging in power from 100-300W. Complementing the latter are 1 x 12" and 1 x 15" horn loaded wedge monitors, in both powered and non powered formats.

**Soundmaster are on stand 9.2 A15.**

**Multiform Electronics** will be exhibiting as usual at Frankfurt and will be supporting their German distributor, Lightronic. Apart from displaying their comprehensive range of lighting desks, controllers, and power packs, they will be majoring on the Zodiac 18 channel lighting desk with its innovative features and their unique DMX '648' DMX/Midi show control decoder. Sister company **MEC Systems** will be celebrating the appointment of EDS from Cologne as their new German distributor and promises to have their unique trussing system on the EDS stand which also features the new range from Saggiter of Italy.

**Multiform/MEC are on stand 9.2 E71.**

As well as the established Monitor series and the versatile, high-performance SuperDual acoustic sound reinforcement system, **Tannoy** will be displaying the PBM6.5 MkII which features a new injection-moulded bass cone and a revised low-loss crossover.

**Tannoy are on stand 9.1 D30.**

**Soundtracs'** new Solitaire production console and Sequel II sound reinforcement console will be making their debut.

The Solitaire and Sequel II will be fighting for the limelight when Soundtracs launch their undisclosed new product at the show which they promise is sure to get jaws dropping!

In brief, the Solitaire console is a 24 buss in line production console available with the latest Soundtracs ADP dynamics package providing gates, compression, limiting, expansion, modulation and autopanning on each of 24, 32 or 40 channels. Automation options of either VCA or moving fader will also be available in the near future. The Sequel II has four band FdB eq, group

muting, VCA grouping, plus the new ADP assignable dynamics package providing gating, compression, limiting, expansion, modulation and autopanning on the 24, 32 or 40 channels.

**Soundtracs are on stand 9.2 D23.**

**Crest** will introduce three new amplifiers targeted at the MI market - CA6, CA9 and CA12. The CA6 is rated (both channels driven) at 600W @ four ohms, the CA9 is rated at 900W @ four ohms, and the CA12 is rated at 1200W @ four ohms. All CA amplifiers are two rackspace designs and incorporate circuitry and technology pioneered in Crest's Professional Series amplifiers.

The twin tunnel-cooled heatsinks and variable speed fans maintain the CA's output transistors at a consistent temperature to ensure longer life. The CA's clip limiting circuit helps protect drivers and makes sure that sound integrity is also maintained in extreme overload conditions.

The new Crest 9001 amplifier will also be exhibited. The three rackspace unit is the latest in the Professional Series of amplifiers to incorporate Crest's Power Density engineering. The design has many features, most notably its 'power-to-size' ratio. The 9001 provides more full power bandwidth and exceeds 3000W at two ohms from 20Hz-20 kHz. The new Century Series LM 8+4 and LM20 monitor consoles will also be featured. The Century M20 monitor console provides up to 20 discrete mono mixes from up to 52 inputs. The LM 8+4 monitor consoles provides eight stereo and four mono mixes. The dual-mono outputs used on the LM20 can be combined with the stereo outputs of the LM 8+4 to offer any desired output configuration.

**Crest can be found on stand D56.**

**Sellmark Electronics** will exhibit its new 'Audiomate', a low-cost moving fader module which includes eight faders per module with a built-in drive circuit and touch sensor circuit. A second new product, the 660 series motorised fader, comprises a range of motor faders specially designed for long-life/low-noise applications.

**Sellmark are on stand 9.2 E07.**

**d&b** is introducing a new addition to its passive controller system range. The 402-Top is a mid-high range cabinet which is a custom coaxial design using a 12" and a 2" driver with a special horn giving a dispersion of 35 degree x 35 degree and capable of delivering 136dB-SPL. The 402-Sub is a 1 18" bandpass cabinet offering 133 dB-SPL in the 50Hz-160Hz range.

The 602-Mon offers the same dispersion and efficiency as the 602-LS but packed into a stage-monitor enclosure. The E3-LS is a new addition to the E-Series. It is a compact speaker equipped with 16.6" and 11" drivers giving 90 degree x 60 degree or optionally 60 degree x 90 degree dispersion. The 16 ohm impedance allows the use of up to eight speakers driven by one main frame fitted with the E30CO/M controller module.

The new A1 main frame system will be introduced early in the summer. This is a 3RU main frame housing a single exchangeable controller module.

**d&b will be on stand 9.2 C24.**

**Harman** will show the GS3V VCA automated and GL2 rack mount mixers, additions to the JBL Soundpower series for touring and installation use, and a comprehensive range of other products.

**Celestion** will be demonstrating the SR and CR range, as well as the new multi-purpose KR1 loudspeakers. The company will also be launching their new range of compression drivers and horns.

**Celestion are on stand 9.2 E22.**

*This is just a brief look at some of the product highlights due at Frankfurt. There are, of course, a lot more companies exhibiting than featured here in both sound and lighting. Further coverage of new products and the people presenting them at the Frankfurt Music Fair will appear in our April issue.*

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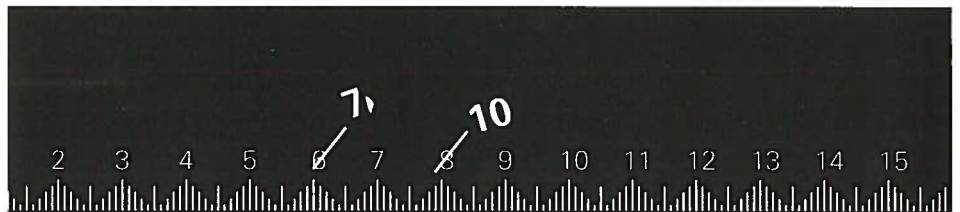
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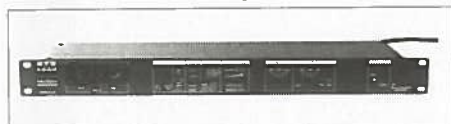
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# EQUIPMENT *News*

## Pigs will Convert

Flying Pig Systems have launched the Protocol Converter Box. The unit accepts DMX512 and converts it into various proprietary protocols. Developed on Meteorlites' behalf to interface with their stock of Strand automated fixtures, the units now support High End's Emulator and Cyberlight. Various Martin fixtures will also be supported in the near future and Flying Pig plans to take care of any new DMXless fixtures. The unit is a companion product to the existing buffer box. It has DMX input isolation and provides two repeated DMX outputs together with two protocol outputs. It is truss mounting with a universal input power supply for touring use. Internal DIL switches select which protocol should be converted as well as selecting whether the DMX input be check-summed or use 16 bit resolution. Further details from A C Lighting in High Wycombe, telephone (0494) 446000.

## One for Disney



Multiform have supplied the first of their new multi-format digital decoders (model DMX648) to Walt Disney's Imagineering Inc through Richmond Sound Design of Canada.

First released at the PLASA show in September last year, the unit has now been significantly improved to accept any one of 16 DMX start codes. It is designed to decode serial multiplexed digital control signals to a number of 0-10V analogue outputs. The serial data can be in one of three digital protocols: DMX 512, MIDI Music or MIDI Show Control. The decoder has 48 output channels.

The unit contains a back-up memory, which is used when an incoming signal is not received. The user can select between a pre-programmed state, or the last received output state. A test mode is also available on power-up, or by resetting the unit, which cycles through every output in sequence ramping it from 0V to +10V and back to 0V again. When set to decode the DMX512 protocol, the unit will decode a block of 48 consecutively numbered channels. In the MIDI mode the unit can be set to decode either Midi Music codes or Midi Show Control codes. If set to Midi Music codes the output of a Midi keyboard or sequencer can be used to control lighting directly. When set to decode Midi show control codes the unit may be used to provide analogue control signals to operate audio visual and special effects.

The decoder can be powered from either the mains supply, or from a suitable d.c. power supply. It is housed in a 19" by 1U rack mounting case and further details are available from Multiform in Uckfield, telephone (0825) 763348.

## Fane MD 2151

New from Fane Acoustics is the MD 2151 horn-drive which features a titanium diaphragm, 45mm in diameter. The 50 watt MD 2151 compression driver has a 1" throat and utilises ferro-fluid as a coolant to speed up heat dissipation. It also claims lack of colouration and natural reproduction with freedom from distortion when operating in the 1.5 KHz-20 KHz frequency range.

For further information contact Fane Acoustics in Leeds, telephone (0532) 601222.

## New Baby called Doris



Light Engineering have recently announced the arrival of their new progeny which they have lovingly called Doris. At birth Doris weighed 10kg and was fitted with an M33 24V 250W lamp with a dichroic reflector which is fan-cooled. Two 40 RPM motors front-surfaced mirror and dichroic lenses combine to produce animated fan-shaped beams. Though the midwife was reported to be suffering from shock, we have been told both mother and baby are doing well.

Light Engineering can be contacted in London on 081-520 2336.

## Sylvania FEX and DXX

Sylvania has launched an improved version of the FEX and DXX 2000W and 800W double-ended tungsten halogen lamps. Manufactured in the company's factory at Tienen in Belgium, the lamps incorporate a new coil support system. It comprises a spacer in the form of a spiral which centres the coil in the lamp. The outer end of the spiral is melted into the quartz to keep it completely stable.

For more information contact Sylvania in Belgium, telephone (32) 16 800 367.

## SoundTech Goes Digital

SoundTech USA has introduced a new range of power amplifiers called the Power Source series that are based on digital switching power supply technology. First to hit the market is the PS1300 amplifier. This is a stereo amplifier capable of 650 watts RMS into a 5 ohm load. Using the switching power supply allows SoundTech to pack all this power into a 2U package weighing only 10 kg. The amplifier features dual extruded aluminium cooling tunnels cooled by twin variable speed fans.

All controls except for the on/off switch are found on the rear panel whilst the front panel provides an array of status LED indicators to alert the user to any adverse operating conditions. The rear panel has all input and output connections as well as level controls for each channel and the stereo/bridged mono selector switch. As an option, the PS1300 can be ordered with Neutrik Speakon connectors to complement the 5-way binding post speaker outputs. THD is at 0.04%. Signal to noise ratio is 100 dB and crosstalk is -80 dB. The power bandwidth is from 5 Hz to 65 kHz.

For details contact SoundTech in Vernon Hills, telephone (708) 913 5511.

## Light Headed Lamp

DLD Productions have introduced a new 1k Par 64 Maxlight. The Maxlight reflector and coating are designed and constructed to last for years. The lamp is replaceable, making it cost effective, and according to DLD is 30% brighter than the equivalent Par lamp.

The lamp is available in round beam widths that range from narrow spot to wide flood, as well as a variable focus unit for the ultra dynamic. You simply reach into the rear of the can and alter the beam width via the lamp holder.

One of its features is consistent light output and efficient colour rendering. Available in 220/240 or 120V versions and Par 64, 56 and 36 sizes, the Par 64 lamp has approximately 300 hours of life. The Par 36 pin spot equivalent, which will interest all disco and club installers has longevity of 2000 hours! The first Maxlights are currently out on tour with Robert Plant.

Further details are available from DLD in London, telephone 071-613 3825.

## EV Compact System



Electro-Voice has developed a compact, two-way, constant directivity speaker system, the S-60.

Measuring 35cm(h) x 22cm(w) x 21cm(d) and weighing only 7 kg, the S-60 is capable of handling a long-term average power of 100 Watts. With just one Watt input it produces an SPL of 88dB at one metre. The width of the system's frequency response ranges from 70 to 18,000 Hz +/-3dB. The crossover frequency and speaker components geometry have been carefully selected. The directional characteristics of the 16.5cm direct radiator woofer, installed in an optimally-vented enclosure and the 2.5-cm tweeter with 12.5cm director match at the crossover frequency of 2,500 Hz, providing coverage patterns of approximately 120 degrees for each. According to EV this ensures a uniform audience coverage without 'hot spots' or 'dead zones'. The 120 degree x 120 degree dispersion characteristic permits the system to be used vertically or horizontally to best suit the environment.

The system is manufactured at Mark IV Audio's European factory in Ipsach, Switzerland. For further information contact Shuttlesound in Mitcham, telephone 081-640 9600.

## Trantec S2000 Receiver

Trantec Systems, which claims to be the largest manufacturer of DTI radio microphone systems in Europe, has announced the launch of its latest receiver, the S2000. A quartz-controlled, VHF true diversity single conversion receiver, the S2000 features two separate RF sections with fixed telescopic antennas on a durable all-metal enclosure. As a true diversity system, the S2000 constantly monitors the received signal and switches between the outputs of the two internal receivers to find the best one and avoid normal interference. It has an exclusive LED display which indicates power, the RF carrier selected, audio presence and clip.

The S2000 is available as a lapel, hand-held, head-band or guitar system and is DTI approved. Further details are available from Trantec Systems in Mitcham, telephone 081-640 1225.

## Playlight Fibre Optic

The Playlight Group has introduced a new form of fibre optic starcloth to its product range. This version utilises polymer fibres instead of glass, resulting in a lighter weight yet more robust product. The optical loom is completely maintenance free, and under normal usage conditions can be expected to exceed the durability of other types presently on the market.

The cloths, which are ideal for use in theatres, discotheques, TV/film and for touring, can be treated as any other drape for cleaning purposes, without damage to the optical system. A variety of effects - from twinkle to colour change, can be achieved by simply changing a wheel in a standard 50/75W projector. Alternative light sources include optical spotlights and discharge lamps.

For further information contact Playlight Hire in Manchester, telephone 061-226 5858.

## DMX Wall Station

Colortran has released the DMX Wall Station, a self-contained unit with four independent faders, one master fader, and a take-control/on-off button. It also provides control of one or two dimmers per channel and is available as a standard wall-mount, or portable unit. Four dip switches allow for pile-on or take-control operation, and variable DMX packet transmission size.

The DMX station can be used alone or in series for multiple station controls and can operate independently of external DMX input, or accept any existing DMX signal.

For more information contact Colortran in Burbank, California on (818) 972-5536.

## AKG Blue Line replaces C451 Series

AKG's C451 modular condenser microphone series is being discontinued to make way for its updated counterpart, the Blue-Line series.

The Blue-Line has a unique bayonet coupling system for attaching capsules to the pre-amp which avoids the risk of cross-threading and allows easy, high speed connection of all components, including the remote active-head cables. Due to the bayonet connection, C451 capsules cannot be attached to the Blue-Line pre-amp.

AKG Vienna will hold sufficient stocks of C451 components to run world-wide spares and service back-up for at least five years.

For further details contact Harman Audio in Borehamwood, telephone 081-207 5050.

**FAX YOUR EQUIPMENT NEWS  
TO L+SI ON (0323) 646905**

## Wildfire Long-Throw

The new WF 250 series of 'Long-Throw' UV lighting fixtures from Wildfire are high-intensity black lights designed to illuminate fluorescent materials at distances from 10-75 feet. These new fixtures are available in three separate models: 20 degree spot, 50 degree medium spot and in 90 degree flood for use on film, video, stage, display or venue applications. All three models come in indoor or outdoor versions. All Wildfire fixtures are supplied with heat-resistant black glass filters which will not fade or scratch allowing potentially dangerous UV-B radiation through the filter. The unit comes supplied with an integrated ballast (120v /60 Hz. 2.5 Amps), automatic safety cut off switch, mounting bail, pipe clamp, safety cable and one year warranty. For information call Wildfire Inc in Los Angeles on (800) 937 8065.

## Through the Prism

Showco have introduced the Prism SRM-Stage Reference Monitor System. Designed and manufactured to meet the same performance standards as the Prism sound system, the SRM version incorporates many innovative features including very high SPL output and good definition. Its symmetrical design enables multiple applications with a single enclosure configuration. Perfect user coverage angle eliminates the disadvantage of tilting or propping (the latter increases visual profile up to 35% and degrades acoustical response). Minimum outboard equalisation is required and the off-axis response reduces feedback and allows larger performance coverage area. An integrated matched electronic crossover network built into each amplifier eliminates separate outboard crossover. Further details are available from Showco in Dallas, telephone (214) 630 1188.

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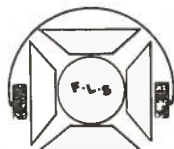
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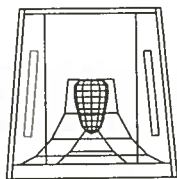
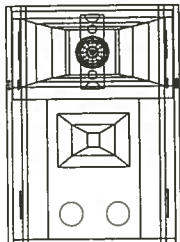
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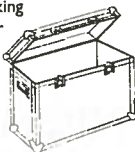
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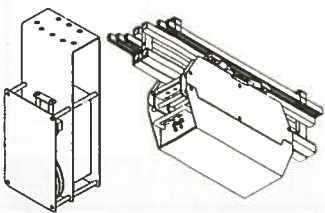
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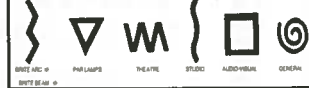
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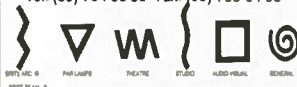
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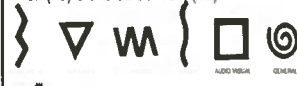
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# VIEWPOINT

## Ian Herbert Asleep In The Stalls

Well, what do you think of theatre critics? The playwright Christopher Hampton once said that his attitude to them was rather like that of a lamppost to a dog, and I expect a large number of theatre folk don't rate them much higher. In technical theatre, especially, there must be regular grinding of teeth at their lack of knowledge of just what goes into making a show run. They don't talk much in their reviews about lighting, sound or engineering, content with the occasional 'ooh' or 'aah' at the mega-musicals. In the area of stage design they're a little more observant - some of the best writing in John Goodwin's recent compilation *British Stage Design* came from critics such as *The Observer's* Michael Ratcliffe. Overall, however, they hardly gobo-literate.

In the 14 years that I've been cutting out their reviews and sticking them into *Theatre Record*, I have to admit that I've developed a surprisingly healthy respect for the species. They're a long-lived brigade, perhaps rather too long-lived for some, not least the younger critics still waiting to fill their shoes. Irving Wardle's been writing since 1960 in one national newspaper or another, Michael Billington since 1965. And still they're there on aisle four for five nights a week, staying awake rather better than I do, and able to turn out five or six hundred words about what they've seen that usually make very good sense. This is no mean feat considering that those words have probably been put together within an hour of curtain time and may well have been telephoned in from notes written in the dark on the back of a programme.

They do get it wrong from time to time, sometimes spectacularly so: the original Barbican notices for *Les Miserables* make instructive reading, including my own verdict that "the technical team has made a right mess of the whole operation." Yet on the whole they provide the theatre-goer with useful guidance, especially the theatre-goer prepared to look at more than one opinion. What is most remarkable is that in all their years of theatre-going they continue to expect the best - they enjoy more shows than they dislike and can usually find a kind word for even the direst of evenings. Honestly, would you want to spend most of your life out front? In the circumstances, their enthusiasm is impressive.

All the same, I think it's a great pity that the average review doesn't usually make much reference to the large number of unseen hands who have contributed to a show, especially when nowadays they usually outnumber the cast we see on stage. I'm not asking for details of the rig - let those who want to know read *Lighting+Sound International* - but the occasional nod to the technical team would seem appropriate. A case in



point is the recent staging of *Hair* at the Old Vic. Whatever the merits of Michael Bogdanov's production, it's fascinating to consider how much technical support he had at his command that just didn't exist when the show was first put on a quarter of a century earlier, from radio-mics to portable revolves, to scrollers. The 1993 *Hair* was technically a very sophisticated show, and that it didn't show to the critics is, I suppose, a great tribute to the unobtrusiveness of those techniques today. It's only when someone loses a mic down their cleavage, or when the revolve jams (welcome to the Olivier, folks) that the critics are likely to mention it.

Now I don't claim to have much more technical knowledge than my fellow-critics. When I was an undergraduate electrician's mate at Cambridge, taking barely understood instructions from the likes of David Adams or Martin Moore or keeping a wobbly follow-spot on Peter Cook and David Frost, I was the one who didn't know a volt from an amp, and I've not learned a lot since, in spite of an instructive few years editing *Sightline* for the ABTT. (I used to reckon that if I understood the electrical copy, so would a wardrobe cutter, and vice versa.) All the same, what goes on in support of a production does at least interest me, and I do try to point out technical matters of interest even if I don't quite know what's behind them. I spent rather too much of the recent Almeida production of *School for Wives* (pictured above) trying to work out how the very convincing drizzle was produced, when no bar was to be seen in a very open rig. At least it kept me awake - I'm a notorious narcolept.

Talking about matters like this with your esteemed editor the other day, I found myself suggesting that you clever fellows in the control rooms might be interested in how your efforts appear to the average critic out there in the stalls, someone who could present an informed, but non-technical appraisal of the staging behind the shows. Someone who regularly saw a lot of theatre from fringe to West End. Someone who could ask fairly intelligent questions, if not always answer them... "Someone like you, you mean? OK, let's try it." So from next month, look out for a column of not-too-random but decidedly jargon-free reactions (because I haven't learned the jargon) to productions great and small, from someone who'll be doing their best not spend too much of their evenings 'asleep in the stalls'.

Ian Herbert wanted to act as a student at Cambridge until he found himself holding spears for the likes of Derek Jacobi and Ian McKellen. He turned to writing revues and got his kicks from dogbody work backstage. After a career in publishing which included the editorship of three editions of *Who's Who in the Theatre*, he set up on his own as editor and publisher of *Theatre Record*, 'the critical chronicle of the British Stage'. From 1984-92 he was editor of *Sightline*, the journal of the Association of British Theatre Technicians. He still has ambitions as a director, and made his fringe debut with a professional production in 1992.



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