

LIGHTING+SOUND *International*



PLASA LIGHT & SOUND SHOW 94: THE IMPRESSIVE VIEW ACROSS EARLS COURT 2



11,339 VISITORS: OVER 10,000 FOR THE FIRST TIME

- Without equal: full coverage of the biggest PLASA Show to date
- The history and faces behind the Lighting Technology Group
- Technology on the march for The Big Picnic
- Part two of L+SI's major Amplifier Survey
- Son et Lumière for the Holkham Pageant
- John Hornby Skewes: targeting the pro-audio market

OCTOBER 1994

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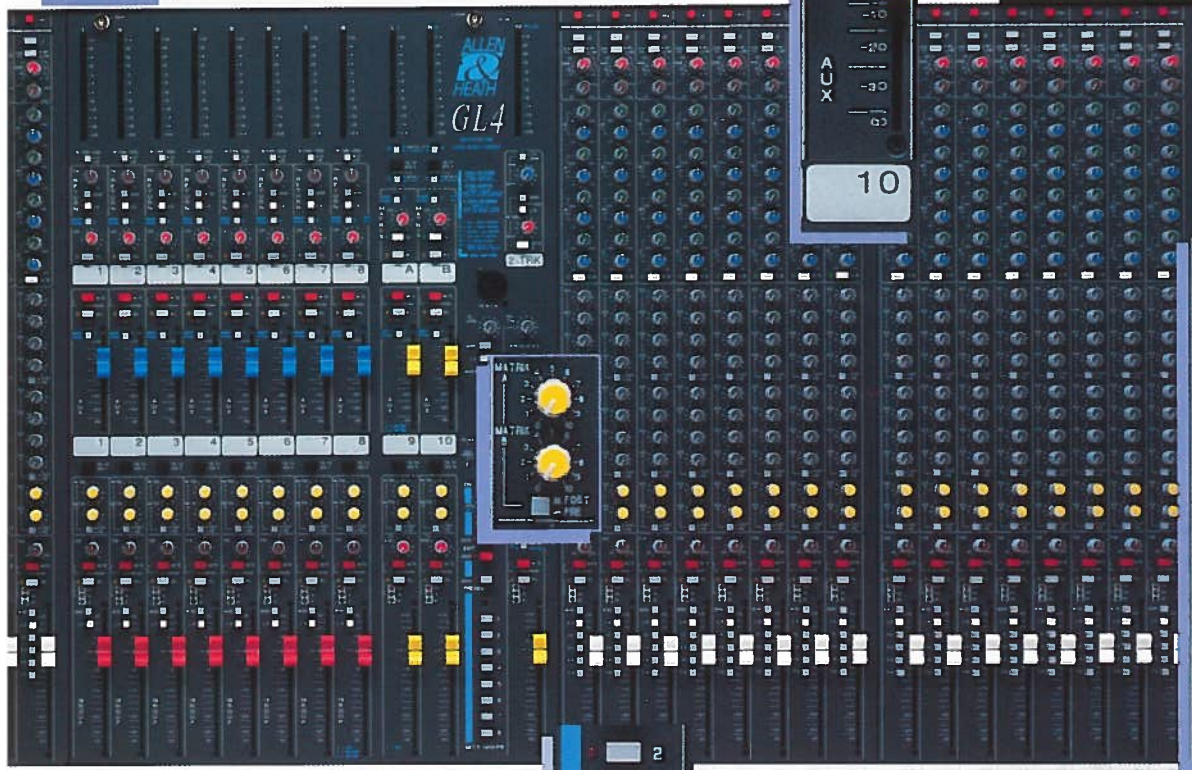
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OCTOBER 1994

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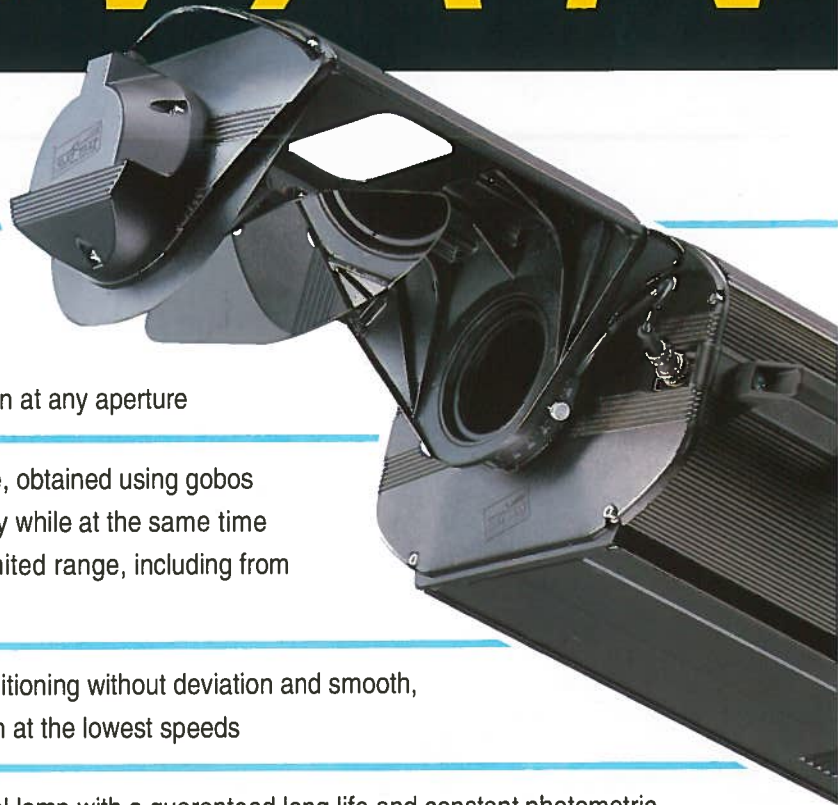
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LIGHT & SOUND SHOW 94: INTERNATIONAL VISITOR NUMBERS DOUBLE TOTAL ENTRY COUNT SMASHES THROUGH 10,000 AND BEYOND

PLASA LONDON NOW LEADING ONE-STOP INTERNATIONAL CENTRE FOR ENTERTAINMENT AND PRESENTATION TECHNOLOGY

A record 3,069 overseas visitors, representing the world's leading distributors, manufacturers, specifiers and designers have confirmed London and the PLASA Light & Sound Show as the focal point for product launches and equipment application. The overall visitor count went up from 9,465 in 1993 to 11,339 - another record for the Show. These figures, combined with the record number of overseas exhibitors, has sent the following message to the entertainment and leisure industries worldwide: the PLASA Light & Sound Show is now the international event!

On the first day, queues wound all the way back to the West Brompton tube station, as visitors waited patiently to see the record number of exhibitors at this year's Show. Overall, there was a 20 per cent increase in the number of stands, including a staggering number of first-time exhibitors - 62 in all!

Rightly deserving of its ranking as the leading international exhibition for entertainment and presentation technology, the Show played host to more than 27 new overseas exhibitors, and it is clear that both European and international manufacturers now recognise that PLASA is vital to establishing key business contacts.

Paris-based ETC Audiovisuel is just one example of the show's international appeal. ETC had not exhibited its specialised projection systems to a large audience since 1989, but the Show gained ETC much sought after international exposure. Ross Ashton, managing director of ETC UK Ltd, told L+S: "We chose the Light & Sound Show as the site for the launch of our UK subsidiary, ETC UK Ltd, and to promote our PIGI system. This year's Show helped us establish important international contacts and allowed us to show the PIGI system outside of France for the first time ever. If we are to grow, we must break into more foreign markets. At the event we met and talked to many people from the United States and the Pacific Rim. The exposure we received from being at the show was well worth the investment in the stand!"

For the ADB group, a Siemens company, PLASA 94 was very worthwhile. Nick Mobsby commented: "In the past PLASA has been regarded as just European - this year it was positively global. We saw people from the US, China, Australia and



Across the expanse of Earls Court 2 and the massed ranks of over 200 exhibitors.

Russia - the quality of visitor is unique to PLASA. The people we met were the managers with real spending power. As far as the ADB Group of companies is concerned we now view PLASA as the leading exhibition worldwide and in order to accommodate such a high level of visitors, we'll be dramatically increasing our stand space next year."

A huge number of UK-based companies also see the PLASA Light & Sound Show as the venue where maximum exposure means maximum business. On the Pulsar Light of Cambridge stand business was excellent with over 80 Masterpiece lighting control desks sold. According to sales director Derrick Saunders, the show was an outstanding success: "The overall consensus is that it was the best PLASA ever." He also pointed to the "incredible response this year from overseas visitors," which was also backed up by "good solid orders."

Looking to broaden its existing UK base to include Europe, the United States and the Far East,

Mark Ager of Stage Technologies told L+S: "our name may be well-known in the West End, but we are interested in taking our systems to an expanded world market. So we booked a stand at this year's Light & Sound Show and the results exceeded all our expectations. We saw every main consultant, including people responsible for installations at the RSC, Sadlers Wells and the Royal Opera House. People from all over the world visited our stand, including buyers from the Pacific Rim, Europe and America."

Lightfactor Sales Ltd also enjoyed a hectic and highly successful four days. Mick Hannaford said: "PLASA 94 was the best ever but, most importantly for us, it cemented the Cyberlight in the hearts and minds of lighting designers, installers and rental companies. What we've got to do now is turn this burst of interest into sales."

Similarly, Wharfedale Professional Division's managing director, Jon Vizor, commented: "There were more exhibitors, more visitors and more genuine enquiries, particularly from overseas."



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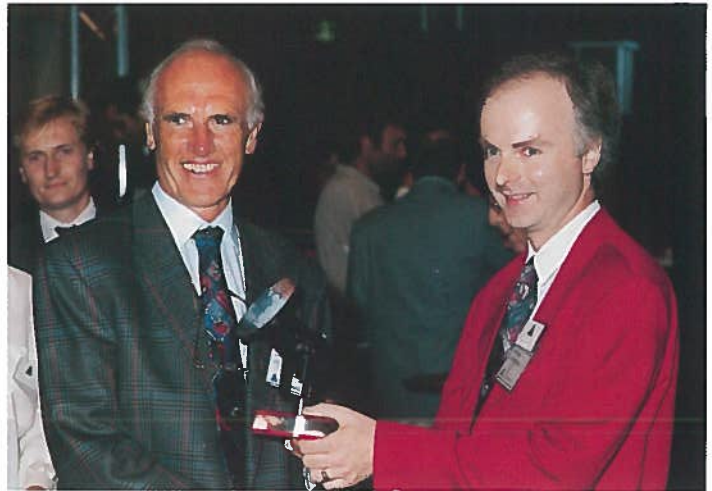


At a reception on the first night of the Show a special presentation was made to Hermann Sorger (centre) of Ludwig Pani for his distinguished service to the industry. PLASA Chairman Mike Wood and committee member Freddy Lloyd join in the celebrations.

Best Product and Best Stand Awards Generate Hot Competition



Ken Whitright of Wybron (left) receives the Best Product Award from Hermann Sorger of Ludwigi Pani for the tracking Autopilot system.



PLASA Chairman Mike Wood (right) presents the award for Best Stand to David Morgan of the Lighting Technology Group.



Julie Garton of Switzerlight steps up to receive a commendation for their stand from Mike Wood.



Hermann Sorger presents a Best Product commendation to Nigel Morris of Jem.



John Adams of High End Systems collects a commendation for stand design from Mike Wood.

In addition to the success enjoyed by exhibitors at the Show, the third annual PLASA Awards provided further reason for celebration. These acknowledge the Best Stand and the Best New Product at the exhibition and have received growing interest from exhibitors, visitors and media alike.

With so much on offer, the judging panel's decision was a difficult one. In the end, it was decided that the Autopilot from Wybron, Inc. was this year's Best New Product. The only system of its kind, Wybron's Autopilot is designed to fix on a performer in three dimensional space and translate the location in real time to aimed automated lights.

Two further products were highly commended by the judges. These were 3D Storm Surround Sound System from Sound Kinetics Ltd (represented by Wembley Loudspeaker Company) and the latest advances from JEM Smoke Machine Co Ltd as exemplified in JEM's HOT technology.

In all, there were 64 entries - double the number from last year - for the coveted award, indicating increasingly that PLASA is the place to launch products to a world market.

Every stand at the Light & Sound Show is automatically entered in the competition for Best

Stand, and this year's award went to the Lighting Technology Group for its innovative use of building material, integrated product relevance and aesthetic appeal. The well-designed stand also provided visitors with a tropical oasis amidst a sea of high-tech glamour. Highly commended awards went to Lightfactor Sales/High End Systems; Vari-Lite and first-time exhibitor, Switzerlight.

Already, the PLASA Light & Sound Show 1995 is poised to break all existing records. To date, 84 exhibitors have booked over 3,000 (50 per cent of last year) square metres of stand space with several companies such as ADB and NJD, deciding to expand.

Mike Wood, PLASA chairman, told L+S: "What more can I add? This is simply our best show yet. But we are not complacent and you'll see several improvements next year!"

James Brooks-Ward, PLASA Light & Sound Show manager, concluded: "With the predicted upswing in the entertainment industries, PLASA looks forward to being the global centre-piece for emerging technologies - particularly now that it has established itself as the 'one-stop shop' for all serious buyers."

For full coverage of the 94 Show see our major report written by L+S's team of writers, starting on

page 41, and taking in 23 pages of news, product information and comment en route.

The dates for PLASA Light & Sound Show 1995 have been confirmed as 10-13 September at Earls Court 2, London. For those who just simply didn't have enough hours in the day to get round the Show and see everything there is further good news. PLASA has decided to extend the opening hours and visitors will be allowed access to Earls Court 2 an hour earlier as registration will commence at 10.00am. Stands are on sale now - for further exhibitor information contact Nicola Rowland at P&O Events Limited in London, telephone +44 (0)71 370 8179.

European Vice President at PLASA

Poul Schluter, a vice president of the European Union Parliament, and for many years previously the Prime Minister of Denmark, was Martin Professional's guest of honour at the PLASA show. Mr Schluter has recently joined the board of Martin Professional as chairman. Later on the day of his visit, Mr Schluter was the host at a splendid dinner at London's famous Ritz Hotel sponsored by Martin Professional, at which the members of the BEDA committee and chairman Tony Marshall were present.



The PLASA Daily was prepared and printed each day by a team of professional journalists seen here at work in the Daily office on site at Earls Court 2.



The Jazz Society Big Band gets the Show off to a swinging start at the Glenn Miller party held on the opening night.

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Dave Martin Memorial Event



A lively weekend was held at Southampton on 2, 3 and 4th September 1994 when 10 crews of mixed ability 'sailors', all from the audio industry, raced against each other in the Solent for the Dave Martin Memorial Sailing Trophy. They spent an equal amount of time drinking, eating, merry-making and, more importantly, fund raising.

The 10 crews who took part this year included Soundtracs, who won for the second year running, CP Cases in second place, Neutrik and Shuttlesound in joint third place, Klark Teknik in fifth place, Martin Audio in sixth, Abbey Road Studios in seventh place, Crest Audio in eighth, Soundcraft in ninth and Amptown from Germany in tenth position.

As well as the sailing, the Damsty Committee organised a busy evening of fund-raising on the Saturday, including an auction handled by Klark Teknik's Bob Doyle and Soundtracs' John Carroll.

Auctionable donations from Pro Sound News, Celestion, HHB, Beyerdynamic, Soundtracs' Lorraine Cooper, Tony Larking Audio, KLM, Neutrik Marketing, Don Larking, Soundcraft, Plasmec, Shuttlesound, Sony, Spondor Audio Systems, Canon Audio and monetary donations from various suppliers and friends, went a long way towards raising around £8,000 for The Elizabeth Foundation, a Portsmouth-based organisation caring for pre-school deaf children.

Sony Wins its Spurs

A giant Sony Jumbotron video screen has been ordered by Tottenham Hotspur for installation at their new South Stand at White Hart Lane and is expected to be installed by March 1995.

The 68 sq.m Sony JTS-35 Jumbotron screen will be enhanced by additional dot matrix display boards showing time and score, revolving advertising boards and Spurs' logos to complete a 25 metre wide scoreboard.

Introduced earlier this year the Sony JTS-35 video display system is the latest in screen technology featuring automatic brightness adjustment, built-in self diagnostics and a significant increase in resolution, contrast and brightness. The Spurs signing will represent the first installation of its kind in Europe using this improved technology.

RSC in Bits & Pieces

The Royal Shakespeare Company is busy preparing itself for the new season and is the latest major theatre to have taken on the original range of Sound Effect CDs from Bits & Pieces. The Bits & Pieces range is now in use in many of the UK's most prestigious theatres, including the Royal Opera House and the Royal National Theatre.

The range has been designed and recorded by Simon Kahn and now includes nine separate CDs with more being recorded. All the CDs are available from the Canford Audio catalogue, and as well as being part of a library of sounds, each CD can be purchased separately. Bits & Pieces also offer a 'custom made sound effects service', something which has already been used by BBC Radio 4 in The Archers programme.

Sarner Journey to the Centre of the Earth

Sarner International Ltd, which recently celebrated its 25th anniversary, has announced a major new contract worth more than \$5million.

The project involves the 'imagineering' of the 'Journey to the Heart of Fire' - a lavish multi-sensory visitor experience which will form the hub of a new theme park under construction in the Far East. In this latest creation, visitors will enter a 'volcano', pass through various interactive exhibits, ride a 'descent elevator', and eventually reach 'The Centre of the Earth' - where an entertaining and enlightening spectacular will take place, according to the company.

'Journey to the Heart of Fire' will embrace the planetary creation, the ice age, dinosaurs, the origins of man and the wonders of our environment - all culminating in a sensational volcanic eruption. The whole experience will be brought to life through a wide variety of techniques: surround sound, multi-image projection, motion engineering, motorised scenery, audio-animatronics and sophisticated lighting arrays - all within a fantastic 3-dimensional theatrical setting. Also featured will be some truly remarkable special effects including a simulator ride, a blizzard (complete with snow), and of course a volcanic eruption (including blowing ash and falling masonry!).

In addition, there will be fully automated 'guides' who will conduct visitors through the attraction. Earlier this year Sarner introduced their new range of 'LifeFormations' computerised audio-animatronic characters, and these will be included in the form of 'Professor Hugo' and 'Igo Nogo' - a robot who can go where no man can go. Tony Daniels, C3PO of 'Star Wars' fame, was engaged to help perfect the characterisation of these figures.

The whole experience will be fully automated, and Sarner will employ state-of-the-art technology in the form of the Maris computerised central control systems, which will synchronise every single thing visitors see, hear, and feel.

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Strand Announces Expansion Programme in Europe

Strand Lighting have announced the planned opening of two new sales offices as part of the company's programme of handling expanding sales in Europe. A new sales office will open in Stockholm in November, with an office in Brussels opening a month later.

Ian Haddon, regional sales director for Europe, told L+S: "these moves are part of Strand's expansion of its sales activities in Europe. The concept is to provide a regional focus, in part along cultural and language divisions, as well as geographically. We already have a very well established operation in Germany serving Austria, Switzerland, Poland, the Czech Republic, Slovakia, Hungary and Romania, and, of course, operations in Italy and the UK. We consider the establishment of a Scandinavian sales base to support our distributors in Sweden, Norway, Denmark, Finland and Iceland to be another important stage in providing a high quality of service in this region." The same philosophy applies to the decision to establish a sale operation in Brussels to support the Benelux countries and France.



Celia Pope (pictured above), who will be moving to Brussels to take up her new appointment as regional dealer manager, expressed "great enthusiasm and delight at the prospects of this exciting new challenge." Celia, who will work with the Strand dealers in these countries, is presently based at Strand's west London headquarters in Isleworth. Bjorn Claesson will focus on liaison with consultants in the stage and studio lighting sectors of Strand's business operating from the Stockholm office which will be located in the Europa Film Studio Park. "Some other positions at both locations are still open at the present time," said Ian Haddon. Full dealer support and project management for the regions will continue to be provided from the main office in Isleworth and Germany.

"The expansion moves in Europe reflect the increasing demand for the many new products recently introduced by Strand Lighting and the capability of its project division in providing lighting solutions internationally," said managing director Chris Waldron. Commenting on this announcement, he said that "it is Strand's intention to continue to evolve a high level of customer service at a local level as well as consolidate our global marketing position."


Samuelson Joins Board

Sydney Samuelson recently agreed to join the board of directors of Vari-Lite Europe Holdings Ltd and was greeted warmly by his fellow directors at a recent board meeting held at their Greenford headquarters in September.

Sydney Samuelson was chairman of the Samuelson Group of companies for many years until his retirement in 1992. In March this year Vari-Lite Europe Holdings Inc set up its UK subsidiary after buying the businesses of Vari-Lite Europe, Theatre Projects and Brilliant Stages from the Samuelson Group. The board were able to celebrate a tenth anniversary. It was ten very successful years ago, almost to the day, that Jim Clark, Rusty Brutsché and Sydney Samuelson (pictured above left to right) signed the original deal making Samuelson the sole distributor of Vari-Lite products in Europe, the Middle East and Africa.


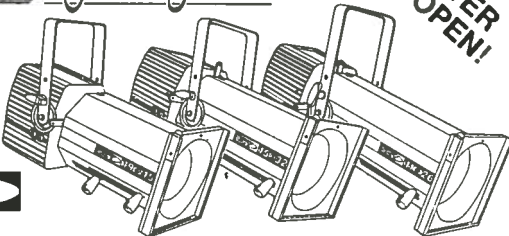


The Vari-Lite Europe Holdings Ltd board members are Jack Maxson, Brian Croft, Sydney Samuelson, Rusty Brutsché, Tony Smith and Jim Clark.



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Sennheiser Scavengers

Described as the world's first virtual fantasy action adventure game show, Scavengers was recently screened on the ITV network. In keeping with its futuristic theme, the programme employed the very latest broadcast production technology available, some of it for the very first time, including state-of-the-art lighting, camera systems and a Sennheiser programmable radio microphone system.



The multi-national production, made by Julian Grant Television, in association with Twentieth Century Fox International Television, utilised BBC TV OB facilities and occupies a £2million permanent set in Pinewood Studios. An integral part of BBC TV OB's delivery is its recently acquired Sennheiser multi-channel radio system, consigning all the dialogue to radio channels and representing some of the most advanced radio transmission technology yet.

Based around an eight channel EM 1046 programmable receiver system (with individual channel frequencies selectable on-site), SK50 miniature body-pack transmitters (16 selectable transmission frequencies) and the first UK delivery of Sennheiser's new SKM 5000 hand-held transmitter (16 selectable transmission frequencies and interchangeable microphone capsules), the system represents a significant investment by BBC OB in next generation technology, maintaining its position at the forefront of the television production industry.

Intellabeam Seminars

Burbank-based Towards 2000 has announced the introduction of a series of training seminars focusing on the maintenance, installation and programming of the High End Systems Intellabeam.

All attendees will have hands-on training in all aspects of service and programming of the Intellabeam and the LCD controller by some of the most experienced personnel in the business and in a demo room facility, with stage, truss and all the usual apparatus that operators will encounter in the field.

Also included will be the new programming training video hosted by LD Patrick Day from 'In Living Color' which is a basic training instructional video and the exclusive Digital Manual - the complete Intellabeam manual on disk.

The seminars will be hosted by Jeff Harvey and Adam Burton of Towards 2000 and will cost \$249.00 including videos, manuals and materials for the two day event. The first has already taken place, but a second will be run following the LDI show on November 26th and 27th. For further information on the seminars, call Jeff Harvey at Towards 2000 in Burbank, telephone +818 557 0903.

VL Lite Alternative

Lite Alternative of Heywood near Manchester have been appointed as the first UK dealer for the Vari*Lite Series 300 lighting system.

The lighting design company, which signed the deal with Vari-Lite Europe on 1 September, has built up a strong design-based reputation through its work with such acts as Morrissey, Suede, Lush and the Cocteau Twins.

Arup Acoustics and TPC go to the Opera

The announcement of the winning team for the design of the Cardiff Bay Opera House signifies the start of one of the most significant public arts building projects to be announced for over 30 years. Theatre Projects Consultants teamed up with Ove Arup & Partners and Arup Acoustics, and worked with architect Zaha Hadid to win the contract.

The 1,750 seat Opera House will occupy a pivotal three acre site within the Cardiff Bay Development Area and will become the permanent home of the Welsh National Opera House Company, as well as offering a world class touring house for international orchestras and companies.

The opera house scheme forms part of a plan for industrial and economic regeneration based upon the construction of a barrage to create a freshwater lake in Cardiff Bay. In late 1993, design teams were invited to submit designs in the two-stage competition. It is intended that the £43m opera house will open on St. David's Day - 1 March - in the year 2000 and that it will attract a substantial contribution from the National Lottery Millennium Fund.

Ove Arup & Partners and Arup provided structural, building services and acoustical design for the winning scheme, which comprises an 1,800-seat auditorium, rehearsal rooms, catering facilities and car parking for 600 cars. A four-storey 'necklace' encloses the site above the first floor.

Theatre Projects Consultants have recently completed work on Glyndebourne with Michael Hopkins & Partners, the first opera house to have been built in the UK for over 60 years (see L+SI June 94). The opera house will feature some of the most advanced lighting and sound and L+SI will bring you details as the scheme progresses.

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New MD for Citronic



Stuart Garman (left), Citronic's new MD, with Tony Akers, Mike Gerrish and a selection of the awards the company has won over the years.

Professional audio equipment designer and manufacturer Citronic Limited have announced a major management expansion programme alongside the appointment of Stuart Garman as managing director. Garman was until recently director and company secretary with Nimbus Records and has been appointed to help support the company's current expansion programme.

The new management structure at Citronic consists of Tony Akers as company chairman, Stuart Garman as managing director and Mike Gerrish as sales and marketing director. Tony Akers told L+S: "Citronic has grown so rapidly during the last 12 months that a senior management addition was vital if the company was to cope with ever-expanding home and overseas sales."

Citronic is currently riding high with its new Ephos range of mixers and is now combining its expertise in designing and manufacturing powered amplifiers with a new Ephos duo of powered mixers which were launched at this year's PLASA exhibition.

Scholarship Award

Harman Audio and the School of Sound Recording, who celebrate their 10th anniversary this year, have teamed up to offer scholarship awards for their Diploma course commencing in November. The scholarships represent a 25% discount on fees, effectively offering a saving of over £600.00 to the student.

Over the last 10 years the School of Sound Recording has established itself as one of the UK's leading schools in its field. Their diploma course was the first of its kind in the UK, and many of the school's students have developed successful careers in the music business. Popular recording artists such as Simply Red and 808 State have used its facilities.

The school now boasts six in-house studios ranging from 4-track to automated 24 track, plus a MIDI programming suite. A digital hard disk system is currently being installed.

Anyone who would like to apply for a Harman/SSR Scholarship should telephone the school on 061-228 1830.

CP back to Uni

CP Sound of Sunbury-on-Thames recently installed sound and lighting systems at the University of Greenwich. Two Vestax PDT 5000 turntables and a Citronic SM550 mixer were supplied, whilst the amplification consisted of RSE CC2800s and PF500s, as well as JBL Soundpower I732s and I746s. The system was complemented by a Formula Sound AVC2 limiter unit.

Drawing praise in the lighting rig were Trackspots from Lightwave Research, two Megastar Flash strobes and two JEM Fogger 3s.

The company also recently supplied a Denon DN2000F to Imperial College in South Kensington.

Avitec Change

Avitec Electronics (UK) Ltd ceased to trade at the end of August and was placed into creditor's voluntary liquidation. Sister company Avitec Distribution Ltd however continues to trade as normal after agreement was reached with creditors.

Managing director Tony Kingsley told L+S: "We fought long and hard through the recession to keep going, and although profitability had been eroded in 1991 and 1992, we eventually managed to stabilise the situation. However, the last eight months saw an unexpected slump in business and although recent prospective business was looking better, most of this was deferred; finally we had little choice but to make the very difficult decision, after nearly 15 years of trading, to appoint a liquidator.

"My partner in Avitec Distribution, Colin Hammond, is injecting new capital to enable the company to move forward; we are currently reviewing the product ranges distributed and intend to continue offering existing and future customers the high level of expertise and support that has become expected from Avitec."

BKSTS Honours Young

At the Society's annual Fellows Lunch held on September 13th at Teddington Studios, Freddie Young OBE was awarded a Lifetime Honorary Fellowship of the British Kinematograph Sound and Television Society.

Freddie Young, a member of the BKSTS for 47 years, and the first person to be honoured with this new award, is one of the world's most outstanding cinematographers with over 120 feature film credits to his name. The award was made for his example to others and his refusal to never accept second best - apparent in all his work.

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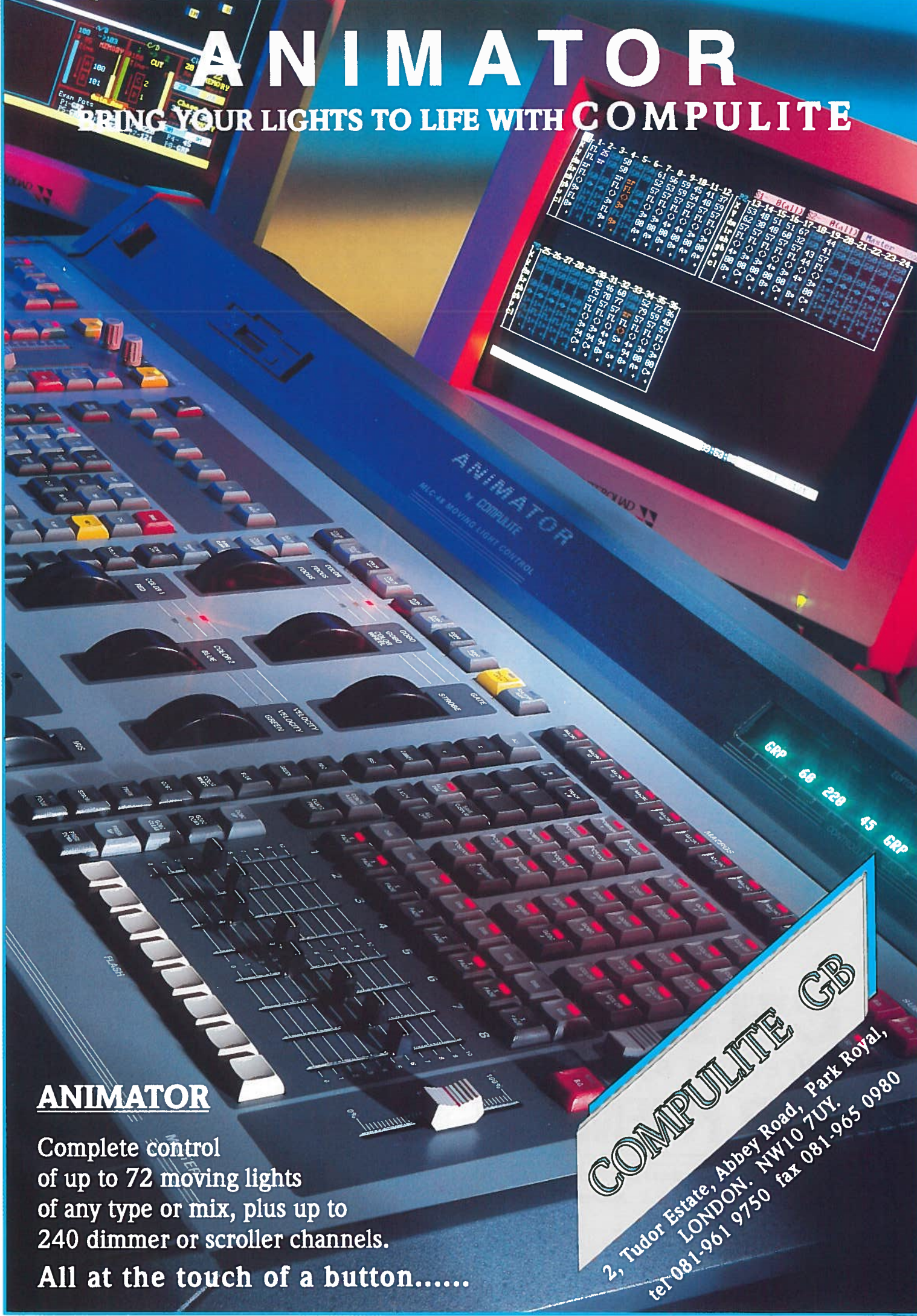


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Factual Floppy



LeisureBase, the new trade directory for the leisure industry which is distributed on floppy disc, has won the 'Best New Product' award in the leisure facilities management class at its launch during the Leisure Industry Show at the NEC in Birmingham.

The product is being distributed to over 50,000 users and covers all the key suppliers for the whole spectrum of the leisure industry. Updated quarterly, it will prove to be the most current and comprehensive information source available to operators and designers. In a very easy to use form, it is available on 3.5" floppy disc for both DOS and Windows and will later be available on CD Rom and on-line services.

For further details or a trial copy contact LeisureBase in Shepperton on (0932) 560430.

Palace Installations

Palace Discotheque Centre, the London-based sales and installation company, have recently been involved in a string of projects. These include sound and lighting installations at PJ's wine bar, Bar Royale in Camden and the 'O' Bar in Soho's Wardour Street.

The company's most recent project involved the installation of a £20,000 sound system and lighting rig at London's newest venue, 'EC1' in Farringdon Road, including a MTX350 mixer, two SL1210s, four Ohm BR215 bass units, Anytronic's A20 and A16 units, four NJD IQ250s and two Cyclones, two Martin Starflashes and two 1500W strobes, also from Anytronic.

PDC, run by Steve Lyons and Bob Rebbeck, have also recently supplied systems to the Student Unions of the London School of Economics and the City of Westminster University.

SOL Postponed

The organisers of the SOL Midlands event, planned for the end of this month, have been forced to postpone the show until next year. However, in response to requests from already confirmed exhibitors, a modified version has been set for Sunday November 13th as a build-up for the season ahead. As this is a scaled-down version of the original, the show will be titled Midlands - Disco - Expo 94' to avoid potential confusion.

The event will be held at Liberty's Nightclub, Hagley Road, Birmingham from 12 Noon - 5pm, with admission set at £2.00. Full details of all the SOL events are available from organiser Terry Lees on (0527) 502830.

Desks Stolen

Last month, the lighting and sound desks were stolen from the Tower Theatre in Islington, London. These were a Zero 88 Sirius 48 lighting desk, serial no. 283402, and a Soundcraft 200 Delta sound desk, serial no. 2053.

The theatre is appealing to anybody in the industry who may have information as to the whereabouts of these desks to contact them. Alternatively, anybody with any information can contact the Islington police.

Reflector Seminar

TLA Lighting Consultants of Salem, Massachusetts, have announced plans for a seminar entitled 'Reflector Design - Theory and Practice'. The seminar will be held in Denver on 20-22 March, 1995 and will include with a field-trip to ITL in Boulder, Colorado. The seminar is directed at all those involved in the design and use of reflectors for illumination, electro-optical and related systems.

The content will range from fundamental concepts to problem solving workshops. Details about various sources and materials will be presented. The design process, quality considerations, measurements and design aids will also be included. The field trip to Boulder will provide the opportunity to see the ITL facility that provides laboratory testing of lighting systems.

Each delegate will receive a copy of 'The Optical Design of Reflectors' by William Elmer who for 40 years has worked with reflector optics. Robert E Levin, senior scientist at Osram Sylvania and Thomas Lemons of TLA Lighting Consultants will lead the seminars.

The cost of attending is \$675.00 and further details can be obtained from TLA. Telephone +1 (508) 745 6870.

White Light Exclusive

White Light used the PLASA Show to announce its exclusive dealership for sales and hire of the The Effects Company's Cumulus Dry Ice machine.

The new deal will mean that, as from 1st November, White Light will have a stock of Cumulus Dry Ice machines available. The Cumulus Dry Ice has a high capacity dry ice basket for huge quantities of fog output and also has many new design features, including a lift-out basket for quick exchange and a stand-by basket to ensure that the fog is virtually continuous.

A further feature is the recessed heater element, fitted above the water level to prevent accidental damage ensuring that the machine will not leak around the electrical connection. White Light will also be handling the Cirrus Dry Ice Machine, although not exclusively.

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Post PLASA High at Celco

Celco enjoyed their best ever Light and Sound Show - which resulted in substantial orders for Aviator and Navigator consoles and the new Fusion Digital Dimmer.

Group One, Celco's North American distributor were first to order an R180 for installation in the Taj Casion, Atlantic City, New Jersey. This follows Group One's purchase the previous month of 10 Navigator 3s and an Aviator R360 for installation in Buffalo Bill's Casino in Las Vegas. Aviator installations look set to expand in North America following the release of the V2 version, suited to the requirements of both theatre and rock and roll.

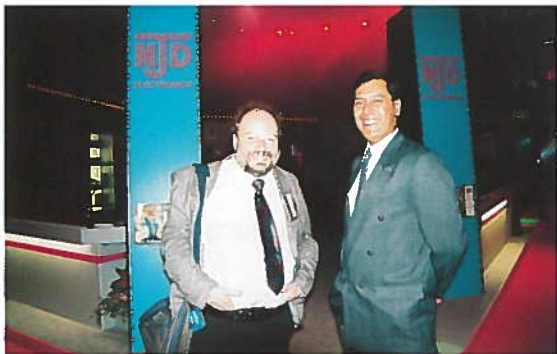
LMP of Germany placed orders for an Aviator R180 (destination unknown) and an Aviator R360. The latter was shipped to Zurich, Switzerland, to join the inventory of rental company TLC who are providing lighting on the 86 date Udo Jurgens' tour. Sonoss of France added an Aviator T180 to their rental inventory and also purchased another five Pathfinders for sale into the market. The company had previously installed an Aviator R360 into the Zenith Theatre in Pau, and R180 in the Theatre at Annecy.

TIS Lighting of Twickenham were the first in the UK to order a Navigator 3 following their trip to Earls Court. They collected one from Celco's Hawley Mill facility before the show was even over, and the console was later put into use on the Sony stand at the Live 94 electronics show at Earls Court 1.

Orders for the new Fusion 1210 Digital Dimmer were very encouraging and Celco are pleased with the reaction to their first ever 'installation' dimming product. Shipping starts in November to various countries around the world, particularly the Far East and Europe.

Following a successful show Keith Dale flew to Japan to attend a Shinto dedication at the all-new Tokyo Broadcasting System television station in Akasaka, Tokyo. This studio complex, which has been built from the ground up next to TBS' old studios, features all the latest technical equipment. Celco were selected to provide complete custom lighting consoles (based on Aviator R720s) back-up racks and patch systems for installation in the two largest studios. The custom consoles called for complete Kanji character input for channel, cue and sequence legends and required Celco to embark on a joint venture project with TBS working closely with the renowned lighting director Masahiro Lijima. Celco also worked alongside Toshiba to provide complete patching and monitoring of their dimmers from the control room. Using the dedicated patch the operator can assign any dimmer to a channel, override the dimmer or, in the advent of a complete breakdown, control the dimmer directly. Various alarms are built into the system that appear on the patch and console to warn the operator of any RCB malfunction or trip. In addition complete display of the incoming phase currents and voltages is provided on the consoles themselves.

Theatre and Club Together



Captured on our editor's camera whilst taking a sneak preview in the sound and discotheque end of Earls Court 2 during the PLASA Light & Sound Show, was renowned lighting director Francis Reid. His mentor and guide was Rod Bartholomeusz of Lite Smiffs.

Bandit with Bright Future

Bandit Lites has announced several new developments in the continuing growth of the company.

They have been nominated as one of the city of Nashville's future 50 - a list of the 50 most promising businesses in the city as recognised by its chamber of commerce. Bandit Lites has once again been nominated for the CMA SRO support services company of the year, an award they also picked up in 1993.

The company have also moved into a new 30,000sq.ft warehouse and office facility in Nashville.

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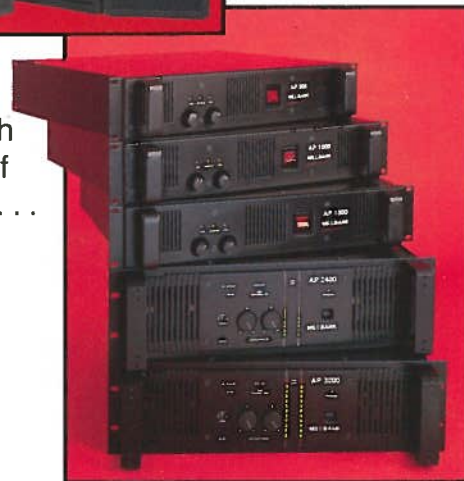
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Breakfast Reading with Bryan

Taken over by L+SI at short notice, the PLASA Show Daily, now in its second year, was available to every visitor to the event. Its wide mix of features and up-to-date coverage of events as they happened, created a high level of interest in new products at the Show.

White Light's general manager, Bryan Raven, is shown above, scanning the Monday issue of the Daily, prior to the opening of the Show.



V-Invasion of Glasgow

Dining out with Canon Audio is becoming a routine experience in Glasgow as a result of the increasing popularity of Canon's V-100 background music loudspeakers.

The latest venture of Ron McCullough (of 'The Tunnel' fame) is an exclusive new restaurant - the Puppet Theatre Restaurant, located in the West End of Glasgow, which has been equipped with a Canon sound system. Six V-100s and two V-SB100 sub-bass units were installed by Glaswegian PA company, Starstruck Pro Sound & Lighting Ltd. The V-100s were specifically chosen to enhance the ambience of the restaurant area.

Starstruck have also installed another eight Canon V-100s in the recent refurbishment of Fouquets Bar. Situated in Glasgow's premier shopping street and owned by the Carnegies Leisure Group, Fouquets Bar chose the Canon V-100s for the pub lounge.

Tenth Reproduced Sound Weekend

The tenth Reproduced Sound week-end residential conference will take place between 3 and 6 November 1994. This year there is a one day symposium during the conference entitled 'Audio-Video Network Control' which has been arranged by Allen Mornington-West of Quad Electroacoustics. Contributors to the symposium will include Morton Lave of TC Electronics, Vic Dobbs of Glantre Engineering, Martin Connolly, Steve Clarke of University College Salford, Andrew Stirling from T2B Systems, Dave King of the BBC, David Scheirman of Lone Wolf, Richard McLaughlin from Warwick University and Steve Simpkins, technical director of Blackpool Pleasure Beach.

During the main part of the conference 25 contributed papers will be presented on a variety of topics from 'Speech Intelligibility' through 'Loudspeaker Development' and 'Sound in Spaces' to the 'Noise Council Code of Practice'.

John Watkinson will be leading an evening workshop session and is also giving an invited paper on the future of digital recording. There will also be special presentations by Professor Hougast of the Netherlands who will cover speech intelligibility and Professor Richard Guy of Concordia University Canada discussing the use of sound intensity technology for assessing the quality of the sound. Brian Copsey of ASP Ltd will be holding a workshop on radio microphones and audio links. Run as part of the conference, the training course entitled 'Acoustics for Sound System Engineers', is being offered again and increased time is being allowed so that more demonstrations can be included.

A manufacturers exhibition will also run alongside the conference. The event is organised in collaboration with AES, APRS, SCIF, ABTT, PLASA, ABAC and the IAFP. For further information on the full conference programme contact the Institute of Acoustics in St. Albans, telephone (0727) 848195.

Honky Tonk Crest

A Crest Audio Century LM monitor console has been installed at Billy Bob's in Fort Worth, Texas. Billed as 'the world's largest honky tonk', Billy Bob's has two stages and several rooms accommodating up to 5,000 people. The main stage runs seven nights a week, backed up by a second stage dedicated to national touring acts in use on Fridays and Saturdays, as well as on special occasions. The sound system is a two-way patch bay with 15 horns and an 8-way monitor mix on stage. Martin Stinnett, chief sound engineer, is currently running 10 mixes on stage, and 32-channels for the front, with 40-channels on a 4-way system on the second stage.

ADB's Scots Front Line

Front Line Production Services, the Falkirk-based concert lighting design and production company has recently been appointed the main Scottish distributor for the ADB range of theatre and television studio lighting products.

To launch the ADB range in Scotland, Front Line are staging a trade show at The Usher Hall in Edinburgh, on 12 October. Professional designers and end-users have been invited to attend the show which will feature ongoing displays of specialist lighting and lighting effects in stage settings throughout the day.

The Usher Hall provides an ideal setting and gives Scottish professionals in the industry the opportunity to see a full range of equipment in use. Further details are available from Peter Rouse or Diana Kenny on (0324) 612367.

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New CP&P Distributor for Switzerland

Clay Paky and Pulsar Light of Cambridge have appointed Animatec of Villeneuve as their exclusive distributor for Switzerland.

Animatec are a well-established distribution company who have developed a strong market in Switzerland for well-known sound products such as Vestax, Ecler, Constella and DAS, through a network of nearly 1,000 outlets. They have a strong multi-lingual base to cope with the three different Swiss languages of French, German and Italian. Their success has been built on good stockholdings and a high level of technical and customer support.



Ken Sewell (left) and Derrick Saunders (right) of Pulsar with Pio Nahum of Clay Paky (second, right) and the company's new distributor Silvio Cibien of Animatec.

Silvio Cibien, Animatec's owner, told L+SI: "We have found it easier to develop our lighting department, because most Swiss customers were already well aware of Clay Paky and Pulsar products thanks to the effective promotion made by Clay Paky & Pulsar in France, Germany and Italy. In fact these neighbouring operations have helped us with technical support and training. Being part of a 'CP&P family' has made the process much simpler than it would otherwise have been."

Clay Paky products have always sold well in Switzerland, but as Pio Nahum, Clay Paky sales director, added: "We needed to strengthen the local support for our customers. Silvio's team and their network is the ideal way to ensure a strong presence throughout Switzerland, guaranteeing the level of support which Clay Paky customers expect."

Animatec will make a major promotion of the CP&P range at the Lucerne Music Messe from 4-7 November.

Shell Shock Spectaculars

Shell Shock Fireworks Company will once again be providing the fireworks spectaculars at Alton Towers theme park on the 29th/30th October and 5th/6th November. It is thought to be the largest November contract in the UK and this is the third year that Shell Shock have been selected to provide the displays.

The show is themed upon Alton Towers' new ride, Nemesis - the Angel of Retribution. The fireworks, light and musical spectacular will last for almost half an hour. Shell Shock will incorporate a range of material from at least a dozen countries and manufacturers.

White Light Sponsor RNT Tour

White Light is sponsoring the Royal National Theatre's studio visit to South Africa. A team of actors and theatre specialists are on a two-week tour organising a programme of workshops which include intensive sessions with artistes, educators, students and actors from all areas of South Africa.

As well as a financial donation, the sponsorship includes providing equipment and clothing for the tour. White Light did a similar deal two years ago when the National Theatre toured Lithuania and general manager Bryan Raven joined the team as an advisor for the trip. The South African tour has been organised in conjunction with the Market Theatre in Johannesburg, which has been working with the National Theatre for the past 17 years. However, this will be the first time that the National has visited South Africa.

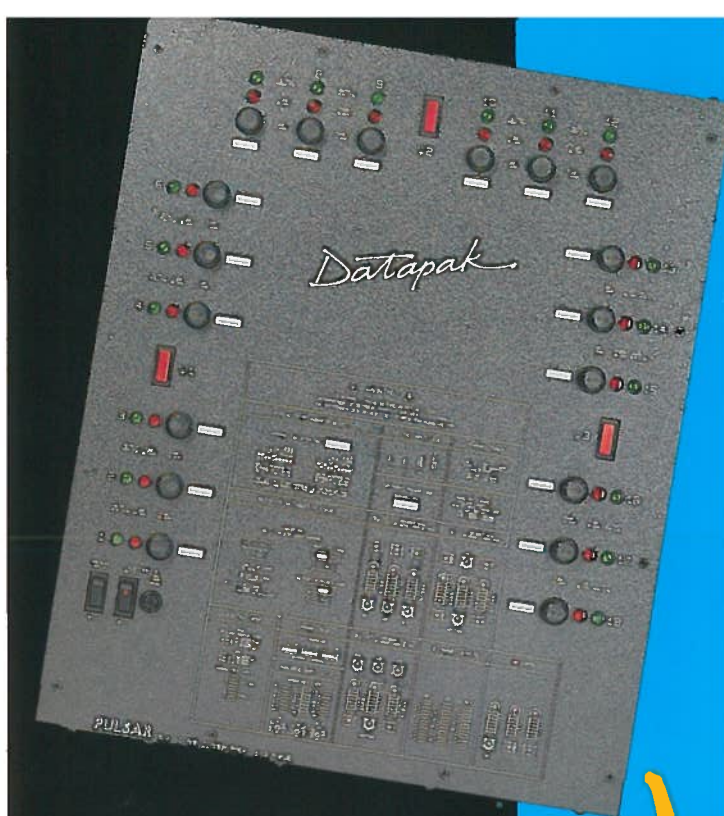
As well as sending top actors such as Sir Ian McKellen, Anthony Sher and Janet McTeer, the National Theatre has responded to the South African team's requests to send other experts in theatre craft. Lighting designer Mark Jonathan, writers Jack Bradley and Winsome Pinnock, and singer and voice coach Helen Chadwick are also key members of the tour.

LD Award Winner

Imagination's lighting scheme for Tesco's art deco Hoover building in London has won the Exterior Category of the 1994 Lighting Design Awards (see Lighting Technology feature for further details). The award was presented at a ceremony at the Savoy Hotel on 28th September.

There were over 100 entries in this category and competition was fierce. Imagination's initial brief was to preserve and accentuate the architectural heritage of the original Hoover factory site, whilst creating a powerful contemporary image statement for Tesco in the 1990s. In keeping with the art deco style, Imagination chose a soft luminescent green as the prevailing colour, matching the daytime green of the window frames and detail of the building. The scheme accentuates the clear lines of the facades, focusing on the geometric integrity of the structure.

The scheme was devised by Imagination's head of lighting, Simon Bruxner-Randall. His previous exterior lighting projects for Imagination in London include the Lloyds Building and a temporary scheme for the facade of Waterloo Station.



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Fun Park Audio

Originally established as London's second zoo during the 1970's, Chessington is situated a few miles from the centre in the Surrey countryside. While Regent's Park Zoo was always firmly dedicated to the animals, Chessington tried to attract a different type of custom expanding the breadth of attractions to include a fun-fair.



Today the zoo is a minimal presence on the site but the theme park side of the business has grown to such an extent that most of the visitors going there now would not remember its past reputation as one of the leading zoological parks in the country. The name makes the final break: Chessington World of Adventures. It is made up of a series of themed 'worlds', each with its own rides and amusements, including live bands and performers.

It was decided to use music to enhance the impact of each of the differing environments. It is the management's intention to install outdoor, 'Planter' loudspeakers in all areas, which will pump out suitable songs. Given the size of the park, this is a massive undertaking that will have to be completed in phases, so the project has already begun with the first two installations taking place at the North and South entrances.

The use of background music to set an atmosphere is of course commonplace in many public places: restaurants, shops, pubs, airports and railway stations. What is different about the installation at Chessington is the delivery format - the music comes off CD, but because of the distance of the central control rack from the North and South entrances (around 400 to 500 yards), the signal is relayed using radio transmission technology.

"It was the only practical way to do it," says technical production manager Mark Rylance. "It saves a lot of ground - we would have had to dig up a lot of the park, so we're saving both a large amount of money and time." At the moment, the control rack sits in the attic of a shop in the centre of the park, which is known as the Market Square. Aerials on the roof beam signals to receivers at the two entrances, which then down-link the material to be fed to the loudspeakers.

All wireless equipment has been supplied and installed by Sennheiser UK, which is finding new applications for its radio microphone transmitters and receivers away from its successful stage and touring work. The company had already done some work at Alton Towers, but Chessington marks its real move into the leisure sector. To push this new business, a projects department has been established, headed by technical manager John Willett and project manager Simon Jones. The Chessington installation was overseen by Jones and service manager Ian Smale.

The control rack contains all the transmission and processing equipment, most crucially the Sennheiser SK50 'pocket' transmitters. These receive the output feed from three Denon DCD-695 CD players (one for the north, one south and one spare), which in turn goes through TOA Corporation processing equipment. This handles the ins and outs, providing basic tone control on the output - bass and treble. The last link before the transmitter is a patch panel, which will come into its own when the system expands.

Output is carried along the RF feed of the transmitter up to the roof-mounted aerials to be beamed over the park. A GZA 2003 TV high-gain antenna picks up the signals, carrying them to an EM 2003TV HDP receiver. Each of the gates has its own rack, containing the receiver, a TOA V-1054

mixer amplifier and a VM-1120A power amplifier.

The signals are then carried to the Bouyer Planter RB110 loudspeakers on 100v line cable. The Planters are so-called because they can be placed in the earth or hidden unobtrusively in the flower beds. Their omnidirectional characteristics mean that the sound is

beamed over a wide area, although, to ensure even coverage, a large number of speakers have been used - 45 in all.

Although the system itself is relatively straightforward, the layout of the site and other restrictions dictated what the installation team could do. "We are limited by the Department of Trade and Industry (DTI) on the amount of power we can kick out of the transmitter aerial," explained Ian Smale. "The maximum ERP (effective radiated power) we're allowed is 50mW. We had to compensate at the receive end by using a high-gain antenna system, getting about 15dB of gain in the aerial and the amplifier."

Another restriction was imposed by the Chessington management, which did not want huge antennae cluttering up the buildings and detracting from the suspension of belief which helps create the magic of the worlds. The extra

gain on the receiver is also used to get around these problems. The transmitting aerial is a wide-band VHF directional model, run through an active filter.

At the moment, the source material is only a three-track CD for each area, set on repeat. These discs were recorded at Chessington's own studio on recordable CD, using found material. Rylance comments that the ultimate intention is to use specially composed original music. The biggest technical challenge will come in the Mystic East World, as its main attraction, the Dragon River ride, is approximately 700 yards from the Market Square. As other areas come onto the network, then the nature of the system will start to change. There will be different CDs for each zone, but the ability to control everything from a central point.

"Next year we are going to be able to put out public address messages, either locally at the ride itself, or from a central point, working with global and zoned areas," said Rylance. "There will also be a simple PA system for the Market Square." The voice evacuation side of the system means that it must be fully backed-up in case of power failure: "All the racks have a battery back-up," added Smale, "which works on a relay switch and will run for an hour."

With the success of these first two installations, Rylance is now looking ahead to other areas. "We can easily go up to 12 zones, but there is no definite limit," he concluded.

Some of the parts.

The cold dissection of our controller remains a strangely infuriating exercise, little is revealed by the resulting neat pile of high quality parts. The sum of human knowledge is merely enlarged by yet another definition for futility - the silence of the parts is deafening.

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Manchester Makes Space For Exhibition

Make Space! is the first exhibition to explore the relationship between stage design and theatre architecture. It will be the opening event for Manchester's newly refurbished Upper Campfield Market, the magnificent nineteenth century iron and glass market building in central Manchester, and will run from the 8th November to the 3rd December.

As part of the 1994 City of Drama celebrations, Make Space! will feature new and innovative work by 140 theatre designers from all over the country, including models, costume drawings, production photographs, lighting displays and architectural designs. It is thought to be the first exhibition of stage and theatre design in the UK since Theatre Design '83-'87 at the Riverside Studios in London in 1987.

Mounted by Theatre Design Umbrella, as a collaboration between costume, set and lighting designers and theatre architects, Make Space! will demonstrate the process of all aspects of theatre design within the context of the variety of performance spaces across the country. Participating designers and architects represent theatre, opera and dance companies, commercial, regional, fringe, national and community theatres. The Royal Exchange touring theatre module will be a central feature of the exhibition and a venue for performances, workshops and installations.

The exhibition will provide the basis for a series of educational events for audiences ranging from primary schools to specialists. As well as exploring theatrical design as a vocational study, Make Space! will extend the possibilities for making and enjoying theatre as a developmental and educational process for everyone. At the heart of the exhibition will be a selection of 'hands-on' models of Manchester theatres for practical projects with schools and colleges.

The exhibition catalogue, containing photographs and illustrations of the work displayed, accompanied by writings from designers, artistes and architects (including Richard Hudson, Hildegard Bechtler, John Napier, Bruce McLean and Nicholas Thompson of RHWL Architects) will form a unique and lasting record of Make Space! and make a significant contribution to the study of theatre design. The exhibition will also be the arena for the selection of the British entry to the international Prague Quadrennial exhibition of theatre design in 1995. It will also tour the UK in distilled form in 1995/96.

Design Award



Northern Light, the Edinburgh-based sales and rental company for the performing arts, is one of a team of companies which on Wednesday September 28th were celebrating the winning of a prestigious Lighting Award at the Lighting Design Awards lunch at London's Savoy Hotel (see also news page 25).

The re-lighting of Durham Cathedral (shown above) won the Civic Category for lighting designer Graham Phoenix of Lighting Design Partnership (LDP). As the electrical contractor for the team, Northern Light supplied and installed the luminaires and lighting control systems for the project. The awards are organised by the Lighting Industry Federation and are grouped into five categories - Civic, Leisure, Exterior, Industrial and Commercial.

Durham Cathedral is an important World Heritage Building and a fine example of Norman architecture dating from 1093. The new lighting has enhanced the scope of the building's facilities and the cathedral is now better equipped to meet today's functional demands. The foundations for the design brief were laid down by the Dean and Chapter of Durham Cathedral and we are told the new lighting and control systems fully meet their expectations.

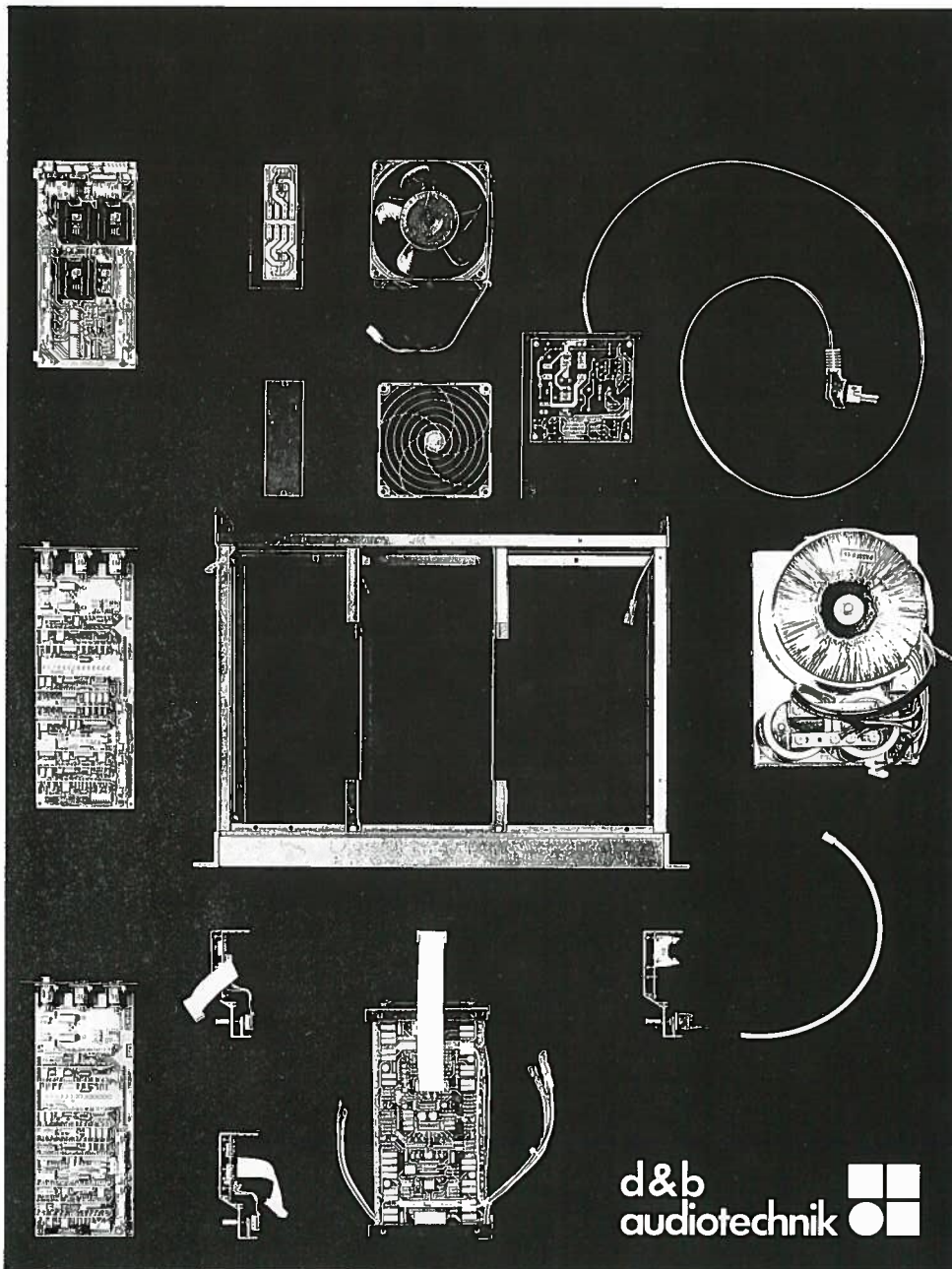
The luminaires have been fixed with special supports and placed without any alteration to the original fabric of the building. LDP designed the entire lighting scheme, including the 24 lighting scenes, that may be used in any combination and which are programmed into the control system. The success of the installation depends on the simplicity of operation and it is now possible to match the mood required for various services and concerts, day or night, both simply and quickly.

White Light North

White Light North is holding two 'Open Days' in November to give amateur and professional lighting users the opportunity to see its latest stock and take part in live demonstrations.

Running on the 11 and 12 November, the days will also feature a prize draw for all those who attend with the first prize being a Cantata followspot. Everyone who is involved with lighting hire or sales from an amateur or professional background is invited to attend.

The event will be held at the company's premises in Sowerby Bridge. For further details call Jeff Demain on (0422) 839651.



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PLASA Members Riding High



The Pepsi Max Big One, 85mph and 235ft high.

Following our cover story on the Pepsi Max Big One in July, more details have emerged on the technical involvement of yet more PLASA members.

The PA system for the ride is supplied by Toa. Following discussions, it was decided that the choice of speaker would be the BS-20W which is waterproof and has a splashproof ABS resin enclosure painted to protect it against ultra-violet rays. For this reason the BS-20W is equally at home in high humidity temperatures as well as in much colder environments. The speaker also features a 20W rated power output sound pressure level.

There are 40 Toa BS-20W speakers - working in a zoned system - located at various points on the ride, enabling different instructions to be announced at the loading station, pull-up and break block areas.

A further example of the leisure industry investing heavily in a sound system is that of Rhyl Amusement Park whose management commissioned Blackpool-based Richmond Electrotech to install equipment on its state-of-the-art Tango Sensation. Richmond Electrotech installed four Toa ES-F1 high/mid frequency speakers supported by two ES-L1 sub-bass units for low frequency.

Both speakers are used in conjunction with Toa electronic processors. The ES-F1's trapezoidal cabinet, along with component design features, allows cabinet group arrays to stimulate a coherent single point source. The speaker utilises a 12" driver with a long, concentrated geometry magnet structure and a 60x40 LE Series constant directivity horn, coupled to a high power compression driver.

The ES-L1 employs two 15" ultra linear LF drivers with a powerful double magnet structure and extra-long voice coil, providing ultra linear sound reproduction in the extremely low frequency range. The bass reflex cabinet design is computer optimised to reproduce a flat frequency response and smoother LF than is possible with a comparable horn-loaded design.

The electronic processors, AC-F1 and AC-L1, feature a frequency divider, speaker equaliser, time delay for correction of component time offset, phase correction and active sensing speaker protection, with amplifier clipping eliminator.

Meanwhile, to coincide with the switch-on for the Pepsi Max Big One in early September, Blackpool Pleasure Beach lighting engineers and Philips Lighting put the finishing touches to the spectacular £250,000 floodlighting of the ride.

The 235ft high structure is floodlit by 208 Philips Arenavison floodlight fittings, a top-of-the-range floodlighting system developed for international stadia such as Barcelona's Olympic Stadium and many world cup stadia throughout Europe. Its cool white light, which has also been used to floodlight the dome of St. Paul's Cathedral, was chosen by Blackpool Pleasure Beach to make the most of the distinctive blue structure with its bright red track.

Hilight 94

Hilight 94 - the third exhibition and conference of environmental lighting will take place at the Business Design Centre in Islington, London, from 29th November - 1st December this year.

The Conference addresses the major lighting issues, though a programme of masterclass sessions, workshops and seminars, formulated by the IALD and the CIBSE Lighting Division. A line-up of international speakers will participate in a programme which reflects the current issues on lighting technology and legislation. Supported by a series of studies of award-winning lighting schemes from architects and consultants, the organisers hope that the conference programme will suit the expert as well as the enthusiast, through a series of informative and stimulating sessions.

The exhibition will feature some of Europe's leading lighting manufacturers displaying the latest products and applications. Running alongside the exhibition are a number of events allowing visitors to gain further information on all aspects of lighting practice.

For further details contact the organisers on 071-359 3535.

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The National Youth Theatre Season - 1994

As autumn rolled round once again, another National Youth Theatre summer season - the 39th - drew to a close, a success both in terms of the artistic quality of the shows produced, and the opportunities and experience given to the young performers and technicians who worked on the productions.

Though smaller than many previous seasons, with just three shows in two London venues, the extra time made available was used to expand the courses that the technicians took part in prior to the shows. In their first two weeks the electrics and stage management teams got to see the type of work required on just about every scale of production with visits to The Royal Court, the Regent's Park Open Air Theatre, the RSC, 900 Oneonta, Grease, Les Miserables, Phantom of the Opera, Copacabana, Sunset Boulevard, and Miss Saigon. The students were also given a comprehensive tour of the National Theatre with head of lighting Mark Jonathan, learnt about sound from award-winning sound designer John Leonard, were introduced to the basics of rigging using trussing and motors by Martin Banner of Arrow Rigging, saw the high-tech alternative with Andy Voller at Vari-Lite and even spent an afternoon learning about harnesses and abseiling before putting that knowledge to practical use.

With the course over, attention turned to the shows themselves. The first, *Heart of Ice*, at the Battersea Arts Centre, introduced the technicians to the problems of cramming a fairly complex show into a fringe venue - having to carry the scaffolding for the three-level, three-sided set up two flights of stairs, for example. The show is a cross between Sunset Boulevard and a fairy story, as characters inside the head of a fading movie diva attempt to snap the actress out of her depression. Designer Katy McPhee set this action in a white space - white floor, white scaffolding and white costumes - which lighting designer Kevin Fitz-Simons treated with cool acting lights backed up by coloured washes which came into effect in the various stories or were linked to specific characters.

The rig was based largely on various degrees of sidelight since the gauze roof obstructed direct toplighting. The lighting was controlled from the theatre's Strand M24 desk, though extra lanterns and three six-way Tempus racks were brought in from White Light to complement the theatre's rig and five existing racks. The sound, a music score replayed from two Revox B77s and a radio microphone on the leading lady, were mixed on the house desk located in the lighting box - which

became a very warm place indeed, housing as it did the DSM, the sound operator, two electricians and 48 dimmers!

Oh What a Lovely War at the Bloomsbury saw a welcome return to a more conventional theatre with a larger scale show. The new production was directed by Dean Byfield and designed by Lotte Collett, who created the gently raked, boarded performing area surrounded by a muddy battleground leading up to a dugout beneath a more steeply raked battle area. The set was created by using moulded fibreglass over a raked Steeldeck subframe, and was entirely the work of the NYT's design department.

The production was lit by Kevin Fitz-Simons, using a comparatively tiny rig designed on the MacLux Pro lighting software distributed in this country by Modelbox. This software helped Fitz-Simons by allowing him to make accurate decisions on lamp beam angles by precise analysis rather than informed guesswork. The rig was also kept small thanks to Vari-Lite Europe, who supplied 12 VL5 lanterns to the production. With the help of one of XTBA's 4-way DMX splitter boxes, these were distributed over four electrics bars, and used for much of the general lighting. Even the feature that normally raises howls of complaints from lighting designers - the peculiar route that the dichroic colour changer can take from one colour to another - was incorporated into the show and used as the colour motif as dying soldiers transformed into Pierot performers.

Following last year's production of *The Tempest*, which used one Arri Imagine to control both the conventional rig and five VL5s, it was realised that a separate control was required, and Axon Digital Design's ShowCAD package was pressed into service on a PC borrowed from ICL. The software performed admirably though there are areas which could be altered to make it an excellent theatre-based moving light control. These changes will surely appear with time. Conventional lighting was controlled from the Bloomsbury's Arri Imagine.

Imagination volunteered their projection services for the show. Projection designer Lee Munden's work was divided into two areas - small images projected onto a framed screen from two Kodak Carousels and large-scale images of war projected onto a cyclorama from two Panis. The smaller images were largely those used in the original, with the larger ones selected from the Imperial War Museum's library and carefully mounted and masked to miss the set.

The songs and dialogue were enhanced by John

Leonard who supplied the required wide range of battle sounds, while using four radio microphones and careful mic'ing of the band to ensure that the singers were always clearly audible while retaining an energetic overall sound. This was mixed on a 28-8-2 Soundcraft Venue desk, with effects replayed from an Akai S1100 sampler controlled by a PC running the latest version of Matt McKenzie's MIDI control software. The radio mics were supplied by Autograph.

Leonard was also responsible for the sound for the last show of the season, *Macbeth*, directed by Edward Wilson, designed by Brian Lee and also performed at the Bloomsbury. The show was created earlier this year as a flagship production for a proposed visit to Broadway, which sadly never materialised (it went to Bromley and Brighton instead). The summer fit-up was complicated by the fact that the Steeldeck sub-structure to the *Lovely War* set also formed *Macbeth*'s steeply raked acting area, and after supporting all of that fibreglass it needed a re-paint!

As well as the rake, the set featured a large framework containing four mirrors, which angled in to enclose the action for the witches scene, and then shattered outwards into their frames as *Macbeth*'s castle was invaded - all operated through two chain hoists supplied by Arrow Rigging. To light this setting, Hugh Vanstone used a large, entirely conventional rig again supplied by White Light and containing largely profiles and Parcans. Twelve of the lamps were topped with Rainbow scrollers, and two beamlight followspots were used to highlight characters at key moments.

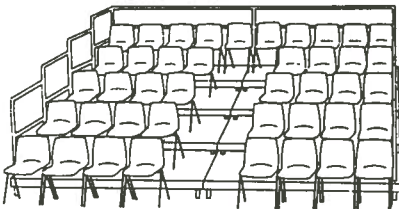
The rig also made heavy use of uplighting through grilles in the floor, particularly for the witches and apparition scenes, as well as Skywalker smoke, DF50 haze and four fans to provide precise control of the smoke and add movement to the banners and flags. Extra technology was added when a Digital Light Curtain was substituted for the older DMX version used in earlier versions of the show, but everything else was run from the Bloomsbury's Arri Imagine. The sound set-up remained pretty much the same, with the four radio mics being kept for use by the witches and for other specific moments in the show. Effects were again replayed from the S1100, though this time controlled by Richmond Sound Design's Stage Manager software running on an Amiga.

The result was an excellent production. It deserves a long life, on Broadway or elsewhere, and offers of help in getting the company to those foreign shores would be greatly appreciated!

Robert Halliday

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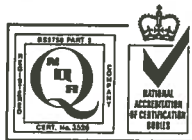
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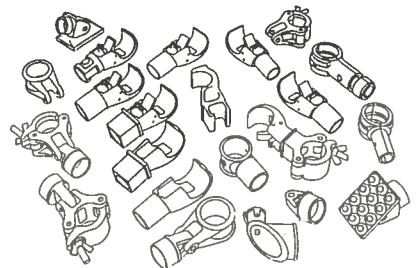
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A Ministry with Intelligence in London

One of London's top dance venues (and until recently probably one of the best kept secrets on the underground club scene), the Ministry of Sound, has recently undertaken a major investment in intelligent lighting supplied by Pulsar Light of Cambridge Limited via their exclusive London reseller, Cerebrum Lighting Limited.

The Ministry of Sound is known for its off-the-wall approach to what people expect from a traditional nightclub and has a reputation of being one of the hardest clubs to gain entry to! This was evident from the number of inquisitive corporate operators who attended Pulsar's party hosted by the Ministry of Sound during the PLASA Light and Sound Show. The club has broken all the rules by operating for the last three years with an almost completely dark dance floor, relying on a JBL sound system to blitz their all-nighter dance clientele. The bleak warehouse style interior comes alive with themed exclusive backdrops and props that are changed every six weeks to keep the club fresh and innovative.

1994 has been a very successful year for the Ministry of Sound. It is currently the reigning London BEDA club of the year, and also the Disco International UK club of the year. Many other awards have also been given for their sound system that is reputed to be the best around, and for their sell-out Pepsi sponsored UK club tour.

The brief from managing director Mark Rodol to Pulsar and Cerebrum was that whatever equipment the Ministry of Sound purchased, it had to be the best in the field and the result had to look as different as possible to a typical discotheque. Technical manager Chris Langley and in-house lighting designer Joe Lewis were instrumental in making the choice of product, and after putting all the Scans through their paces at Cerebrum's London Showroom the final decision was made. The Ministry is the first club in the UK

to install Super Scans and features two of the new top-of-the range Super Scan Zooms, four Super Scan MRGs, four Golden Scan 3s and 10 Silverados.

A Masterpiece 108 is already installed and another Masterpiece 108 added complete with screen driver, monitor and memory cards.

At Pulsar's party night, LD Joe Lewis gave a stunning display of use of 'the art of darkness' to demonstrate Clay Paky and Pulsar equipment to maximum effect in a way rarely witnessed in a conventional nightclub. CP&P and Cerebrum Lighting are looking forward to a close working partnership with the Ministry of Sound, and further involvement with their future development plans.

Asian Shows 95

Pro Audio, Light & Music China '95 will be held at Beijing Exhibition Centre from 9-12 May next year. The '94 show attracted more than 230 exhibitors, represented manufacturers from 19 countries, and was attended by more than 15,000 visitors. The show is jointly organised by B&I and the China Theatrical Equipment Association (CTEA) which is under the auspices of The Ministry of Culture of China. Many of last year's exhibitors have rebooked space.

Another show in the region, Pro Audio & Light Asia '95 will be held at the World Trade Centre in Singapore from 12-14 July, 1995. PALA, now in its seventh year, is well established as Asia's largest professional sound and light show and provides international manufacturers with a unique forum to meet the key personnel from nearly all corners of Asia.

HW Award Gold Microphones

HW International celebrated their 30th anniversary with a special presentation at this year's PLASA Show. To mark the occasion, Shure produced a unique gold edition of their classic fifties-shape 55SH-2 microphone.



Pictured receiving golden microphones are (standing from left to right) Mike Henden and Simon Bull of Leisuretec, Sean Hames of LMC, Barry Warner of Rosetti, Paul Hinkley of LMC, Barry Lambden of Studio Spares, Jon Monks and Marc Ryan of West London Electric. Seated (left to right) are Doug Ellis of Rosetti with Alf Allenstein and Dennis Harburn of HW International. Also presented with a golden microphone (not pictured) were Keith Woodcock of Carlsbro Retail and Bernard Creevy and Michelle Peat of Peats Wholesale.

Chevin Distributor

Chevin Research has appointed a North American distributor for its professional A Series line of compact, lightweight power amplifiers. Chevin Research North America, based near St. Louis, Missouri, will be responsible for all sales, marketing, advertising and distribution of Chevin amplifiers in the US, Mexico and Canada.



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JAMES THOMAS ENGINEERING LTD are proud to have been involved with the design and building of Lighting Technology's award-winning stand at this year's PLASA Light & Sound Show.



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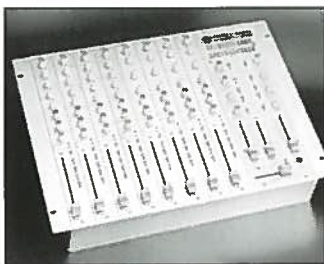
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SYSTEM 2000

An award winning modular production mixer in 8 (19" rack mounting), 12 and 16 channel format. The comprehensive range of facilities in this mixer make it suitable for use in radio stations, discotheques, clubs, cabaret, production studios, etc.



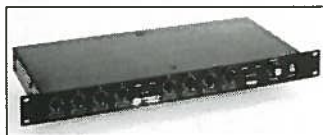
PM – 90



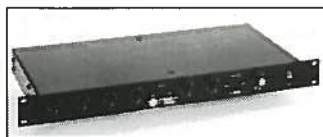
Another award winner, the PM-90 is a compact stereo production mixer with a choice of modules, allowing for each mixer to be individual to the needs of the user. 3 chassis sizes available – 4 channel, 8 channel (19" rack mounting) and 12

channel. For use in discotheques, clubs, audiovisual presentations and any situation where a combination of stereo and mono sources need to be controlled.

FSM8 & AMX6

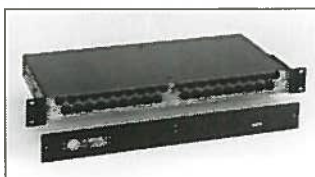


FSM8 & AMX6 – 8 channel stereo and 6 channel mono mixing units (19" IRU). Both are very flexible and easy to use by the unskilled operator. Designed to cope with a host of applications, including background music systems, churches, health clubs, bars and hotels.



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NVQ Launch at PLASA



Bill Graham (left), technical director at the Birmingham International Convention Centre, with Joe Aveline (centre) and Graham Walne of AETTI proudly displaying a specimen AETTI NVQ certificate. The AETTI NVQs in Stagecraft (costume running) Level One and Stagecraft (scenic, flying and lighting) Level Two, were given a ceremonial launch at the PLASA Show. The event was attended by many who had helped develop the qualifications, in addition to representatives from the Department of Employment, training providers and some potential employers! Centre Approval Documents for organisations interested in becoming Assessment Centres for AETTI NVQs are now available from the AETTI's joint awarding partner the City & Guilds who can be reached at Division 21, 46 Britannia Street, London WC1X 9RG. Telephone 071-278 2468. More NVQs and SVQs (Scottish Vocational Qualifications) are in the pipeline and L+SI will keep you fully informed of any developments in technical training.

Hazy Days at AC

AC Lighting have announced their appointment as exclusive European distributor for the DF50 Diffusion Fogger. The unit has firmly established itself in America and is the only cracked oil machine to receive CAL Oshia certification which allows it to be used in the hundreds of sound stages to be found in Hollywood. Until now supply in Europe has been sporadic, but AC Lighting plan to change all that and have made a substantial stock commitment to the DF50. The unit has recently been out with Pink Floyd and the Rolling Stones and will also be put through its paces on the Kenny Loggins tour.

Tim Warhurst

Following a catastrophic fall on Saturday August 20th during rehearsals for the current Take That tour at the Docklands Arena, sound engineer Tim Warhurst was admitted to the intensive care unit at Whitechapel Hospital. He had broken his neck in two places as well as sustaining a skull fracture. He was taken off the ventilator in mid September and moved out of the trauma unit. Further tests showed that he had broken his back in three places and suffered severe brain damage.

Sadly, Tim died on Saturday 24th September. His family have requested that anybody wishing to make a donation in Tim's name should give it to the McIntyre School for Downs Syndrome, which Tim's sister attends. Cheques should be made payable to the Friends of McIntyre, and sent to the offices of Capital Sound Hire at Unit K, Bridges Wharf (off Lombard Road), London SW11 3QS, where they will be forwarded to Tim's father.

Tim's family are also in the process of setting up a trust fund for Tim's girlfriend, Denise. The fund will be kept open for three months and anyone wishing to make a donation should make their cheques payable to the Tim Warhurst Fund and forward them to the above address.



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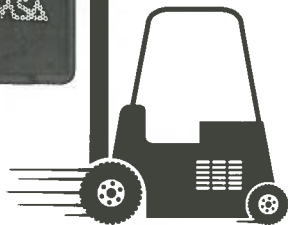


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Sound Shorts

GAE speaker systems were recently put through their paces in Germany by none other than the London Philharmonic Orchestra. The LPO, conducted by Justus Frantz, were playing at the Graffenburg Race Course in Dusseldorf to an audience of 68,000 people. The sound was handled by **Sound & Light Services GmbH** of Essen, and comprised six 2x12 horn loaded high/mid Hawkwind cabs, six 2x18 direct radiating sub Hawkwind cabs, eight 212 TRH 2x12 direct radiating hi/mid cabs and six 2x15 ATUE hyperbolic sub woofers. The system was controlled via a Yamaha PM3000 mixing console and a Yamaha 2040 system controller.

Crest Consoles are making their mark on the British console scene with several recent sales by UK distributor **Audio Projects** to sound companies and fixed installations. A recent purchaser of a Crest Console Century Series GT 40x8 FOH mixer was **Eurohire**, a sound and lighting company providing facilities for touring groups from the States, as well as UK acts. A 12-year old company handling primarily high-profile, one-off shows of jazz and contemporary music, **Richard Nowell Sound Services** recently added their first Crest Console TC 24x4 to their equipment roster, as well as taking on a dozen more Crest amplifiers to make a total of 30. Specialising in large, fixed installations, contracted out over long periods of time, **Encore PA** has eight systems in London clubs and music venues, and two touring systems. Encore recently installed a Crest Console GT 32x8 in 'The Garage' live music club in London. A theatrical equipment supplier, as well as a sales/rental/installation company, **Stage Services North** in Belfast, Ireland, recently purchased their first Crest Console - a 32x8 GT.

The current UK tour of the musical 'Joseph and the Amazing Technicolor Dreamcoat' recently opened in Manchester, making the City the fourth port of call in the show's schedule. Running for eight weeks at The Palace Theatre, the touring production is a faithful copy of the long-running West End version. In terms of scale, a small, but vital link in the sound equation is a sophisticated Clear-Com intercom package supplied by London-based **Autograph Sales Limited**, providing the tour with a robust 4-ring system. At the heart of the Clear-Com system are two MS-400A Master Stations - rack-mounting 4-channel units with built-in wide response speakers - of which one is used solely as a back-up. These are complemented by a single RM-120A remote main station, sited backstage, plus 15 RS-501 single and RS-502 dual channel belt packs. Two KB-111A Speaker Stations and an AC-10H 2-to-4 wire converter complete the picture.

More than 100 students attended **Soundcraft's** fifth Going Live! training course held in Manchester during August. The first part of the course, an introductory day for 'beginners', was attended by 30 students. Over 80 more students arrived on the Saturday morning for

the main body of the course. Blue Box supplied a full Turbosound Floodlight PA system to support the Soundcraft Europa console, used for front-of-house training, and the Soundcraft SM24 monitor console. Students for the course came from all over the country, from Aberdeen to Bournemouth, from all areas of ability and experience and from small PA rig proprietors to theatre engineers and musicians.

V-100s have been chosen by Baskin-Robbins/Dunkin' Donuts to provide background music for their new outlets. The **Canon** speakers will be installed as standard in every ice-cream and donut store in a major development programme over the next few years. The contract was awarded for music service to specialists **MAM Communication Systems**, and it was they who specified the V-100.

Glasgow-based **CC Professional Audio** has specified eight Trantec Systems S2000 radio microphones for its refurbishment project at the Palace Theatre in Kilmarnock. The project, which involved the installation of a complete new audio system, was finished in early September. The company specified the Trantec mics after using them in other theatre installations including projects at the Kings Theatre and Metro Theatre in Glasgow.

A **Soundtracs** Sequel II has been installed in Seoul Lane - Korea's largest theme park. The desk, which was installed by Soundtracs' Korean distributor Seki Electronics, provides the sound reinforcement for the massive 3,000 seater Samchulli Amphitheatre which lies in the heart of Seoul Lane.

Skan PA has ordered a second instalment of Turbosound Floodlight enclosures, bringing their total inventory to 22 tour packs and four trapezoidal cabinets, plus 30 2x18" festival bins. The purchase reflects a busy autumn schedule for the Aldermanston-based PA company, with tours for Ride, Ozric Tentacles, Eat Static, Transglobal Underground, Jamiroquai and Underworld.

Sound rental company **Orbital** recently installed no less than 24 Bose Panaray loudspeakers with seven Acoustimass sub bass units for the enormous Sony stand at Live '94. The system was complemented by 20 Bose 100 loudspeakers and a solitary, if large, Cannon! All under timecode automation supplied from samplers and Mini Disc.

Wembley Loudspeakers, in conjunction with **Sound Kinetics**, have announced the sale of the first award-winning 3D Storm system. The product that was voted one of the year's best new products at PLASA (see main report) has just been shipped as part of a larger system to ACR Lasers in Cologne. ACR purchased a package totalling nearly £20,000 including eight Spyder loudspeaker systems, six 2820 subs, the 3D Storm system and a BASE processor. The complete system was specified for a new demonstration facility where the company can show clients how light and sound can be locked together using the Storm system.

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People News

Electronic Theatre Controls, Inc. of Madison, Wisconsin, recently announced that **Tim Burnham** has joined the company as director of marketing. His responsibilities in this newly created position will include all aspects of marketing, including long and short range planning, market research and new product development.

Burnham comes to ETC from the UK-based Arri Group where he was instrumental in forging an alliance between ETC and Arri in the mid-1980s. This relationship resulted in a successful marketing partnership between the two companies, with ETC products being marketed throughout Europe under the Arri name.

The Harman Professional Group, led by Philip Hart, have announced the appointment of **David Harman** (no relation) as international market development manager. The new role has been created to provide closer links between the Harman Group of companies and the European theatre/auditoria market. In addition, David will focus the Group's product development strategy and identify new markets for existing equipment. He will be working with JBL, Soundcraft, BSS, Turbosound, Allen & Heath, Lexicon, Studer and AKG.

Harman has worked as a freelance programmer and MIDI rig designer with shows such as Cats, Les Miserables, Kiss of the Spider Woman and Copacabana. A specialist in sampling, synthesis, sequencing and hard disc recording, his credits as a programmer and composer also include commercial video soundtracks and the scores for various theatrical productions.

Yamaha-Kemble has appointed **Richard Hodgson** as marketing manager for Hi-Tech. His



Tim Burnham.



David Harman.

appointment follows Jim Corbett's move to sales and marketing manager of the newly-formed Media Technology Division. Hodgson will combine his new appointment with his current position as national sales manager for the Pro Music Division, and will be backed up in his new role by Peter Peck, Hi-Tech marketing assistant, and his assistant Jennie Vuclelic.

Gradav Theatre Services Ltd have recently added two new people to their sales team. Hire manager **Malcolm Ackers** has been appointed hire director, whilst sales manager **Philip Wright** has been appointed sales director.

Light source manufacturer Osram has created two new positions in its marketing department and appointed assistants to Steve Ottewell, market manager retail and Joseph Tirelli, market manager (AB) trade. **Jon Eyles** is assistant market manager, retail. He brings extensive experience of FMCG marketing to the post, having worked in the direct marketing department at the Bradford Exchange and spent more than four years at AGB involved in FMCG consumer research. **Fabio Brambilla** has been appointed assistant market manager (AB) trade. He recently completed a four year degree in Business

Administration at Milan University and joined Osram's marketing department as a trainee.

Anna Webb, formerly advertisement manager for Disco International, has now joined Lamba Plc as their marketing manager. She will be responsible for the PR and marketing for all Lamba's product range, including Kam Made2Fade, Gemini and Stanton.

Chevin Research has appointed **Glyn Baxter** who has a wealth of experience in the international pro audio sales arena to oversee its global sales operations.

Sarah Madden has joined Nu-Light as sales and marketing manager. She brings with her extensive experience of the leisure market gleaned from her previous role at PJS Watersports.

After Hoffend

Following the demise of US manufacturer Hoffend & Sons, Thomas Young, who spent nine years with the company and who in recent years had taken on the role of vice president of sales and projects, has started a new venture Theatre Equipment International.

The company will offer international sales representation for JR Clancy and Staging Concepts. The former has been designing, manufacturing and installing theatrical rigging equipment since 1885. The company provides a broad range of standard 'off-the-shelf' rigging hardware and components. Staging Concepts manufactures portable staging platforms and is best known for its modular designs and versatile configurations.

New face at L+SI

Lee Baldock has recently joined the Lighting+Sound International editorial team and will work alongside assistant editor Ruth Rossington on the editorial and production of the magazine.

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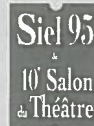
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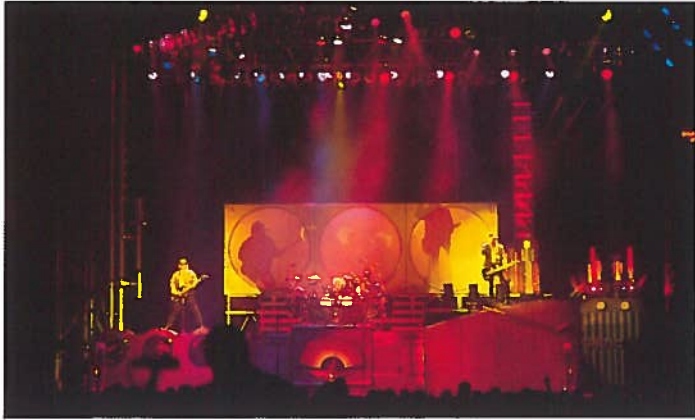
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Autopilot Iz Ze Top Product



Winner of this year's 'Best New Product' award, Wybron's Autopilot is currently also winning accolades out on the road with hirsute rock duo ZZ Top. By one of those strange turns of fate, the band originate from Austin, Texas and so do the lights which Autopilot is running, namely eight High End Systems' Cyberlights (for full story see page 41).

BSS Audio launches Omnidrive

Amidst the delights of the London Transport Museum's display of trams, trains, trollybuses and original omnibuses, BSS launched their new Omnidrive system. According to the company, Omnidrive offers more functionality and control than contemporary systems, combining two channels of 4-way crossover, parametric equalisation, phase correction, delay lines and limiters in a compact 2U chassis.

Among its powerful features are no less than 60 user-programmable memories for storage of system/venue set-ups, which may be password protected. A facility is provided for automatic adjustment of delay times as ambient temperature changes and correction of HF response with humidity variation. Rental companies can also easily pre-load the unit with the necessary files for a given system, from a library of system configurations - one controller for all the different speaker boxes in their inventory. Also significant is that Omnidrive's balanced outputs provide the same high output drive capability as BSS's well-established FDS-360 analogue crossover. The user front-end is straightforward, combining a real-time graphical display with an analogue-like output control section. An Edit switch provides an easy way to display and edit crossover response, EQ curves, phase, delay and limiter data in high-resolution graphics, while all outputs are provided with LED meters for immediate performance checking.

Operating with a balanced analogue input/output of full 20 bit resolution and giving a dynamic range of better than 105dB, the Omnidrive system can accept analogue or digital signals through a choice of input and output cards, the Digital I/O option being standard 24 bit with selectable sample rates and external clock input. The crossover sections can be configured as stereo 2, 3 or 4 way, with the option of setting one stereo band as a mono-lo output for sub-bass processing.

Parametric EQ is provided as two sections of fully adjustable EQ per band of processing, one section per band being optionally switched to give all-pass phase adjustment at the selected crossover frequency with polarity switching as standard through a separate function. The EQ range is 15Hz to 16kHz, gain adjustable +/-15dB, with a Q from 0.05 to 3 octaves and sections may be switched independently between bell or shelving response. This fully-flexible equaliser can also be used to tailor constant directivity horn responses, and may also be configured to enhance any frequencies by modulating the boost/cut value with the signal, the effect decreasing as the signal level rises. This Dynamic EQ means that 'loudness' correction can be applied at lower levels for bass frequencies, for example.

The Limiters are located mid-band. Threshold is adjustable for each band from -10 to +16dBu, with automatically optimised time-constants. Each band incorporates a delay line, with adjustable delay up to 650 milliseconds.

The provision of 60 user-programmable memories allow system configurations to be stored within the unit. These can also be down-loaded onto a PCMCIA memory card for archiving or back-up. Remote control is provided via a MIDI port, together with an open architecture port for other protocols.

Strand on Stand

Looking rather dapper in their matching blue polo shirts are two members of the Strand marketing team, Wendy Ellis and Jane Rose, on hand to ensure that everything runs smoothly and that visitors to the stand are well looked after. The two were kept busy throughout the Show with a constant stream of visitors eager to get a look at, amongst other things, the new 430 console (see full report on page 41).



Piantino Conti 0541951166

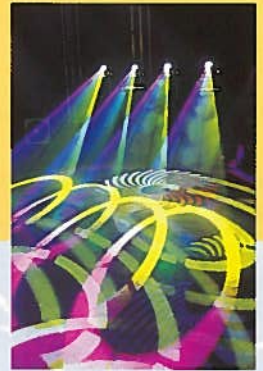
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Theme Park Sound

Two of Europe's new themed attractions have installed Canon Audio background sound systems to provide music and special audio effects.

Themes, Heritage & Exhibitions (THE) of Essex designed and installed audio systems in both venues, the new 'Crystal Maze' attraction at Oakwood Park in Wales and the 'Spokelseshus' in Norway.

Norwegian leisure company Norgesparken asked THE to design, supply and install a complete bespoke audio system and technical installation revolving around 10 Canon V-100 speakers. These were installed in various areas, including the foyer and 'throne room' to provide atmospheric audio FX. In Wales, Oakwood Leisure's new 'Crystal Maze' needed a zoned audio FX background. THE again took the Canon V-100 route, installing five pairs in various zones around the park.

Shuttle Run

When the recent hurricane removed the roof from Griven's factory in Castel Goffredo, Italy, it looked as though their new disco centre-piece, the Shuttle, would be absent from the PLASA show.

An urgent fax to a small Eastbourne nightclub secured the loan of one of the only available Shuttles for display at Earls Court 2. The light was insured for £120,000 in case of damage, but was safely returned to the club after the show.

Deltron Components

Roxburgh Holdings Ltd have acquired the business interests of Futers Ltd and its sales and marketing operation Deltron Components Ltd, from Frederick Cooper Plc for a cash consideration of £3.75million. Established in 1947, Deltron is a specialist supplier of electro-mechanical components for the professional audio industry worldwide.

Second Project Confirmed



Sandy MacDonald (EAW), Richard Maunder (LTP) and Bob Woods (Venuetech) shake hands on the second large project to be confirmed over the past few weeks. The first was completed just prior to PLASA and involved the installation of a large EAW KF650 system at Sheffield Students Union. The second is due for completion at the end of September, with EAW MH662s being installed into the Academy in Bournemouth.

Japan Venture

A new partnership has been established in Japan between Juliana's Japan Corporation, the British operators of a number of Japanese discotheques, and Kaleidovision Ltd, the British designers of the Kaleidolight range of live video graphics systems.

When a Kaleidolight K20P was recently installed in Juliana's major new Osaka club, they found their customers so impressed with the effects produced that they quickly ordered another system for their Tokyo site as well. To enable customers to obtain further information about the award-winning Kaleidolight in Japan, swift talks were held with Kaleidovision Ltd in the UK, with the result that Juliana's are now officially representing the complete Kaleidolight range in Japan.

Albany Relauched

The Albany Empire in Deptford has been relaunched as The Albany Theatre. The venue, under new management for the past year, now boasts a brand new sound system from Harman Audio to replace the one which was forcibly removed from the premises (by persons unknown) during the theatre's time as a rave venue.

The installation was carried out by The Music Room, also of Deptford. The Albany's rather strange design - a metal oval with no fixed stage - meant that a degree of flexibility was required from the sound system to cater for varying stage and audience positions.

A cluster of four 15" JBL I732 cabinets, each 600W, was positioned facing outwards in the centre of the theatre ceiling, while a JBL dual concentric speaker cabinet was positioned in the middle of the cluster, pointing straight down. Three JBL MPA750 power amps (one dual concentric, two low), a MPA400 power amp (high) and a Soundcraft Venue 24-channel desk completed the static instalment.

The lack of a fixed stage meant that the front of house system needed to be portable and adaptable. Although the technicians from Music Room were used to dealing with portable systems for mobile set-ups, suiting this to an interior theatre-based installation was a new experience. Emphasis was laid on allowing the cluster and the sub-basses to be used in conjunction or independently, according to requirements.

To celebrate the relaunch, the Albany's chief technician Annie Warnby teamed up with Ian Smith, ex-ringmaster of the Arkaos circus, to create a week of entertainments which included the world's only troupe of heavy metal Morris dancers, stand-up comedy, stilt-dancing, a human jukebox, and a lesbian yodelling and comedy duo! Funding for the refurbishment and relaunch of the theatre came from the Deptford City Challenge and the London Borough of Lewisham.

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PLASA People: L+SI's Camera takes a trip round Earls Court 2



The fibre optic emporium of Par Opti Projects and the launch of Par Startrail.



Mike Sweetland of Mainstage and part of the Blakes Fireworks range.



Soundcraft's double-decker stand from which they launched several new consoles.



TV lighting director Rod Litherland (left) with Alan Luxford of Strand Lighting.



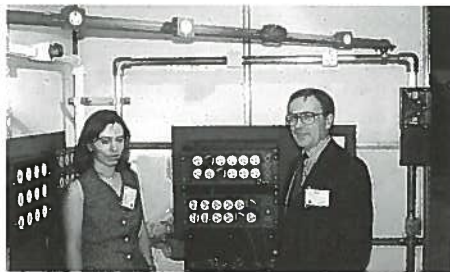
The Pavilion offered a host of smaller companies an opportunity to exhibit at PLASA.



CP Cases with their wide range of 19" rack-cases, cabinets and accessories.



Jane Marren of Clarke & Smith Manufacturing with a Vortexion amplifier.



Alex Collister with daughter Laura, on the Andolite stand in the PLASA Pavilion.



Steven Higham of Bygone Times relaxes in unusual surroundings.

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WORLDWIDE DISTRIBUTION

THE PRIDE OF PLASA

L+S's team bring you the best of PLASA, introduced by Tony Gottelier

Arriving at Earls Court 2 some time after the doors opened on the first Sunday of the PLASA Light & Sound Show, I was amazed to be confronted with crowd scenes more reminiscent of a concert than the entrance to a trade show. OK, so there were problems with the new entry system this year, which I am assured will be corrected next time, but nevertheless it wouldn't have happened if the numbers hadn't been there.

So maybe, I thought, it's down to the dreaded rail strike and people are all going to come on the first two days, thus avoiding the anticipated travel delays on the Tuesday and Wednesday. Clearly, there was an element of that, but at the end of the day visitor numbers were up by a spectacular 20% and overseas visitor numbers doubled, which must say something for the current global status of the PLASA Show. As if in anticipation, exhibitor numbers had also increased by 20%, reflecting their confidence that finally the ravages of the recession had ceased, or at least that the so called 'feel good' factor had seeped through to our industry at last.

I detected a change in the shape of this year's Show with the emphasis having shifted considerably from the original disco root, to something far more representative of the performance technology industry as a whole. The 62 new exhibitors this year certainly weighted that balance, as well as the aftermath of the last few years' punishment on the dancing business. With only three customers left - First Leisure, Rank Leisure and the Rest - the crossover into other markets has been considerable and you had to be flexible to survive. Many didn't.

Among the major survivors are **Clay Paky**, **Coemar**, **High End Systems** and **Martin Professional**, all of whom have re-focused their attentions in the past couple of years. Furthermore, they have all gone their own way in the battle of the exhibition stands which makes a refreshing change. Only Martin went for the mega light show, this year designed by R-n-R lighting designer Jonathan Smeeton. Clay Paky and bedfellows Pulsar, took the subtle approach with a clever combination of mime, voice-over and lighting demo devised by Talk Talk, with programming by Terry Cox. High End went for the cool approach for their new Cyberlight product, cycling through some very pretty gobos courtesy of their photo-etching system and making use of



Ten minutes before the Show opens and the queues had to be seen to be believed.

some geometric scenery to add emphasis. Coemar, with UK cohorts **Coe-Tech**, went for the full frontal. Though sideways to the aisle, much of the light was directed from the rear of the stand, to give emphasis to their NAT's ability to make the earth move in a different way from the rest. It's been a long time coming, but the NAT's first public outing in the UK is scheduled to take place at this month's Motor Show courtesy of Peugeot and The Spot Co, who now hold rental stock.

None of these companies, however, was the winner of the 'Best Stand' award, though one came close. The top accolade went to **Lighting Technology** for the imaginative way they displayed their disparate range of distributed products. The garden setting was the perfect organic backdrop for their Caterpillar lights which wriggled in an ornamental cabbage patch as if in a live display-case in the Natural History museum. In the end it was the humour that clinched it, though the piazza on the top deck was very appealing. Coming a close second, and receiving commendations, were **Vari-Lite Europe** for Charlie Kail's hoopla design, **Lightfactor's** open display for High End Systems, and **Switzerlight's** 'eye' catching stand.

After a long struggle with the physics of the system, **Wybron** were at last able to show their Autopilot in a production version which really looks like it can deliver the goods, though, as Keny Whitright would be the first to admit, it can never replace the human anticipation essential to good follow-spotting. However, there will be plenty of applications where a tracking system will be

welcome for extra keylights or where an operator is not a practical proposition. On their stand, Autopilot was successfully demonstrated following both Keny and Daryl Vaughan around and, just to confuse, programmed to swap transmitters every now and then. Anyway, it works, and consequently gained the 'Best New Product' award, perhaps as much for endurance against all the odds, as anything.

The product is currently undergoing its severest test yet on the road with ZZ Top, currently touring the US and Europe. Apparently, lighting designer Larry Sizemore is running four Cyberlights off the system for front lighting, and a further four for overhead and back-light. "It has been virtually trouble-free so far," Whitright told me. "The only

problems have resulted from lack of understanding of the system, which is something we have to tackle in the future by training up the techs in the production and rental houses so that they can provide the required level of support. These are early days yet."

The competition for the 'Best Product' prize was intense this year with 64 entries, which is reflected by the two highly commended products. The first of these, and the only one of the three never seen previously in fact, promises a total revolution in atmospheric generation, so important to all lighting people. British smoke machine maker **JEM** have, as I understand it, devised a system using ultrasonics to replace the troublesome heating elements and compressors of traditional systems, which they are calling HOT technology. By agitating a light mixture of water and glycol by this method, a fine haze is generated, virtually invisible until lit. The answer to a maiden's prayer, you might say. And it's not expensive! I hope Nigel Morris has got his patents well sewn up and that he licenses the technology to others. I also hope he's got room for another Ferrari in the garage.

The other was a sound product, also around since the previous PLASA, and much praised in this magazine - the three-dimensional Storm surround sound system from **Sound Kinetics** via **Wembley Loudspeakers**. This enables you to pan sound around your performance space in any configuration. It occurs to me that a combination of Autopilot and Storm, running in the same configuration, could be quite a freaky experience.

A new trophy introduced this year was the



Ten minutes later and the floodgates opened to filter a mass of people through registration who then dispersed around the long aisles of Earls Court 2.



Canon Audio's Sean Martin presents the new V-200 loudspeaker.



Coral Cooper and Adrian Hicks (left) of M & M celebrate the sale of an MA ScanCommander system to the Gatehouse Theatre at Stafford. Leading the theatre's team was Ken Moore, technical manager (right).



Bob Doyle of Midas (left) pictured on the DDA stand with Soundtracs' Tod Wells.



High End Systems' John McDowell (centre) demos the latest in touch panel control to Matthew Tonks of Glantre (left) and Richmond Sound Systems' Charlie Richmond.



Light & Sound Show manager James Brooks-Ward (left) welcomes Poul Schlüter (centre), former Danish premier and currently a vice president of the European Parliament, to Earls Court 2. Schlüter is now chairman of Martin Professional and joining in the welcome was the company's ebullient managing director, Peter Johansen.



AETTI Chairman Graham Walne (left) with Strand Lighting's Andy Collier.



Rosco's Mike Hall (left) and Stan Schwartz (centre) with Joe Tawil of The Great American Market.



Nils Thorjussen (left) of Flying Pig Systems shows Showtec of Cologne's Wilfried Schiefer the new Wholehog II control system.



The greatest number of exhibitors ever prepared to do business at PLASA.



Hermann Sorger of Ludwig Pani (right) receives his silver salver from PLASA chairman Mike Wood in recognition of his services to the industry.

PLASA Achievement award. A sort of 'PLASA Personality of the Year' contest, it is an opportunity for those who have made a significant contribution to our industry to be recognised by their peers. The fact that this first year the committee chose a non-Brit and one of the more unassuming individuals amongst us, is a credit to the more catholic approach which has developed in the Association in recent years. In those circumstances it is a shame that the event chosen for the presentation turned out to be singularly inappropriate, though nobody could have known beforehand. The first night 'big band' party, was a noisy affair, with many people enjoying the opportunity for a relaxed get-together. When the music stopped, and they had the opportunity for a proper talk, they weren't about to bite their tongues. Sadly, people also forgot their manners.

Freddy Lloyd, recently enthroned PLASA chairperson Mike Wood, and Steve Terry, battled valiantly to make themselves heard above the din in order to eulogize the qualities of Hermann Sorger of Pani. In a sense perhaps it was apposite, for Hermann is a man better known for his deeds than his words and so self-effacing that he probably didn't even notice, but we should have given him, and his sponsors, the courtesy of a proper hearing. Nevertheless, it was thoroughly well deserved. Later that night, Lighting Technology showed off their EAW speakers at the re-vamped Empire Theatre, Shepherd's Bush to the rampaging sounds of the Blues Bros.

On the subject of apres-Show socialising and awards, I duly attended the DI awards at the Hippodrome, an event now as redolent with its own self-importance as it is tedious. OK, so I am past it, but it's surely too long, too late and far too sycophantic. An award for 'best stylus' has got to be one bouquet too far. Why on earth don't they do some of these lesser honours by post and only the 'best' in overall categories on the night. Still, if rumours of that mag's, and Live's, impending sale are anything to go by, changes may be on the way.

Of the other events, L+SI's Night at the Players Theatre, that 'jewel in the ground' at Charing Cross, was as before a smash hit. Especially so with the overseas contingent, though they must have found interpretation difficult. Nevertheless, it's the atmosphere which wins through on these occasions.

While this was going on, Poul Schluter, for many years Denmark's Prime Minister and now an EU Vice President and Chairman of Martin Professional, was entertaining the whole of the BEDA committee to dinner at the Ritz. Later, they repaired to join the hoi polloi at the Marquee Club where Martin's official party took place, with live music from Paul MacCallum's band. Schluter's visit to the show earlier that day must have been an 'out-of-body' experience for a politician. At the same time, Pulsar and their guests were bopping away in celebration of the new Clay Paky installation in the Ministry of Sound at the Elephant and Castle.

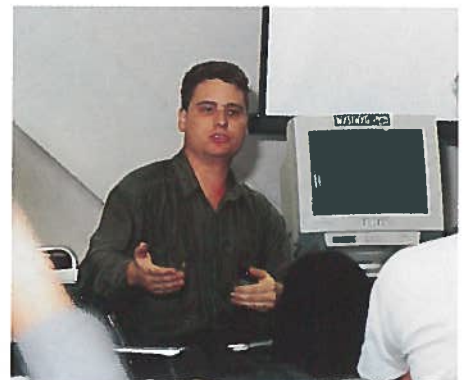
Back on the piste, this year's seminars were going strong with star guest Mark Fisher attracting a big audience for his 'Floyd revealed' performance. Beforehand, he and I stood in the gallery overlooking all the displays, not only wondering where the money comes from, for the total spend must be vast, but I was also speculating on how much of the kit on show had been inspired by him and the numerous bands for whom he has done such spectacular work. My own seminar, Future Technologies, was disappointing, not for the fine contributions from Richard Curtis of TiLE, Neil Sandford, and Phil Pyke of Tussauds, but because few people in our industry seem aware, or worse want to acknowledge, what may be around the corner to challenge us. The question is: will our industry be extinguished like the dinosaurs, or will we adapt and move on? I am an optimist myself, but the doomsday scenario cannot be ignored, especially if people remain blinkered and unaware that there is more to entertainment technology than sound and light.

On the subject of the Internet, Pat McKay, the

redoubtable editrice and communicateuse (animateuse, animatrice) responsible for Theatre Crafts, Lighting Dimensions, and LDI has a new wheeze which she is evangelically promoting. Called ETEC, the proposal will allow people in the business to talk to each other on the Internet under a dedicated, global, industry-wide system. Basically, she is seeking manufacturer/supplier sponsors who, in exchange for a sum of money, will be able to make use of the system for the purposes of disseminating commercial information and to allow free access to the system to, say, 50 lighting designers and specifiers of their choices. Actually, her ambitions for the system go way beyond that, but I wonder if a more cautious step-at-a-time approach might be more appropriate at this stage. As the industry Infosome it's almost certainly a winner: as the industry mail box, I am not so sure.

While we are on things American, it was a delight to see John McGraw of Production Arts and new bride Lori Rubenstein (on their honeymoon at PLASA, would you believe - which has to be something of a first), representing the US industry through ESTA, formerly TDA, on the stand adjacent to PLASA/L+SI's own. Manufacturers in the States have been quick to see the benefits of getting organised and have long been making envious eyes at what we have achieved in Europe. Now at last they have money coming in, largely in donations as they have no other commercial resources, and Lori has been able to move the office out of the couple's Manhattan apartment to proper premises. The ties with PLASA will always be strong and mutually beneficial.

So another year, another PLASA. This time there was a difference. There was proof that the optimism of the recent past, which seemed to be eluding us in real terms, had finally come to fruition and we could actually see things happening on the ground. As for me, like the exhibitors, at the end of it all I was utterly and completely plasa-red (see y'all at LDI!).



Seminars in progress: Allen Mornington-West (left) covered protocols for remote control of audio, Mark Fisher (centre) attracted large numbers with his insight into the design processes that produced the stunning sets for the Pink Floyd and Rolling Stones tours and Robert Bell (right), together with partner Gil Densham, discussed the innovative techniques employed by the Canadian Broadcasting Corporation at its Toronto studios.

EAR TO THE GROUND

SOUND - ANDY WOOD

For those who work with, or are interested in sound, the PLASA show is always a bit of a dichotomy.

On the one hand most of the companies you wish to see will be there with new product to lust after. On the downside . . . whilst looking around you run the risk of being choked by effects smoke and blinded by more lighting than Runway 10 at Heathrow Airport. Add to this the fact that, despite highly efficient sound control staff, the show at times reverberates to what could only be described as the sound of half a dozen different teenage house parties in a barn, and the show becomes a four-day combination tour of heaven and hell for any self-respecting noise boy.

Although calls of "the lamps are taking over!" emanated from certain quarters, sound, in fact, was a much more predominant feature on stands this year, mainly due to PLASA's agreement with SCIF which brought a whole host of new exhibitors to the show.

Jamo, **Baldwin Boxall**, **DNH** and **Millbank** were just some of the new attendees who, together, added depth to that middle ground between disco and touring with contractor-aimed products for the public address and smaller sound reinforcement applications. Indeed, the smaller speaker enclosure was one of the growth areas of the show with several new ranges receiving their show debuts.

The first of these came from **Canon**, who served coffee and doughnuts to the bleary-eyed first thing on Sunday morning to announce the installation of Canon V-100 speakers as the standard background music enclosure in every Baskin Robbins/Dunkin' Donuts outlet in the UK. Specified by MAM Communications Systems of Reading, the speakers were chosen not only for their high audio performance, but also their visual appeal: "The full length grilles give us the opportunity to blend the speaker into its surroundings by painting them according to the interior designers specifications," explained MAM's general sales manager, Peter Woodard, and Canon's stand reflected this theme with V-100 speakers repainted and cunningly disguised into murals and company logos.

With the press making sure that the doughnuts on offer were not some cleverly painted micro-speaker, Canon also launched two new products in the shape of the long awaited V-200 foreground speaker and a satellite/sub package. Big Brother to the V-100, the V-200 is a high-power, wide dispersion speaker for the permanent installation market. Suitable for various configurations from wall-mount to multiple clusters, the unit features a unique two-stage protection mechanism and automatic output reduction circuitry with LED warnings, thus



Bruce Howze of Community (left) and Ken Dibble (centre) discuss the amplifier EMC conductive emission tests running throughout the show on the ISCE stand with Paul Eggleton of Rhode & Schwartz.

claim Canon, making the V-200 virtually impossible to blow up!. Expect to hear much more of these babies. The new twin satellite speaker and sub-bass package, the SV-15/S-B20 system, is aimed at the smaller venue as a background music package, and the price of £280.00 ex VAT should guarantee interest, especially as the sub is of a very high quality, going down to 40Hz.

Another new small enclosure came from **Tannoy**, who are utilising proprietary ICT (Inductively coupled transducer) technology in their latest product for the public address market. The 'revolutionary' CMS 6.5 ICT weather-resistant ceiling loudspeaker features a 1" duralumin inductively coupled HF unit and a tuned vented enclosure to provide wide dispersion plus high quality reproduction at levels up to 109dB, and much is expected from this design.

The company were also showing their highly successful SuperDual and Contractor ranges of speakers, together with their award-winning range of monitors. They also added a touch of colour to the show with the stand staff being immaculately turned out in kilts. Tannoy's Derek West was unavailable for comment as to the specifications of the undergarments, but confirmed that SuperDual sales are going well with installations in London's Barbican Theatre, Scotland's Pavilion Theatre and Universal Studios in the USA, where a SuperDual sits inside King Kong's head to provide a suitably throaty roar to the 38ft tall beast.

Elsewhere, on distributor **Adam Hall's** stand, **Wharfedale** turned its attention to the background speaker market with the latest additions to the successful Force range. A single 100mm drive unit loaded box, the Force 1 comes complete with wall mountings and is rated at 30W with a 100-15,000Hz response, whilst the Force 2 is a dual enclosure system with the Force 1 box on top, combined with a secondary ABR (auxiliary bass radiator) underneath. For further bass extension, a separate Force PSB passive dual bandpass tuned box is also available.

Extra additions to the Force range were also shown in the shape of the Force 5 array, which is full-range five component column which should prove of interest.

Harman were showing previews of the JBL Control 1C unshielded box for contractors plus JBL 4655 and 4652 wide-dispersion high-power enclosures which are finished in birch, whilst **Millbank** made their PLASA debut with a new range of speakers for every application from background sound to touring.

Best known for their 100V line equipment, Millbank's recent acquisition of **Hill Audio** has broadened their horizons with new loudspeakers, five new AP series amplifiers, EQ311/EQ152 graphic equalisers and the rackmountable MULTmix mixing console.

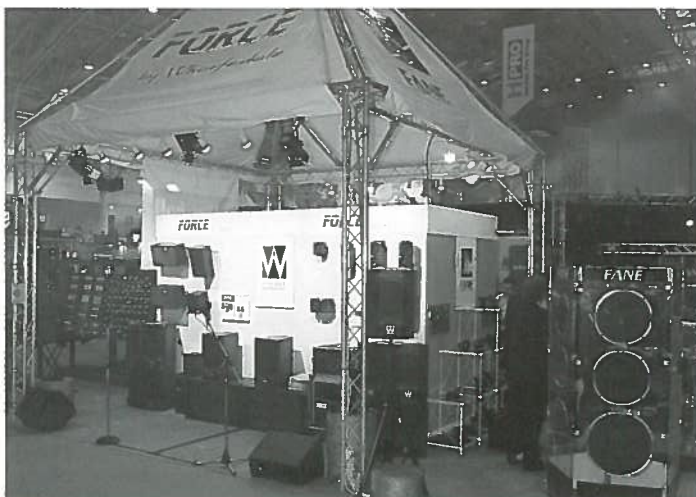
Starting with the new MGSI range of background music speakers, Millbank's range now moves all the way through to the MSR series of two and three-way compact cabinets which, according to Sarah Harwood, allows the company to provide a total audio solution from 100V line through to stadia and arena systems.

Interestingly, this development is the exact opposite of the current norm, with a previously recognised 'background sound' firm moving into larger systems as opposed to a big box manufacturer moving into the smaller market. All good news for the purchaser, but someone, somewhere is going to lose out. Watch this space.

Staying with smaller enclosures, **Wembley Loudspeakers** launched the latest addition to the Cube range at the show. A compact, full range 100W box with eight and 16 ohm variants, the MC2K Maxi Cube has already been shipped to the Far East where it is finding favour for karaoke use as well as conventional background applications.

As well as co-hosting a highly successful party at The Marquee Club on the Tuesday night of the show, Wembley MD Paul MacCallum was also pleased with recent overseas sales of the Wembley Spyder cabinets, which for the show, were flown off a circular truss on the stand to demonstrate their Sound Kinetic's range of 3D Storm surround sound products.

Based around SK's 'Soundstorm' software, the products provide an advanced visual programming tool that allows sound to be moved around an audience, thus providing producers, performers and recording engineers with the ability to create spectacular surround-sound effects for adventure rides, simulators, theatres, live concerts and club applications. Designed to give mono or stereo sources a three-dimensional position that could not be achieved by a conventional two speaker stereo set-up, in its most advanced systems, 3D Storm can move a number of sound sources in different directions at once,



Wharfedale attending to the background speaker market with Force.



Tannoy get kilted up with (left to right) Richard Gainsborough, Derek West, Alan Lochhead and Graham Hendry.



A PLASA debut for Millbank.



David Hopkins of Audio Design Services (left) and his own version of on-stand entertainment.

either by manual control, or via PC in a Windows environment. The product also claims to be able to reposition the apparent source of a sound to overcome speaker position limitations within an installation.

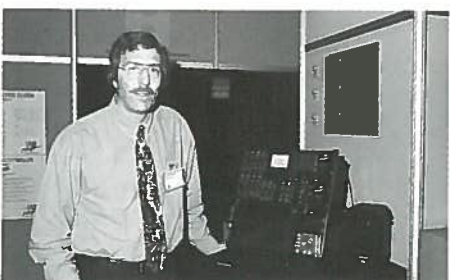
Other automated sound tools could be found on both **Harman** and **Peavey** stands. The UREI Platform signal processing system is a modular 19" rack-mountable system, and new modules were introduced at the show by distributors Harman. The CP3 is the digital controller for the system and it addresses parameters including volume level, mute and variable threshold. With 99 memory locations and a neat LED screen for visual status, it can be addressed externally via RS232 or MIDI.

Alongside this, the DSP1 Speaker Processor system contains all the processing functions associated with an advanced active speaker system. When used in conjunction with the CP3, the user is then presented with a large graphical display interface, with all four outputs from the module being able to be set to pass any frequency range within the 10Hz-20kHz band. The last module, the DSP2, provides the processing power for multiple system functions such as stereo digital delay, with independent mono delays for fills etc.

The final automation system came from **Peavey**, whose Mediamatrix is a totally configurable, open-ended audio engine which can be configured to form entire audio systems, apart from transducers and amplifiers. Based on the Motorola DSP (Digital Signal Processing) chip set, this is a powerful audio tool which has already caused quite a stir in the international marketplace, with apparent interest from the US Senate.

These products provided one of the highlights of the show as they illustrate how current developments in automation will directly effect the reproduction of live and pre-recorded sound. Whether a computer mouse will ever replace the fader in the audio chain now becomes an interesting point for debate.

Another first time exhibitor, **Next Two** are best known for their range of PA loudspeakers which



Bob Offenstein from Harman USA with the latest UREI Platform modules.



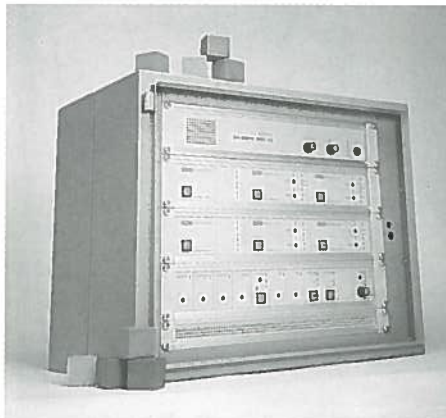
Next Two: making a name in the PA arena.

are used in the leisure, hotel, public transport and air travel industries as well as general PA sound reinforcement applications.

A new range of IP-rated weatherproof horn loudspeakers were launched at the show. Available in 8, 15 and 25W versions, the units also comply with voice evacuation standards. These were complemented by a wide selection of loudspeakers including the latest SUB-200, 20W and SUB-500, 50W moulded cabinet speakers which are available in both 8 ohm and 100 volt line versions, and are aimed at the background music and installation markets. This is a new departure for the company, who are hoping that the aesthetic SUB range will find favour with interior designers for surround sound systems.

Voice evacuation and voice alarm systems were the name of the game on the **Baldwin Boxall** stand, where the company were showing their new Vigil 25 system. Designed to meet the requirements of BS5839 and BS7443, the system features full battery back-up to both amplifiers and mixers, plus full monitoring throughout the audio chain (even fuses) for reliable and fail safe operation. **DNH Worldwide** also had safety and reliability in mind with the launch of their Safe-10P, fire-retardant, weather-proof cabinet. A 10W full-range compact unit, the 10P can withstand temperatures of 150 degrees Celsius and is designed for general commercial installation as well as voice evacuation applications.

Hostile conditions are also no problem to speakers from the **Audio Design Services** range, which are flame retardant, explosion proof, waterproof and fitted with flame resistant cones up to 204 degrees Celsius. As well as a new heat control terminal box which automatically disconnects loudspeakers from the circuit in the case of overheating, the company were also showing their new IP65 flame retardant column



Baldwin Boxall's Vigil 25 voice alarm system.



Nigel Cunningham of Next Two with Phil Hildrow and Hans Freytag of C Audio.



Sound Kinetic's Tim Corkerton with Wembley's Paul MacCallum and the award-winning 3D Storm.

and ceiling speakers, as well as new cabinet boxes.

Interestingly, as well as producing heavy duty units which can survive a staggering 1000 degrees Celsius, the company also appeals to those more aesthetically-minded with products which can be colour matched to any BS or RAL shade.

The small speaker mix was completed by **Jamo**, who had literally bussed in their showroom in the shape of a corporate double decker! Used predominately in 100V line and low impedance installations, Jamo were showing their full range at PLASA for the first time. Most notable were their Atmosphere and Converta ranges which incorporate both sound and lighting from a compact, fashionable enclosure.

Jamo are another company moving into the larger enclosure market with the launch of their PA range. The three boxes in the range are the PA 4008, a compact two-way wedge stage monitor/PA unit; the PA 5001, a two-way full range 200W cabinet; and the PA 6000 500W subwoofer, plus all units can be controlled through the dedicated EQ5001 and EQEC6000 controllers.

At this point you could be excused for thinking that the show was dominated by speakers, and in fact you would be right. So before we move on to the latest developments in the mid size and touring box markets, it's time to move away from items of a Stentorian nature and cover highlights from elsewhere along the audio chain.

After 20 years in the audio console market, **Soundcraft** chose the PLASA show to announce their entry into the DJ/Club market. One of the surprises of the show, the D-MIX 1000 is a modular 19" rackmountable mixer for custom configuration in high-end installations, which features angled faders and a replaceable plug-in cross-fader. At the moment the desk is configured with eight channels (two mono and six stereo) although the company is looking to produce larger versions in the future. "We've designed the mixer from the point of view of a live console to meet the higher audio specifications now expected by the club market," explained UK product manager Mike Mann.



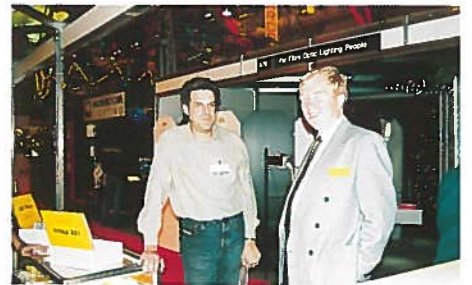
David Bearman of Court Acoustics, Richard Woolley of S&VC and Mark Burgin of Shuttlesound.



Control-talk for Charlie Richmond of Richmond Sound Design and Phil Pyke of Madame Tussauds, with Vic Dobbs and Rob Shuard of Glantre.



Ralph Jörg-Wezorke of CP&P GmbH getting down to business with Mervyn Lister of Doughty.



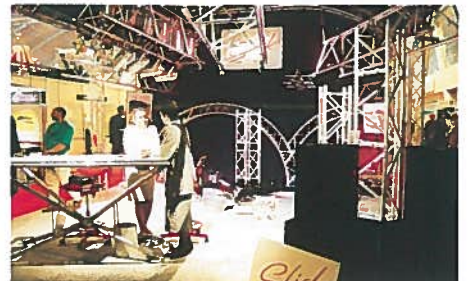
Fons de Vreede of Flashlight (Holland) with Eddie Ruffell of Lee Filters.



Return visit to PLASA for Craig Johnston and Christine Czech of Columbus McKinnon.



Ken Achard and Carl Gray with Peavey's DTH range of speaker enclosures.



From the Lite beam to the Mega Beam for Slick Systems.



John Walters, Philip de Coudyser, Mervyn Thomas and Andrew Walters.



The sun shines for the team from LSC and their new Axiom control desk.



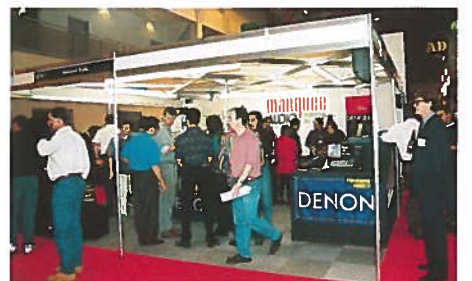
Jon Reay-Young (second left), John Burgess (second right) and Bill Smillie of DeSisti with Clive Salmon of GE (left).



CCT concentrated their display on colour change systems, notably the Coloursette 2.



John Carroll of Soundtracs (left) with David Bearman of Court Acoustics.



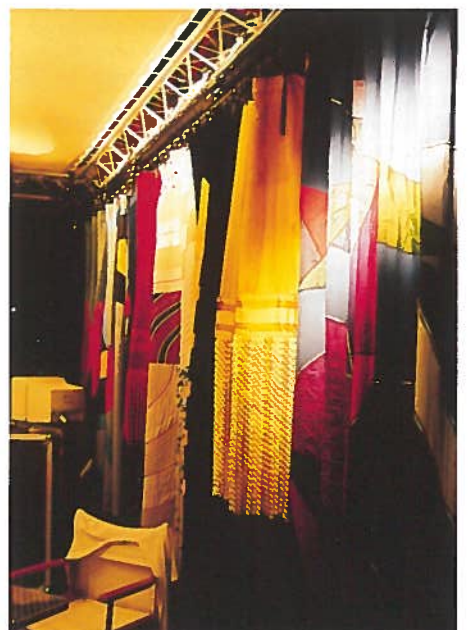
Marquee drew the crowds with their extensive sound portfolio.



The smart green and blue livery for Lite Structures and their functional stand.



Derrick Saunders and Jane Dorling of Pulsar are caught in the frame.



Curtain-call for Gerriets and their range of drapes and projection screens.



No sign of Cliff Richard, just Sandra Cockell of Formula Sound and her Shadow.

Whether the unit's long-throw faders will find favour with DJ's is a debatable point, but with pre-sales of 35 units to Germany and plans for the first UK install at London's Camden Palace, all looks favourable. Installers may also be interested to know that the unit will take two and a half litres of alcohol poured into it and still work. If only DJ's were as reliable.

Mann also had good news on other new products on the Soundcraft stand, with the first sale of the SM12 monitor console to Warwick Arts Centre via distributor Marquee Audio. The SM12 is a purpose-designed stage monitor desk and successor to the Series 500, which features 12 mono, plus 1 stereo send, 4-band sweep EQ and the SM logic-controlled solo system as used on the existing SM16 model. Another newcomer is the SM24, which features 8 mono plus 16 mono or 8 stereo sends, again with SM logic controlled solo system.

Theatre applications are also now covered with a new version of the Delta desk. Featuring individual routing to the four group busses, six aux sends with pre/post switching, two faders to control stereo return levels and a 6x4 matrix as standard, the Delta Theatre is a powerful feature upgrade which should prove highly popular.

Another Harman company, **Allen & Heath**, were showing new console product with the world launch of the GL4 live desk.

Considered a currently unique console, the GL4 can switch between FOH and monitor duties without loss of quality and is available in configurations of up to 40 channels. Fitted with recessed mode switches, the desk can change from an eight bus FOH desk to 10 bus monitor mixer, plus it can also cater for stereo and eight track recording. Similar to the existing GL2 rackmountable mixer, the GL4 can also be expanded via A&H's 'Sys-Link' system which is a bus, aux and routing link which enables, for example, three GL4s to be linked to form a 120 channel console with 144 inputs.

A MIDI link enables mute group masters and solos to be controlled from the master console. To confirm the consoles popularity, A&H announced pre-release orders of more than £200,000 worth of GL4 mixers to the USA via their US distributor DOD. Also new to the show was the GR1, a 1U 25-input, three bus zone mixer. Designed to conform with all necessary Health & Safety and



Citronic's Mike Gerrish in demonstration mode.

BS standards, the unit is aimed at conference, pub/club, translation and general zoning applications, and again features Sys-Link circuitry for daisy-chaining units for expanded systems.

It was birthday time at **Formula Sound**, where the 21st anniversary was celebrated with a competition for an unique gold anodised version of their award-winning PM90 mixer. Formula have the habit of coming up with good ideas, and this year's show was no exception with the launch of the Shadow standby mixer.

A simple four-channel plus mic input unit with rotary faders, the Shadow also features headphone socket and crossfader and is designed to keep the music playing if a venue's main mixer fails. Fitted on-line between sources and the main mixer, the unit automatically overrides the failed mixer when switched on and provides back up in emergencies or when the main mixer needs essential service. A darn good idea and well within budgets at £375.00 plus VAT. Needless to say, Formula Sound report that the first batch off the production line have already been sold.

Although launched at the beginning of the year, **Citronic** rolled out their Ephos range of mixers for their PLASA debut. Better known for their range of products for the club market, the Ephos range is a step up with nine models available, with eight to 16 inputs and various combinations of mono and stereo capabilities. Standard inclusions are a seven band graphic EQ and 128 programme digital effects processor. Staff changes too at Citronic, where Stuart Garman has now joined as managing director (see news story, page18).

One of the highlights of the APRS Show made an appearance on the **Marquee Audio** stand. The Yamaha Pro Mix 01 console offers affordable digital mixing with 18 inputs with 20-bit linear/64 times oversampled AD converters. Instant recall of the entire desk is also available with 50 scene



Matthew Gilbert keeps his head about him on the Trantec stand.

memory and dynamic automation of every console parameter, and of course being fully MIDI compatible, it will even run a lighting programme.

As well as the Pro Mix 01, full demonstrations were also available of the JBL CADD2 and ShuttleCAD design software, BSS Varicurve remote system and a full selection of products from JBL, Turbosound, Soundcraft, EMO and Formula Sound, plus upgraded Denon twin CD players and MiniDisc systems.

Other mixers included a full selection from British manufacturer **DDA** who were showing models from their latest QII range. Aimed at the concert, theatre and production markets, the FOH model features left-centre-right panning, whilst its stage monitor partner allows for up to 20 sends per channel. Products from DDA's respected Forum FOH range were also in attendance, which incorporates a 10x8 matrix and eight mute option.

HW International were showing the latest from British manufacturer, 3G, which included the Silk range of live and recording mixers. Amplifiers also feature in the 3G portfolio, with a new 200W mono, 100V-line amp, the LA200 at the show for the first time. HW however, are probably best known for their distributorship of the Shure range of microphones and audio products. The M367 is an upgrade on the original M267 professional microphone mixer and was shown alongside a new range of low-cost diversity systems. Available in hand-held, instrument and lavalier formats, these were joined by Shure's latest MPT1350 approved body pack systems.

Radio microphones just seem to get smaller and smaller, and **Autograph Sales** claim to lead the field with the new Pocket Diversity Systems from Micron. The company were also launching the high-end TX505 lightweight hand-held transmitter which offers both dynamic and condenser capsule options plus integral antenna, switchable frequencies and the Micron CNS system for optimum performance even under very high SPLs.

Trantec Systems are now claiming to be the largest manufacturer of DTI-approved radio microphones in Europe, and their UHF S5000 true diversity systems seem to be taking hold after their APRS release. The system is capable of operating on 64 channels in the UHF Band 69, and although currently only available in a belt-pack format, Trantec's Chris Gilbert is looking to provide a



Worldwide launch of the new GL4 from Allen & Heath.



DJ/Club market entry: Soundcraft's D-Mix 1000.



Chris Watts and Bruce Elliott of Multi-Remote with their wide range of communications products.

hand-held option by the beginning of 1995.

Sennheiser also had new RF gear to promote, with two products aimed at opposite ends of the market. For the budget-conscious, the 1053 pocket system can be used for both voice or acoustic instruments and features an omnidirectional microphone which has a sensitivity switch to match the mic for high and low SPL applications. As an added bonus the unit will operate on two switchable VHF frequencies. At the higher end of the market, the new SKM5000 hand-held transmitter has 16 switchable VHF frequencies, interchangeable capsules including omni, cardioid and super-cardioid, plus an integral antenna.

John Hornby Skewes were showing their Chiayo DTI-approved single and diversity wireless microphone ranges that offer hand-held, tie-clip and instrument versions, plus a Shure capsule option on the hand-held unit. Meanwhile, it was preview time at AKG, where the Harman-owned company were lifting the wraps on two budget diversity VHF systems.

The WMS100 will offer a choice of dynamic and condenser capsules including the Tri-Power models and the C5900 unit as used by Rod Stewart, whilst the WMS50 will be a cheaper version of the WMS100 with smaller receiver and less expensive capsule. Both units should be on sale in time for Christmas.

For Platinum Amex card holders, AKG's WMS UHF system was also on show. Currently getting rave reviews on the Peter Gabriel Secret World Tour, this modular system is regarded as state-of-the-art for UHF systems, but with a five figure price tag, is not for the faint-hearted.

Audio Technica showed the latest of their single-channel non-diversity wireless systems together with a new range of wired mics - Midnight Blues, which are three neodymium high output models with silent lockable switch and naturally, finished in a distinctive non-reflective dark blue casing. Priced between £65 and £95 these models are apparently already popular in the USA.



ASS launched their 21" sub box.



HW International celebrated their 30th anniversary at PLASA: Peter James and Dennis Harburn oversee the prize draw.

Wired microphones were strangely low in numbers with most manufacturers spotlighting RF systems, but Audio Technica's Engineered Sound Series, plus selections from Sennheiser, Milab (with the latest LSR-100 condenser via Autograph), US-made CAD mics via JHS, AKG, Electro-Voice and Shure, kept the wired flag flying with Shure's Beta 87 causing much interest, especially in the tour market.

Moving on along the audio chain, BSS are best known for signal processors for the touring and theatre markets. The company is now moving into other installation markets with a new set of products. The first of these is the FCS-930 graphic equaliser. A single-channel, dual-mode graphic, the FCS-930 can be used in either touring or feedback elimination applications. Featuring switchable filter width (Q mode), the unit incorporates sweep high pass filter, clip LED indicator and Q-filters for room contouring or selective tuning as used in feedback suppression. The existing dual-channel version, the FCS-960 is already used extensively in the touring market.

Another PLASA newcomer was the MSR-604 II Active Signal Distribution system, which provides four outputs from a single mic or line input. Each unit features four channels, switchable gain, headphone monitoring and headroom metering.

Sharing a stand with DDA were first time exhibitors, Klark-Teknik, who were showing the new preset equalisers originally launched at the NSCA in Las Vegas during April. The DN320 dual channel 16 band preset equaliser and DN330 single channel 30 band preset equaliser have been specifically designed for permanent installations which require the units to be sealed after system set-up. Unusually, the models are fitted with rotary potentiometers rather than faders - these are recessed behind the front panel and cannot be accessed without a screwdriver - the pots themselves though are rather special in that they are the same long-life conductive plastic units as found on the Midas live sound desks! Both the DN320 and DN330 feature 24 volt DC operation



AKG previewed their budget WMS radio mics.



The team from Audio-Technica line up: Shig Harada, Paul Maher, Neil Howe and Nick Powell.

in addition to 115/230 volt AC, making them ideal for emergency evacuation systems where mains power fail-safe facilities are required.

It's sometimes difficult to get excited about amplifiers. Anonymous blocks that sit in the corner - switch on and forget them. Naturally, PLASA exhibitors shudder at this thought and go to great lengths to make sexier, cleverer amps.

Autograph Sales showed their CyberLogic series of multi-channel amps which are a little different to the norm in that the NC-800 packs eight individual amps into a 6U rack to produce over 11,000W.

Massive power too from Malcolm Hill Associates who were celebrating their 21st anniversary and launched a new model in the highly acclaimed Chameleon power amplifier range. Offering up to 2kW per channel from a 1U package, the 3000S is the latest of the 10 models which range from near-field monitoring to live sub-bass specific product.

Carver amplifiers now carry a five year warranty and are distributed by The Sound Department. The latest addition is the high powered PM1400. Producing 700W per channel into four ohms, units have already been installed at Tottenham Hotspur's soccer ground by Glantre.

Another US range, QSC range amplifiers have received great acclaim since their picked up by HW International. To celebrate their 30th year in business, PLASA saw the company reducing prices on the MX series of amps, plus increasing the range with the MX3000A which offers 1100W per channel into four ohms. A new range of amplifiers from Camco were also shown. These 'super-amps' deliver very high outputs, with the top-of-the-range being the DLP500P rated to deliver 2500W per channel.

Products for the DJ/club market are getting more 'professional' all the time, and Vestax have been at the forefront of DJ technology for some years. The company were launching no less than a dozen new products aimed at both the DJ and sound engineer.



Sound talk from Jasper Whittaker of Shuttlesound.



Harold Smart (left) with Gwen and Michael Leaver of Adastra.



First-time exhibitor Altai showing its extensive range of music and discotheque products.



Stewart Knight of Knight Electronics demonstrates the Addabox portable sound system.



Colin Craythorne (left) and Derek Usher with Bretford Manufacturing's TV mountings.



Looking in on the Millbank emporium where several new sound products got their launch.



Audio Design Services celebrated the 40th birthday of sales manager Bill Mackie.



SCIF's Brenda White on the ISCE stand is serenaded by a passing minstrel.



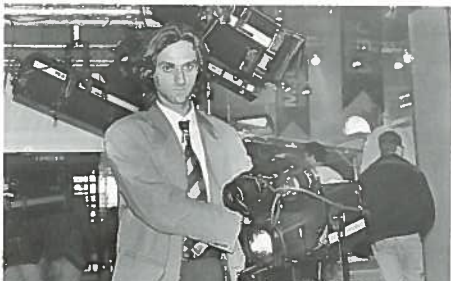
Lamps, lamps and more lamps are the order of the day for MGC.



Glen Harris and Sarah Eagles with Canon Audio's new V-200 loudspeaker.



Terry Baldwin of Baldwin Boxall (left) concentrating on voice evacuation systems.



Nicolo Oliva of Spotlight with the Piccolo - a combined followspot and effects projector.



On the DNH World-wide stand, MD Tom Berg proudly displays the Safe-10P cabinet



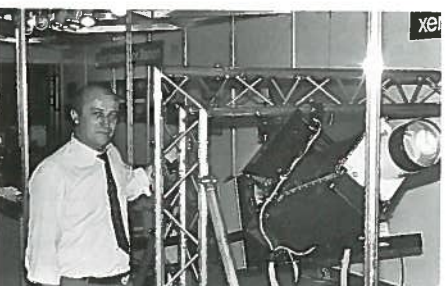
Mico Lighting's MD Colin Durber beneath the company's new net-lighting.



Chris Hitchens (left) of Harkness and their new Autostage PC control system.



John Ross Ashton and Esther Kooistra with ETC's PIGI high-powered projection system.



Alain Bardouil projecting forth on the Hardware for Xenon stand.



Shuttlesound demonstrated both ShuttleCAD and ShuttleVIEW computer software.



Howard Eaton's Sue Collier and Bytcraft's Patrick Bravard with the DMX Port distribution system.



Dave Fisher of Shuttlesound (right) demo'ing the Dynacord DSP 224.



Allen Mornington-West with Tannoy's Alex Munro.

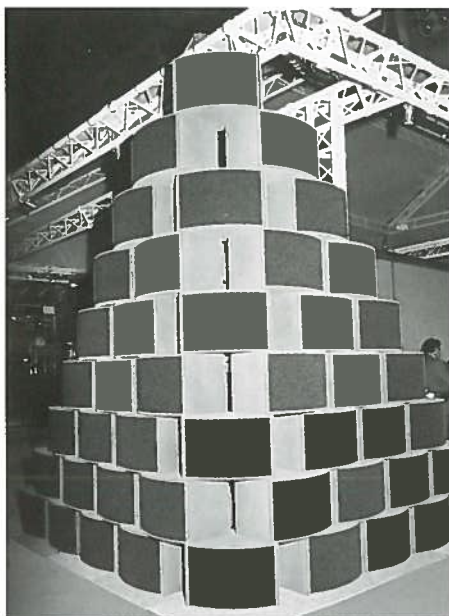
These include new CD Players, a scratching digital sampler, the Beat-1 software beatcounter, a direct-to-disc digital six track recorder, PMC-05Mk3 scratch and PMC-26 rotary control mixers, the PDT-5000 direct drive turntable, DCR-1200 frequency band splitter and GE-335 stereo 30-band equaliser, plus the new XR range of speakers and VE-X range of Mosfet amplifiers with internal assignable crossovers.

If initial response is anything to go by, Vestax may certainly have a winner with the PDT-5000 turntable which, by all accounts, is set to test the dominance of the Technics SL-1200 in a big way. With models already installed in London's Equinox and interest from Justin Berkman at the Ministry of Sound, it's good to see Rob Peck and the crew getting rewards for their hard work over the years.

DJ's were also to the fore on the **Batmink** stand, where the Glastonbury-based firm were showing Pioneer's latest product, the CDJ-500. Designed to look and operate like a standard vinyl turntable, the Pioneer is the nearest thing so far to a CD turntable, complete with vari-speed slider. Admittedly, there's no actual 'hands-on' facility, but initial reviews and feedback should mean that this player is at the top of many a club DJ's wish list. Nightclub owners should prepare for the subsequent increase in subtle-hints.

Back to loudspeakers, but first, components.

Spanish Manufacturer **Beyma** were showing a



Cornering the market - Ohm are sitting pretty.

new powerful 15" speaker in the shape of the G450 which has a power rating of 650W RMS, plus a dual concentric unit and 1" compression driver. Also from Spain, **DAS**, another first-time exhibitor, showed their wide range of chassis units including horns, cone drivers and accessories, plus Reference Series sound reinforcement and sound touring boxes for the concert market. **Volt** were also premiering a range of inductors including small air core types for treble crossovers through to large low-loss bass inductors which use laminated cores for high power handling. Their Radial 12" and 15" units, now covered by European patent, were also on show, together with fibreglass horns and the VH10 full-sized midrange horn for concert applications.

JBL's involvement with the award-winning Ministry of Sound Tour has helped to put the new SoundPower series well and truly on the map, and as well as demonstrating SoundPower in the famous JBL bunker, the company have now released components from the range onto the market. The first of these are the 2447 and 2451 1.5" throat compression drivers, whilst to complement these, three mid-format bi-radial horns - the 2352, 2353 and 2354 - were also shown.

The jewel of the components, however, was hidden on the **ASS** stand, where the latest gold dome, ovalar tweeter from Audax was installed in a monitor enclosure. Looks good, sounds good, so expect interesting news from Audax soon.



HZ's Larry Dane with Finnish distributor Matti Sarapaltio and part of the HZ range.



The complete Martin Audio team.

After small enclosures for the installation market, medium-sized (or compact PA speakers if you prefer) were the next major development at the show.

Martin Audio launched their Wavefront Series to the UK market in the shape of high efficiency, high-power, constant directivity enclosures. The first, the W1 is a trapezoidal design, loaded with a 10" bass and 1" compression driver, whilst the W2 active/passive two-way box uses a 12" bass and 1" compression unit. Another interesting development was the EM-150, a new sub-bass enclosure designed for use with the EM-15 ICT Pro cabinets.

A stereo sub rated at 200W per channel, the EM150 is unique in that it allows multiple clusters of EM15's to be run off each channel without ohmage mismatch. For example, six EM15s can be run (three per side) with the total impedance still only 4 ohms. Designed for background music, audio visual and sound reinforcement applications, this new box looks set to do well and with over 10,000 EM-15 cabinets currently sold worldwide, the market is definitely there.

Good sales were reported from **Ohm**, who signed a deal with **JYG** at the show. JYG will take 20 Ohm PSA2 two-way active systems a month, primarily to fill export orders. The PSA2 couples a 15" loaded bass unit with a mid/high pack containing two 8" speakers and compression driver. Sales galore also for **Shuttlesound** with a complete ElectroVoice System 200 rig going to leading London rental company, Farrahs. The rig features 20 SX200 enclosures and 10 SB20 sub bass units with a number of electronic controllers, and especially pleasing for Shuttlesound as the System 200 range was only launched as recently as Frankfurt.

HZ Sound Systems from **Eminence Audio** have a new range of polyethylene enclosures with a titanium diaphragm option for the horn unit, plus the PE300, an active powered version of the established HE300 with 300W RMS amplifier and electronic crossover. HZ's Larry Dane reported a lot of interest in the market for the HZ cabinets, especially in Finland.

Sennheiser now also have a range of cabinets in their portfolio with the Anchor series from the USA. Available in mains or battery powered versions, the Explorer system is a sealed, polyethylene, weatherproof enclosure for single-handed operation under almost any conditions. The Explorer is the smaller version of the Liberty range of AC/DC battery/self-powered speakers, plus the company were also showing the PortaVox system which is designed for outdoor applications for up to 5,000 people.

Celestion's popular SR1 enclosure has received an upgrade launch of the new SR1 MkII. This new



Vestax launched a host of new products at the Show.



Linton Smeeton of RCF (centre) where the Valpolicella and Parmesan proved as big a draw as the latest Event series loudspeakers.



Ted Rook (right) and Andy Simmons of Crest with the Century Series LM 20.

enclosure took pride of place alongside the new KR1 and KR2 install/monitor boxes, with full demonstrations also being performed of the SR and CR systems, which were driven by the latest SRA1000 power amplifiers.

Meanwhile, Valpolicella and Parmesan was the order of the show at RCF, where UK sales director Phil Price was showing the latest Event series of sound reinforcement enclosures from this Italian company, as well as a full selection from the Monitor ranges plus DWM Diversity Radio Microphones and the 200 Series of PA Amplifiers.

The first in the Event Series is the Event 3000 which incorporates a 15" bass and 1" compression drivers. There is also an associated 18" sub woofer. The company also released plans for the Event 1000 with 12" woofer and Event 4000 3-way system which should follow by the end of the year.

On to the larger systems for touring and major installations, and Essex-based Acoustic Sound Systems (ASS) are hoping to become a major force in the sound reinforcement market with the launch of their new Matrix PA system. Built around a 2x15" horn loaded bass cabinet and a long throw 2x12" mid/high enclosure, the Matrix system claims high clarity via the use of the latest JBL 2451 1" throat compression driver in the mid/high box, and with measurements of 110dB at 1W/1m, certainly loud. The first Matrix system has been installed in The Coliseum, London, where two stacks are used in conjunction with a 21" sub bass scoop bin, another new product, which as well as being a successor to the established 18" cabinet, is considered to be one of the first cabinets of this type and size to be produced.

Visitors from the continent will already be au fait

with German speaker manufacturer GAE, whose product is now distributed in the UK by HW International. Making its show debut, GAE systems have already been used at the Cambridge Folk Festival and orders have already been placed by the Music Room PA hire company and many overseas clients with interest also coming from the theme park market. GAE offer a wide range of enclosures from compact two-part systems to arrayable flown units, and all are passive except for the top-end Hawkwind models.

"In the past, passive systems have absorbed an immense amount of amplified energy to achieve their aim. GAE have developed new crossover filters which do not require electronic control and therefore do not absorb energy," explained product manager Peter Barnard. Admittedly it's always good (and rare) to see a fully flown rig at PLASA and certainly the system looks good. Two systems were flown, the standard passive and active Hawkwind four-way rig for arena and outdoor event use.

It seems that the summer has been full of those ubiquitous blue boxes from Turbosound. PLASA was no exception, with the company literally getting down to the bare bones of speaker manufacture with the latest addition to the Floodlight stable in the shape of a Skeleton Version. An open frame design with no cabinet, the Skeleton Floodlight has self-sufficient moulded driver enclosures held in a steel frame which also forms part of the flying hardware.

Designed for applications where the units will be mounted out of sight, or there is simply no need for a road-proof casing, the Skeleton offers cost benefits whilst still retaining performance. Although initially offered as a custom-build only

product, their success within the Reading Utopia Nightclub installation has meant that the 'boxes' are now in full manufacture status.

Other new products included trapezoid versions of the TFL-760H Floodlight enclosures which do not have the touring hardware fitted, thus cutting costs for those who do not wish to fly the system. A new Downfill cabinet was also shown which, developed especially for the Peter Gabriel Secret World Tour, is effectively a split TFL-760H, which can be rotated to obtain the dispersion required.

New products too from Renkus-Heinz, with a series of enclosures aimed at the theatre, high-end conference and installation markets.

Previewed at Frankfurt earlier this year, distributors Audio Projects were showing the finished product in the shape of the, the SR-5, SR-81, SR-82 and SR-62H which use 'complex conic' waveguide technology. According to AP's George Thorn, this provides superior pattern control, lower distortion, less colouration and an extremely natural sound. Active and passive versions are available, together with various horn dispersion choices.

To bring us neatly to a close, US manufacturer EAW were flying the flag with their new distributor Lighting Technology. As well as existing products, the new SB48 subwoofer and LA range of compact enclosures were on display. All of these include built-in passive crossovers.

After four days and over 50 stands with sound connections, it can be categorically stated that PLASA is now firmly entrenched with sound to cover all applications. Gone forever is the 'disco' tag, which, although important in its own right, no longer dominates. The lights were good though.



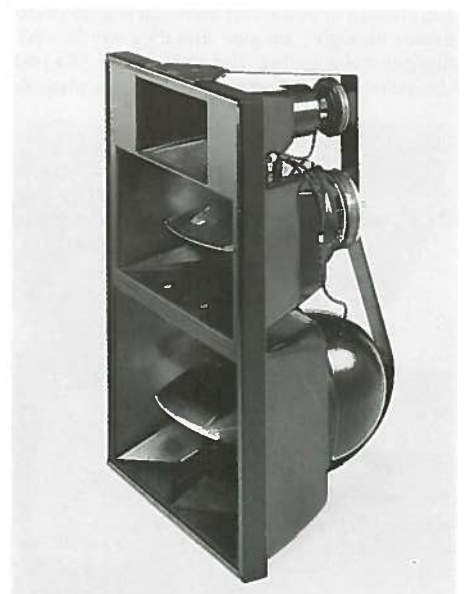
EAW on the Lighting Technology stand.



John Carroll (right) of Soundtracs deep in conversation on audio matters.



Roy Millington of Cloud Electronics with PLASA's Anna Pillow.



Stripped down version of Turbosound's TFL-760H high power installation speaker.

MOVERS, NOT SHAKERS

MOVING LIGHTS - TONY GOTTELIER

It falls to my lot this year to report on the latest moves in moving lights on show at PLASA, so all of those not fitting into this category who were pleading for my attention - tough! You got the wrong writer. Those movers dedicated to the disco market will be covered in Paul Dodd's review.

So strictly in alphabetical order:

First up is Autopilot, not just alphabetically, but because it was also the winner of the PLASA '94 'Best New Product' award. Although its manufacturer **Wybron** is not directly involved in the automated lighting business, unless you include scrollers in that category, boss-man Keny Whitright was the original development engineer working with Rusty Brutsché at ShowCo when the Vari*Lite was but a dream and before Jim Bornhorst came on the scene. So he must know a little bit about the subject.

Naturally, he is very proud of Autopilot as an original idea developed from scratch on his own premises. The system consists of a controller, two belt pack transponders and six ceiling receivers. The transmitters enable the receivers to identify the location of two performers in three-dimensional space for the controller to carry out the complex and continuous calculations necessary to allow robotic lights or cameras to track them. While it generates its own pan and tilt information for focus purposes, the Autopilot controller also receives DMX from the lighting console passing other attribute data, such as colour, gobo, iris down the line etc. While this product has been seen at previous shows in a progressively developing prototype form, it is now fully up and running.

Avolites continued their gem metaphor with the launch of the new Rolacue Pearl desk designed to control up to 30 articulate lights, colour scrollers and dimmers. Following in the footsteps of ETC, they also revealed their Graphics Tablet which, as suggested several years ago by Tim Burnham, is a friendly way for a lighting designer to work in a familiar format. Using a light pen in place of the pencil and a digitising tablet in place of paper, he can work on a plot of his lights, moving the beams, colours and gobos etc in real time. The system, which works alongside all Avolites desks, enables groupings of instruments to be called and could, obviously, be very useful during programming.

Paris-based **Cameleon**, fresh from their undoubted success on the Floyd tour, to say nothing of the Rolling Stones, were on hand to show the virtues of the Mark IV Telescan, with a lineage whose pedigree goes right back to the first commercial moving lights. Indeed, Telescan could claim to be the first surviving waggly mirror device, though I am sure that they would reject that particular epithet. The Mark IV is a 2.5k HMI luminaire of modular construction, as previous



Daryl Vaughan and Scott Penner with Wybron's 'Best New Product' trophy awarded to the highly innovative Autopilot.

models, but with the notable additional option of a film strip scroller, which enables the projection of up to 50 images, whether graphic patterns or colour transparencies.

Cameleon also produce the Telejector, first seen to great effect on the Floyd and though it does not strictly fit into the parameters of this article, it deserves a mention. This 6kW large-frame projector incorporates a double-scroller with a capacity of 150 pictures, and Cameleon's 'trichromic' colour mixing system, an unusual one for such a luminaire. The combination of the two can create some stunning effects, but probably never more so than when used with Peter Wynne Willson's liquid effects on the Floyd. For this, Cameleon were obliged to come up with some nifty engineering, to enable the Telejector to be converted from a forward into an overhead projector via a tilting yoke.

Clay Paky, who make their annual releases at Rimini, were relying on the impact of the new Superscan Zoom to turn heads on the **Pulsar** stand.

Coemar have formed a liaison with **Compulite**, who have developed a badged version of the Animator with special software for the Italian manufacturer's NAT corkscrew-head luminaire. This follows on Compulite's successful association with Telescan over recent years. The introduction of 1200W, as opposed to the original 2.5k versions of the NAT, and other models with stripped down facilities, enabled Coe-tech, the UK distributor, to announce a series of NAT models at very much more generous price breaks.

On the same stand, Axon Digital were demonstrating their new Lynx control panel alongside the ShowCAD system. This membrane panel is designed for dynamic access to cues, strings and all the complex moving light manoeuvres for which the control software package is well known. Several new personality templates for recent issue robotic luminaires have

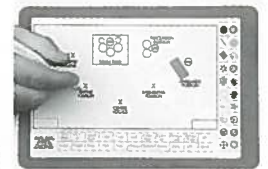
been added since last year, together with numerous software enhancements, including a rapid patching system which allows several instruments to be patched at a single command. 'Autogenerate' provides menus of pre-prepared cues which can save the user huge amounts of time in programming, while greatly simplifying the task of programming complex set-ups.

Flying Pig Systems (on the **AC Lighting** stand) launched the Wholehog II, though the paint was still a little tacky on the software, so they were keeping a low profile until LDI. The big claim for the new unit is that it will allow moving lights to be programmed as quickly as conventionals and for several different marques and protocols to run simultaneously. We shall just have to wait until LDI to see it for ourselves.

High End Systems have introduced a CX version of their successful new Cyberlight, which will be available through **Lightfactor** in the UK. This cut-down model, aimed at the more prudent user, will be lighter for the absence of variable front, colour mixing (the colour wheel remains, of course), and remote zoom, though manual zoom is provided. And, of course, the price will be lighter too. Having launched Status Cue earlier in the year, High End suddenly discovered unexpected demand from the Far East for a Cyberlight version of their successful LCD panel which apparently is preferred in the region for touring! - quite an alien concept in the West. So now you have Cyberlight LCD which can control up to eight of the 'all-singing, all-dancing', high steppin', Texas smart-lights.

Jands, whose distributor in Europe is AC Lighting who also market the Wholehog, have used AC's good offices to arrange the development of a series of what might be called lap-top desks to be branded Jands-Hogs. The idea is to offer a range of reasonably priced control desks, adopting the universal Hog operating system swallowed into a Jands package, and to make them more available to lesser mortals not able to aspire to the dizzy heights of the Flying Pig's kit. Basically, these are instant access boards which peel away the software layers to give direct hands-on control in a format which will be more familiar to many lighting designers. Three models are available - a basic unit styled Jands-Hog 200 offering 250 channels of control and 12 submasters, with limited memory, MIDI and a VDU output for the same number of channels, and the channel eponymous 600, which has 24 submasters and more of everything else.

Light & Sound Design were certainly attracting lots of attention, both at the Show and in the hotel - it's good to see people enjoying their work so much. The success of the Icon has led to the release of the new LSD Washlight which uses an unusual scrolling



Ivano Burato of Coemar (left) and Ian Brown of Coe-Tech proudly displaying the DI 'Innovative Lighting' Award presented to the NAT luminaire.



Corner control: Steve Warren of Avolites (centre, right) demonstrates their new Graphics Tablet (shown above) on a continually busy stand.

LOUD MOUTH

W I T H W I D E A P P E A L



V-200^{Pro}

No ordinary loudspeaker can match the stunning Canon V-200 foreground loudspeaker. Its radical shape is no designer's whim. The elegant contours of its acoustic mirror give a more even spread of sound across a wider area.

Its high level, wide dispersion characteristics and versatile mounting bracket allow you to either wall, cluster or corner mount the V-200.

Designed to handle up to 200 Watts (to IEC 268-5 long term), the 8Ω V-200 is a 3-way device utilising two 170mm bass/mid drivers and a 25mm HF driver on an acoustic mirror.

Playing loud is one thing. Playing safe is another – V-200 incorporates a comprehensive 2-stage overload protection system. Overloading triggers first-stage protection – the bass/mid driver attenuates and a red LED flashes under the lower grille. Ignore this warning, and continued overloading triggers second-stage protection – the HF driver is attenuated by 20 - 30dB.

The Canon V-200 doesn't just sound good, it looks good too, no matter where you install it. Supplied with mounting bracket and Speakon® connector, the V-200 is the ideal solution for all foreground sound applications.



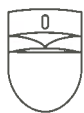
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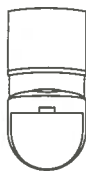
CANON V-200
UNCONVENTIONAL
SPEAKER



SV-15

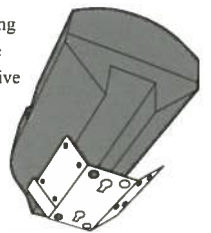


V-100



V-200

The V-200's mounting hardware is versatile and allows imaginative siting on walls and in corners



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technique to provide a form of colour mixing. Graduated complementary colours are contained on two overlapping scrolls built into the front of the luminaire to enable crossfading between colours and the creation of hues and saturated primaries.

The only problem - and for many this is not a problem at all, for they prefer subdued quality of gel transmission - is that dichroic it ain't. And presumably users will have to specify 'warm', or 'cold' colours. Having seen the undoubted success of ETC's Source Four profile in the States, LSD employed the same luminaire designers Entertec to develop the optical system. The result is the use of the same 575W incandescent as the American ellipsoidal which claims to deliver more light than a 1k Par lamp. Other advantages are a weight of only 10kg, truss-positioning at 16" centres, an automated lens rotating facility to allow orientation of the beam oval, and a very sexy looking package.

LSD also introduced 'Mock Icon' a three-dimensional viewing environment for their Icon control desk, a cracked oil machine called Raymist and a 2U high, 8-channel motor module for control of hoists with plenty of feedback information to ensure safe configuration.

Martin Professional launched four new products all now with DMX control, though on their moving luminaires we may have to wait a little longer for DMX tracking. Aside from the smaller models such as the 200W MSD Roboscan Pro 518 which has rotating gobos, and the Pro 400 compact colour changer which offers 32 colours, on-board dimming, variable beam angle and wash facility, they announced the Roboscan Pro 1220 in a version designated for television studio lighting purposes. This model features the 1200 HMI lamp, as opposed to the MSR, and combines the following optional modules with the more standard ones: colour mixing, colour temperature correction, high resolution DMX, plus remote ballast and a silent fan.

A newcomer welcome at this year's PLASA were **Switzerlight** who have come up with the very clever idea of providing up-grade kits for the many Intellabeam HXs out in the marketplace. One of these kits, the JX, offers 115 dichroic colours, and an extra eight gobos, plus space for two custom patterns. The FX simply adds a special effects wheel with two colour temperature modifiers and the three subtractive dichroic colours, to deliver an extra 28 colour combinations.

It occurs to me that if **Vari-Lite** had called their product Auto*Lite, they would be in their rightful position generically at the head of this list. They would also be in the motor business, so perhaps it's as well they didn't. PLASA was our first opportunity to see the new VL6 spot put through its paces. Unveiled for the first time last year at LDI, the luminaire was still in pre-production format, so following receipt of a cute little invite, based on a cardboard cut-out of the instrument from which a tab released the beam containing instruction for



The 'teepee' style Switzerlight stand where the FX and JX Intellabeam 700HX upgrade kits were shown.

the event, we were bussed from the show to the European HQ in Greenford for a delicious buffet and beautifully choreographed light show featuring sixes and fives on the side.

The VL6 is based on the Phillips MSR 400W short-arc lamp using a dichroic glass reflector in which the lamp may be adjusted to select the desired beam field. The best trick is that although it only provides 12 interchangeable slots each for colours and gobos, provided you know what you may want, you can simply slot them in to suit, or have them factory prepared in advance, taking some options on the road with you. With all the other qualities expected of a Vari-Lite moving luminaire and 9kg in weight, the VL6 is available in Europe on rental for only £132 per week.

Last, but by no means last, because it's a personal favourite of mine, WYSIWYG from **Flying Pig Systems** is a PC software package which displays a graphic interpretation of the colour, intensity and the gobo pattern of most automated luminaires on a computer screen within your own three-dimensional set and enables programming, editing and manipulation of the instruments displayed off-line or in real-time. It is not even necessary to have the fixtures in place, you can plot and plan the entire thing on screen simply by calling up the appropriate fittings in software. All you need is a PC-486, the interface expansion card, the WYSIWYG software and a lighting desk which puts out DMX. Once the cues are made in the conventional way to the lighting desk, the monitor will show the lights responding to the board from various perspectives. Believe me, this one's a corker! And with huge potential for future enhancement!

CONTROL TRENDS

THEATRE - ROB HALLIDAY

My big question for this year is: how long should it take you to get round the PLASA Show? And has anyone ever worked out whether it is actually possible to get round the whole show, properly, in the mere 27 hours that the show runs for? There are 215 stands (if I've counted my way through the show guide right) to cover - that's, at most, seven minutes per stand. Hmm. I'd like to make a case for at least one day where the show opened later into the evening, even if every single exhibitor will hate me for it.

At least it proves the industry is alive, well and prospering. And though this year was again one where many manufacturers chose simply to consolidate their ranges, showing minor variations on products shown earlier in the year, there were several good, exciting launches - or, more precisely, near-launches, with non-working or uncompleted preview versions on show.

More noticeable than individual products were a number of product trends. PC-based lighting controllers are now the industry standard and, more importantly, now seem to be accepted by those who have to use them. Computer-controlled flying and scenery movement is now starting to reach the same level of acceptance, with several systems on show. And, to help with the stages before the control is required, CAD for theatre is coming of age, with a variety of systems at a range of price levels being demonstrated.

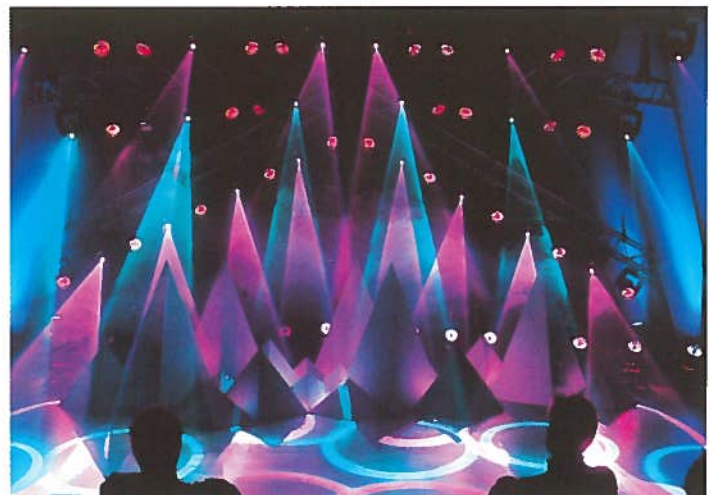
Finally, the march of moving lights into newer, lower budget territories continues unabated. By this time next year, I suspect that every lighting control, apart from the most basic, will come with a decent method of controlling movement - and that even the most basic will have some upgrade path to this capability.

But enough of the trends, and on with the products themselves. Starting just inside the front door with the **Zero 88** stand. Here there was nothing radically new, but the 6x25A version of their ID dimmer cube was being shown. The company had gone for presentation, though, with the dimmer cubes stacked neatly into a kind of sculpture to lighting control.

Compared even to Zero (by no means the most dramatic of the stands), the **White Light** stand next door seemed remarkably muted - just a ProSpot in pieces and a VSFx cloud effect. That's not a new product and I was a bit confused about what it was doing there until I discovered it was running from DMX rather than analogue control - the DMFX? The company were having a 'people' stand with representatives from the various divisions ready to talk to existing and potential customers. Most of their effort was being expended at the nearby MacOwan Theatre with a specially commissioned dance piece showing off the ProSpot range that sub-division The Moving Light Company now



Inside the now famous LSD 'twin peaks' enclosure - PLASA launchpad for a new Washlight.



The launch of the VL6 at Vari-Lite's Greenford base.



BriteArc and Britebeam emphasis from Sylvania.

handle. Called 'Dancing with Light', this show could have been called a ProSpot demo if that wasn't such an insult to all of those involved. Rather than just filling a stand with wooden shapes and then shining lights at them, as others did, White Light actually commissioned a new dance piece. This was then lit by Nick Richings using ProSpots, pitching Digital Light Curtains, and Strand's Toccata 1.5k profiles, and integrated with a stunning video sequence created by Modelbox, using their Renderfarm facility; another Modelbox product, the excellent MacLux Pro lighting package, was also put to good use in designing the show's rig.

The result was a superb show because you watched the show rather than watching the lighting. The choreography, and the dancers performing it, were superb. And the lighting, when you stepped back and analysed it, was great - the ProSpot moves and colour changes enhancing the show in ways that you couldn't do with any conventional lighting fixtures. The pitching DLCs pulled a few tricks of their own, impressing everyone who'd never seen them 'pitch' in a real show before. The other technology featured also played its part, especially the Cirrus carbon dioxide-cooled low smoke system, which finally does seem to offer a realistic alternative to dry ice. And the opening sequence, when the Modelbox-rendered dance sequence transformed, through a gauze, into the real thing was brilliant.

But what was most striking about the show was that it was a great dance piece, with every element, performer and technical, working together. People came out a bit confused because, in the middle of a trade show, they'd been taken away to watch a dance show, not a hard sell sound-



Looking down on the busy stand of Strand.



Reind Brackman (left) and Mike Falconer with Compulite's MLA desk.

and-light show. But the sales point that the ProSpot is a theatre work-horse, rather than a flashy disco effect, was well made in the process.

The falling cost and increasing ease of access to moving lights does mean that the demand for control systems for them is increasing. In particular, now that many of the units can be controlled from DMX, there is a demand for DMX consoles that understand multi-parameter fixtures (as they seem to be becoming known!). The show saw several products along this line, each with a different method of selecting the parameters to control.

The product that probably attracted most pre-show attention was the 'son of Hog', the new version of the WholeHog desk that caused such a stir here a couple of years ago. As this has been covered earlier, I'll just add that this is a great looking desk. Even more interesting was Flying Pig's What You See Is What You Get computer software, also tipped earlier. This looks like a great way of both programming shows off-site and controlling big rigs; Starlite tried something similar a few years ago (and it was good to note their presence at the show), and the increase in computing power since then must mean that this potentially brilliant system is now even easier to implement. For more conventional rock and roll based control, SeeFactor were showing their Light Console moving light control and Color Coordinator colour change control, and Cerebrum continued to promote controls from Celco and Axon Digital Design (ShowCAD) - though they were having a more 'practical' small scale year, demonstrating the Powerdrive equipment stands and Andolite brackets and clamps for which they are the exclusive



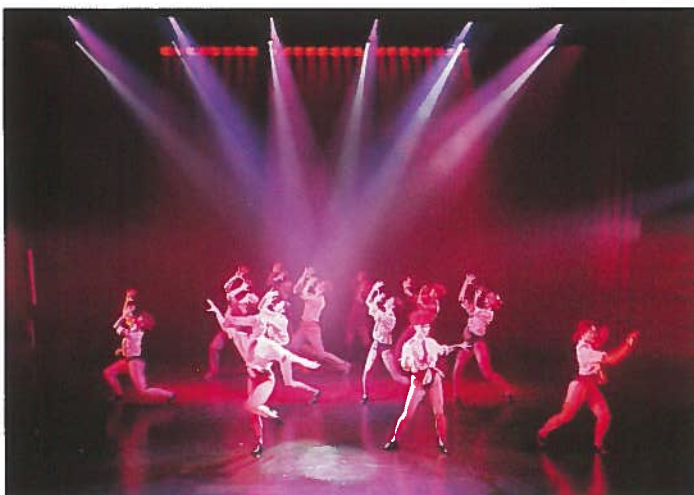
Hoist control on the Pfaaf Silverblue stand.

worldwide distributors.

At the lower-budget end of the market, Compulite's Animator range of consoles has been going from strength to strength over the past couple of years, to the extent that the company took a stand of their own this year rather than sheltering under the wing (or rather the towering, two-storey stand) of parent company the Lighting Technology Group. For many theatre-related technicians, the Animator is their first contact with a moving light control, and it does its job very well. The company also used the show to launch an Animator wing to add moving light control to the Applause and Ovation desks. This was an important launch, since it allows venues that need moving lights to add a decent control system without having to junk their existing controls, and also because the company launched the universal moving yoke it previewed last year and needed an affordable control system for it!

More important, though, was the potential gem I found on the Strand stand. Amongst a range of interesting, if not all completely new, products (the Toccata 2.5k condenser profile, which has a great light output; the new Leko, finally available in Europe; new Supernova daylight fresnels, and the LBX and GSX consoles) was what promises to be a truly innovative product on the stand of a company I have berated at times for seeming to have lost their innovative edge.

The product is (or will be - it's not quite finished yet) a lighting desk called the 430. For Gemini-type money, Strand are promising a desk which looks attractively different from any of their existing desks, yet can be selected to operate like any of them. It has some gorgeous looking LCD displays built into the console, which is based



Dancing with White Light and the ProSpot performers.



David Catterall (left) of Zero 88 with the new version of the ID dimmer.



Peter Ed of Strand Lighting with the 430.

around a standard 486 architecture, which is software upgradable, and which will, eventually, have a proper understanding of multiple-parameter fixtures such as moving lights, and will be able to control them through a decent trackball-and-control wheel panel. I think this could be the first proper moving light desk that theatre people really feel at home with - 'proper' in the sense that any channel can have any number of parameters, rather than other systems like the Arri Imagine 3 where channels can just be linked to other channels so that selecting one selects the other. I know it's not finished, but if this desk does what Strand claim it will do, at the price they promise, it will pose a very serious threat to a huge range of lighting controls. Most importantly of all, they seem to be listening to comments from potential users (also reflected elsewhere on the stand where, for example, last year's Andy touring digital dimmer rack has been reborn as a version with a built-in mains patch). I look forward to the finished version with great interest.

The 430, when it appears, will probably end up in direct competition with two desks, and possibly a third 'outsider'. That outsider is AVAB's Lynx, a PC plus fader-wing lighting control that looks like a theatrical version of ShowCAD (also at the show, and still going strong). Of the main rivals, the first, the Imagine 3, was on show on the Arri stand, where the long-established Imagine graphic tablet was finding a new lease of life as an easy, intuitive method of controlling moving lights. The stand also featured the first showing of the Focus - an Imagine 3 with 108 submasters, making it much more versatile for live shows that have to be 'busked' - and also showed the Finesse, a 'baby' Imagine 3 for those with lower budgets. The interconnections between all of the desks on the stand was also interesting - through ETCnet any of the consoles could control the on-stand rig while still being backed up by all of the other consoles.

The other 430 competitor will be ADB's Vision 10. Launched earlier in the year (it was shown at the ABTT show), it has already attracted a great deal

of interest and a fair number of orders. It's great feature is that the physical layout of the desk itself can be re-arranged to suit different applications or operators. It also offers easy access to moving light parameters, either through wheels or a digitiser, and personalisable software. I think competition from the 430 will be quite stiff, though, especially since the Strand desk's switchable interface means that it can become a range of desks that are familiar to UK operators.

The two firms are also competing in a number of other areas, with ADB's Eurorack digital dimmers having found favour in a wide range of venues; they also have a portable version in the Memopack and a lower-priced version in the Micropack; it is interesting to note how the 'standard' current rating is starting to drift up from 2kW to 3kW to cope with the new 1.2kW and 2.5kW light sources.

ADB also, of course, make such light sources, having been a leader in the field of introducing condenser optics into their ranges of profile spots. The Europe 1kW/2kW range has undergone some tweaks to keep it up with the pack, and the company also showed the Eurospot 300-650W range of lamps, which also includes condenser optics in the profiles.

Also concentrating on their low-wattage range was Selecon, on the AJS stand, who had an entirely new range on show. Called Acclaim, the range should help to draw people to this company, whose ranges have undergone continual revision and improvement since arriving in this country four or five years ago. A similarly wide range of lanterns was being shown by Teatro with the Talento, as used at the recent

Lillehammer Olympics of particular interest. Teatro's DMX-controllable, variable rate/brightness strobe unit also caught my eye, whilst the Colourbox-2, though not a scroller, can mix up to three colours with direct DMX control.

CCT Lighting has long had a good reputation for their low- and high-wattage lamps, all of which were on show once again, though the company were concentrating on their colour changers, with a low-cost, two-frame Coloursette changer and upgraded motors in the 4-frame changer. Celebrating its successful first year was the acclaimed, wide angle lens tube for the versatile Silhouette profile range; this lens offers excellent gobo projection at even very wide angles and has found favour with a wide range of lighting designers - watch out for them on Oliver! later in the year.

Good as they are, though, every profile spot at the show was eclipsed once again by the range from Robert Juliat, whose products are still so gorgeously desirable, though sadly unaffordable to some in the UK. Because of the price I suspect that the company's followspot range will be more popular here than the profiles - Glyndebourne has led the way here by ordering the Aramis 2.2kW HMI followspot. Juliat also showed a prototype of a new 2.5kW medium-range followspot which, at the time of the show, had no name. In a true example of following customer feedback, they were asking visitors to the stand to suggest names! A quick phonecall to the offices of Juliat just before going to press revealed that the spot has been christened 'Ivanhoe'. Finally, just so they had some appeal to potential customers who couldn't afford their discharge lamps, Juliat were showing portable and installation ranges of digital dimmers.

Digital dimming is now firmly established as 'the norm', and not just at the Juliat price level. Packs were also on show on the ESP stand, with the 12 channel Digipack HDI rack again having its dimmers rated at 3kW. They also had Diafora colour scrollers and version two of their foam-based snow machine. ETR from Switzerland on



Tom Mannings of Decoupe (left) with Patrice Bouqueniaux of Robert Juliat and the D'Artagnan followspot.



Giovani de Schamphelre of Arf & Yes (left) with Mike Musso of ADB and the Vision 10.



Mike Lowe of Teatro (left) with Florian von Hofen of the German trade association, VPLT.



The AVAB Lynx system.



Jan de Jonge of IES in Holland, and the 6-bar with integrated digital dimmers.



Rosco's stand was witness to a haze of activity, not just from the smoke.



The DMXtra DMX tester.



Mark Thompson (left) and Nick Shapley in control on Arri.



DHA was showing off its expertise with custom steel gobos.

the **Doughty** stand showed a 12 channel 5A rack called DP1200 - an unusual rack both because of its low current rating and because DMX control comes as an option, rather than as standard - especially surprising since their new Luna 24 desk talks DMX. More dimmers featured on the stands of the various Australia/New Zealand firms visiting the show: **Theatrelight** were showing their DMX-Pack, which comes with an excellent set of references from their many New Zealand customers, and **LSC** with their Tour Series Dimmer, also available in a 36-channel flight cased version complete with mains patch. Both companies were also showing a variety of fader-based memory controls. Theatrelight's products range from the 12 channel Scenemaster 3 to the big Cuemaster, which not only allows fader or keypad control over DMX channels, but can also merge in DMX data from another control, such as a specialist moving light desk, if required. LSC had the Axiom, first seen in prototype at last year's Show and now in full production.

With all of these DMX products flying around, the need for well-thought-out DMX network installations is growing. The dimmer manufacturers are now aware of this - both LSC and **Multiform Lighting** had a range of DMX splitters, multiplexers and patch units, with Multiform also showing a potentially useful DMX/MIDI decoder, as well as their rack mounting dimmer racks and club-based lighting controls.

Elsewhere, on the PLASA small-exhibitor Pavilion (a great idea which deserves to grow and grow), **XTBA** had their full range of DMX widgets on show, including splitters, mergers and their network modules for installing multi-point systems properly. They also had their new, low-cost Muxmeter for checking those networks.

Also in the Pavilion were **The DMXtra Co**, who were showing their DMX tester, itself called DMXtra, which has more features than the Muxmeter, and so is intended to compete with the DMXter and MicroDMX units that XTBA imports.

Out on a 'big boy' stand, **Howard Eaton Lighting** was showing a similar range of products headed by DMXport. This is a dual-line opto-isolated buffer providing reliable multiple-outlet installations ensuring that a fault on any equipment spur will not affect devices attached to other spurs, and is already in use at the Royal Opera House.

Dutch company **IES** were displaying their 6-bars with integrated digital dimmers, reducing cabling requirements and therefore interference.

Smoke also seemed to be the focus of a fair amount of attention during the show, with new launches from three major suppliers. The most hyped was the new H.O.T. technology from JEM. I have to confess to a vague sense of disappointment. Somehow, I'd got it into my head

that JEM were going to unveil a smoke machine that did everything I wanted a smoke machine to do - perhaps because of their claim that they'd "overcome the limitations of current smoke technology". They probably have, but the result is a range of haze machines rather than smoke machines. Great looking haze machines, for sure - compact, quiet and producing a haze that is visually delicate, but without any of the sticky feel that rival products generate (unsurprising, given that it consists almost entirely of water) - but not what I was expecting. If you need haze, though (and everyone seems to, the artistic lighting decision used to be whether to light the set or the actors; it now seems to be whether to light the hazed-up air or the actors) then these seem to be the machines of the moment.

Rosco were also hazing, but not through water based fluids or mineral oil. Their Hazemaker machine uses a special Rosco fluid. Also new was the 1600 fog machine, a big brother to the long established 1500. It promises a better sustainable output than the older machine, and has a number of other tricks up its sleeve, including an air-input kit. For smaller smoke requirements, a battery-powered version of the Pencil Fogger, called the BP25, was introduced to rival M&M's Scotty machine. **Le Maitre** had more smoke than haze, with the long-heralded Genesis heat block technology finally on show in machines of a range of sizes. The company promise increased reliability and ease of servicing, the kinds of thing that cannot be judged on a show stand. I await reports from real users with interest.

On the other side of the hall, **M&M** had their popular Smoke Factory range on show, including the Spaceball unit seen at the ABTT show earlier this year, in a very attractive stand which even included a separate coffee area backed by a waterfall. A waterfall with a purpose, though, with the Alfresco waterproof Rainbow scrollers at the

bottom functioning quite happily, despite the deluge. Other products on the stand were also refinements of things seen before - the Microscroller scrollers for M16 fittings now able to fit a wider range of lamps, and the ScanCommander moving light desk updated with additional lamp personalities and the ability to slave a second desk for controlling large rigs. The Gobomaker, launched last year, has, by all accounts, had a very good year - indeed, it seems to have instigated a lot of competition in the previously calm market for gobos.

Lee Filters have also jumped into the market, producing etched steel gobos to patterns shown in an unusual split catalogue which looks good at first sight, but actually becomes quite hard to follow. The catalogue also shows the designs as drawings rather than as gobo artwork, and quite how well some will transfer to metal remains to be seen. They themselves had a new show rival in their core product, with London-based **Primary Colours** showing their long-life filter range and seeking to appoint dealers in yet more countries - their products are already sold in the USA, Canada, throughout the EEC, South Africa and Japan. Not bad for two year's work!

Faced with new rivalry from M&M, Lee and even Vari*Lite's new gobo making machine, **DHA Lighting** was showing off its expertise with custom steel gobos (also on show on many of the other stands, since DHA offered complimentary gobos to all of the PLASA exhibitors), and also the high quality images it can transfer to glass gobos. Their open stand, more welcoming than the 'dark room' they had last year, also showed examples of their projection work, the Mark IV DC effects controller launched at PLASA, and their tilting and pitching Digital Light Curtains, although the pitchers were shown to better effect in the White Light dance show. The company also formed part of another mini-trend by offering a one-line bulletin board, allowing modem

users to download custom gobo artwork, upload the latest DLC control software, or take part in on-line DLC discussions. The bulletin board can be contacted on 071-820 0795.

I mentioned the acceptance that computerised flying and scenery movement has been finding, and this trend is an interesting one in that it has been growing in two directions at once. At the rock and roll end, companies like **Unusual Rigging** have been working to make rock shows more and more spectacular by introducing vari-speed hoists and precise computer control. In the theatre end, work of this kind has largely taken place in the big musicals, and it was good to see **Stage Technologies**, a company which has



Former Wimbledon champ Pat Cash cuts into the Le Maitre cake, whilst Rick Wilson presides.



John McGraw and Lori Rubenstein of ESTA with a Tomcat trio of Mitch Clark, Neville Lee and Richard Hartman and the Starlift in the background.

grown up through providing the control systems for shows such as *Sunset Boulevard* and *Copacabana*, take a stand at the show. They were demonstrating their Acrobat control system, claimed to interface to any type of drive unit. They had also been involved with developing the friction drive motor running on extruded aluminium tracks that was on show on the Gerriets stand, and is due to be used on the new Palladium production of *Oliver!* Gerriets also announced the opening of a Japanese office, another reflection on the international nature of show business these days.

Elsewhere in the hall, **Harkness Screens & Hall Stage** launched their control system, also interfaceable to any existing motorised equipment, but this time called Autostage. And **Telestage Associates** launched their control system, again interfaceable to any electromechanical equipment, but this time called Command Performance. They were also showing the NIVOflex motorised platform system they are importing from Germany. I'm always a bit sceptical about this stuff knowing British theatre's notorious reluctance to adopt (or maybe just to pay for) anything technical when 20 technicians breaking their backs would do just as well. But then, the PLASA show is now an international market-place, and it is only right that this sort of technology should be on show. With increases in both scenic demands and health and safety legislation in the UK, automated motion systems could be the next big thing to sweep down through the theatre market-place, just as moving lights are now doing. What would be good, though, is if the rival systems could talk to each other. Rivalry was also in evidence in the large-scale projection category.

Ludwig Pani, to many the 'name' in this category, continued on their mission to make smaller, brighter projectors by introducing the BP4 compact 4kW unit, claiming an average of 71% more light with virtually no increase in external housing temperature. They also showed a new zoom lens aimed at making touring projector-based shows easier, a 2.5kW ballast which can drop lamps down to a dimmer stand-by mode when the shutter is closed, a film scroll



Unusual Rigging's computer-control system.

device for the projectors and, perhaps most importantly, a new Macintosh-based control system to control all of their products. This should make setting up multi-projector systems much easier.

ETC Audiovisuel, projection suppliers for the first Jean-Michel Jarre concert amongst others, took the film scroller one stage further with their double scroller PIGI system, allowing the creation of interesting movement and dissolve type effects. The PIGI WYN software allows up to 24 double scroller units to be programmed. The company chose the show to launch the English version of the software, and also to launch a London hire office for the system. **Hardware for Xenon**, whose projectors often feature in ETC's work, were also at the show, demonstrating their 2000W projector and 40 slide changer system.

Also dotted around the show were a range of unusual light sources, currently aimed at the broadcast market but which will almost certainly, in time, work their way into other areas of the entertainment industry. **Optex** has the Aurasoft softlight, a special mirror design which can take a range of lamps including 1kW to 3kW tungsten halogen units or 575W to 1200W MSRs, and generates a wide, even beam with soft, natural-looking shadows.

The **Lighting Technology Group** preferred an unconventional light source to an unconventional mirror in their RGB fluorescent colour mixing system. Each unit contains three 30W tubes, one in each primary colour, which can dim and mix proportionally under DMX control. The company also had its usual, wide range of more conventional lighting products, including a low-cost, Lite, version of its popular Lightpaint colour scroller, stripped even of its cooling fan and even, just to prove its versatility, a range of useful tools. The impressive two storey structure was built for them by Thomas, who having built such a good showcase, didn't take a stand of their own, but trussing rivals Tomcat and Slick Systems both did, the latter showing their Lite Stage curved roof trusses.

Light on a much larger scale was offered by **The Searchlight Co** with their Space Flower wide angle searchlight, which offers 36 beams of slowly spinning light and makes a great publicity tool.



Colour co-ordinates from Unipar for Wilmetta (left) and Randy (second, right) Wimberley with Jennifer Starr and Bela Nadasdy of DLC Nuremberg.

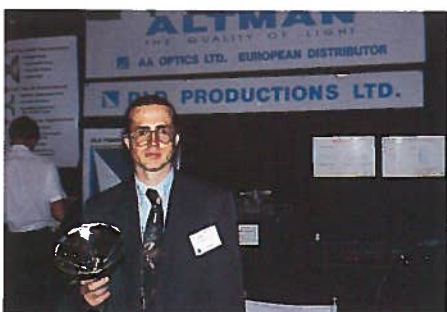
The Searchlight Co themselves aren't bad at publicity, and were running a draw, the winners receiving a free hire of the unit. Sadly, the winner wasn't announced at the end of the show since the draw was running over both PLASA and another trade show; if you've won, you'll find out by the middle of October!

And a final, slightly unusual lightsource was to be found on the **DLD Productions** stand, where the Maxlight Par lamp replacement was on show, and seeming to offer a lot of advantages over the conventional Par lamp, including variable focus and lower lamp replacement cost, though I suspect the company will have the old problem of unfamiliarity to overcome before the system takes off - a variable beam Parcan would certainly catch a few people by surprise!

For the more conventionally-minded, the company also import the Altman profile range from the US, the 360Q Series still what most people in the country think of as a Leko, despite new launches from Strand and others. To keep up with these rivals, DLD also had Altman's new Shakespeare profiles on show.

For those who find the idea of a lighter Parcan really attractive, a visit to the **UniPar** stand was essential, to see their range of thermoplastic Parcans, available in sizes to take lamps from the tiny MR16 to the standard Par 64 range. This is an idea that at first seems bizarre, given the heat involved, but which seems to work. It can produce some unconventional effects, especially when using the transparent, coloured cans. The company also showed its UC1 Universal Lighting Control, and integrated four channel dimmer/desk aimed at the club market and designed to be hand held or foot-operated by performers. Compact and reasonably priced, this could find its way onto the wish list of small bands.

Also scattered around the hall were a variety of smaller suppliers, associations and theatre hire companies all looking to talk to regular customers while winning new friends. The **Association of Lighting Designers** had their newly-DTPed magazine on show looking very good, and were promoting their new lighting stencil, though I can't help wondering whether a stencil is really what



Andy Neal of DLD, with a shiny new Maxlight.



Ian Lake of Optex (right) demonstrates the company's new Aurasoft light.



Yves Ruellan of Hardware and the 2000W projector.



Warren Morrow of Altai (right) with David Churches of Batmink on the Altai stand.

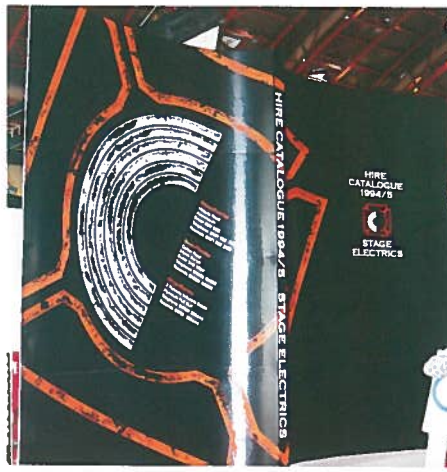
they should be pushing in this age of computer technology. Down the corridor from the ALD were the **ABTT**, offering their solid range of guidance notes, promoting their Manchester trade show and probably being quite pleased with the success of their London show earlier this year, which managed to scoop PLASA with the first UK showing of several important products.

Also rounding off a successful year were **Stage Electrics**, introducing themselves 'in person' to the many people who received their comprehensive hire catalogue with this magazine earlier in the year. The company offers a wide range of services from dry lighting hire for shows such as Copacabana to installations and launches such as the Channel Tunnel.

A similarly wide range of services is offered by **Playlight**, who offer drape hire and starcloth manufacture, as well as hire of a wide range of lighting equipment. Amidst all the noise, flashiness and high budgets of the show, it was good to see the company talking about their sponsorship deal with New Wellington School in Cheshire, which will see the firm supply lighting, sound and drapes, and carry out consultancy and installation work. Everyone who will eventually be a big spender in the industry starts out at a school somewhere, and companies would do well to remember that!

Such schools would probably also be very interested in one memory lighting control launched at the show - **Duplico's** ESM. This is a memory control which takes input from a conventional 0-10V fader desk, as used by many schools, and provides memory recording and analogue output to dimmers. This could provide an excellent upgrade path for schools looking to expand their lighting systems without having to throw out perfectly good manual desks. It also provided the most amusement of all the press releases with its talk of how you make 'a nice lightscene and you push on de store button and de first scene is made'!

And that, I think, was PLASA 94. A well-balanced show, as the range of products from ESM to WholeHog II demonstrated. And the exhibitors all reporting real interest from visitors. My only minor complaints are the slightly limited opening hours, mentioned earlier, the noise towards the



Stage Electrics' innovative stand design gets the message home about the size of their new catalogue.

end of the show when the threats of those trying to keep the volume down obviously lost their bite and the volume went up and up, and those few exhibitors who decided to try and beat the rush out of the exhibition by starting to pack up early on the last day. It may only have been me that noticed. On the other hand, that Middle-Eastern businessman with the multi-million pound order might have just popped in for the last hour. If you'd already left, you'd never know about him . . .

But if you missed the show altogether, you missed out. The PLASA show is now the showcase for the industry in Europe, and as such the only chance that most mere mortals (i.e. those not on the international trade-show circuit) get to see the new products and technologies they'll be working with, sooner or later. The result is that miss it and you'll spend the rest of the year feeling like you've missed out on the new 'toys'.

To avoid getting that feeling again, put PLASA 95 in your diary right now! To miss the show once is unfortunate. To miss the show twice would be unforgivable. . .

NIGHT LIFE

DISCOTHEQUE - PAUL DODD

It was a continuously busy stand for **Abstract** with a number of new products being launched at the show. For those who enjoyed the old Scatspot, the new Scatterbank should prove popular, containing four Scatspots in one unit with internal sound-activated chaser and rear-mounted touchpads for programme selection. DMX facilities are fortunately being found on a number of products, the Starburst II DMX being just one of the several examples from Abstract, which, with its four dichroic colours and high power, produces some remarkable beam effects.

The Galactic Star is also available in Micro and



Karin Eliescaud of LTM, with Paul Tipple of Power Gems (left) and Mike McMullan of Playlight.

Pro versions and provides an interesting alternative to conventional strobes. The unit strobes flower-style beams at a DMX variable flash rate and can be used in automatic or sound activated mode, with multiple units inter-connecting for sequencing. White or multicoloured beam versions are available. Used to good effect in the popular stage presentations on the stand was the Scenesetter, a colour changer with inbuilt power stage (pack) for a strobing effect.

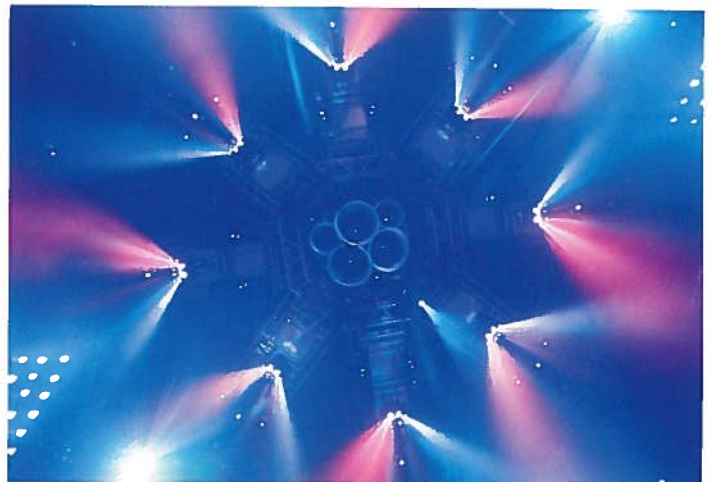
The Futurescan II and III were also shown off to advantage in the Abstract light shows, both units again with DMX control. The main differences between the two units being that the II is servo-motor driven, and has slightly fewer than the seven gobos fitted in the stepper-motor driven III. Dedicated controllers are available for both.

With two stands, one in the noisy zone actually controlling light fixtures, and the other in the quiet zone providing a tranquil opportunity for one-to-one hands-on demonstrations, **Advanced Lighting Systems** and their Enigma control system were able to make the best of both worlds. A new graphics package and ongoing software development make the Enigma a very attractive upmarket controller aimed squarely at the high-tech venue. The new version has a 2000 plus channel capacity which is expandable to a vast 6000 channels. Launched at the show, the new graphics package gives an almost hypnotic visual representation of colour and gobo patterns for all the major articulate luminaires (scanners) currently available and even includes gobo rotation in the display. A new 16-way fader interface was also on view for the first time. The beauty of these new additions, as with all software-based control systems, is that existing users can upgrade their systems and software with ease.

Altai were extremely pleased with the response to their first showing at PLASA, with new products such as the Karaoke Graphics CD Player and the SBX 1000 Bass Enhancer attracting attention. The Karaoke CD Player allows the voice track on ordinary CDs to be cancelled, with the option of mixing two microphone sources in its place and is also able, with the use of Graphics Discs, to link to a TV screen display. The SBX 1000 adds strength and clarity to sub-bass frequencies while



The CP&P lightshow - a clever combination of mime, voice-over and lighting demonstration to reinforce the distinctive CP&P range.



Into the eye of the Martin Professional light storm.



Autopia Terakat, back at PLASA for the third time.

avoiding distortion, and features dual five dot monitor display.

Avitec demonstrated the latest Cerwin Vega Pro-Stax series loudspeaker cabinets. These models included the 4" x 10" PS-410 bass cabinet, the horn-loaded PS-18B 18" bass cabinet and the twin 15" PS-215B direct radiator bass cabinet, all with 800W power handling. Also on stand were three mid/high cabinets: the 2-way 200W PS-10 and the 3-way PS-12 and PS-15, with 350W and 450W power handling respectively.

Like ALS, Batmink had two stands this year and laid out their space very well, with a, quite literally, mini section displaying the new Mini range of effects from Italian manufacturers Genius and Lampo. Fortunately, David Churches has published a Mini Range catalogue covering these items specifically and so I can recommend it to all who are interested in these tiny, but perfectly-formed and surprisingly bright effects, as individual descriptions here would take up more space than the lights themselves. Of particular note were the Orion centre-piece, the Mini Sky and the Mini Spiral.

The larger of the two stands was a double-decker, although thankfully not another bus, and provided an excellent view of the inspired Alan Reid light shows, demonstrating the two new Lampo centrepieces, the Vortex and the Ghost, together with the Domingo, Titanus and the newly upgraded Columbus scanners. The Vortex and Domingo are effectively Lampo's larger and medium-sized eight-armed centre-pieces in the now popular style with stepper-motor driven deflector mirrors. The Ghost is a powerful MSR 1200 lamped unit with six stepper-motor driven mirrors that not only projects a wide range of colours, but also has an array of mirrored cylindrical tumblers that deflect the light in a very dynamic way, with the unit completely DMX controllable. The Columbus now offers five rotating gobos, in addition to eight colours, and the traditional functions of an articulate scanner. Although the Titanus posed a slight problem with pronunciation, it impressed with its bright and animated starburst beam projections from an HMI 575 lamp source.

The professional organisation with which Clay Paky and Pulsar operate was reflected well by every detail of their joint stand, even down to the 3D CAD drawings and the product listings and connection charts of the stand I received from Andy Graves. Although not of interest to many, it does show the thoroughness of their planning and preparation. The light show presentations were divided into the Super Scan Zoom show, an in-depth run through of the extensive facilities of this very comprehensive luminaire, and the 'cabaret' style show. Certainly, the human 'masterpiece' that mimed through the show worked very hard indeed, especially considering they ran every half hour. Unfortunately, and I am not alone in this, I found the presentation too long and somewhat confusing. A particular luminaire would be announced and turned on, but at the same time several other, often stronger, luminaires were also operating. For anyone, unlike myself, who did not already know which product was which, it must have been difficult to know just which unit was actually being referred to - the name of the game for this style of product presentation is product awareness and identification, surely. This was a big surprise from



The joint Penn Fabrication/Avitec presentation.

a company whose world-wide presentations are usually close to perfect. It was a very brave attempt to do something so different, and I applaud the effort, but there was something lacking . . .

On to the products, and launched into the UK at PLASA was the Super Scan Zoom. Featuring as its name suggests, remotely controlled zoom from 8 to 16 degrees and remote focus, the unit has RGB fading colour mixing for infinite colour choice. A second wheel provides quad and bi-colour special effects and UV. Four static and four rotating gobos, all of which are 'M' size and interchangeable, can combine with prisms of which one is an original linear pattern. Dimming, frost and iris are also included among the 12 DMX channels' worth of functions.

From Pulsar, an extremely useful Masterpiece Replay Unit made its debut. Programmable via a Masterpiece memory card this 1U rack-mounting unit can be used anywhere that pre-programmed control over a large variety of equipment is required. The outputs are DMX and PMX, and there are also 18 channels of 0-10 volt analogue. Programmes can be replayed from front panel controls or via remote MIDI or analogue control.

Cardiff M Disco Services, in addition to being main dealers for, among others, Abstract, Audio Technica, Bose, DNA Amps, Martin Professional, NJD, Powerdrive, RCL and Trantec, also featured their own products at the show, including CD consoles and the Roadmaster light controllers.

Coe-Tech and Coemar's was an elegant stand constructed to a large extent with Coemar's attractive new structural system Modo and displayed this year's innovative lighting product award-winner, the NAT TM2500. Carl Dodds and John Lindsel had used the Compulite Animator to produce a presentation that demonstrated well the functions of all the lighting fixtures, with the NAT PC1000s and Baby Colors also working well together. Good news for the more budget-conscious is the new NAT TM1200, a more economical HMI 1200 lamped version of its big brother, but still with the unique WWG-styled head. Coe-Tech also announced their newly acquired distribution of the sexiest new effect around, the Lighting Technology Caterpillar, many of which were to be found wriggling contentedly on the front of the stand, and also ShowCAD, the excellent software-based control system with its new Autogenerate feature. Also on stand were a number of recently released TAS products including the Biffido.

Entex (formerly Discoscene) were co-ordinating a stand which constituted of no less than six different companies, including PJ Lighting, Orion Lighting, Mystical Lighting and Ultimate DJ. Surprisingly, PJ have been manufacturing and trading for 14 years with little exposure. Their full range of pinspots, as well as their 'Par Bar' chaser and 'Par Bar' 11ft lighting stands were on show. Ultimate DJ were demonstrating their CD jingle volumes, and offering personalised jingle compilations at reasonable prices. Mystical Lighting had on show their full range of light screens, infinity screens, spot banks and cases, whilst Orion showed the MP16, a 16 pattern, micro-controlled sequencer, aimed at the mobile market.

Everwell's family of smoke machines were on show, ranging from the FZ 925 with its one litre tank capacity to the FZ 966 super powerful smoke processor with a 10 litre tank capacity. All models



Bruce Nicholls (left) and Gerard Poulain of CEEP with the Series 92 connector range.

conform to EEC safety standard EN-60335, and are available with a variety of controllers.

Fabtronic Lighting were demonstrating their new Diamond range at the show and also celebrating their fifth birthday. Among the Diamond products on display were the Diamond Dosmos and the Diamond Tri Spin, along with a host of other lighting effects.

Bravely leaving their cyclone-wrecked roofless factory in Castel Goffredo for others to repair, Griven attended with their own stand to show their new products. The Sky Eagle is an outdoor flower projector equipped with an HMI 2500 lamp and is designed as the economy version of the established Tracer 4000, with manually adjustable tilt angle and without the large panning base of the Tracer. A new colour changer, the Spot 8 DMX Frost, has a name long enough to describe most of its functions. DMX or 0-10 volt analogue controllable, the unit has seven dichroic colours plus white and frost, and takes either 650W or 1000W lamps. New to the UK, the Shuttle mega-centrepiece with its 24 stepper-motor driven dichroic deflector mirrors and enormous umbrella of mirrors, had more than one customer gasping at its size. Also new to the UK was the Magicscan range of scanners, available in four variants that differ in lamp type and go from the 150W MBI to the HMI 1200 version.

PLASA 94 heralded the appointment of JYG as sole distributors, and a UK launch for Italian manufacturers, Sagitter. Reaching a height of around 12 metres the stand had a highly visible steeped display of the Prince 575 scanners and the Digiflash range of strobes. Two versions in the Digiflash range, the Pro at 1500W and the Power at 2500W are both dimmable and have DMX or analogue control, and both are claimed to be noiseless, making them suitable for theatrical use. The Prince 575 scanners are fully featured units with 12 colours and gobos, and again DMX or analogue control. Two products from Sagitter were to be seen for the first time, and these were so new that unfortunately information on them was scarce, however, they comprise a centre-piece with individually controllable scanner style mirrors that move in both the x and y axes and which has yet to find a name, and a colour changer. The colour changer is DMX controllable and features strobe, two colour wheels and a manual iris, together with a new system for creating frost which gives a very wide beam spread.

Lamba had on show the latest developments in their Made2Fade range of DJ equipment, including the GM30TX transforming mixer and the GMX2 scratch mixer which was shown for the first time. Other new products on stand were the PMX22000 scratch mixer from Gemini and the MX600 installation mixer from MTX with its state-of-the-art sampling capabilities. Stanton's latest addition to their range of products is the Super Trackmaster, a mixing tool for professional DJs, available in both AL and EL formats.

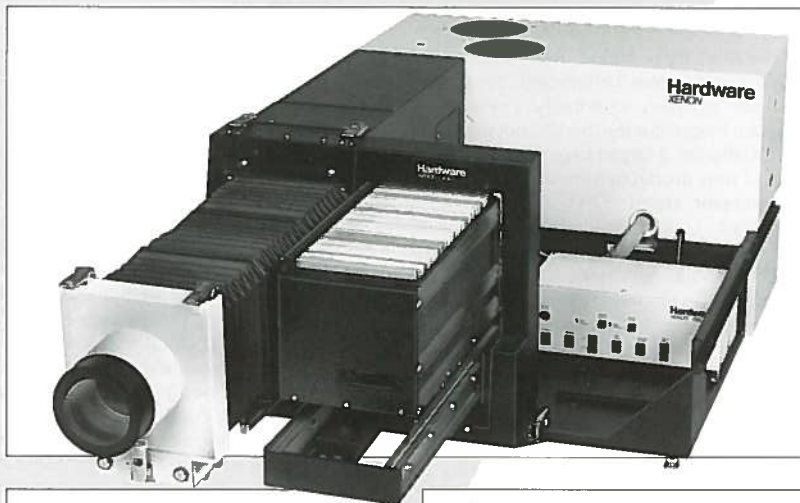
Laser Innovations introduced the new PanScan, a 360x227 degree pan and tilt motorised projection head which can be operated by any of their control desks, (Pyramid, Oasis, Mirage). The PanScan increases the scanning angle of the laser (as its name would seem to suggest) and comes complete with 30 metres of armoured fibre optic cable and input and output couplers.

The Pyramid is Laser Innovations' newest

Hardware Xenon

High power projection

SLIDE PROJECTORS FROM 600 TO 5000 WATTS

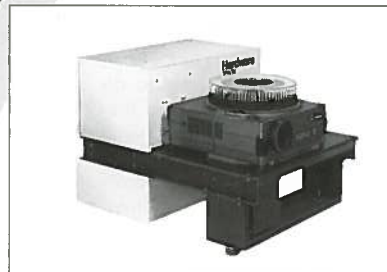


All Hardware Xenon projectors are portable and entirely automatic. The DHX models are also compatible with multi-image dissolve systems.

◀ **5000 Watts Xenon** - 75000 lumens
18 x 18,5 cm slides
Image up to 40 metres wide.
Designed for giant image projection in large auditoriums, onto monuments, châteaux, inflatable structures or any background created for special events.



▲ **600 Watts Xenon** - 4000 lumens
24 x 36 mm slides
Image up to 7 metres wide with this compact projector. Black-out not required, allowing ambient light to be used for note-taking during seminars.



▲ **1000 Watts Xenon** - 8000 lumens
24 x 36 mm and 6 x 6 cm slides
Image up to 10 metres wide, with a popular 24 x 36 mm version for multi-image use in conferences, sales conventions, etc...



▲ **XENON FOLLOW SPOTLIGHTS**
• high quality definition, thanks to 5-element lenses,
• optimized cooling of coloured filters, iris and gobos.

2000 Watts Xenon
Use range from 15 to 150 metres.

5000 Watts Xenon
Use range from 15 to 300 metres.

◀ **SKY LIGHTS**

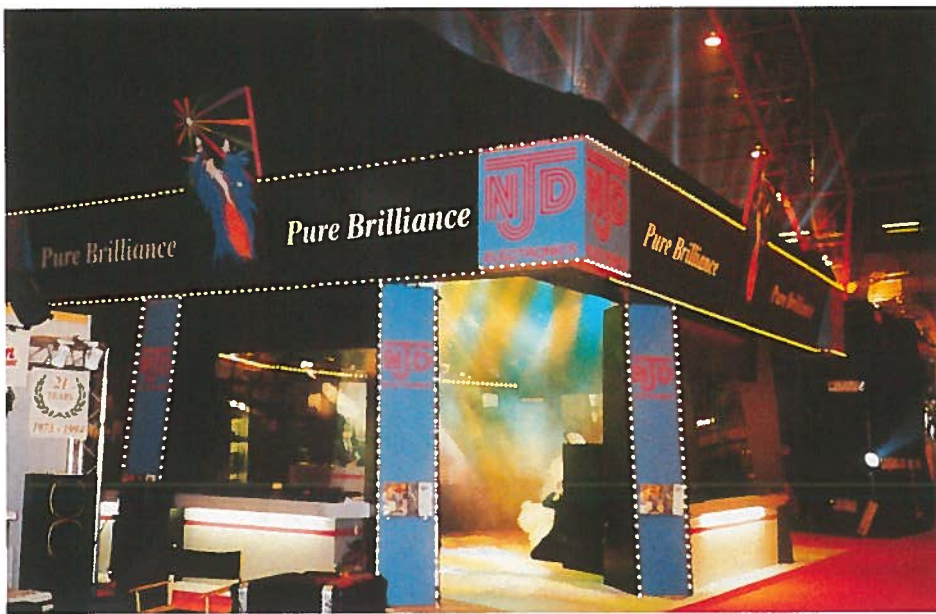
Hardware Xenon Sky Lights are either fitted to mobile mountings slaved to microprocessors, with obturator and colour change commands from 0 - 10 volts, or to a DMX 512, or fixed to adjustable supports.

2000 Watts Xenon
5000 Watts Xenon



**Hardware
Xenon**

**SALES AND
RENTALS**



NJD's attractive stand saw the launch of many new products, amongst them the Datamoon.

control system, and was launched earlier this year in Paris. For a product aimed at the smaller venue, the Pyramid has some quite special features including blanking, high speed colour change and an internal sequencer giving the option of hands-free operation, and has understandably been attracting interest.

Another new distribution agreement was in evidence, this time for Ian Potter's **United Kingdom Distributors** (UKD) and **Italians LED**. A plethora of beam effects from LED was on display in a SMPTE time-coded presentation conceived and programmed by myself using ShowCAD one advantage of which was that, unlike some of the others, I still had a voice left at the end of the show. The ShowCAD system was connected via MIDI to a keyboard for hands-on customer access and to the new Axon/Lynx front-end touch panel which was launched at the show. The LED lighting included the popular Duet with its sound-activated twin semi-circles of interweaving beams, and the Sharp with an 800W linear lamp producing some very powerful and well coloured striated animated flat beams. Mode Electronics provided the very first samples of their new Neotran electronic neon transformers (high frequency electronic converters), which powered all the Disco Neon-supplied displays and signage.

Leisure Innovations presented a comprehensive range of innovation measures for the leisure scene, including the Stockmaster Till System and the Doormaster Admission System - both currently in

use in The Ministry of Sound. Also on show was the cashless card system 'Leisurecard', the Coattrak cloakroom printer, currently installed in Buckingham Palace (for the tourists, not the Royals) and the Duddbuster, a forged banknote detector.

A host of new products were on display on the **Light Processor** stand. First off, and still in development, Light Processor for Windows - LPWIN, a software-based DMX controller designed to run under Windows 4 on a PC that is being jointly developed by the company and Daslight of France. As the system is still under development, comment on it would be unfair at this stage, but it is hoped that a fuller review can find its way into these pages at a later date. An updated range of Q Packs was shown in Q Rack format as 12 and 24 channel dimming racks, now with local control and a number of wiring and socket options, with the packs now in 2U enclosures and featuring the most sensible sliding drawer-style internal access. For those with the recurrent nightmare of what to do if the DMX signal is lost for whatever reason, the Q Store holds up to 64 presets of 512 DMX channels and could even be used alone for simple applications. Tagged as being ideal for upwardly mobile DJs, the Lightomation range has three new budget additions - the Memory 12 controller and its complementary Dimrack 12 dimming power pack, and the new 6x5A per channel dimming Trusspack.

Full credit must go to **Lightfactor** for their



The Optikinetics' stand, crowned with the Orb's sphere from the Spot Co.

excellent utilisation of space in combination with the very attractive display of High End lighting. Launched at the show the new Cyberlight CX is a more widely available version of the Cyberlight that has now established itself well in the touring market with Phil Collins et al, whilst still retaining all the popular features. The new Cyberlight LCD controller which can control up to eight Cyberlights was available for hands-on use by visitors who also had the opportunity to inspect the inner workings of both Cyberlight models. High End lighting programmer Mitch Peebles had a commanding central position with a Status Cue controlling the entire display and giving tuition to all who had not previously experienced this computer/desk combination.

What can one say about **Martin Professional**? The largest stand space, an excellent and vast rig that one would not have expected to find within an exhibition stand, and bedecked with so many lights too. The concept came from the excellently pedigreed Jonathan Smeeton, and so many good 'looks' in the lighting programming. It was a great shame that the soundtrack failed to live up to the rest of the production and resulted in visitors' socks not being blown off in the way that they well and truly should, and could, have been. That said, there was nothing wrong with the lights themselves and a lot of new ones there were too. The Roboscan 1220 is now available in HMI 1200 lamp version with a TV/theatre configuration including 'silent' fan. DMX control is now standard alongside Martin's own RS485 protocol, and zoom and rotating gobo modules can be fitted as required.

Completely new to the range comes the Roboscan Pro 518, a very powerful and well-featured unit in a small package. Using the MSD200 lamp the unit has no less than 14 dichroic colours, including two multi-colours and UV colour, five rotating gobos, a colour temperature correction filter, a three facet prism and a frost filter. Not only DMX and Martin controllable, the Pro 518 will also work in stand-alone automatic mode or allow remote selection of in-built sequences. Also new, the Roboscan 812 is tailored to the budget and portable markets. Its main features are a 150W HTI lamp, 11 dichroic colours plus white, and 11 gobos. Again, control is DMX or Martin with the same stand-alone facilities as the Pro 518. Controversially boasting 'more colour than Benetton', is the Robocolor Pro 400 with the MSD 200 lamp. Greatly improved styling to the bodywork and a palette of 32 colours makes this a very attractive unit. Two colour temperature correction filters are included and control is DMX or Martin. A strobing shutter also provides dimming and three aperture gobos allow beam spread to be varied between 7, 14 and 21 degrees



A surreal front of house display from the High End/Lightfactor partnership.



Lighting designers Paul Dodd (left) and John Watt with L+SI's Ruth Rossington.



Anytronics used their corner stand to launch a host of new products.



PLASA's Anna Pillow with Bela Nadasy of DLC Nuremberg.



Wembley's Paul MacCallum (left) with Frank Irish of Lamba.



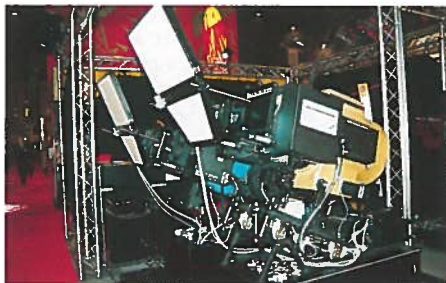
John Simpson of White Light (left) with Chris Waldron of Strand Lighting.



David Lyth (right) of Volt Loudspeakers with their range of loudspeakers for the PA market.



Powerlight's Nicholas de Courten with Nigel Clark of Powerdrive on the Cerebrum stand.



Powerful projection systems dominate the Ludwig Pani display.



Ann Brodhurst (left) and David Stressing (right) of ESP with Hervé Leigeois of Mobil-Tech and Stéphane Colin of RVE.



Caught in the act: David Neale with Dave Winfield and Rick Wilson of Le Maitre.



ADDA's Jeremy and Monica Saunders and Cheryl Bereznykyj with Ray Scott of Sound Electronics.



Association talk: PLASA standards officer George Thompson and Lori Rubenstein of ESTA, USA.



The long-serving Enigma from Advanced Lighting Systems with software enhancements.



Stan Gunkel of APS with his rental management system for hire companies.



Cabbage-patch and colour for the curly Caterpillar on the stand of Lighting Technology.



UKD/LED with a plethora of beams.

with a wash effect also incorporated.

Mushroom Lighting were demonstrating their very newest product, the remarkable LittleMAC (Mushroom Automated Camera). Originally developed by Huntings Engineering for the defence industry, the LittleMAC is a programmable camera with nine available preset positions, via a wiggly mirror, through a 360 degree range, with manual override readily available at all times. The camera can be controlled through a standard RS lighting console, and is, at this stage, intended to serve (at the very least) as a tool for lighting designers, being a small, compact and waterproof unit, able to provide a range of colour images of a rig at the touch of a button. It will also prove a useful tool for conference and presentation coverage, or in similar situations where discretion is preferred to the presence of a potentially intrusive camera crew. Still at the prototype stage, the LittleMAC was generating new application ideas throughout the Show and has already drawn attention from CNN in America, as well as a host of Britain's independent television stations.

The number of new products from **NJD** once again had managing director Kevin Hopcroft up on the podium busking his voice away with live demonstrations at regular intervals. One entire section of the stand was taken up with a very eye-catching display of the new Datamoon. Described as an intelligent flower effect, the Datamoon has seven dichroic colours, plus white and five gobos. It can also strobe, but instead of a mirror on the front, the light is projected in 20 flower-style beams. These beams can be rotated at variable speeds in either direction and the unit takes a 250W halogen lamp. Control is DMX and the Datamoon will also work in stand-alone mode synchronising other units in master/slave style via a standard DMX cable.

The popular IQ 500 and IQ 250 projectors have a new user-programmable DMX synchronising controller in the form of the IQ-MX60. Two further units make a very useful addition to NJD's already comprehensive range: the IF32 is a single unit rack-mounting 32 channel DMX to analogue converter which outputs two sets of 16 channels of 0-10 volts, each set of which may have any DMX start address. The second unit is the MDC128 rack mounting MIDI to DMX interface. This self-powered unit converts all 128 MIDI notes from one (switchable) MIDI channel to 128 DMX channels.

Power packs aplenty have been launched at the show with no less than eight from NJD, all of which are four channel and include dimming and switching versions at 5 or 10A ratings in rack or wall-mount formats. DP10000x and DP5000x are rack-mount dimming and SP10000x and SP5000x are switching - drop the 'x' for the wall mounted versions. A new range of lighting stands under the Showcraft banner was also shown for the first time,



Paul Butler of Mushroom Lighting demonstrates the LittleMAC camera.

and visitors had a chance to get their hands on the Merlin controller with its new features and functions.

Nikkodo has been at the forefront of the karaoke business for over 20 years (it seems like karaoke has been around longer than that) and have a large range of song titles on either Laser or CD graphics discs, including the BMB catalogue, the new Sunfly series and the Nu-Tech Megastar range from the USA.

Numark displayed their PPD series of DJ equipment - an impressively designed range. Components are supplied from some renowned manufacturers - Motorola and Intel among them - and are built to be rugged and reliable for the mobile user, with strong multi-layer glass epoxy circuit boards an attractive feature.

Optikinetics were certainly very busy, and not just during the show. Having arrived with three 7.5 ton trucks of Trilite on Thursday morning for the build-up, they had completed the erection of 12 stands by that afternoon. Now that's what I call service. Their own stand was a striking change from previous years, crowned with the Orb's sphere from the Spot Co and presenting an enlarged version of their recent Solar 575 advertisements on the outside. Inside was equally surreal with a totally projected environment, sound manipulated by 3D Storm surround-sound software from Paul MacCallum's Wembley Loudspeaker Co and Sound Kinetics (no relation), and a softplay furniture ball pool/tank from which to view everything. Optikinetics were ably assisted in this experience by Pogle Stowell of An Arc Light and Jennie Caldwell, lighting designer for Hawkwind. The ceiling of the stand consisted of a large circular projection screen upon which Solar 575s projected a continuous display of the Solar System effects changer with its new range of patterns. Bouncing onto and off every other part of the interior were Solar 250s, Club StrobeFlowers, Quasar Projectors and yet more 575s all controlled by a Jands Event desk and DMX.

Party House's stand featured a range of products for creating that 'party' atmosphere in clubs and discos, visually imaginative and rather pretty too.

Two new units were launched at the show by **Ryger**. The Strobe Star is a clever unit that uses eight strobe tubes to project a variety of different and sequencing strobing beams and patterns, 16 in all. Functioning in stand-alone or remote-controlled modes, a dedicated remote controller or analogue 0-10 volts allow pattern selection, strobe speed, triggering and enable. The Discovery is a brand new entry to the budget scanner market and features 10 colours and 20 gobos. The 400W HTI lamped unit has micro-stepping pan and tilt, and can be controlled by a dedicated controller or, via an interface, by DMX and MIDI.

Smithfield Electronics presented new products from Griven of Italy, SLE of Germany and Tecluz of



Batmink lined up an impressive portfolio.

Spain. Griven's Sting, the 'ultimate projection effect' features a comprehensive range of beam effects and six colours, plus white, with strobe facility. Control for all functions can be carried out remotely with analogue 0-10 volts. The unit also features an optional extra sound-activated scanning mirror. The Shuttle, also from Griven, consists of a mass of rotating and oscillating coloured beams projected in all directions which, with intersections, create a constantly variable effect.

Smithfield's range was further enhanced by the C2000, an MSD200-based scanner with 24 colours and 20 gobos from SLE, along with the Stardust, the updated version of the Moonflower. From Tecluz, (probably better known as Satel), came the Swivel, billed as the intelligent light 'without the waggly bit', and based around the MSR400 and MSR700 lamps, with fast colour change and interchangeable gobos. Also from Tecluz is the zappily named Fast Light, aimed at the discotheque market and sacrificing to some extent the amount of steps available in favour of even greater change speed.

Switzerlight, as mentioned earlier, were promoting the JX and FX upgrade kits for the Intellabeam 700 HX on their stand. The JX features boasts 115 dichroic colours and a new eight pattern gobo wheel with two spaces for custom designs. The FX, staying at the original level of 12 colours and 12 gobos, features a new special effect wheel providing an additional 28 colour combinations. As with most exhibitors, Switzerlight enjoyed a great deal of serious interest at the show.

THE LAST WORD

STEVE MOLES

Last year there was an underlying tension at Earls court. Everyone talked a good show "sales are picking up" and the old chestnut "we've had a lot of interest at the stand this year", but it was all built on the vapour of expectations. The exhibitors at last year's show were the survivors. They felt, and rightly so, that having weathered the storm it was now their due that they should reap the rewards. All the signs were there, the fat man with the pint pot in his hand at number 11 told us the worst was over and we could look forward to "... an upturn", unemployment fell for the first time in four years, and for the more adventurous an emerging market around the Pacific was beginning to bear fruit.

Now, just one year later, the cat is out of the bag, sales receipts are coming in, bands are out on tour again (and in great numbers) and a noticeably buoyant air of relaxation pervaded the show. So the interest rate was hiked half a point? So there's a rail strike in the midst of the



Seefactor's Bob See with Peter Johns of LSD.

show? There was no dampening of the spirits this year; the game is back on.

New products were a bit thin on the ground, especially in the realms of innovation - lots of improvements were made to existing equipment, but only a few were really developing. Cash, the oxygen that drives the R&D machine, is only now being loosed from the piggy bank. Whatever the Tom Peters of this world may say about investing your way out of recession, the reality is a lot harder to justify when it's you who holds the pursestrings.

From the US came the **Vari-Lite VL6** and **Wybron's Autopilot** (covered earlier), both of which had been a fair time in development, so maybe the Americans take the above axiom more seriously than we do.

If that's the case then Europe will lose ground in the future. **LSD's** new wash instrument is slick, and bright, but then the automated yoke crew, as opposed to the waggly mirror mob, have their own private slug fest' to work out, and hey!, there's enough room for all of them. **Avolites' 3D Track** was the cutest thing I saw. As a lowly technician and completely lacking the ability to even countenance programming moving light cues into a modern desk, even I found it friendly and easy to use.

Lighting designers, usually sadly absent from the show, were around in greater numbers this year. Gary Westcott was brought over from the States to



Anton Szklarek of Streatley with the HITS computerised inventory system.

pull the Luther Van Dross TV special at the RAH up to standard and Jonathan Smeeton joined the club of the great and powerful who now grace such trade events with their talents. Where else can you see a Smeeton show for a tenner? Richard Knight was preparing for putting **Sunset Boulevard** into New York and Tom Kenny was similarly heading west as Eric Clapton goes out to promote his new album (no doubt we'll see him at the RAH in the spring as tradition now demands). Derek Watson is about to go into hibernation for the autumn and winter as a new series of **Crystal Maze** commences recording. Frazier Elyshia on **Status Quo**, Wally Lees for **The Stone Temple Pilots**, Justin Collie on **Seal**, and many, many more.

One or two of this coterie, who will remain nameless, voiced a passing concern that such publications as **L+SI**, with a strong backing from the industry, were over sensitive when it comes to allowing criticism of their backers and their products. If this is true then the producers are losing the feedback they need to develop, and how sad that is for them. But it raised an interesting point and is why I say **LD's** are generally sadly absent, for there are plenty of organisations at **PLASA** who are groaning to become the independent mouth-piece for the individual.

The **ABTT**, **STLD** and the **ALD** were all there. Perhaps the most exciting, but conversely of least



Simon Molseed (left) and Maris Ensing on the Sarner stand launched a new range of DMX devices.

interest to the rock and roll lighting designer, was the appearance of the **ISCE**. The Institute of Sound and Communication Engineers may not immediately spring to mind as the voice of rock and roll, except perhaps for the abstract application of the word 'Communication'.

However, its chief executive Ken Walker is keen to make this organ a broad church. With the likely merger of **SCIF** into **PLASA**, he now sees the institute's roll as expanding and embracing all the disciplines within the industry. With **NVQ's** starting to become a reality and providing a defined career path for the individual, the already crumbling walls between stage, TV and music will finally disappear. Technicians and engineers will, by necessity, move from one discipline to another, and one or other of the various associations will need to provide the democratic voice they require.

Apparently someone is going to launch the world's biggest super tanker in the next year or so. This ship is reputedly so large that it will have to be built in two halves and welded together at sea, (I never have figured out how they get those matches to light under water!). The owners/builders want something a bit more spectacular than a broken bottle of bubbly for the launch. With the now bullish atmosphere at **PLASA**, what can you come up with?

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LIGHTING TECHNOLOGY - THE GROUP STORY

John Offord provides an historical profile and makes a valiant attempt to dismember the leading lighting purveyor into its different segments

It wasn't until a couple of years ago that I got the real message about the Lighting Technology Group. I - and most probably you - had figured them out as a reliable, regular and decent group of chaps who could supply anything you wanted in lighting, and conjure up the occasional bits of magic on demand. I knew they also got involved in a project or two.

The truth dawned during a social drink with director Bev Bigham in Manchester (I'd been invited there to witness a couple of their involvements in the area) when upon enquiry he told me the Group's turnover figures. I remember the news was delivered with Bev's typically broad smile and the words "eight million going on ten". I probably showed some suitable signs of emotion, flinched, downed another whisky, and quite likely said something inane like "well, it couldn't have happened to a nicer bunch of people".

Today, the annual turnover of the Lighting Technology Group (the name came from the title of their pension fund) has shot up to around £14 million, and the company is one of the biggest in our industry, with an international reputation to match. The companies involved are Action Lighting, Lighting Technology Projects, Valiant Lamps Ltd, Preferred Electrical Ltd and Action Lighting North.

Principal partner/shareholder with Bev is David Morgan, who founded the company that began the operation we know today, and it was in his office in Park Royal, west London that I sat down for the full story. It is one that covers what can be a somewhat confusing, but nonetheless interesting movement of people, most often colleagues from common roots in the industry, who, after a sort of unique gyrotory process, became welded together as a team of conspicuous operators.

"If you go right back to the beginning, our core personnel worked for either Osram GEC or Thorn Lighting, and in the lamp business, just as in the theatre or disco business, everyone knows everyone else. I was in R&D at Osram GEC in Wembley and Bev Bigham worked in the same department. I left to join Valiant



Above, directors Bev Bigham (standing, left) and David Morgan (seated, right) with chief accountant Salman Bhatti (left) and systems manager Derek Smith. Below, the Group's HQ in west London.



Electrical Wholesale, the largest specialist lamp distributor in the UK, and Bev joined us soon after. He stayed for three years, but then left to set up his own company, VID Engineering Operations Ltd, which was geared to the microfilm and rock and roll industry.

"In due course, and on the back of discussions with lighting designer David Hersey, I decided to start my own company to make practicals for the big West End musicals, which were beginning their boom period. In fact, I nearly

went to work for Hersey, but instead formed Action Lighting, which I started in February 1980. It built up from there; progressively we made more and more stage lighting effects, working from home, the garage, the attic and anywhere else we could find space.

"Gradually, people joined me. Jack Exell left Valiant and said to me 'I will sell lamps'. When we needed a storeman, Ron Knell, who now runs our sales office, came in to do a bit of driving, packing, answer the telephones, and so on. The progress we made was a case of tacking people on. Bob Peach stayed in touch from Valiant days, and in due course joined us after a spell of running Theatre Projects' shop in Mercer Street in Covent Garden. Teresa Brown joined part-time to assist my wife on the accounts work. Soon after, Brian Smeed came with a proposal to form a company to market GE lamps, mainly to the AV industry, and that company, although successful in its own right as American Lamps and Lighting Ltd is now dormant as a trading name, having been absorbed into Action Lighting.

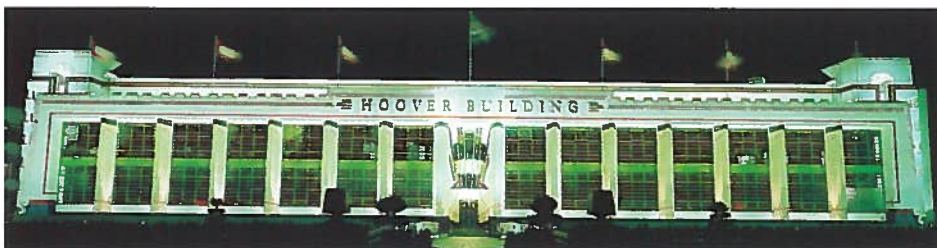
"From that time, in the early-to-mid eighties,

LTP AND THE HOOVER BUILDING

The Hoover Building in West London has become another London landmark famous not only for its architecture, but also its floodlighting, and on 28th September was announced as a category award winner in the 1994 Lighting Design Awards for Imagination Limited.

The site was acquired by supermarket giants Tesco for another out-of-town superstore, and subsequently redeveloped into office accommodation with a superstore and car park at the rear. As part of the redevelopment Imagination were asked to produce a suitable floodlighting concept.

The original art deco building is listed and with English Heritage particular about the proposed lighting design, the scheme for the frontage was carefully monitored. However, the rear of the building was not such an issue and more freedom was therefore allowed in this area. Lighting Technology worked alongside Imagination's designers and Tesco's engineers



to produce a carefully balanced specification for the luminaires involved, meeting the demands of the design whilst accommodating the requirements of English Heritage.

The lighting equipment list involved fittings from Philips, Siemens, Powerlite and James Thomas as well as marine searchlights from Lighting Technology. In excess of 200 luminaires were used around the building. The overriding visual effect is the green glow that dominates the Perivale skyline, but a closer examination of the lighting shows subtle use of

white, orange and red neon to complete the scheme. The rear elevations have a line of red neon tracing the outline of the building, whilst along the main frontage streaks of white are used to enhance window reveals against the artificial green background. A small amount of sodium lighting is used to provide a warm glow above the entrance in the centre.

For those who have not seen the Hoover Building in its night time glory, take a trip to Tesco's park in the car park at the rear, and spend half an hour or so walking around the site.



Lighting Technology's export section.

with Bob and Ron taking care of the office and Jack and I out on the road, we began boosting sales considerably, and it was the real start of Action Lighting.

"By now we were in a lock-up shop in Acton and right next door to Bev Bigham's VID Engineering. We'd already knocked a hole in the dividing wall to enable us to look after each others' telephones, and we effectively merged the two operations in 1983. The growth continued. Paul de Ville, currently new business manager for the Group, joined in 1986 from Theatre Projects, then at Mercer Street, to assist with sales, etc.

By now Valiant Lighting was Action Lighting's biggest London rival, and according to reports went out to hit their latent competitor by introducing a pricing policy that was intended to shake them down and out of business. The policy duly back-fired and not long after an approach was made by one of the owners suggesting a merger of interests. In due course a straight sale was arranged, with the agreed price to be paid over two years.

"We were able to pay for it over 12 months," continued David, "and by reorganising the company we stopped the rot very quickly and made it a highly profitable business. As far as the Group is concerned it is the star of the show."

Next senior man in to join the team was Garry Nelsson, now export director. "He was a substantial export customer of ours in his previous post," said David Morgan, "and it just seemed like a good idea for him to join us. Our export sales have become an increasingly important part of our business, and it was a case of centralising and consolidating our operations. At the time Garry joined, we were handling around £800,000 of exports annually, which I used to deal with myself. I changed my role and moved out of export sales, which Garry took over, using a specially formed company, Lighting Technology Ltd. Within two years he had doubled our export turnover and it is now heading towards the £4 million mark."

David will readily admit that if there was a major landmark in the development of the company it was the purchase of Valiant Electrical, and the group had quickly hit a turnover of £7 million annually at the point of the economic down-turn. "During the recession we only grew from £7.2 to £7.8 million over three years, which in our history is very slow growth. However, we did tuck away money. The company has always put its money into stock, and although our accountants keep telling us we are over-stocked, I've been guided by the principle that if you've got it you'll sell it, because if you are buying right and you know your market, you will always sell the product."

The Gulf War period was a tricky period for the company, with so many London theatres going dark. "We were very well advised by our company secretary Paul Thornton, a professional management consultant, who gave us the rules on how to work through the recession. In hindsight we came out of the



Part of the huge warehouse facility at Park Royal.

period as a very strong company," said David. "We now have 75 staff and our premises have been expanded. All the time, money has gone into stock, and we now sit on about £3 million of saleable products spread throughout the organisation.

"During the period 1991-92 we started to expand steadily again and particularly in the Pacific Basin. Across a period of 18 months we have doubled our sales in this region."

The company is always on the look-out for business opportunities, and having husbanded its cash and able to raise money if required, it is in a very strong position. "We consider business plans are a strong point here because Paul Thornton can guide us through them," continued David, "and our accountant Salman Bhatti is there to back him up. Our objective is to expand gradually, to look at the opportunities, and to form strong links with companies around the world. This is a role I will be taking on personally more and more in the future.

"We are looking after a world market with a 48-hour service and we can also turnkey a package at very short notice. All of these abilities came about as a result of sensible policies that we have developed, and they have put us in a position where we are a leading company in the entertainment world of sound and lighting. We can see that we are going to grow across the next three years; we have a three-year business plan, but we fully expect that growth will continue for at least five years.

"What might surprise people in the industry is that none of this is a surprise to us. We have full and frank discussions between all levels of management, and this means that nothing serious is undertaken at short notice."

David Morgan has now turned 60 and is



Action Lighting's sales office.

looking to take a more background role. "I'm positively doing that," he told me. "We have other directors who are also shareholders in the company. We have introduced a wider shareholding scheme, and of our 75 staff, 20 are shareholders. We now have young executives joining the old guard of shareholders and they are looking to a long-term future with the company. I'm talking here of Paul de Ville, Andy Stone, Bruce Kirk and Garry Nelsson. These are the executives of the future who are currently spending a lot of time picking up from me the know-how on how the Group runs. Policies for the future are now being discussed on a committee basis, as compared to the past when it was a case of Bev and myself making decisions with the guidance of Paul Thornton.

"Bev and I are roughly equal partners to the extent that we control 80 per cent of the shares. Bev takes the role of technical director, and I take care of the day-to-day administration, but jointly we are allowing the younger executives to come through. We sit and guide them and can apply a veto if necessary. It is working very well at the moment, and I expect to be very much the chairman who will appear less and less often!"

Sounds good, but will the competition glean just the hint of a chance of stealing a bit of Lighting Technology's thunder if its leading protagonist is out of town? Not much chance, I feel. A very strong legacy is in place, and with David Morgan's astuteness, even from a distance, it's hardly likely anyone will get a look-in. If anything, I would suggest a slightly more distanced and international view of the operation may in fact pay big dividends for the future of the Lighting Technology Group.

LIGHTING TECHNOLOGY PROJECTS - COMMERCIAL LIGHTING DESIGN

Lighting Technology's first involvement in a major architectural lighting scheme was in 1985 when



Lighting Technology Projects' river floodlighting scheme for Bedford Borough.

Bev Bigham developed the special stainless steel searchlight luminaires for illuminating the Lloyds building. The scheme was designed by Andrew Bridge for Imagination and made the first use of the special blue metal halide light source handled by Lighting Technology.

Since Lloyds, Lighting Technology have continued to work with Imagination, as technical consultants, on a succession of floodlighting schemes including Waterloo Station, The British Steel Headquarters and, more recently, The Hoover Building in West London. In all cases Lighting Technology helped to put together a complete luminaire specification for the project before successfully tendering for the supply of equipment.

The last three years have seen Lighting Technology become increasingly more involved in designing, supplying and installing both interior and exterior lighting of all types, Bruce Kirk of LTP now looks after all aspects of commercial lighting design for the group.

Recent LTP designed projects include:

- **A Stunning new interior scheme at Holy Trinity Brompton (see L+SI September), in which 300 luminaires were installed complete with a programmable dimmer control system. Holy Trinity is one of London's most active churches with the space being used for many purposes including seminars, drama and music, as well as conventional services so the lighting system is designed to cater for all eventualities.**
- **Bedford Borough Council commissioned a £250,000 riverside floodlighting scheme in the town centre and Bruce Kirk was asked to produce the design and specification. LTP then went on to supply all the luminaires and commission the installation in time for the bi-annual river festival held in May.**
- **The Hoover Building (see separate story in this feature on page 66).**
- **Engineers at the British Museum wanted a solution to problems they had been having with a 'theatrical installation' in the Duveen Gallery. LTP were called in to look at the installation and make recommendations for a new system. As a result of extensive field trials monitored by BM designers and engineers LTP manufactured and installed 80 150W metal halide searchlights with a range of lenses to accurately illuminate the priceless Elgin Marbles.**
- **The Warwick Road entrance of Earls Court was turned blue for the duration of the PLASA and LIVE exhibitions. This temporary floodlighting installation of some 50 luminaires is now likely to become a permanent feature early next year.**



Lighting Technology Projects' Bruce Kirk.

LTP have a stock of around 200 floodlight units and searchlights which allow them to set up large scale trials and demonstrations, and Bruce Kirk told L+SI that setting up trials always help both the designer and client decide what effects and luminaires are suitable for a project. "The feedback is always better than discussing an airbrush or computer-generated image," he said. These luminaires are also available for rental.

As well as designing in their own right, LTP are regularly involved with architects, designers and specifiers on a host of different types of lighting projects. Recent collaborations have included new exterior schemes for Olympia (London) with Simon Tapping, the Schlumberger buildings in Vienna with Patrick Woodroffe, the bar interiors of Twickenham East Stand with David Atkinson and a theme park proposal for the Meiderich Steelworks with Jonathan Park.



LTP's service department.

Lighting Technology market their own range of searchlight luminaires which are ideal for pinpoint illumination of architectural details in many installations. These special beamlights, along with the now infamous blue and green light sources, have become a trademark for LTP's activities.

A new colour lamp is also on the horizon which was field tested for Philips at the LTP-managed Jazz festival at Kew Gardens this year. The London skyline may have a pinkish hue in the next few years!

LIGHTING TECHNOLOGY PROJECTS AND COMPUTITE

The demise of Eurolight, which had been an expanding route for the sale and installation of Computite lighting control systems into the UK, and the fact that Lighting Technology was receiving an ever-increasing number of enquiries for installation work, saw the 'moving in' of Andy Stone to the Lighting Technology Group, and not long after, the Computite agency itself.

"I'd started working with Paul de Ville on installations whilst at Eurolight," explained Andy Stone, "so it was an obvious move. A division called Turnkey Projects was formed to undertake lighting and sound installations for the Group."

When Luff Light & Sound went into receivership, another factor was thrown into the equation. As a creditor, LTG were involved in discussions with the receiver on aspects of Luff's installation and West End hire business. The end result, after some bumps along the way, saw a fusion of the tail end of part of the old Luff connection with the new Turnkey Projects division and LTG's existing installation business. The much more readily identifiable Lighting Technology Projects was formed as a result, and a new unit was found on the same estate as the Group's HQ and placed under the joint direction of Bruce Kirk and Andy Stone.

This new development also saw a determined move into sound and AV work, and Lighting Technology are now the UK distributors of EAW loudspeaker systems, in addition to their existing line-up of products from Bose, Shure, Denon, Tecpro and Allen & Heath. More recently, a much wider product profile has been introduced, particularly in the audio market, and this now includes Crest, Metro Audio, Sennheiser, Teac and Tascam.

Also based at Unit 721 is LTP's service department, which although starting as a service centre for Computite equipment, now offers a self-contained operation for the servicing of Arri and ADB systems, amongst others.

The Computite division runs as an autonomous unit, and is kept separate as a



Above left, the new showroom of Lighting Technology Projects, and right, the division's warehouse.



The Compulite Animator.

deliberate policy so that sales leads and enquiries are identified and dealt with accordingly. Andy Stone developed the story: "There were two product ranges that had not been previously distributed in the UK, mainly because of the capital needed to finance demonstration and back-up stock to enable the sale of high value products.

"One was the Animator, the control system for moving lights. Compulite had been building the controls for Telescan for 12 years and had also worked on the development of some of the controls within the units, and had a great deal of experience in this area. In fact, they had an Animator in its early form around four years ago, when most companies hadn't learnt anything about moving light consoles, and there wasn't any competition around.

"We decided to go out and push the Animator range because we could see a market for it, and there are already systems installed in prestigious venues, hire companies and TV studios around the country. Some are now making their way into the club area.

"The other area which wasn't pushed initially was the promotion and sale of dimmers - something that Compulite have been very heavily involved in for many years. We are talking about very high technology systems, state-of-the-art equipment with all the features and gadgets you could conceivably require. They have proved very popular, particularly in the television market, in many other

VALIANT LAMPS

Established in 1964, Valiant are now the UK's largest stockist of specialist lamps for Britain's electrical trade. Like the rest of its stablemates, located centrally in London, the company holds high levels of stock from most of the world's leading lamp manufacturers including Philips, Osram, Sylvania and GE. Valiant's sales team have a wealth of experience built up over a long-term involvement with the industry.

countries. (The latest installation to include Compulite dimming was at the Kenneth More Theatre in Ilford, Essex - see separate story within this feature).

"Compulite also has a very extensive family of DMX products and we are now achieving a greater awareness of these in the market place. There are protocol converters, DMX mergers, splitters, combiners and so on, and if anyone wants a piece of software or equipment to do a particular job, there is usually something on the shelf to solve the problem. If not we can always get something written for them."

A major launch at the recent PLASA Light & Sound Show is an add-on unit for existing lighting control consoles. "What Compulite have done," continued Andy Stone, "is to take the Animator philosophy and build it into a small self-contained add-on unit to the conventional board."

Also shown at the PLASA Show was the Compulite universal moving yoke. "It is based on the same philosophy as the PALS system but is run on DMX and can be fitted with a scroller and has a focus attachment. It has been manufactured with accuracy and quietness in mind, and I believe it will become an important product for the future.

"Compulite have always had a policy of continual development and 'upgradability' of their systems which has enabled them to keep pace - and in many cases to set the pace - with the rapid development of the lighting industry over the past few years."

A LIGHTING TECHNOLOGY WHO'S WHO

The Group's head office is based at Unit 2, Tudor Estate in Park Royal and is home to Action Lighting, supplier of a wide range of consumables based on lamps, and Lighting Technology that is the trading name of the export sales division.

Principles at this location are Jack Exell, Bob Peach and Brian Smee, who are supported in sales by office manager Ron Knell, in turn supported by David Short, and specialising on colour, Naomi Brooks. Export sales, handled from the same



Andy Stone.

office, are split by territory between Nick Blackman, Marney Lowe and Audrey Warren who are guided by Garry Nelsson from the Paris office. Critical in such a busy office are Zena who is normally on the switchboard, and Tracy who backs up on reception, switchboard - both providing a word processor facility as and when required.

Financial administration for the group is operated out of the second floor of the same premises. Group accountant Salma Bhatti heads the department aided by Teresa Brown on sales accounts and Shirley Morgan and Collette O'Connor on the bought ledger. Helen Wichelow is a qualified solicitor heading credit control, working closely with company secretary Paul Thornton on non commercial and legal company matters. The company operates a networked computer system which is specified and supported by Derek Smith who also backs the export department on sales liaison with Spanish language clients. Marina Vasco operates the in-house desk top publishing equipment and also handles general marketing, publicity, and sales literature. Paul de Ville also operates from this floor and like most commercial personnel provides back-up to all those needing specialist information on matters theatrical and technical.

The warehouse is managed by Brian Gillespie and assistant manager Gary Hazley, who controls a staff of six including Les Creaven, the London light van driver. Apart from packing goods for despatch around the globe, the warehouse staff also serve in turn at a trade counter that is open continuously from 9am to 6pm.

On the same estate, but 150m away, is unit 721, which is now home to Bev Bigham and the Projects division that is jointly managed by Bruce Kirk and Andy Stone. The supporting staff comprise Linda Dujon on reception and general

LTP AT KENNETH MORE THEATRE

LTP recently completed the first UK installation of the Compulite digital dimming system. Compulite have been producing high specification digital dimmers for many years and thousands of channels have been supplied world-wide both in touring and installation configurations, but until now, the dimmers have never been promoted in the UK.

The installation involved a complete re-wire of all the stage outlets together with a re-vamp of the front of house circuits involving some 50 additional outlets around the building. A single dimmer rack containing 108 channels of 2.5kW, six channels of 5kW and six channels of 2.5kW non-dim was installed in the existing dimmer room in the basement. Approximately half of the circuits were hard-wired and the remainder were wired to a new patch panel located on the stage gallery.

A new Applause 386 control desk was also



supplied as part of the contract which offered full on-line reporting from the dimmer rack of temperature, circuit breaker status and load drawn per channel, and provided the facility to download back-up states from the desk into the

dimmer rack. The existing Applause system was retained as a back-up system and a DMX Merger was supplied to enable both systems to drive the dimmers simultaneously.

The theatre, in line with most, is now utilising an increasing amount of DMX network throughout the venue. This involved six DMX outlets around the building all fed from a six-way splitter box which optically isolates and separately drives each outlet. The installation offers the latest in digital technology and in a theatre which presents around 60 different productions each year on a very limited permanent technical staff, keeps maintenance and rigging time to a minimum.



Garry Nellson.



Jack Exell.



Ron Knell.



Paul de Ville.

administration, Mike Faulkner on technical equipment sales such as Compulite, Arri, Denon, EAW etc, then Simon Cooper, Philip Norfolk, Richard Harris, and Ken Priddy involved in both field activities, as well as being available for telephone advice and support in the office. The ground floor workshop staff include a service department headed by Eddie Hirad, and assisted by Martin Geraghty, lighting effects production and model shop under Chris Clark, pre-wired bars and other in-house manufacturing headed by Yogi Kawa, and senior installation electrician Tom Flynn, supported by Phil Weeks, Chris Lane, and Paul McWilliams.

At Fulham are two more autonomous trading divisions. The first is Valiant Lamps with commercial manager David Rose, and national sales manager Malcolm Moine who are supported by an internal sales team of Glyn Hall, John Bartlett, and Juliette Metters. Senior group buyer Ray Henwood is based here, along with premises manager John Morgan, backed by a warehouse staff of three. Tara looks after the switchboard, supported by Leona, with both supervised by Alice Liston who controls Fulham's financial



The award-winning Lighting Technology stand at the recent PLASA Light & Sound Show.

affairs.

Linked to the Valiant warehouses are two more units housing Preferred Electrical Ltd, which is run by joint managers Ted Crouchman and John Twilley. On-site support is provided by Roger Lessiter and Bob Crouchman in the sales office, field sales and marketing manager Howard Goodchild, and warehouse staff Geoff, Tony and driver David.

In the north west, the group trades as Action North based in Salford where the family Bassett are strongly represented by manager Graham, wife Madeleine in charge of administration, son David looking after theatre sales, supported by cousin Stephen in the warehouse. Fred King is field manager of lamps in the north west, and Roy Chapman is senior warehouseman.

Out in the field are David Lomas, sales manager for the Midlands based in Leicester, Tony Rodber sales manager for the South West, Mark Satchell based in Cardiff and covering theatre sales and projects in Wales, and Richard Maunder based in Southampton with a national sales area for sound equipment and lighting design associated with the projects division.



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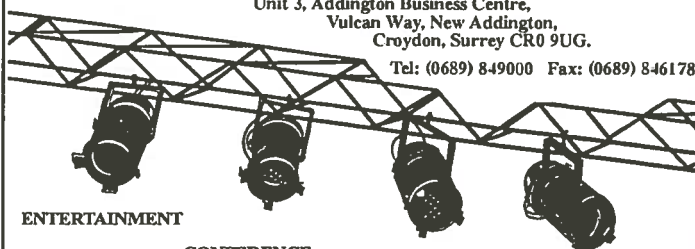
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THE BIG PICNIC

Robert Halliday heads for the trenches of France

Not so very long ago, in global terms, theatre performers used to be homeless bands of wandering players, performing wherever they wanted or wherever there was enough interest in their performance. In more recent times, the theatre has become building-based, with vast amounts of time, research and money being spent on constructing ever more elaborate, complex performance spaces. And that is what is now considered 'the norm' - partly because those places are good spaces to perform in, and partly because having spent all of that money on them, it would be a shame not to use them!

A few theatre practitioners buck the trend. One is Peter Brook, whose opposition to specialist performance spaces was summed up by a comment he is reputed to have made during the discussions preceding the construction of the National Theatre on the South Bank of the Thames - when Denys Lasdun suggested that Brooks would prefer a bombed site in Brixton to anything the architect could design, Brooks answered 'yes'. His work since then has led him to a wide variety of locations, some of which, such as the Tramway in Glasgow, carried on as performance spaces long after Brooks had left.

Another of these practitioners is Bill Bryden. Rather than rejecting the new National building, as Brooks did, Bryden joined it, took charge of the Cottesloe studio theatre and then, with designer William Dudley, turned it into an unconventional performance space. In their productions of *The Mysteries* and then *Larkrise to Candleford*, the pair removed all of the seating from the central area of the theatre and invited the public to join the performers and become part of the action in promenade productions. The shows, especially *The Mysteries*, were some of the most successful the Cottesloe has ever known, and are still remembered with great feeling by those who saw them even nine years after they were last performed.

In 1990 Bryden re-introduced the promenade style of production on a huge scale, writing and directing *The Ship* in Harland and Wolff's abandoned engine shed by the River Clyde in Govan, Glasgow.

Four years on, Bryden, co-director Sebastian Graham-Jones and designer Dudley are at it

again. While *The Ship* told the story of the local shipbuilders, the 80th anniversary of the First World War presented Bryden with his inspiration this time. The show, entitled *The Big Picnic*, follows a volunteer army from Glasgow's Govan area as they join up, are sent away from their wives and families, arrive in the trenches in France and fight a war.

The scene is beautiful and haunting - the laser cuts a low-level green arc through the heavy low smoke, and a single GoldenScan shines a circle of intense green shafts through the high smoke.

Following on from *The Ship*'s success, the director again chose to use the Harland and Wolff engine shed, returned to an empty, slightly derelict space after *The Ship* moved out. With the huge space available, Dudley elected to recreate a whole trench and section of the battlefield, designing a 250 feet long, undulating piece of countryside. The terrain rises up to the trench section, which has trenches running along and across the length of terrain. The ground then runs along, dips down then rises again at the German 'end'. The terrain is real terrain; the basic structure with the hills and dips is a scaffolding structure, but this is topped with real soil, with sections hollowed out, plastic lined and filled with water to form pools and mudpatches.

While presenting an ultra-realistic setting, the dirty, muddy, uneven set would have presented a problem for Bryden's conventional promenade style. Two alternative solutions were adopted. On one side of the set, three levels of scaffolding walkways were installed, allowing promenaders to walk up and down the length of the building with the action, and to elect



Above, and below, *The Big Picnic* in rehearsal. photos: Nobby Clark

whether to look into the action or down on it. On the other side, it was decided to install a seating block. This was only, to allow the audience to follow the action as it moved along the set, the seating block had to move . . .

This was the first part of two challenges presented to Delstar Engineering by production manager Simon Marlow. The second was Bryden and Dudley's demand for a moving, overhead band platform, designed by Dudley, which was to have something of the appearance of an overhead crane that would have been a feature of the Shed when it was still used for building engines.

Delstar's solution to this second problem took the link further, since the band platform actually runs on the building's original crane tracks, though the structure itself was engineered especially for the show, despite some critic's comments to the contrary. Extra work was required to get the necessary cabling to this moving platform. Power to its motors runs along power rails, but a steel line was installed down the other side of the building; a looped multicore suspended from this is pushed and pulled along by the platform itself. Recalling the time taken to install that cabling, Marlow points out that "like so many other things on this show, something that sounds simple was made complex by the size of the venue: the cable line is some 250 feet long, and has turfors on it just to enable us to get it tight!"

For the audience platform, the Shed didn't offer any convenient tracks, so Delstar installed two railway tracks along its length. A wheeled platform sits on these tracks, and the raked seating was then created from scaffolding on top of the platform by contractor Turner +8, who were also responsible for the promenade walkways. The movement, in theory, uses the





The Angel of Death, a recurrent image in the show, descends to claim the weary soldiers.

conventional continuous cable loop technique. "We are trying to move something that weighs up to 70 tonnes, with a full audience," Marlow notes as he demonstrates the large, floor-mounted motor that carries out this task. The movement of the seating is controlled by an operator sitting next to the motor with a clear view straight along the tracks. The operator is also in radio contact with walkers at each end of the truck, who ensure both that there are no stray audience members in the way and that the cables that run into the truck are running freely. "We're always very concerned about safety," Marlow explains, "and the simple rule is that if the operator loses radio contact with either of the walkers then he stops the truck, regardless of whether he thinks it is clear."

The task of lighting the many performance areas in this huge space, as well as linking those areas to form a larger 'whole', fell to lighting designer Chris Ellis. Ellis immediately began to explore the option of moving lights, initially looking at a combination of Vari*Lite VL5s and VL6s. His exploration hit two problems - the usual lack of budget, but also an availability problem with the equipment because of the popularity of these lanterns. Eventually the budget constraint, combined with the large number of lamps required just to cover the huge space led him back to the VL1, the final rig containing 30 of these lamps controlled from an old Series 100 console.

Ellis' rig design has lines of VL1s running across the battlefield at regular intervals. The rest of the rig contains a variety of conventional theatre lanterns supplied by Northern Light: a line of 5k fresnels topped with Rainbow scrollers provide a wash of light in one direction along the battlefield; 2k fresnels, largely old Strand Patt 243s, provide a single, cool wash of light in the opposite direction; Sil 30 profiles highlight more specific areas, particularly toplighting into the trench areas; and assorted 1k fresnels on the scaffolding walkways provide lower-level fill light at regular intervals. Beyond the 'Scottish' end of the set, through a set of doors kept closed as the audience enter to try and keep the battlefield as a surprise, is an area known as the 'White Room' where the early recruiting scenes of the show take place. This area is lit entirely with conventional lights - a mixture of Sils and 2k fresnels with a 5k toplight and a line of Parcans used as an intense toplight on the dead soldiers

at the end of the show - apart from the one VL1 that travels with the audience seating. The White Room lighting also includes five 2k Sil 30s projecting a custom, multi-part gobo of a local industrial crane from the Govan skyline. At the 'German' end of the field are three GoldenScan 3s and a water-cooled laser, supplied by Laser Creations and used to stunning effect in the various battle scenes. Along the top walkway linking these ends were five Strand 500W beamlight followspots, with a further two mounted on the seating unit and a final one at the end of the white room. These seven followspots are run by just four operators, the two on the walkways moving between different spots as the action moves.

Like every other element in the show, the entire lighting system had to be installed from scratch. "All that existed when we came in was a mains intake," notes the show's chief electrician Graham Gardiner. In early discussions between Marlow and production electrician Bevis Evans-Teush, the electricians had pushed to be allowed to pre-rig the lighting before any of the scenic elements were installed, since once the undulating scaffolding was in place access for cherry pickers would be severely restricted. "Then I pointed out that they had a perfect, movable lighting bridge in the band platform," Marlow recalls, "and in the end we boarded over the top of the platform and used that to rig the show." The lighting was generally rigged directly onto existing roof beams, their height providing just enough clearance for the band platform to pass safely underneath. Sections of ladderbeam were used to lift the 5ks up slightly higher.

As well as limiting the size of the rig, the tight budget also called for careful planning from the show's electricians, and forced them to abandon a number of their early plans for installing the show, including plans to use Avo dimming racks located in different parts of the theatre. The dimming, 96 ways of Act 6 dimmers, an assortment of 5k dimmers and the Vari-Lite power modules thus all sit in one dimmer room at the 'German' end of the Shed, with long lengths of multicore running out to the rest of the building. The only exception is the system for the lighting on the band platform. For this, 12 dimmers were installed on the platform itself, with DMX control run down one line on the sound multicore. Unsurprisingly, 96 ways of dimming isn't really enough for a show of this scale, and one of the show electricians

is kept busy carrying out replugs at various points.

"We wanted to locate the lighting controls on the seating unit," adds electrician Nick Smith, "but the huge amounts of cable involved meant that we finally chose to locate them on the walkways, which is a good position except that we can't see any of the action in the White Room." Conventional lighting control is from a Gemini 2+, fitted with a DMX card to drive some of the dimming, the GoldenScans and the scrollers. Smith also controls the laser, the four Rosco 1500 smoke machines and (through two old Strand resistance dimmers) the two large fans mounted on the 'German' end wall and used to control the movement of the smoke. The Vari-Lite console sits next to the Gemini; it was programmed by Patrick Murray, but is operated by Graham Gardiner, who also fires the Bowens strobe units that are scattered around the rig.

Given the resulting tight schedule, Ellis resorted to working into the night to create looks and effects ready to present to the director and cast the next day. Given Bryden's notorious habit of leaving final blocking as late as possible, the Vari*Lites proved invaluable. Despite the relative tininess of the rig, every scene is properly, clearly and often beautifully lit since Ellis uses the VL1s for much of the general lighting, as well as for effects - their movement allowing him to contain the light to a wide variety of different areas as the action moves around the battlefield, while the 5ks provide a unifying directional light and colour the set. Unusually, yet very successfully, he often does not shade the lighting away to darkness in the areas not being used. Instead, he lights the atmosphere, which is kept 'dirty' by one of the best uses of smoke I've ever seen. Of the four Rosco machines, two are 'open' at the German end of the set, pumping smoke directly into the air, and two are hidden under the set and then ducted using scaffolding tubes beneath the soil. The smoke from these machines is then allowed to percolate up through the soil itself. Having been cooled by the cold scaffolding, diffused by the soil and then kept cool by the relative coolness of the building, it hangs just above the ground, even following the curves and undulation of the field. It does, in fact, what low smoke is always claimed to do but never does. The two 'open' machines then fill in above the ground.

Under Nick Smith's deft control, the result is incredible 'layers' of thick, impenetrable smoke which somehow manages to reduce in intensity as it reaches the trench area. For the trench scenes the cast are thus clearly visible. Ellis then backlights the smoke using the Vari*Lites to create a solid wall, and a genuine feeling of the soldiers' fear of the unknown enemy that lies beyond the smoke.

The finishing touch to Ellis' lighting is his use of soft-edged beamlight followspots - originally specified as the conventional Reiche & Vogel 500W unit but, in fact, the newer Strand equivalent, which have impressed Graham Gardiner. "They have a really good clear beam, though they do have a slight tendency to drift off a perfect beam and so do need some watching." For the most part, the cast are clearly lit without the spots, but they are needed because of the old adage that you can't hear someone unless you can see them. More specifically, they are used to ensure that you can always tell who is speaking, because the sound system used for the show to overcome the huge volume and peculiar acoustics of the building doesn't provide this information.

Although the show didn't have a sound designer, equipment supplier Farrahs sent Steve Jonas up as a sound consultant to help

install and set up the system with sound operators Michael Kilbride and Mark Reuben and sound technician Douglas Lamb. The installation used 19 radio microphones, with every member of the cast mic'ed using Sennheiser diversity transmitters and a mixture of Sennheiser mics (for the men) and Sony mics (for the women). The signals are picked up by two aerials mounted on the seating unit so that they always remain as close to the source of the signals as possible; the signal is boosted and fed to the radio racks mounted underneath the seating, and then up to the desk at the back of the seating. This is a Soundcraft 8000 with a matrix output that mixes signals from the radios with sound effects generated from a Revox B77 and the sound from the band.

The band has its own self-contained sound system with a mixer located on their platform. This feeds a series of Apogee speakers located at either end of the platform, facing the audience - not, the sound team feel, the best location. They would have preferred to have located them on the sides of the platform firing into space, but Bill Dudley objected to the effect they had on the look of his set and they were thus displaced to the ends. Connecting all of these systems are huge multicore runs which take band signals to the mixer, and mixer output to the amp room located at the 'German' end.

The rest of the sound system consists largely of a huge number of tiny Toa line voltage speakers, spaced at regular intervals along the walkways with a line also mounted at the front of the seating unit. These are backed up by three Apogee clusters flown high in the roof at regular intervals, EV S200 speakers mounted low on the walkways facing onto the set, and Martin units at either end of the battlefield.

The Apogee/Toa system is divided into four zones to allow the sound to be 'contained' to the four general areas of action. An MD76 MIDI patching unit is used to switch the sound to the appropriate zone, changes being affected manually by Kilbride without any kind of computer control system. Because the promenading audience are free to wander wherever they like on the walkways, a small amount of signal (radio mic vocals and some band signal) is often fed to the non-active zones to keep any stray promenaders in the picture. The EV speakers were installed principally as foldback units, to allow the performers to hear themselves and the music. They also follow the zoning system, though other zones have to be open to allow people in different parts of the set to hear the cues.

Never having been given a proper sound session to experiment with settings, the sound team have had to take some intelligent guesses with regard to delay settings, which are controlled using Yamaha SPX990 reverb/delay units. By and large they have been successful, as far as the budget-limited system will allow them to be. The cast are always heard through radio mics and this does ensure that every line of the show is audible. What it doesn't give you is any acoustic direction information - there are moments when you can't tell who's talking, especially if you are promenading and have ended up behind the actors - hence Ellis' use of followspots to highlight the appropriate people.

There are also times when the sound could probably be tightened up a little, but with the operator stuck at one end of the audience, under a roof and unable to hear what they are hearing, perfection is unlikely to be reached, especially since the desk doesn't have enough matrix outputs to cope with the number of different position setups that a 'perfect' design would require. But it's good enough, with even the radios remarkably free from the usual radio mic glitches that appear in spaces of this size.

The remaining speakers at each end of the set are used to replay effects, principally consisting of battle sounds which, because of the length of the building, do work very successfully as distant battle sounds!

So, a huge show involving a lot of effort all carried out on the tightest of budgets. Was it worth the effort? I think it was, though because it can be watched in so many ways there are always going to be some

problems. The handling of the audience, for example, is slightly strange. The first time the audience moves is a brilliant moment: at the top of the show the seating is by the White Room and the rest of the space is closed off by doors. The first 15 minutes or so of the show take place here, but then, as the soldiers march off to war, the doors open, the soldiers march through - and the audience move with them into this mysterious, cold, foggy hell - and everyone on that seating unit gasps with surprise.

The problem is that later in the show, you get to recognise the signs that you are about to move, and just think 'here we go again'. At that point it is better to get off the seating and promenade. However, rather than the feeling of freedom to become part of the action that promenading should bring, you are prevented from going on to the battlefield itself and end up just walking backwards and forwards along the scaffolding walkway. The limitation was imposed by the set and some of the effects which fire down its length, particularly the laser, which local health inspectors didn't want the audience anywhere near - indeed, the health and building inspectors made demands throughout the production period, resulting in the loss of the first two performances.

Promenaders still get the better deal, though, especially with regards to some of Chris Ellis' lighting. In his handling of the moving seating, Bryden's television experience becomes clear - he uses it to create what, in film, would be achieved using a tracking shot, moving along with the soldiers as they march towards the German trenches and using the classic film tracking techniques such as moving the camera/audience slightly faster or slower than the cast.

The trouble is that in all of the battle scenes, and in particular the gas scene, the audience are carried too far. The battles are heavily smoked, with the soldiers walking towards the German end of the shed into a fusillade of laser shafts, created by bouncing the laser off any of a dozen different mirrors, backed up by GoldenScan sweeps and strobes. The gas scene is more spectacularly beautiful and haunting yet - the laser cuts a low-level green arc through the heavy low smoke, and a single GoldenScan shines a circle of intense green shafts through the high smoke. As the soldiers advance and are brought down by the gas they appear and disappear above the undulations in the trench, the effect accentuated by the huge shadows they cut in the laser. Above them, the Angel of Death, a recurrent image in the show created by a trapeze artist suspended from beneath the band platform, swings in the centre of the GoldenScan beams, picked out by a green tinted beamlight followspot that renders her 'wings' translucent, while backlighting her hair and body.

Look along the hall into this, and it is stunning. But Bryden has placed his audience alongside the soldiers, looking across all of this and it doesn't look as good. Sadly, most of the promenaders have followed the seating and so are also looking across the action, again missing the best effects.

But *The Big Picnic* is still an inventive piece that makes you 'feel' for the soldiers involved. And, apart from the quibble above, Bryden does make good use of the Shed's size - the scene where the Angel of Death lowers to gather up a dead soldier and the whole unit then trucks off to the very far end of the Shed, fading out as it goes, is another moment of beauty. It couldn't have been done in any conventional theatre, and that it happens here is a tribute to the skill and energy of all those involved.

The trouble is, the production company, Promenade Productions, now have the option of a 25-year lease on the Shed. While it is a spectacular space, in some ways I hope they don't take it. It could only lead to attempts to make every show work in that venue. Surely it would be better to keep finding new venues, each appropriate to a particular show? It might take more effort, but if you don't want that effort you might as well return to the comfortable environment of any conventional theatre in the country.

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POWER, PERFORMANCE AND EMC

Part 2 of Ken Dibble and Allen Mornington-West's Amplifier Review

Following last month's introductory article and reviews of the Peavey DPC-1000, Crown Macrotech 3600VZ and MHA Chameleon 1400S, we now present three more in-depth reviews, including the brand new C-Audio XR5001, Carver PM-1400, and Chevin Research A-750. Interestingly, all three amplifiers tested this month turned up with a fault of one kind or another and were only sorted out in the nick of time for our EMC test house appointment! The final part of the feature, including our reviews of the Crest 9001 and Lab Gruppen 2000C, along with a concluding article, will appear in the November issue.



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PRE PRODUCTION PROTOTYPE

GENERAL DESCRIPTION

This is amongst the largest amplifiers tested. It is rated at 2 x 1900 watts into 4 ohms, is packaged in a surprisingly compact 3U x 400mm deep chassis and weighs a substantial 40kg. Visually it continues the tradition set by the TR-850 with its double-deck front panel, neat, compact knobs and switches and a minimum of LEDs necessary to show the current status of each channel.

Inputs are balanced XLR/3s wired pin 2 hot to the IEC-268 standard and both male and female connectors are provided per channel to facilitate daisy-chaining. Output connections are by means of two Neutrik NL4MP 'Speakon' connectors per channel wired to the draft IEC standard with the common signal on contact 1- and the 'positive' on contact 1+.

The amplifier has two entirely separate power supplies, each with its own 1.5mm csa cable and draws in excess of 6kVA at full sinewave drive. The AC mains power switch is at the rear of the amplifier adjacent to Channel B mains tail and each channel has its own standby/active switch on the front panel. LED indicators are provided for AC mains present, channel active, signal present, clip, over temperature and combined RF/DC fault condition indicators per channel.

The chassis comprises the usual folded aluminium U format with reinforcing flanges to accommodate the fixing screws for the top and

C-Audio XR-5001.

bottom covers. This is fastened to the front panel by means of the substantial handle bolts and is reinforced with a lateral divider which doubles as a fan panel. The forward compartment accommodates the output pcb with the heatsink mounted immediately against the front panel. The rear compartment accommodates two massive toroidal power transformers 150mm in diameter and the full 3U chassis depth. Between these is a sub-chassis which carries eight surprisingly small reservoir capacitors and other power supply components. The input and logic pcb is attached to the rear panel which also carries the connection interfaces.

The level of construction is to the usual C-Audio standard and high quality components are used throughout. In fact, the build quality is such that one would not have guessed it was a pre-production prototype and the only one in existence at the time this review was being prepared. At 40kg (88lb) the amplifier is extremely heavy and although there is some lateral flexure in the chassis, it is nevertheless quite sturdy provided the rear support ears are used. Cooling is by two 110mm axial fans mounted on the central chassis divider which draw air in from the sides and rear and exhaust at considerable air velocity through the perforated front panel. In fact, the amplifier generates a considerable amount of heat, especially at one-third to half power, its front panel handles being too hot to hold after about

an hour. The fans run on for a brief period following switching off in order to purge the chassis of hot air.

CIRCUIT TOPOLOGY

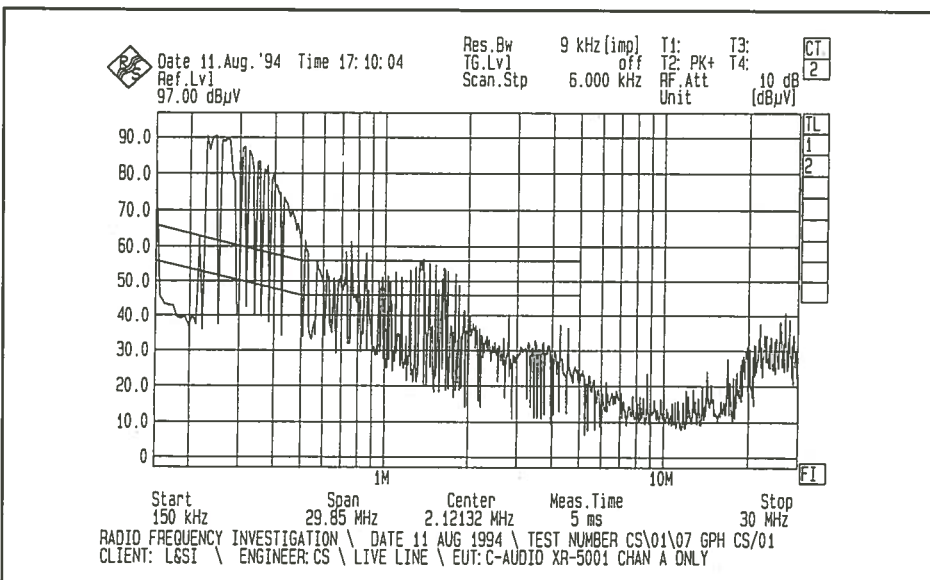
The basic amplifier design is by Ben Duncan, refined and brought to production readiness by Chris Hales at C-Audio. It is entirely conventional class AB output stage except that it employs lateral and vertically cascaded mosfets in a common source configuration fed from a simple op-amp driver stage. Chris Hales argues that bridge topologies produce an imbalanced harmonic signature in which the odd order harmonics dominate, that Class G and H commutator topologies produce 'splicing noise' as the output stage slides from Class AB to Class G/H which appears as an additional form of crossover distortion, and that series/parallel switching of the power supplies (as for example with the Crown VZ topology) produces both harmonic imbalance and splicing noise. So in addressing the identified 'large amplifier' commercial requirement C-Audio have opted for a stacked, conventional Class AB design using what Chris calls 'commercially viable' (as opposed to expensive esoteric) output devices.

AUDITIONING

The XR-5001 produced impressive low frequency performance with tight control, excellent attack and a full and rounded quality. It also has good clear highs with no confusion and crisp clear highs with no splash, if a little too 'present'. The resolution of the drum break on the Flim & the BB's 'Tricycle' track was really impressive with this amount of headroom available, the piano had a natural rounded quality and Tina Turner's vocals were handled without shrieking. The saxophone on 'Private Dancer' was particularly strident and airy. Altogether a good, solid, driving sound not unlike the Chameleon 1400S with more headroom, but not quite as articulate and a trifle brittle at the very high frequencies.

TEST BENCH RESULTS

By the time we got to the test bench only one channel would power up, but as each channel has a separate power supply there should be no difference between the one channel driven and both channels driven conditions. It can be seen that the rated output power figures are comfortably met and that our 100mS 'headroom power' test produced exactly the same result as the continuous sine wave test -



C-Audio XR-5001 EMC conductive emission result.

C-AUDIO XR-5001 - SPECIFICATIONS AND TEST BENCH RESULTS

PARAMETER	SPECIFICATION	TEST BENCH RESULT
Power Bandwidth:	5Hz - 40kHz	20Hz - 20kHz, -0/+2dB 10W - full power
Rated Power - continuous:	1900W/4Ω @ 1kHz 1200W/8Ω @ 1kHz 3800/4Ω bridged 1900/8Ω bridged	1980W/4Ω 1275W/4Ω Not tested Not tested
Headroom Power:	None claimed	1980W/4Ω 1275W/8Ω
THD:	0.05%	
Slew Rate:	70V/usec	
Rise Time:	3usec	
Damping Factor:	400	
Hum and Noise:	N/S	-62dBu
Signal-to-Noise Ratio:	100dB	103dB
Input sensitivity:	+4dBu	Confirmed
Power requirements:	220/240V ±20%	6kVa

which is as one might expect from a conventional Class AB output stage and a large conventional power supply. One complication however, was the high frequency rise characteristic shown on the power bandwidth plots and which would probably account for the HF brittleness identified during the auditioning tests. In order to avoid HF clipping it was necessary to reference the full power sweep at 20kHz instead of the usual 1kHz in order to avoid clipping above 10kHz. With a 2dB rise at 20kHz this turned out to be only marginally above the half power level at 1kHz and so no point was seen in plotting a full power plot just 1dB above the half power plot. There is no question of the amplifier being unable to deliver full power for the 15 seconds period as with some product tested - it's just that there is no point in plotting two curves so close together.

The excellent unweighted signal-to-noise ratio of 103dB arises because of a combination of the high power rating, which equates to +41dBu, and to a particularly low noise floor of -62dBu.

EMC PERFORMANCE

The live and neutral plots differ in that the latter has a reduced level of activity between 750kHz and 1.5MHz, and in all other respects is very similar to the Live curve shown. Based on subsequent tests carried out under less controlled conditions at the EMC display at the PLASA Show, it seems that the modulation below 1MHz is due to variations in the power delivered through the mains transformer caused by the pink noise excitation signal. It is a problem encountered by every amplifier tested which has a conventional power supply topology. Note that above 2MHz the emission level is well below the average and quasi-peak limit lines taken from the PAVI document (CISPR 16 Class B) and may well comply above 900kHz.

CARVER PM-1400

SER. NO 947730 70002

GENERAL DESCRIPTION

Like the C-Audio, this too is in its prototype form and was taken from a pre-production batch flown over for the new public address system at Tottenham Hotspur Football Club. At the time of writing it was the only model (except for the 'Spurs consignment) available in the UK. The PM-1400 is the last remaining model in the current Carver range to retain the 'magnetic field' charge/store power supply. Unlike its predecessors which have traditionally been rated in terms of 'programme power', the PM-1400 is continuously rated and is also capable

of driving low load impedances. It has inherited a variety of useful and unique features from the PM-1.5 and PM-175/350 family and is rated at 2 x 700W into 4 ohms, in a 2U x 340mm deep case and weighs 15kg.

The casing is of folded steel sheet and is finished in an attractive, if utilitarian, matt black stove enamel with a simple but attractively laid out screen printed front panel. At the left-hand side is a small on/off rocker switch which fires the magnetic field triac to power up the amplifier. A particularly intelligent feature here is an LED which illuminates to show that the AC mains is connected to the appliance in a standby mode which is extinguished when the amplifier is energised, to be replaced by the 'ready' LEDs on the other side of the panel. The AC mains fuse is also intelligently placed on the front panel alongside this switch. Offset to the right-hand side is a dual LED ladder with a detented volume control to each side. The lowest LEDs are legended 'ready' and are then scaled in 3dB steps from -12dB to 0dB and finally, 'clip'. There is one further LED associated with the central Carver logo badging. When lit green this shows that the amplifier is being remotely controlled via a Lone Wolf 'MediaLink' network (when this option is installed) and glows red to ID the amplifier for attention.

Like the Crown 3600VZ, the input connectors are carried on a removable module which is inserted into the rear right-hand side of the chassis. The supplied module has two XLR/3 balanced input connectors which are replicated on 3-pole jacks. These are so connected that when the XLR connectors are in use the jacks can be used as a daisy-chain link facility when feeding multiple amplifiers in a rack. There is also a facility to incorporate custom input attenuators, filters etc, into this module. The alternative is the MediaLink module.

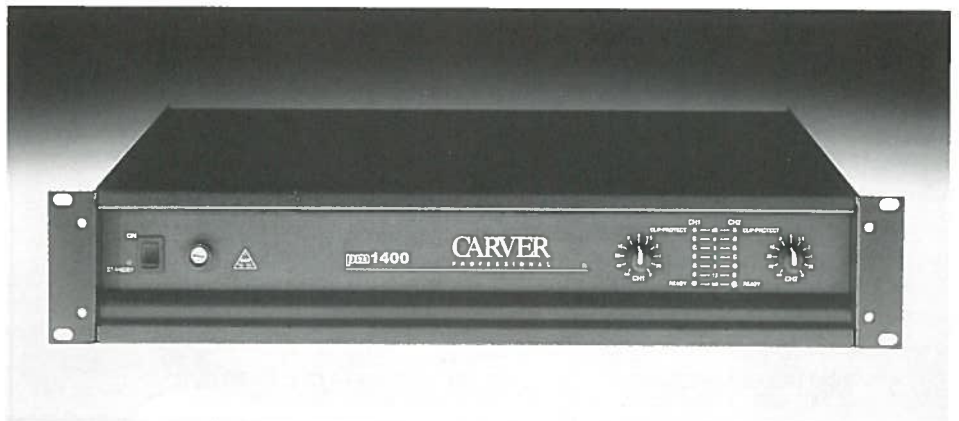
Around this module are a number of internal preset switches, again with sensible and useful functions. One is to enable the XLR connectors to be configured pin 2 or pin 3 hot, another to disable the front panel volume controls, another to disable the integral clipping eliminator circuit and another to select stereo, dual mono or bridge mono operation. In addition - again like the Crown - there is a simple circuit board modification to enable the PM-1400 to be configured for parallel mono operation when driving high current levels into low load impedances. Also on this module are the sequential turn-on terminals. By a single wire connection, all the amplifiers in a rack can be turned on in two second intervals in order to overcome problems associated with high inrush currents, either from the on/off switch of one designated amplifier, from a remote AC power breaker or from a remote low voltage DC control circuit.

With the MediaLink option fitted, most of the amplifier's main functions including on/off switching, volume control, fan speed and the front panel alert indicator, can be controlled from a remote computer terminal and operational conditions including temperature, clipping, output current limit and DC fault protection can be monitored. Carver are amongst a growing number of major manufacturers to have signed up for a Media Link licence and one of the first to implement the facility in a production amplifier.

The output connections appear as standard spaced 4mm terminal/banana posts and alongside these is another small terminal strip to provide back-up power for the MediaLink module to enable the amplifier to continue to be monitored when turned off. So it really is a very carefully thought out and sophisticated design, with unique and intelligent features which will fit it for many commercial applications outside the entertainment industry.

The PM-1400 is of a most unusual construction in that the rack ears are an integral part of a removable top/sides cover pressing with the chassis slung beneath it carried by just six small self tapping screws. Whilst this may be a perfectly feasible option in a fixed installation we are not so happy about the ability of this arrangement to withstand the rigours of road usage, despite assurances from Carver engineers to the contrary.

The chassis consists of a simple U section 18 gauge folded steel channel comprising a baseplate and front and rear panels. The 'magnetic field' choke is considerably larger than that fitted to the PM-1.5 and is intelligently located at the centre/front of the chassis against the front panel so that the weight is uniformly carried by the rack ears. To one side is a very large, mu-metal encased, RFI filter and to the other, the bridge rectifiers and large reservoir capacitors. The rear half of the chassis is



Carver PM-1400.

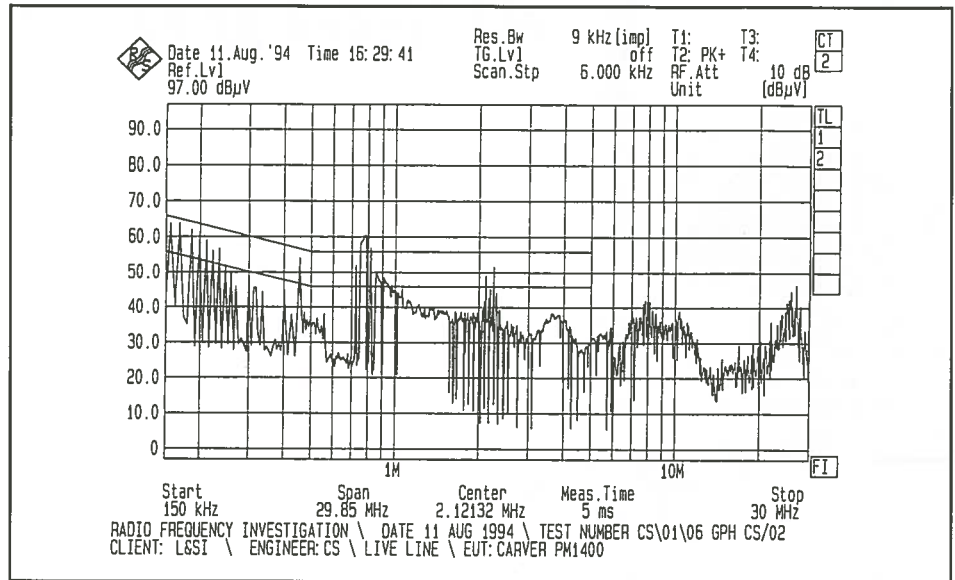
occupied by a wide, flat, heatsink bridge running the entire width. This carries the output pcb and devices on its top side, the power supply and logic boards on its front face, and the input and control pcbs, along with the cooling fan and input module, on its underside. This assembly also serves to provide considerable mechanical reinforcement to the rigidity of an otherwise unbraced chassis. The circuit boards are crammed full of miniature components but the general layout is uncluttered and easy to access for maintenance. The build quality is generally good but for the dubious mechanical design of the case assembly.

CIRCUIT TOPOLOGY

The PM-1400 employs Carver's patented and much heralded 'magnetic field' power supply/protection topology. In essence, this comprises a large inductor and capacitor charge/store 'tank' which is fired by a triac. The firing angle of the triac is regulated by an opto-isolator which in turn is regulated by the current demands of the amplifier and by its protection circuits so that power is available according to signal demand but not when operating conditions - i.e. where excessive temperature or current demands dictate otherwise.

There are two principal supply rails, one at $\pm 53V$ and one at $\pm 106V$ which are applied to the output stage according to signal demands by means of a commutator circuit which uses a pair of power fets to turn on the higher rail and a pair of reverse biased diodes to turn off the lower. It is known as Class H operation and has the benefits of minimising the voltage and heat dissipation conditions of the output devices, enabling the amplifier to run cooler, more efficiently and with reduced stress on the output devices. It is not the same as the Class G topology used on the now legendary PM-1.5 in which additional output devices operating at higher rail voltages were switched in series with a traditional Class AB output stage to increase its headroom upon demand and probably explains why the PM-1400 is capable of sustained high power sine wave operation whereas its forebear was not (see Test Bench Results).

As already alluded to, the PM-1400 has highly sophisticated protection circuitry. Without the MediaLink option this acts either by regulating the power supply via the Magnetic Field charging triac or by disconnecting the output line by means of relays. The conditions monitored include over temperature, over current, DC offset and there is a clipping eliminator and automatic 2-speed fan. With MediaLink most of the operating



Carver PM-1400 EMC conductive emission result.

conditions of the amplifier can be remotely monitored and some of them, for example, the clipping eliminator, fan speed and the on/off switch, can be remotely controlled.

SPECIAL NOTE

As already stated, the review sample was from a pre-production run and in order to meet our EMC test lab appointment had to be shipped direct from the airport before the UK distributors (Sound Dept) had even seen one, let alone had an opportunity of testing it. Unfortunately, upon first switching on, it emitted a loud bang and would not fire up. Although we were able to rectify the cause of the failure, channel 2 would only operate at 6dB below channel 1 before onset of clipping. From some basic checks we concluded that the negative rail commutator power fet had failed and that channel 2 was operating on the 53V rail only for the negative half cycle, thus limiting its output to approximately quarter power. Since this was the only PM-1400 available in the UK at the time, and because of its interest value, it was agreed with the Sound Dept that we would continue with the review and qualify the results in the light of this occurrence. As far as auditioning is concerned this is not considered of great import since the Urei 809 monitor is an 8 ohm device and will generate in excess of 100dB SPL at 3m for about 10W input. It just meant that we had 6dB less headroom available on the right hand channel and therefore took the precaution of monitoring the loudspeaker lines on a scope to ensure that

we did not drive channel 2 into negative peak clipping. The effect on the Test Bench results is actually quite enlightening, as will be seen from the discussion in that section.

AUDITIONING

The PM-1400 produced good, firm, driving bass at 100dB plus, without any hint of clipping on channel 2. Mark Knopfler's vocal on 'So Far Away' was so natural, but the percussion on this track a trifle splashy. The LF on 'Tricycle' was a little warm by comparison and not so well defined as some. The midrange definition on this track was excellent but the HF a trifle brittle, giving something of a 'tish/boom' characteristic overall. On Tina Turner's 'What's Love Got To Do With It' the vocals were completely articulate, less strident than some, but nevertheless raunchy. On 'Private Dancer' the long-drawn breath after the instrumental intro was very airy and the sax sound solid but again airy. It was probably the best of the bunch on the Tina Turner tracks and ranks highly overall.

TEST BENCH RESULTS

Because of the fault condition affecting channel 2 only, we have been able to measure the PM-1400's performance on both the $\pm 53V$ and the $\pm 106V$ supply rails - which is something we have not been able to do on previous Class G/H amplifier reviews. Both channels were measured at onset of clipping with the clipping eliminator disabled. In the case of channel 2 it was only the negative half cycle that was affected by the failure of the commutator power fet so this was taken as the clip point. It can be seen that channel 2 is consistently 6dB down when compared to channel 1, which is exactly as would be expected when operating at half the rail voltage and equates to quarter power.

Note however that channel 1 is delivering some 300W more than the rated power and channel 2 is delivering 85W more than 700W - 6dB. This equates to an increase of almost 2dB above the rated power and it could be that this is the 2dB headroom rating given in the manufacturer's specifications - the amplifier is capable of delivering this amount of power but the power supplies or thermal dissipation system is not rated for continuous operation at this level. It has to be said that it got pretty hot during these tests but performed impeccably, with never a cough of protection onset or a hint of stress at these over-power levels. Unusually for Carver, it can be seen that there is no significant difference between the 100ms burst test and the continuous sine wave result.

With the two channels driven individually still

CARVER PM-1400 - SPECIFICATIONS AND TEST BENCH RESULTS

PARAMETER	SPECIFICATIONS	TEST BENCH RESULT
Power Bandwidth:	5Hz - 40kHz +0, -3dB	20Hz - 20kHz, +0/-1dB 10W - full power
Rated Power - continuous:	2 x 700W/4Ω @ 1kHz 2 x 475W/8Ω @ 1kHz 1400W/8Ω bridged 900W/4Ω parallel	Ch.1: 1082W/4Ω* Ch.2: 260W/4Ω* Ch.1: 630W/8Ω* Ch.2: 153W/8Ω*
Headroom Power:	>2dB	1012W/4Ω* 612.5W/8Ω*
THD:	0.2%	
Slew Rate:	40V/usec	
Rise Time:	N/S	
Damping Factor:	200	
Hum and Noise:	N/S	
Signal-to-Noise Ratio:	>100dB A-weighted	-61dBu unweighted
Input sensitivity:	0dBu/+6dBu	100dB wrt clip point
Power requirements:	230V @ 2.4kVa full power/4Ω	

* Both channels driven, channel 2 on half rail voltage - see text.

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more power is available - 1135W/4Ω on channel 1 and 292W/4Ω channel 2. In effect of course, channel 1 has the ±106V rail supply to itself and channel 2 has the ±53V rail to itself. What the supply loading effect might be if both channels were working properly is difficult to say, but given the very small difference - 0.2dB - between the one channel and both channel figures with channel 2 operating at quarter power, there can be little doubt that it would comfortably exceed the rated power figures and probably still make the 2dB headroom rating. It has to be the most impressive rating compliance result of the eight amplifiers reviewed.

Based on the above reasoning, the 10W and 50W power bandwidth plots were recorded with both channels fully operational, whilst the half and full power tests were conducted with channel 1 operating at the rated, not the measured, 4 ohm power level with channel 2 operating at full power - 6dB, just free of peak clipping. The PM-1400 is also extremely quiet, with a measured unweighted self noise level of -61dBu and a signal-to-noise ratio of 100dB referenced to onset of clipping.

EMC PERFORMANCE

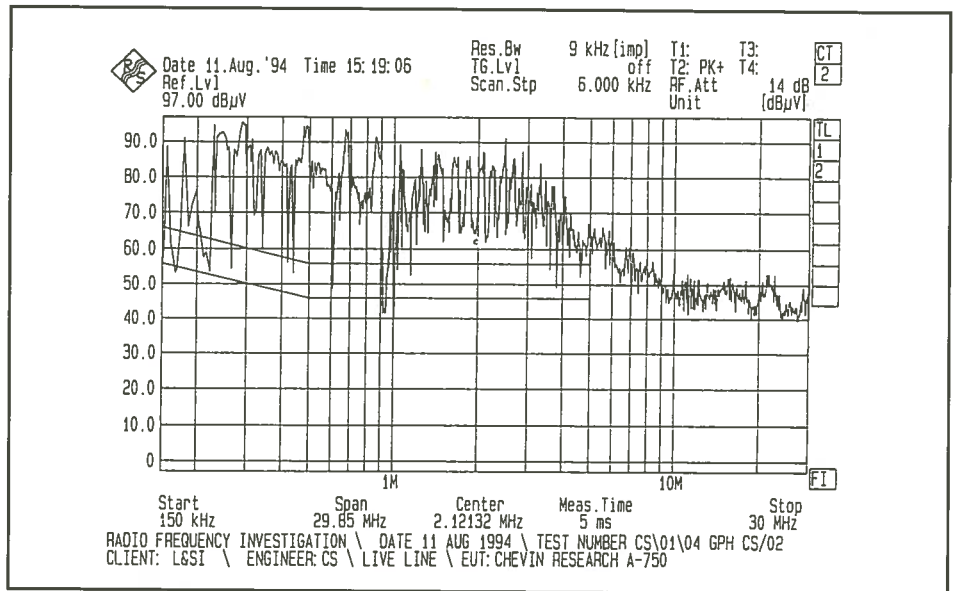
Apart from a small increase in activity between 300kHz and 600kHz the neutral plot is very similar to the live line plot shown. Given that the actual plot represents the peak emissions amplitude and the load lines are the quasi peak and average values, it is likely that the PM-1400 would just scrape through. Given a little more filtering at 700/800kHz it would sail through. We admit that before carrying out the EMC tests we thought it would be the Carvers, the Peavey DPCs and Lab Gruppens of this world which would be the first to fall prey to the new regulations, but due to intelligent use of screening and filtering techniques this has not proved to be the case. This can only be described as a most encouraging result for a product whose power supply relies on a pulse fired triac servicing a high current inductive and capacitive load.

CHEVIN RESEARCH A750

SER. NO. 00918

GENERAL DESCRIPTION

This product has been attracting a lot of interest over the last few months. It has been available in continental Europe for some time, but is only recently being seen in the UK - even though it is designed and manufactured in Yorkshire! The A750 submitted for review is the baby of a family of amplifiers all using the same 2U x 380mm deep casing assembly, sub-chassis, pcb and unique (patented)



Chevin Research A750 EMC conductive emission result.

switch-mode power supply. The next up is the A1000 rated at 2 x 600W/4Ω, then the A2000 rated at 2 x 1200W/2Ω, then the A2500 monoblock rated at 2500W/2Ω and finally there is a four-channel amplifier, which is rated at 4 x 600W/4Ω. The A750 review sample is rated at 2 x 425 watts into 4 ohms and weighs a scrimpy 8.5kg.

The amplifiers are constructed inside a U plan steel sub-chassis comprising the rear panel and two sides with a single pcb as its floor pan and two 75mm axial fans mounted externally, one at each end of the rear panel. A separate, black stove enamelled, 100 gauge aluminium front panel is stood off on spacers to close off the fourth side.

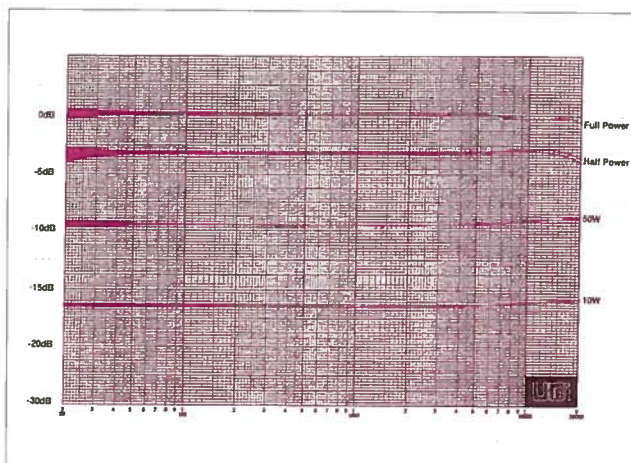
This sub-assembly is carried by 10 gauge, black aluminium side cheeks which extend

some 30mm beyond the rear of the chassis and 10mm beyond the front panel, and incorporate the rack mount ears. The top and bottom covers - also of black 10 gauge aluminium - fit flush with the side cheeks all round and are secured with countersunk machine screws. The result is that there are no sharp edges or raised screw heads and that the front panel controls, along with the fan cages and connectors at the back, are fully recessed for protection. The whole thing has a feel of engineered simplicity and rugged functionality about it.

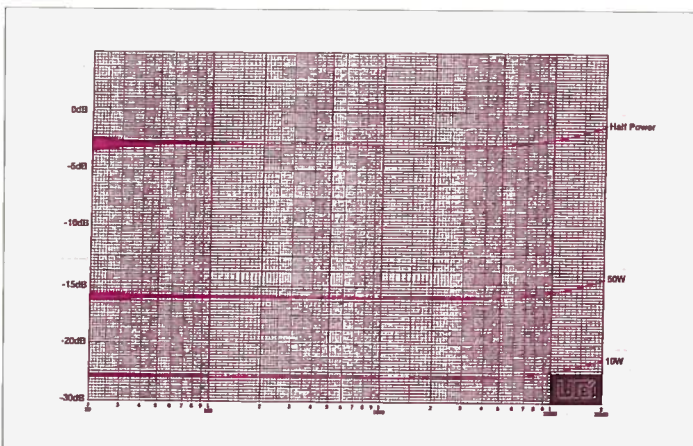
Cooling air is simply drawn in from the rear, blown across the interior compartment and exhausts via a 5mm gap all around the front panel. Fan speed is directly proportional to output power delivery which, when the amp is connected to a dummy load and a steady state excitation signal, has the effect of turning the volume controls into fan speed controls! It is quite an uncanny sensation and is something we have not come across since the Carver PM-1.5 which has the same arrangement.

This is another amplifier whose interior looks nothing like a conventional one and the circuit board - which is intended to accommodate all the models in the range - is extremely sparsely populated in the case of the A750. Immediately behind the front panel is a row of 16 output devices with marked spaces and holes drilled for twice that number. These are mounted directly to the pcb with a simple, folded aluminium 'inverted centipede' heat sink between.

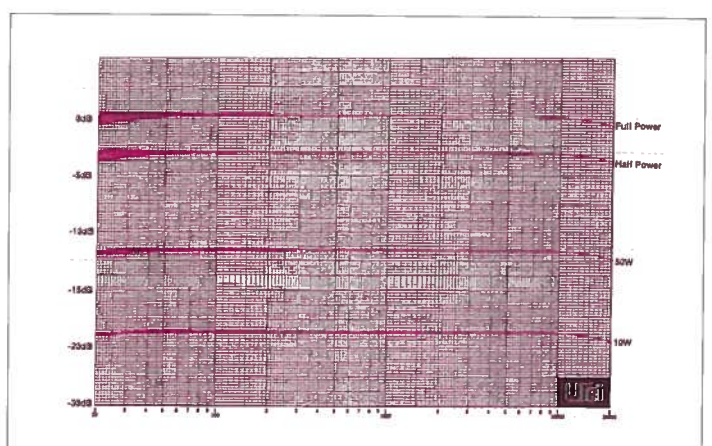
The space between the heat sink and



Chevin Research A750 power bandwidth plot.



C-Audio XR-5001 power bandwidth plot.



Carver PM-1400 power bandwidth plot.

CHEVIN RESEARCH A750 - SPECIFICATIONS AND TEST BENCH RESULTS

PARAMETER	SPECIFICATIONS	TEST BENCH RESULT
Power Bandwidth:	20Hz - 80kHz +/-0, -3dB	20Hz - 20kHz, +1, -0dB @ 10W and 50W 20Hz - 20kHz +0, -2dB @ half/full power
Rated Power : - continuous	2 x 450W/4Ω 2 x 225W/8Ω 900W/8Ω bridged	484W/4Ω one channel 862W/4Ω both channels 288W/8Ω one channel 276W/8Ω both channels 324W/4Ω 200W/8Ω
Headroom Power:	N/S	
THD:	0.04% typical	
Slew Rate:	75V/usec	
Rise Time:	N/S	
Damping Factor:	400	
Hum and Noise:	N/S	-66dBu unweighted
Signal-to-Noise Ratio:	125dB typical/95dB worst case	101dB
Input sensitivity:	1V RMS (confirmed)	
Power requirements:	220/240 or 100/120V @ 1.5kVA	

the rear panel looks like Sainsbury's car park on Christmas morning! There are only two very small transformers, two small encapsulated modules with fantail heat sinks over (which we take to be the oscillators), an amazingly small power supply sub-pcb and a few small electrolytics. Of course, the larger versions are more densely populated and with a full complement of 20 capacitors, four of those small transformers and a two-fold or four-fold complement of output devices mounted on a second piggy-back output pcb, the interiors become quite busy.

The electronic layout is excellent and high grade components are used throughout - although it has to be said that one of the power supply diodes failed on the review sample and it had to be returned to Chevin for repair! Apparently the problem was due to a troublesome batch of diodes and certainly it worked fine once the problem had been resolved.

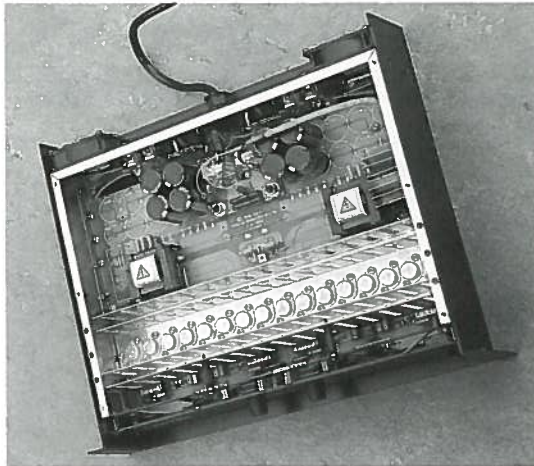
The input connectors are male and female XLR/3s per channel thus facilitating daisy chaining and outputs are on Neutrik NL4MP 'Speakons' - two per channel. The AC mains power cord is attached and exits the chassis via a substantial gland. The front panel controls comprise two uncalibrated, non-detented, volume controls with nice large knobs and excellent 'feel', a mains power rocker switch and six LEDs - two for the power supply rails, two clip monitors and two signal present indicators. There is no bridge mono switch.

Instead, users wishing to operate A series amplifiers in bridge mode are advised to feed the input signal into channel A, daisy-chain to channel B using a cross-connected XLR/3 cable and derive the output from contact 1+ on both output channels. In other words, you use the phase characteristics of the differential balanced input to achieve the phase inversion necessary for bridged operation, which provides double the single channel output power into twice the load impedance - all very simple. In fact, it is a no frills amp built to a high engineering specification.

CIRCUIT TOPOLOGY

Chevin say that the main differences between the A series range and other amplifiers lie in the solid-state power supply, the circuit topology and the protection systems, providing enhanced sonic quality and significant reduction in size and weight. We wouldn't dispute that as a summary, but let's take a closer look at what is going on.

Contrary to popular belief, the Chevin power supply is not switch-mode in the accepted sense of the word. Instead, it capitalises on the law of physics which says that transformer size



Chevin Research A750.

is inversely proportional to frequency. That is to say the higher the frequency, the smaller the size. Thus, a power supply transformer working at say 100kHz will be orders of magnitude smaller than one designed for 50/60Hz operation, and this is the principle of the Chevin A series power supplies.

Firstly, the raw AC mains is rectified, ramped up (to avoid high inrush currents) and smoothed by a clever circuit which, by removal of a link, also functions as a voltage doubler circuit. This enables the same supply to be used for 115V or 230V operation and is independent of mains frequency. This DC supply is used to feed a simple power oscillator circuit which comprises an appropriate number of push/pull power mosfets (according to amplifier size) and a small transformer, with no driver chips or transistors.

The design is claimed to be 99% efficient and therefore requires only a very small heat sink. This produces a 100kHz square wave of 340V peak-to-peak with relatively slow rise time characteristics. This is fed to a special high frequency transformer using a Philips ferrite core and bobbin assembly, which uses very little copper and is extremely small, weighing less than 200g. Apparently the current in the transformer windings somehow becomes sinusoidal (to minimise RF switching spikes) and is then converted using high speed rectifiers and smoothing capacitors, to provide $\pm 85V$ DC with minimal ripple. The design is stated to radiate no magnetic field in the audio band and to minimise radio frequency interference.

The amplifier itself appears to be a fairly conventional class AB design employing the minimum signal path/minimum component philosophy upon which the MHA Chameleon range is based. Protection is provided to prevent DC or damaging levels of VLF or VHF signals reaching the loudspeakers and a soft limit clipping eliminator circuit is permanently in circuit. In addition, the amplifier itself is protected against shorted outputs, low load

impedance and over temperature. The protection circuits operate by reducing gain or current limiting without the use of relays.

AUDITIONING

The first thing we noticed was the almost total absence of hum or hiss. The bass guitar intro to 'So Far Away' showed good control with a full LF quality and excellent attack. Mark Knopfler's vocals were clean, but with excessive sibilance whilst the percussion we found splashy. 'Tricycle' was also impressive with good resolution of the jazz guitar section and excellent presence and separation on the drum break, but the cymbals and snare this time were spitty rather than splashy. Tina Turner's voice was too shrill and generally lacked raunchiness, but the sax was impressive. The intro to Pink Floyd's 'Happiest Days' also showed excellent control and good accuracy, with none of the smearing often found on this track, but again the percussion remained splashy. Not that it rated at all badly overall - this amplifier would probably sound better on a hi-fi type loudspeaker system with dome HF, rather than a horn-loaded studio monitor system such as the Urei 809.

TEST BENCH RESULTS

It can be seen from the results table that the A750 comfortably exceeded the published power output ratings. As it is not rated for 2 ohm operation it was not tested at this abnormally low impedance value. Note that the power bandwidth curves have a different characteristic at half and full power than at lower operating levels. This is probably due to the HF protection circuits (which operate at around 20kHz) being activated at this output level. Certainly the amplifier was getting quite warm by the time we worked up to the half power bandwidth sweep test and shut down just before the full power test. Following a cooling period it fired up OK, but shut down again immediately after the 15 second full power sweep, with the fans running at full speed and making a great deal of noise.

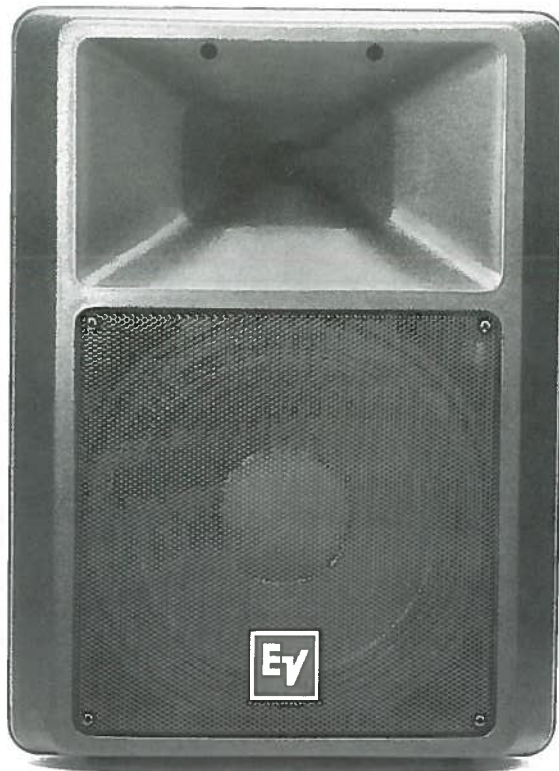
Clearly, it is not happy at continuous sine wave operation at high power levels, but the protection circuits clearly do provide the level of protection claimed. It is interesting to see that the A750 actually delivered considerably less power under the 100ms burst test than it does on continuous sine wave testing, but we have no explanation as to why this should be so.

Although it does not quite make the manufacturer's (rather ambitious) 125dB signal-to-noise ratio, it is nevertheless very quiet and compares with the best in this respect.

EMC PERFORMANCE

The live and neutral lines have virtually identical characteristics except that there is more activity on the live line plot shown. To judge by the technical literature supplied with the review sample, it is evident that the manufacturers are well aware of the EMC implications of such a design and that measures intended to address these problems have been incorporated into the design philosophy. It is thus all the more surprising to find that the A750 has the highest level of conductive emission of the eight amplifiers tested. This remains in the 80dB μ V region for most of the bandwidth below about 4MHz with strong third, fifth, seventh and ninth order harmonics of the 100kHz power oscillator frequency almost hitting the 100dB μ V scale limit. The cause of the signals in the 1MHz-4MHz band is not so clear, but overall, there appears to be a need to take another look at its EMC performance and consider some changes before 1996.

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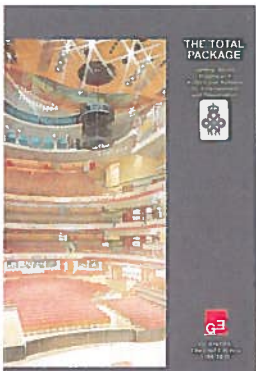
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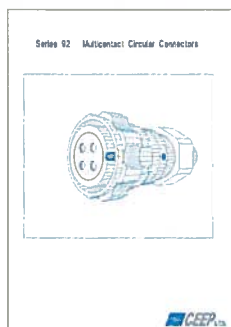
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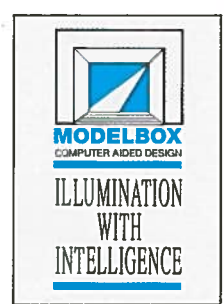
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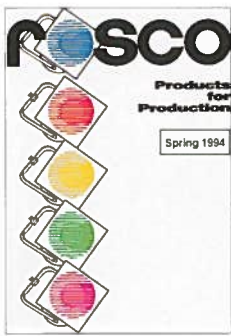
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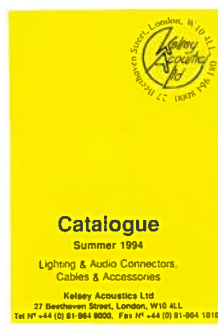
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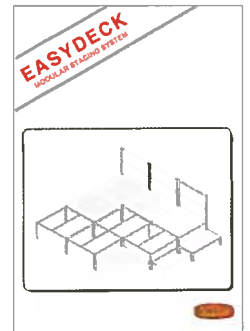
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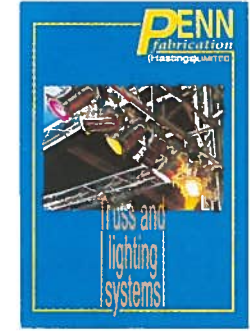
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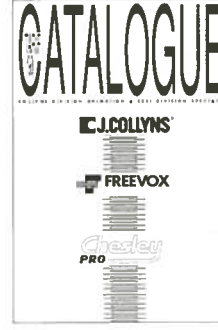
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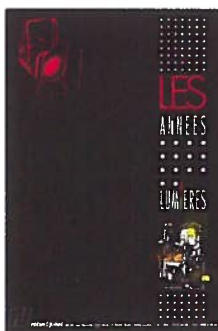
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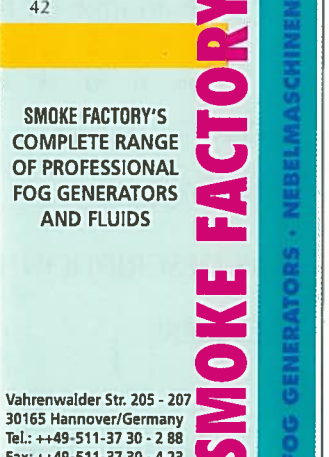
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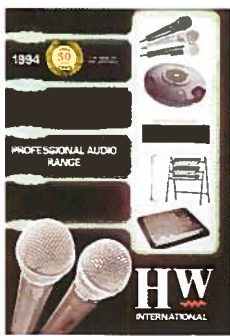
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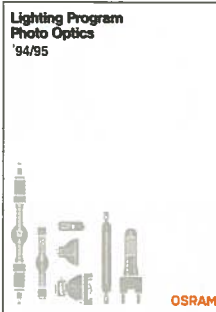
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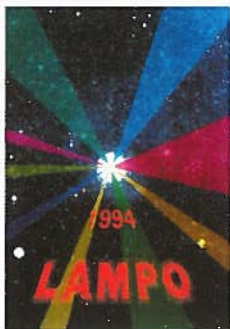
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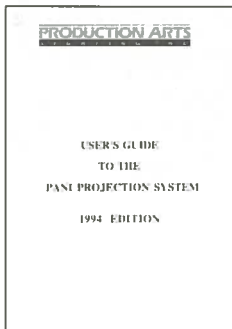
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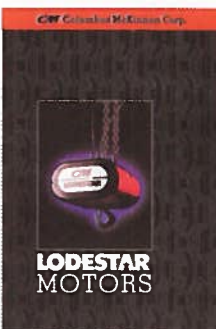
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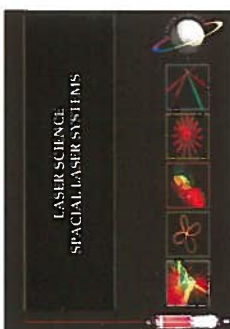
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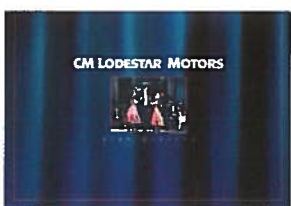
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AND PRODUCTION NEWS



Tony Austin's sepia effect lighting for the new songs . . .



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UB40

Don Valley Stadium

LD: Tony Austin

SD: John Ormesher

'The Promises and Lies World Tour 1993': the year was the first lie, but no one much cared as the band were here even if it was 1994 (the tour has been running for some 16 months now). The second was the old axiom that it always rains for outdoor shows. Not so, the weather was fine and sunny without being too hot - a perfect day for UB40's slightly Anglicised form of reggae.

Because of the crowd restrictions, Don Valley Stadium can look a little empty. Jamiroquai, second on the bill, found playing to a sparse and slightly mature audience a trifle daunting: "Hey, you lot down the front, don't let the fact that the average age of the audience is 35 put you off having a good time." But the crowd were hardly collecting their pensions and besides, does being of that age mean you can't appreciate an excellent funk band like Jamiroquai? Just because the singer chooses to wear his mother's tea cosy as a hat doesn't mean you have to be 16 years old to think he's cool.

When UB40 stepped on stage, however, the crowds who had spent the day populating the tented shopping areas and bars around the perimeter poured down onto the track. Apart from the obvious view shadow behind the mixing tower, the ground was filled with happy swaying bodies.

LIGHTING

The band launched straight into their first number with gusto, with brass to the fore, the steady mesmeric bass behind, the keyboards holding the melody and the cool Jamaican vocals of Ali Campbell lightly sprinkled on top. The characteristic sound of UB40 is layered - it is the richness of the music that sets them apart from other reggae bands and allows them to cross the threshold into the realm of pop music. And bloody good at it they are too. Tony Austin, who has been the band's lighting designer for 10 years now, has obviously become infected and adopts a similar approach to the visual presentation. "I've tried to use sepia tone colours for the new songs as the artwork on the new album cover is sepia toned. I light the old ones

in primaries. Although there are six 2kW Xenon Super Troupers out front, it's not a spot heavy show: with 10 members in the band, covering principals and soloists keeps most of the spots on one target person for the night."

The basic rig appears very simple - a large box truss with a mid-stage span, and some 140 Pars and 70 VL2Cs are evenly spread around it. With the exception of where the lamps are hung, the whole underside of the grid is covered by a full white cloth. Similarly the backdrop, also in white,

"The characteristic sound of UB40 is layered - it is the richness of the music that sets them apart . . ."

fills the full width and height of the backstage area. It is the projection onto these surfaces and the grey scrims hung across the PA wings that give the show its real dynamism.

All surfaces are lit as a cyclorama by 58 4-cell groundrows, and are also used for projection of various Vari*Lite gobos. There are also six 5kW Hardware Xenon projectors supplied by PSL, two in the pit and four front of house, that provide some startling images upon these screens. It is the sheer candle power of the projection that makes it so effective, the huge number of groundrows make the colours thick enough to walk up. (Incidentally, a nice trick was used by crew chief Bill Lawford to keep the backstage area clear for what was a multiple band show. All groundrows were mounted on a cross-stage truss which was kept out of the way above head height for the earlier bands. For the top of the bill it was lowered to stage level and the Verlindes supporting it were de-rigged).

Even the Vari*Lite's were concentrated, where necessary, on the screens. For the PA wings 10 VL2Cs were used each side: five up, five down. With a further 16 lamps committed to floor lights, this meant that only 50% of the Vari*Lite's were used in the main rig: perhaps a risky strategy with such expensive hardware, but one that paid off handsomely in terms of density and power of image. The Xenon projectors were the stars of the light show - the images used were sought out by Tony Austin from Bill Smythe, a photographic artist from Seattle, and ranged from abstracts to 'naive' art. John O'Connell, in charge of the

projectors, was kept busy all night swapping slides in the manual changers.

The tour had, in fact, started with auto changers and a Dataton controller, but Tony elected for greater versatility in the use of the projectors. It says much for the steadiness of John O'Connell's hand that the occasional manual manipulation of the slides never faltered and was visually striking.

Tony was generally true to his word on the colours used on the stage - the band were lit fairly conventionally with wash, key and spot light as required. But it was the integration of the stage show into the bigger picture that worked so well, and that because lumen for lumen, the projection was on a par with the light levels on the stage.

SOUND

SSE provided the PA, with Steve Smith and Gerry Parchment mixing front of house on a TAC SR9000 with a 24-channel SR extender. Steve handles the system sound and effects, whilst Gerry is responsible for the overall mix. SSE didn't short-change the other acts either, providing two 40-channel SR6000s to 'flip-flop' between bands.

The stage set-up was equally lavish/cramped depending upon your viewpoint: John Ormesher mixed monitors for UB40 on an SR6500 whilst two Midas XL3s were provided for support bands. Some 15 stacks of the MT4 system were hung each side of the Starhire roof in tall, thin arrays - Don Valley will never be an easy site to array for with one huge grandstand to stage right and only moderately high bleachers around the rest of the perimeter.

The sound down on the field was best. The opening two or three numbers were rich and sweet, then in the fourth song the drums seemed to disappear from the mix for several minutes - presumably a stage sub-box had been kicked. Coincidentally, after this point it became increasingly hard to hear parts of the mix, especially the top end, as 17,000 excited people insisted on blowing referee's whistles with increasing ferocity between each song, completely desensitising their own and everyone else's hearing. In fairness to the men of SSE, it is often forgotten that while the lighting crew sit back and enjoy the sunshine of an all-day event, the sound crew are going through a constant series of set changes and re-mikes. If only one audible faux pas is heard by day's end, that's no small achievement.

Oasis

Leeds Irish Centre

LD: Micky Howard

SD: Mark Coyle

Oasis are reputed to be this year's thing (or should that read this month's?), and already have four charting singles under their belt. With Primal Scream apparently now falling from grace and Suede losing their songwriter/guitarist, the space exists for a new band to don the mantle of Britain's leading guitar-based pop band.

Maybe then it was jealousy of their looming success that caused a member of the Newcastle Riverside audience to leap on the stage and lamp the lead guitarist with enough force to blacken and cut his eye, foreshortening the set to just five songs. A minor riot ensued, with bottles being hurled indiscriminately about the stage, whilst outside, the band's minibus had some windows smashed. Undeterred, their performance the following night at Leeds lacked nothing in vigour. The dispassionate f**k you/in your face stance of the band, all blank stares and sneered vocals, seemed only to heighten the crowd's adulation. Nine songs dispatched in 50 minutes was, like a Ramones show almost two decades before, exhausting enough to satisfy the most ardent crowd surfer, if a little short.

SOUND

At this point in their career the production aspect of the show confirms the old adage so beloved of sound men, that punters come to hear the band perform live, not to see them. That is, the band are lit by, rather than playing amidst, a light show, and all emphasis in terms of performance is placed upon the sound system. Mark Coyle has been front of house engineer for the band for the past two-and-a-half years, learning his craft in the traditional fashion: "I started off with my own small PA company in Manchester." Mark came to prominence as engineer for the Stone Roses. With that band's songwriting ability apparently stalled in perpetuity (they've produced nothing since signing to Geffen for a reputed £20m in 1991), Mark has wisely cast his talents further afield.

For this tour he is reliant upon local promoters contracting in a PA system for him - on this occasion an EAW system from Yorkshire Audio. Although he has a good deal of influence over the selection process, the lack of system continuity makes his job a fair bit harder, as he explained: "It's what suits the band that matters. I can thrash other systems and it sounds like it - with a modern system that sound is not so easy to get." Mark's sentiments were vindicated by the performance: with four KF850s and two sub bases per side in a small, 900 capacity hall, the sound was very loud - my ears were still ringing the following morning. Despite the



Oasis 'in your face' at Leeds Irish Centre.

level, the sound remained fairly clean and undistorted.

Only in the first couple of numbers did some really dirty guitar sounds emerge and that was due to excessive levels on stage, not in the PA. The band are still at that early stage in their evolution where much of the backline is arrayed at floor level across the stage. With speakers three or four feet below the level of the guitarists' ears, they have to turn their own amps up very loud to hear themselves above the monitors. The problem is that the band do not have their own monitor man. Bob Collinson from Yorkshire Audio fitted the bill, but with little time to establish a relationship with either the band or Mark out front, more important priorities superseded the attempt to persuade the band to reposition their gear.

The monitor system was the usual bi-amp wedges, all with JBL components, and a pair of EAW sidefills. Bob mixed the stage from a 30-channel TAC Scorpion II whilst Mark had the luxury of a Soundcraft Vienna II out front. With drummers from both Oasis and opening act Ocean Colour Scene using the same kit, Mark barely filled half the desk. Overall, the sound was bottom heavy, and although this had the desired effect of muddying the waters, it did tend to overwhelm the mid-range. Nevertheless, after their stunning rendition of the Lennon classic 'I am the Walrus' I was left hungry for more and felt somewhat short-changed when they performed not a single encore.

LIGHTING

Micky Howard on lights was similarly blessed with a console that far exceeded his

requirements. With the emphasis firmly on sound, a 60-channel Celco Series II for 24 Pars and a Terrastrobe was a bit over the top. Micky has been the Inspiral Carpets' LD for the past 10 years, but this is his first tour with Oasis - with the foreshortened gig the previous night, he's barely had a chance to get into his stride as far as this tour is concerned. It would not be fair to level any form of critique under such circumstances - suffice to say his use of the Pars fulfilled all that could have been expected of them. For the London shows at the Town & Country Club he's been promised half a dozen Golden Scan 3s as well as a bigger Par system, and will no doubt be able to show his spurs then.

One thing of note did emerge from this show - on one song Micky used the Terrastrobe for single beat flashes which he manually sync'd to a series of bump cues with the Pars. Simple and easy enough to perform, it is nevertheless the first time I've ever seen a strobe used in this way and it was certainly effective.

Both Oasis and Ocean Colour Scene have their musical hearts set firmly in the sixties. The influence of bands like the Yardbirds, The Who and The Beatles are easily apparent, but apart from the cover version of 'I am the Walrus' there is no evidence of plagiarism - their songs stand up on their own merits. Although the smack in the face is to be avoided, a bit of notoriety and the odd minor riot will do their reputation no harm at all.

The tour continues in Japan and the USA between September and Christmas, when they return (let's hope) for a few more songs and a slightly longer set. Who knows, maybe they'll stay in fashion longer than a couple of years?

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HIGH DRAMA IN NORFOLK

Jim Laws on Holkham Pageant's Son et Lumière

"Very flat, Norfolk" said the less than accurate Noel Coward, and it's to Norfolk's credit that it let the master think it a dull county. In Norfolk they're 'all about' - a modest Norfolk expression meaning 'dynamic and bustling' and once in a while something spectacular happens.

Holkham Hall, Norfolk's finest stately home and the seat of the Earls of Leicester, was the scene of an epic pageant and son et lumière this August. For four nights a total of some 6,000 people saw two hours of spectacle and pageantry in a marvellous setting. This was the brainchild of producer Andrew Cuthbert, who commissioned a script from local author Sheila Upjohn and a set from theatre and television designer Inigo Monk.

I had previously lit a pageant at nearby Binham Priory for Andrew Cuthbert and I was pleased to be involved in the much larger events at Holkham. The first drafts conceived Viking Lords sailing up the mile-long lake and a 150ft high monument a kilometre away being lit up on cue. However, the re-siting of the 2,000 seats to a gentle slope (that's all it takes, Noel) gave a perfect view of the Kent and Brettenham mansion from every seat, and St. Withberga's church about a mile-and-a-half away assumed a great significance.

The Vikings shipped their oars and became Roman soldiers. The monument was lost to view and Inigo Monk created a setting of classical simplicity with porticoes, obelisks and three projection screens. In front there was an arena of some 250ft by 80ft and behind, about 200 yards to a 100ft wide fountain and 200 yards behind that the massive elevation of Holkham Hall.

An extensive search for available mains electricity revealed a 13amp socket on the terrace of the Hall (useful for the DMX boxes and for set building) and a whole ring main at St Withberga's church, which, naturally, had to be lit up on cue. Only the top of the tower was visible, so we poured light on a 24ft cross scaffolded onto the tower roof. The radio cueing worked perfectly.

Generators would be needed and Aggreko provided four at 60kVA (hall, backstage and either side of auditorium) plus a 30kVA for houselights, changing tents, bars and car park. The heavy mains cable runs were thus kept to a minimum and a trenching furrow was cut by one of the estate's tractors.

The geometry of the stage and auditorium



The scene of the pageant, Holkham Hall, seat of the Earls of Leicester.

photo: Colin de Chair

continued to fluctuate (for the better) until the day the stands were pitched and we sited our four lighting towers behind and to the sides of the four massive grandstands. I specified 30ft high towers which each took two followspots and a variety of Par lamps, pageant lanterns and beamlights which between them loaded 36 dimmers.

In the arena, the production called for all times of day and night, battles, a county fair, a funeral procession and the arrival of the first horseless carriage at Holkham. This car, an

"One night St. George galloped straight into his stable and clocked himself on the door frame. Alas, no airbag in his visor."

original 1909 Wolsey, has an honoured place in the Holkham Bygone museum which is open to the public.

Upstage of the arena, the raised stage area was used for interior scenes and the projection screens had about 100 slides between them

showing details of events and places spoken about in the action.

The 300 yard facade was lit by Mole Richardson cyc units on the terrace and, by varying colour and intensity, we mirrored the fortunes of the house and the family by our treatment of the elevation. The fountain was only used in the finale when St. George (full armour and charger) arrived in the arena to echo the fountain's theme. He then had to clear rapidly before all hell broke loose with the fireworks display. One night St George galloped straight into his stable and clocked himself on the top of the door frame! Alas, no airbag in his visor.

For the technically minded we used a 48-way and a 24-way Sirius with DMX for the long control runs - yes it will run a quarter of a mile and still feed 100 metres of analogue at the far end. Only the centre carousel projector was boosted - 400W TH. The followspots were four Sil 15 and four Pattern 93N all run at 2kW. Now I think about it, the average age of the lanterns was probably greater than the average age of the crew!

I was very fortunate in my crew. Fellow ALD



Director Jim Woodhouse with Elizabeth I in attendance.



The audience assembled under a threatening sky.



The finale: fountain and hall ablaze with light.



After the ball, and thankful for a dry day.

members Mark Bailey and Kevin Theobald had been involved in similar earlier exploits with me, so they knew what to expect, but for quite a few of the other nine electricians, this was their first taste of the big outdoors. Suffice to say that the inch of rain on the second day and night was a test of character for crew and equipment. The issue of rubber gloves gave everyone confidence, most of the trips held in and we did not lose the show, or the audience.

The sound arrangements were somewhat like ice shows. The voices overlooked the action, read the script out and the actors mimed to the words. This gave a great degree of flexibility to a 50 yard entrance or to a car that wouldn't answer to its chauffeur's wishes. There was a



Backstage by day.



By night, a country fair.

tapestry of sound effects and recorded music keeping me busy every night on two Revoxes. Director Jim Woodhouse used music for sheer atmosphere - with great effect.

So, what did we learn? DMX is generally more reliable over long distances than analogue and it's easier to dry out. You can hide

12 dimmers in a tea chest and they will be dry and inconspicuous. Pageant lanterns will function whilst being lashed with spray from a fountain, and Rosco 119 gives followspots an agreeable soft edge. Good teamwork can usually accomplish anything and make it look magnificent. Wild Boar Burgers are delicious at two in the morning and a caravan on the gently rolling Holkham Estate is just the place to spend half of

August. Even Noel Coward might have appreciated Norfolk through Holkham's answer to Cavalcade.

Jim Laws specialises in lighting and staging events around East Anglia. He also provided most of the photographs for this article.

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JHS MOVE INTO PRO AUDIO

John Offord goes to Leeds again, this month to profile John Hornby Skewes & Co Ltd, leading UK importers and trade distributors of musical merchandise and amplification equipment

Long, long gone are the days when one very dedicated and single-minded Yorkshireman called John Hornby Skewes began his life in the music industry selling mouth organs and accordions for Hohner. That was in 1960. Five years later, in February 1965, he and his wife started a small musical instrument agency and wholesale business, working from their home address.

The rest, as they say, is history. From his first visit to the musical instrument section of the Frankfurt Spring Fair (later to become the Music Messe) a year later, complete with a suitcase full of samples of small British-manufactured accessories, the company has moved base within the Garforth area of Leeds on a number of occasions, buying the freeholds as it went ever onwards on an expanding path. Along the way, John Hornby Skewes himself has been president of what is now known as the Musical Industries Association or MIA (1977-78) and as one of its figure-heads has played his part in promoting the professionalism of the industry.

JHS the company now has 75 employees, stylish headquarters and massive warehousing facilities holding almost £2m of stock covering 3,500 catalogued items across 32,500 square feet, and Skewes the man is as determined as ever to keep pushing the company ever deeper into the technological age. And to be sure they've got the room to expand, there's more than a football pitch or two's worth of space available out back, with plans already well advanced for an immediate extension to the main warehouse block.

This extra 'air' will be needed almost immediately, as JHS launched themselves into the pro-audio and sound installation market on August 1st this year, a push confirmed with their recently launched advertising campaign and a two-stand presence at the recent PLASA



John Hornby Skewes.



Acres of development space: the main warehouse will soon be expanded 'off picture' to the left.

Light & Sound Show in London. A newly-created sales team confirms their intentions, and they'll have new ranges of dedicated and exclusive products to sell.

"We like to obtain agencies for which we have exclusive UK distribution," said Skewes, as he detailed the new ranges of products from amplification specialists Hughes & Kettner of Germany, which they have been distributing

for six years. "1994 has seen this company move further into the mixer field with their new four-strong Target range and their Classic Line PA cabinets continue to offer high quality at very competitive prices. In the high power field they have launched the Linear Pro series, with five full-range, three woofers and two stage monitor enclosures. H&K describe them as 'building blocks' for a comprehensive line of ultra-compact high performance systems."

Going into more detail on the four newly-launched Hughes & Kettner mixers, the Double 8 is a 2 x 8-stereo channel rackmount console with a three-band autosweep EQ, the 164 is a 16/4 or 16/2/2 8-buss desk, also 16 and 24 channel consoles, the 160+5 and 244+5, are of similar design with 4-band parametric channel EQ and 5 aux busses. The 164 can be configured to be equally at home as a front-of-house, monitor or recording desk, while the 160+5 and 244+5 are primarily intended for live use, and have twin notch filters per monitor line and 'unrivalled' anti-feedback control. Special stereo channels that replace conventional mono channels are a feature of all H&K Target mixers.

Next on the JHS list is Ross Systems' PA and sound reinforcement products, which are designed in American and manufactured in the Far East. The range encompasses consoles and powered mixers, power amps, signal processing equipment and speaker systems. "The reason we have taken on Ross," continued John Skewes, "which was previously handled by Hill Audio,

is that the company is within the International Music Corporation camp, an American company that has the world distribution for Charvel and Jackson guitars and they wanted to see all the products they handled sold through one distributor in the UK. This is now their policy world-wide too."

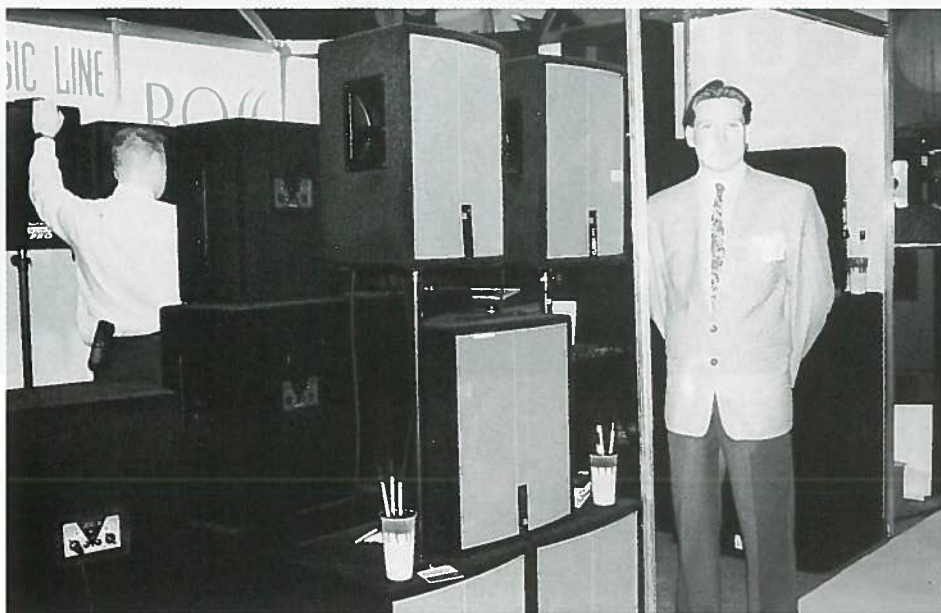
The Ross range includes the multi-application RCS series desk-style consoles with



Directors Peter Rayner (left) and Neil Mooring pictured outside the JHS headquarters at Garforth, Leeds.



Full line-up for the Hughes & Kettner Linear Pro Series.



Sean Turk (left) shows Hughes & Kettner and Ross speakers at the PLASA Show, whilst on a separate stand service department manager Richard Walmsley (right) presents Chiayo radio microphone systems and SKB cases, with the 'Shock-Rack' unit in the foreground.



the RCS802 8 into 2 at the start end of the range, and with 12, 16 and 24 channel versions available. Features include three aux sends (including monitor) per channel, two stereo returns, PFL headphone cue, channel inserts, phantom powering, studio grade mic pre-amps and finely tuned equalisation.

The most recent addition is the RCS1402, billed as a cost-friendly rack-mountable 14 into 2 console with a comprehensive spec list. It has 6 mono and 4 stereo channels, a total of 18 inputs, 6 insert points and 2 stereo aux returns. Completing the Ross range are two powered mixers, 4 and 6 channel, in amp-style cabinets, which are targeted at the solo artiste and small group market.

Other products now being promoted into the pro-audio field by JHS include Chiayo radio microphone systems and SKB cases, the latter including popular 19" rack-mount cases from 2 to 12U and a new 'Shock-Rack' case with an internal frame mounted on coiled shock absorbers on all eight corners.

There are three systems within the Chiayo range. The R505 is a half-rack non-diversity system, with the DR505 adding dual diversity facilities. Both come in three models. Top of the range is the DR313Q, a 1U rackmount dual diversity system for mic use, complete with a Shure capsule.

As technology within the musical instrument industry has grown - a distant cry from the days of the mouth organ - so too has the servicing ability within the JHS organisation. Long gone is the period of simply moving boxes in and out. Technical manager Kevin Aston now includes himself in a team of 10, with an electronics-qualified service department manager, three electronics engineers, four musical instrument technicians and one person taking care of the necessary administrative chores.



Ross speakers pictured in the JHS showroom.

"This area of our operations has expanded dramatically over the past few years," said John Skewes. "Five or so years ago we didn't possess a technical manager. We had a service department manager who looked after the pre-sales testing of product before we launched it in the UK, and any necessary after-sales service required. The job soon became too large, and our technical manager now has to take care of things such as legal requirements and the meeting of all necessary standards."

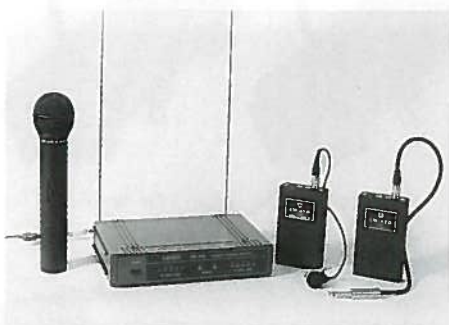
You can be assured that when John Hornby Skewes & Co Ltd say they mean business, then they mean business. All the background arrangements are in place and their new pro-audio team out on the road. "These guys will be calling on disco stores, PA hire companies and, pro audio dealers and I believe

there is a big growth for JHS in the coming years," continued John Skewes, "and one which won't affect our position in the musical instrument industry, which will also continue to grow."

"We are a company that has been extremely fortunate during the bad times. All my business life we have ploughed money back in to JHS, and this has enabled us to weather the periods of recession. If you've reinvested your money into the company, then when things are tough you don't have to cut back on your stock. In addition, you can nurse your better customers through the problem periods. If you work too close to the belt you can't do that sort of thing. I believe that our policy of putting our money back into goods and stock and property in this way not only enables us to survive the bad periods in good shape, it also enables us to serve the industry in a professional manner."

John Hornby Skewes refers to himself primarily as a marketing man and is not ashamed of his inability to play an instrument. From those early days on the road he learned a lot about service to the music trade, and his strategy when he first started the company was very simple. He made lists of all the various complaints he heard about on the road as a salesman, and then set about eliminating them.

Nowadays he is supported by a growing team of key personnel and younger staff, many of whom have turned into long-term employees. He has not only built a highly successful company, but also has played a significant part in the music industry as a whole. Without any doubt he will be applying exactly the same commitment to the pro-audio field as he has already put into action in the music industry.



The Chiayo DR505 series.



Sean Turk (left) and Paul Gowlett form the JHS dedicated pro-audio sales team. They've split the country between them, with Sean taking the southern half of the UK and Paul the north.



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ASLEEP IN THE STALLS

Since we last met I've been wide-eyed in Edinburgh and bug-eyed in Egypt. Let me tell you about it.

Edinburgh gets more astonishing every year - it's quite impossible to see more than a fraction of Festival or Fringe, even if it's taken me more than a decade to stop trying. I saw a mere 20 shows in five days this time, much more relaxing than usual.

Of course I had to go to the new Festival Theatre, the reincarnation of the Milburn-designed Empire in Nicolson Street (see feature, L+SI June 1994). It's been rescued from its sad role as a bingo palace and restored to glass-fronted prominence by a clean-up from the local partnership of Law and Dunbar-Nasmith. Splendid though the new glass frontage is (you can gawp from the other side of the street at the poseurs on display in its spacious bar areas) and faithful the interior restoration, I can't be all that enthusiastic about the building in terms of my Festival visits. Ute Lempert's late-night show revealed a serious problem of access: with the evening's audience grid-locked on the stairs from the foyer to the first-floor stalls entrance and beyond (while the technical staff turned the hall round from the evening's dance show) there was no way anyone at ground level could reach the loos, which don't start until first floor level. The basement, which might usefully have solved the problem, was given over to box-office computers.

Inside the refurbished auditorium I looked for the approach described by decorator David Hannivan in the theatre's lavish brochure - "to capture the look of elegance and age that would have occurred naturally had the building been maintained with its original finishes and decors since 1928." If this is code for "the look of an old bingo hall badly in need of a coat of paint!" he's got it just right.

What I didn't see was the backstage area which has been completely rebuilt and meets the needs of the most demanding dance or opera company. Certainly all seemed in very good working order next day for the Mark Morris Dance Group, whose version of Handel's *L'Allegro e il Penseroso* featured choir and soloists, as well as the Scottish Chamber Orchestra, in the pit, and a full company of dancers on stage, supported by a lighting plot (James Ingalls) and some serious flying that hugely enhanced the moods of the piece. All trace of Ute Lempert, including a full speaker rig, had been cleared overnight.

There is usually a special pleasure to be had in Edinburgh from non-traditional spaces and this year was no exception. The 'official' Festival used Meadowbank Sports Hall for Robert Lepage's crystalline, enthralling work-in-progress, *The Seven Streams of the River Ota*, setting audiences tough sightline problems in spite of a steep rake; and Murrayfield Ice Rink to create the scaffold skeleton of a fairly classical amphitheatre for Peter Stein's seven-hour prolongation of the *Oresteia*.

My colleagues raved about the Stein while remaining cool over Lepage (which most of them saw at what was really the tech, and a fairly traumatic one by all accounts), but my advice to you would be to try and catch *Ota* as it moves through Glasgow, Manchester and the Riverside Studios this winter. Lepage and his team work delicate wonders with stage space, and as a work-in-progress their show can be seen as it grows, organically. Beside it I found Stein's grandeur rather clumpy.

There was even more ingenuity in Fringe venues this year, of which I'd single out just two. Toby Gough set his own multi-media production, *Linnaeus*, in the Royal Botanic Gardens, with singers, dancers and musicians welcoming the audience in at dusk to usher them round the magnificent gardens in a surprisingly orderly fashion through a series of luscious, colourful tableaux telling the life story of the great botanist and classifier. Only in the final scene, by which time darkness was almost upon us, did the production need artificial light, and here it lit up the show's huge cast, complete with fire-eaters, for a spirited close before we were escorted back to the gate by smiling, torch-bearing actors.

Similar technical economy was in evidence at the Infirmary Street Baths, where Ukraine's National Theatre, the Theatre on Podol of Kiev, were presenting *Iago*, a version of *Othello* seen through the eyes of his ancient. It started with Desdemona swimming the length of the pool to greet Othello, and proceeded to use pool, poolside and even the changing cubicles in a way that was perfectly consistent with the story being told, and never for mere effect. A rig of only 12 lanterns succeeded in creating some magical moments too, making full use of the reflections off the water. Poor theatre you may call it, but the results were astonishingly rich.

For real technical contrasts, however, you can't beat the Cairo Experimental Theatre Festival, where as a member of the international jury I was whisked around for a hectic week (in a vintage presidential



Linnaeus - Prince of Flowers, at the Royal Botanical Gardens, Edinburgh.

Chevrolet, my dears) to more shows than I'd seen in Edinburgh, coming from all sorts of theatrical traditions. The Festival featured 36 productions in all, from 24 nations. The climate is more suitable for open-air theatre than Scotland's, and sure enough some of the most beautiful venues were under the stars. But Cairo also has a fine National Theatre, about five hundred seats at *Italiana*, and a larger, brand new Opera House. Shows which used these spaces were at something of an advantage for equipment, and indeed the official Egyptian entry, a piece of dance theatre from the opera ballet, had a positively Broadway budget.

Elsewhere we were into rough theatre, sometimes by accident, sometimes by design, and just as in Edinburgh it was some of the simplest shows that created the greatest impact. The jury gave its best production award to an Argentinian production, *Lovers*, which illustrated a poem no

more than a page in length with an hour's kaleidoscope of striking images, using sound, light and movement to the full - it was like walking into someone else's dream. The best director came from Bahrain, and was himself, truth to tell, a bit of a pain as he strode around his production like a latter-day Kantor,

making his presence rather too much felt. But his show, staged in a converted mosque and lit entirely by candles (no fire safety officers in Cairo, just Tourist Police) and flashlights focused by him and the cast as they moved among the audience, was a brilliant study in claustrophobic family relations, with old guilts dragged to the surface and exposed in the flashlight beams. Here was some of the astonishment that we as a jury had decided was the essential component of experimental theatre, and which was sadly lacking in many of the other Festival productions, some of them from well-established European companies.

Another fascinating production, which took our award for technical merit, was a Syrian version of *Machinal* that couldn't have been further from the hi-tech Daldry/McNeil version that stunned us at the National last year. Using a shadow screen to create background scenes such as the office and the bar, it kept the same basic single set for its main scenes, with a bed at its centre that was, in turn, part of the heroine's tenement home, her honeymoon hotel, her hospital bed, her lavish apartment and her condemned cell. A bag-lady narrator figure swept used props into a downstage dustbin, and with one flick of the coverlet transformed the bed-centred scene. With a budget that was probably one per cent of the National's the Syrians managed to convey almost as much of the play's powerful impact.

Indeed, ingenuity, rather than expenditure, was very much the Festival's keynote, and it was one of the Fringiest of groups, the young troupe from Singapore, who were the only ones to think of surtitles for the largely Arabic-speaking audience. True, theirs were from Chinese to English, but at least it made a start.

Ian Herbert

"Elsewhere we were into rough theatre, sometimes by accident, sometimes by design, and just as in Edinburgh it was some of the simplest shows that created the greatest impact."

EQUIPMENT *News*

MA Lighting LC 12/2



MA Lighting have launched two new products. The Lightcommander LC 12/2 is a 12-channel memory desk which can control up to 24 channels in wide mode. Apart from analogue and digital outputs (DMX 512), a switching input by which programmed shows may be recalled externally is also available. The device features MIDI and sound-to-light, whilst the ergonomic design allows work with two presets and the use of automatic or manual cross fades.

MA have also released version 3.3. for the MA Scancommander. This programme provides several new functions for users, including manual crossfade. Additional devices such as High End's Cyberlight and the Clay Paky Super Scan Zoom may now be controlled, whilst applications with more than 16 scans can use the SC Extension. This 19" device can either be linked to the Scancommander, thus working as a slave, or may function as an independent device to recall SMPTE Time Code programmes.

For more information contact MA Lighting in Germany, telephone +49 9306 2459.

Powermax Sub

ARX Systems have released the PowerMax 3. Designed specifically to provide sub low frequency enhancement for the PowerMax 1 and 2 full range loudspeakers, the PowerMax Sub features two 12" (300mm) long-throw bass drivers in a vented bandpass enclosure. It is intended for use with the PowerPro loudspeaker processor.

For further information contact ARX Systems in Victoria, Australia, telephone +61 3 555 7859.

Cadac Concert Board Makes its US Debut

Cadac Electronics Ltd is launching its new Concert 'live' board at the San Francisco AES Convention in November. Purpose-designed for live sound reinforcement applications, the Concert's key features include the ability to reset all switch facilities instantly, complete manual status recall of knob settings, and a computer system with extensive control of MIDI.

The board's standard specification includes Cadac's own motor faders and a total of 40 group outputs (12 sub groups, 12 matrix groups and 16 auxiliary groups). Each input channel has direct outputs (switchable pre/post fader), as well as two inputs (A and B), both of which can be on at the same time. Extra line level inputs, with both switches and pots, are provided directly to all the auxiliary, sub and matrix mixing buses.

All switch functions on Concert are set from a Central Assignment Module (CAM) and are stored, together with all the relevant knob and fader settings, in the computer system. All switch settings can be instantly reset, whilst knob positions are recalled manually via a simple LED nulling system.

For further information contact Clive Green & Co Ltd in Luton, telephone (0582) 404202.

New Amps from Austin

Austin Armstrong have announced that the new 414C power amplifier will be available in the UK this month. Two versions are available: the 414C which will deliver over 700W per channel into 4 ohms (1400W mono bridged into 8 ohms), and the 214P which delivers 700W per channel into 2 ohms (1400W mono bridged into 4 ohms). In this mode, the 214P is useful for driving very low frequencies at high power into sub woofers such as the 2 x 21" from Turbosound or ASS.

MGM Cinemas have now taken delivery of over 100 amplifiers from the company this year. They have a modified version of the 406C in their livery with a built-in two-way crossover facility for bi-amping.

Further details are available from Austin Armstrong in Cambridge on (0223) 424732.

Sennheiser Transmission

New from Sennheiser, the SKM1032 VHF is a compact hand-held VHF radio transmitter, suited for theatre use or as a vocal mic in conference applications.

Featuring the same technology found in the transmitter components of the 1051 radio system, the SKM1032 offers a choice of six channels, and is compatible with any Sennheiser HiDyn plus receiver. Use of HiDyn plus compander circuitry ensures an impressive 114dB dynamic range.



The transmitter incorporates a supercardioid mic capsule, offering high audio quality and feedback rejection, with a fully integral antenna. Frequency response is 80-20,000Hz, and SPLs of up to 140dB can be handled with ease. Mic sensitivity is adjustable via a 2-position switch.

For further details contact Sennheiser UK in High Wycombe, telephone (0628) 850811.

Loblite Box Clever

Loblite, manufacturer of luminaires and electrical accessories, have announced the launch of their new junction box. The weatherproof box uses a unique 'snap on' wall plate that eliminates the need to have screw holes in the box itself.

The thermoplastic junction box is IP54 rated giving protection against showers, splashes, humidity and the ingress of dirt. The unit will accept seven entries, using cable up to 4mm in diameter, and blanking plates are available for sides that require no entries. Boxes can also be joined in series for multi-function operations.

For further details contact Loblite in Newcastle on 091-232 1332.

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NEWCASTLE - Sound Electronics: 091 281 4248 • **OXFORD** - Lancelyn Theatre Supplies: 0865 722468 • **TAMWORTH** - Light Opera: 0827 693822.

Yamaha Launch Further YS Cabinets

Yamaha-Kemble has introduced two more additions to its new range of PA cabinets - the YS Series - which is designed and manufactured in the UK.

The YS215E is a 2-way cabinet, midway between the YS212E and 3-way YS315E. Like the former, the YS215E incorporates a high performance, high frequency horn driver for well defined mid and high frequencies and controlled HF dispersion. The 15" woofer provides a powerful low end performance and the cabinet delivers a smooth response from 55 to 20,000 Hz. Like the other YS cabs, the YS215E has a 98 dB sensitivity and a maximum SPL in excess of 112 dB at one metre. Design features of the YS215E include parallel jack and XLR connectors, removable metal protection grilles and locking corner caps. The YS12ME is a low profile monitor incorporating the same HF horn and 12" driver as the YS212E.

For further information contact Yamaha-Kemble Music (UK) Ltd in Milton Keynes, telephone (0908) 366700.



Knobs Un-Limited

A new range of nylon handwheels have been introduced by Knobs Limited. These products have a textured matt black finish to complement modern product designs whilst their ergonomic shape offers good torque purchase, suitable for use on luminaire brackets, for example.

The knobs are designed for medium duty applications, and their two part construction allows for the insertion of either a female nut or male bolt. Four knob sizes are available - 30, 40, 50 and 62mm diameter. They can be supplied fitted with either stainless or conventional plated steel threaded parts in sizes ranging from M5 to M10 with a wide selection of male bolt lengths. The knobs can also be supplied unassembled, suitable for taking special inserts or other threaded parts to suit specific requirements.

These handwheels supplement a wide range of knobs and handles supplied by Knobs Limited who can be contacted in Walsall, telephone (0543) 675500.

Pthalo Systems Plug-in Cards

Pthalo Systems of Vancouver, Canada, have announced the launch of two new products - the DMX-PC and the DMX-MAC.

DMX-PC is a plug-in card for ISA compatible personal computers that provides two USITT DMX-512/1990 transmit and receive data links. For Apple Macintosh computers, DMX-MAC provides the same features as DMX-PC on a NuBus plug-in card. Both products are now in use by the Canadian Broadcasting Corporation for automated lighting control and simulation, by Production Arts Lighting in New York for control of Pani projection systems and by theme parks in the USA in show control systems.

Both DMX cards provide a co-processor to provide lighting control functions including memorised lighting cues and timed fades. The co-processor can transmit and receive 512 dimmer levels on each channel at the maximum data rate without any support from the host computer. The cards appear as a memory device to the host and an area of memory shared by the co-processor and the host computer contains the lighting levels and DMX data.

Each card provides optical isolation of the DMX data links and uses flash EPROM for the co-processor software allowing easy firmware updates and customisation.

For further details contact Pthalo Systems in Vancouver, telephone +1 (604) 420 7147.

New Trusses From JT

James Thomas Engineering have launched a new truss system. Superlite is a 30.5cm x 60 degree equilateral triangle truss manufactured using 50mm x 2mm wall main tubes, 19mm x 2mm wall diagonals and featuring double-ended connecting forks for ease of assembly and added strength.

The 2-way joint connects the inside spigots together, and the top and outer truss tubes together with double-ended spigots.

The 3-way and 4-way joints are made by using 30.5cm plates, attached to the bottom tubes of the truss locating through the spigot holes. The lower ends of the trusses are joined together over the plate and fitted with M12 bolt sets. The top tubes are joined together using the 'T' spigot in the case of the 3-way joint and the cross spigot in the case of the 4-way joint. All joints are pinned using M12 Pins and 'R' clips.

For further details contact James Thomas in Worcestershire, telephone (0386) 553002.

Q205 Monitor

Quested Monitoring Systems has unveiled the Q205 nearfield monitor, the newest and smallest product in the range. Designed for producers and engineers needing an accurate portable reference speaker, the Q205 is a two-way active self-powered monitor in a compact enclosure.

Two low-frequency drivers are incorporated into the design, together with a ferrofluid damped 28mm soft dome high-frequency driver; each drive unit is located within its own chamber to eliminate any potential inter modulation distortion. The drive units demonstrate the same sonic characteristics at the crossover point which is set low at 1.2kHz, preferable in a nearfield situation, and resulting in a wide and smooth dispersion of the bass to create a large exact listening area. The electronics are housed in a magnetically shielded steel and aluminium pod bolted to the back of the cabinet. Driving the bass and HF units are amplifiers capable of delivering 75W and 50W RMS respectively, with programme outputs of 105W and 89W.

The company have also introduced the HQ210 - a 3-way monitor. The HQ210 is of a variable 'modular' design and can be used as either an active or a passive system, in either a vertical or horizontal format. It has much in common with Quested's Q210C, a high power full-range 3-way cabinet of portable low-profile design. Its main features include two advanced 10" high excursion LF drivers with double rear suspension, a 3" soft dome mid-range driver and a 1 1/8" ferrofluid-cooled soft dome tweeter.

For further details on the full range, contact Quested Monitoring Systems in Partridge Green, telephone (0403) 711447.

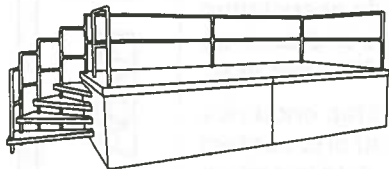
HBB at AES 94

HBB Communications will be showing the new Portadat range of portable DAT recorders at the forthcoming AES Convention. The PDR1000 is a four head, four motor DAT recorder with a range of professional facilities and quality sonic performance. The Portadat PDR1000TC is the time-code equipped version, offering the ability to record, generate and reference to time-code in all existing international standards, to jam sync and to convert absolute time to time-code.

For further details contact HBB in Portland, Maine, USA on +1 (207) 773 2424.

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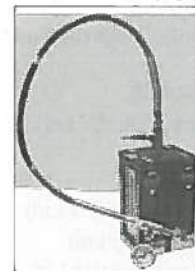
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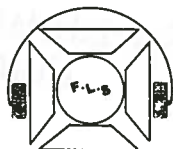
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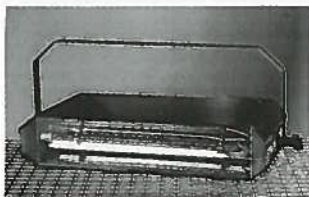
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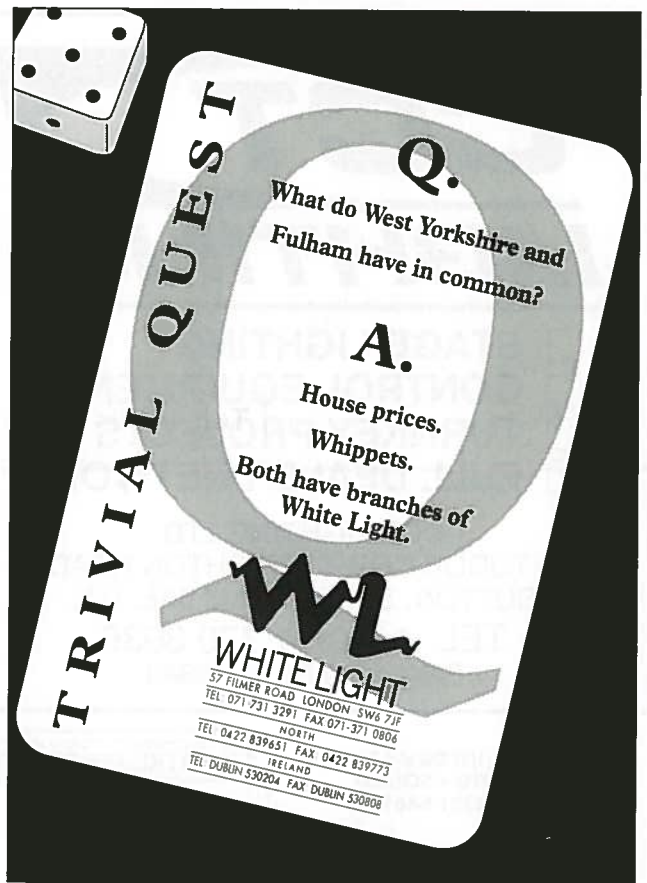
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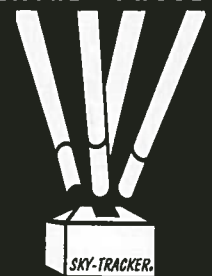
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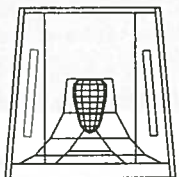
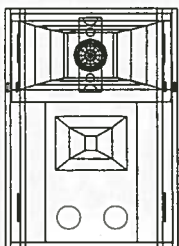
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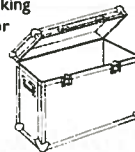
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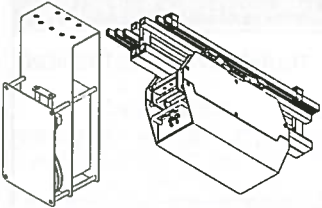
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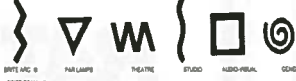
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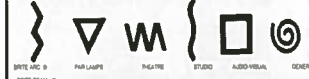
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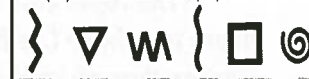
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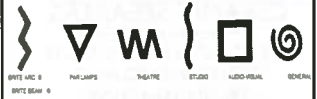


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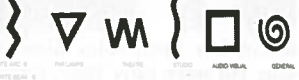
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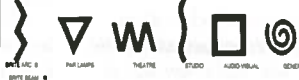


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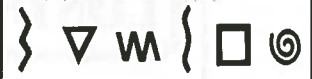
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VIEWPOINT

Graham Paddon

Overcoming the Installation Blues!

I am of the opinion that better communication between venues and their consultants, contractors and equipment suppliers would lead to more installations that satisfy the brief from the outset!

Venue refurbishments can by their very nature be disruptive and somewhat stressful, involving a fair degree of pressure for everyone concerned. The need to complete every aspect, from major building work to the installation of the last speaker, involves precise co-ordination and timing. Given the sheer volume of effort involved, it is very disappointing if the final result does not meet with expectations. Sadly, we have come across too many occasions in the past few years where this has been true of the sound installation. And we think we can see a pattern emerging.

It appears to be a question of integration - between the consultants, the venue's own ideas and budgets, and the people who will actually be using the equipment. The communication chain itself can also contain a fatal flaw - in that information may not be faithfully transmitted along it, involving a kind of technological Chinese whispers. Installing a system suitable for West End musicals, for example, will not necessarily do a great deal for a provincial rep theatre - but it happens! In this situation, the theatre sound team needs to be involved at the very beginning - producing a detailed specification of what equipment they need, how they want it to work and the types of results they want to achieve with it. This specification needs to be integrated into the overall upgrade plan, matching available budget to top priority equipment. This may sound very straightforward and even logical, so why is it the exception rather than the rule?

The more informed the consultant is, combined with a specific client brief, the more likely is a successful conclusion. This also presupposes a real service support element from the supplier - it is not enough simply to read the spec and ship the equipment. It involves translating the venue's specification, ensuring that the chosen equipment is indeed appropriate and advising accordingly.

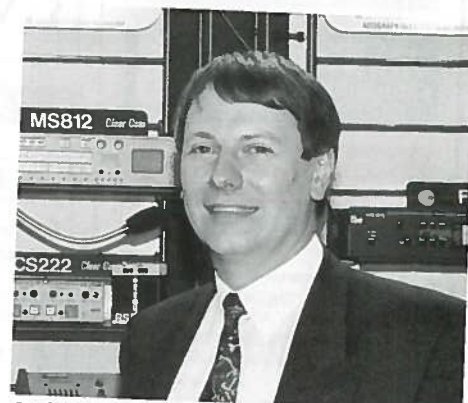
It is when this chain breaks down that we often find ourselves fulfilling the role of system integrator, working with the various parties involved to tie together any loose ends that the sound department has identified. This can involve anything from supplying pre-wired patchbays and equipping the control room, to working with the sound crew to sort out an installed system. In every case, the objective is to arrive at a workable system for their range of

productions and the space involved.

On two or three occasions in the last year, we have come across installations where, after only a couple of years, the customer has decided to start again with a new system because of shortcomings with the operation of the original. Although there was probably nothing essentially wrong with the component parts of the original installation, either the product or the positioning was inappropriate for the venue or the type of production. It also indicates that spending a little more time and money initially, might well have produced considerable savings subsequently.

Without this early communication, involving the discussion and agreement in advance of all parties on all the requirements, there is a real danger of at best a 'stalemate' situation arising between client and contractor, and at worst, the complete failure of the system to satisfy the client. In another recent instance, so many changes had to be made to the wiring after completion of the installation, that an initially 'reliable' system had been turned into one which the venue could no longer depend on. This example highlights the importance of a close working relationship between client and contractor from the outset - an essential element in the continued smooth running of today's complex venues.

Perhaps it is all a question of education - ensuring that the different layers involved in the decision-making process are fully aware of what can be achieved within a given remit. There is always a danger of the master plan overlooking the more mundane elements - such as the fact that in order to attain the sound



Graham Paddon has been sales director of Autograph Sales Ltd since early 1992. He joined the company as UK sales manager in 1988, subsequently moving to the post of European sales manager. Prior to working at Autograph, he was with radiomic company Audio Engineering for a total of 18 years - the last five as international sales manager.

quality required, it may be necessary, for example, to fly a central cluster over the proscenium. This may upset the architect's plans, but fulfil the sound department's objectives. Hence, there has to be a reasonable degree of compromise.

All we are advocating is that there is greater awareness on all sides - making sure that the right people in the chain talk to each other soon enough. It is both disappointing and counter-productive to have to pick up the pieces when things go wrong. Far more important is the act of contributing to a successful whole.

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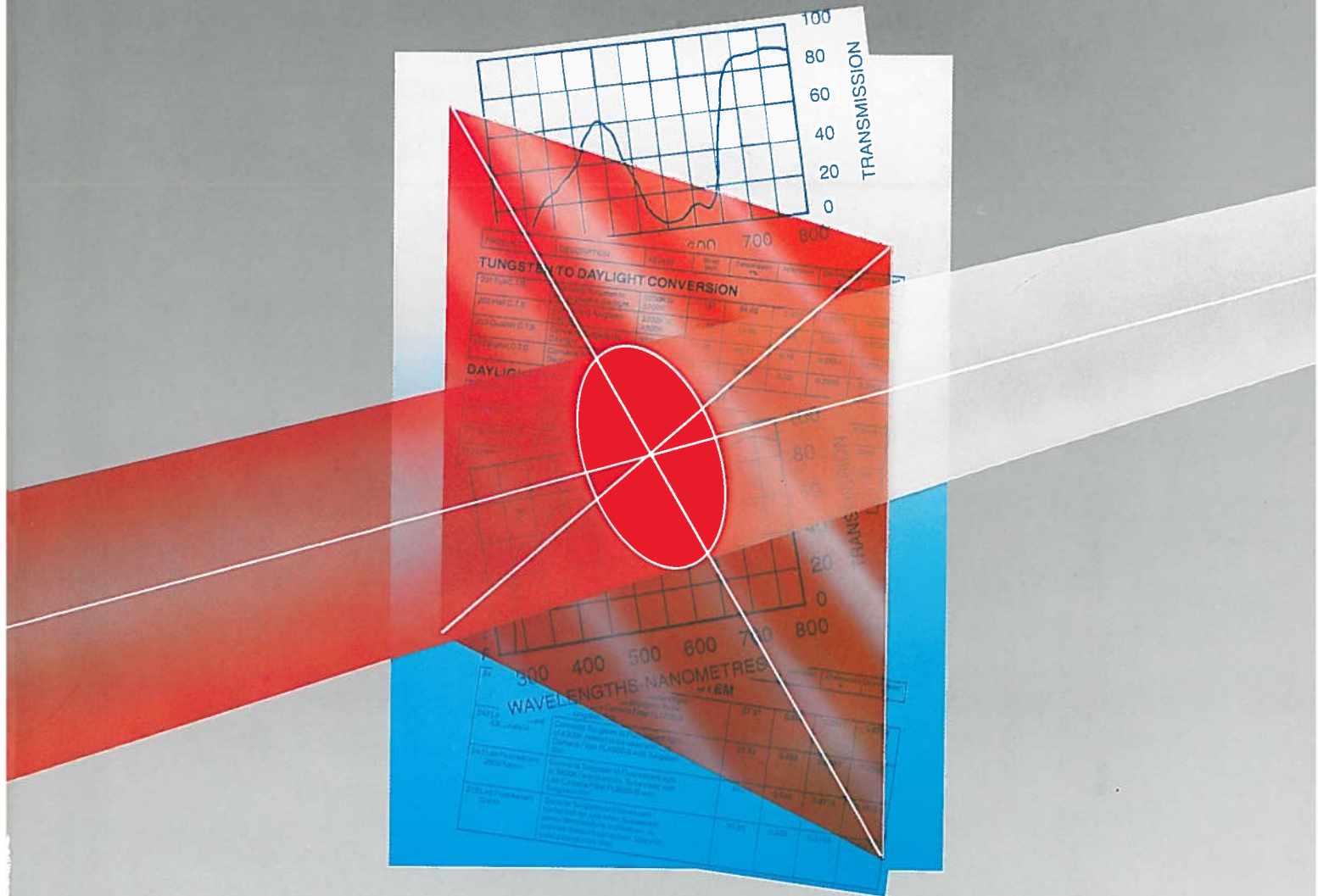
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