## LIGHTING SOUND International

### PLASA's Award Winners

The winners of the coveted Product Excellence and Best Stand Awards at Excellence and Best Stand Awards at this year's PLASA Show received their this year's PLASA Show received their this year's PLASA Show received their this year's plaques on the Sunday evening at a plaques on the Sunday evening at a plaques on the Sunday evening at a plaques of the Sunday evenin

Winners of the Product Excellence Winners of the Product Excellence
Awards were Navigator Systems for their
Awards were Navigator Systems for their
Test Track portable appliance testing
software (which the judges viewed as an
integrated system); BBM for Trantec's
integrated system); BBM for Trantec's
S5000 radio microphone control system;
S5000 radio microphone control system;
S5000 radio microphone radio cassette
Clarke & Smith for its radio cassette
recorder for specialist education and
recorder for specialist education and
disabled use; Rolight for Parsafe, and
Litton Veam for the Litton Interconnector.
Litton Veam for the Litton went to of BEDA. Product Commendations went to Product Commendations Went to Artistic Licence for the DMX Dongle, Artistic Licence for the Stage 1 four-the M&M Group for the Stage 1 four-inch colour changer, Fuzion for the Sabine Real-Q and Stage Technologies Sabine Counterweight Assist and Tow of the Counterweight Assist and Tow

Winner of the Best Overall Stand Award withner of the pest Overall Stand Award was Harman Audio whilst the award for was Harman Audio whilst the award for Most Innovative Use of Space went to Unusual Rigging. The judges also gave special commendations for Stands to special commendations for Stands to celco and Pioneer Electronics Europe, and also to the stand of Coemar/Coeand also the stand of Coemar/Coeand also to the stand also to the stand also to the stand also to the stand also the standard also to the standard also the standard also the stan and also to the stand of Coemar/Coe-Tech for their light show.

Tech for their light show.

In a separate presentation which followed, two additional awards were presented for Life Time Achievement to presented Thompson, George Thompson, Serving Standards officer who is standards officer who is stepping down this year, and to Tony Akers, the longest-serving member of the PLASA Executive Committee, who also retired this year. See separate story, also retired this year. also retired this year. See separate story, page 42.

Clockwise from above: Richard Pilbrow (left) presents awards to Richard Cresswell and David Rose of Navigator Systems (for Test Track): David Harris from Clarke & Smith (for their cassette player for educational Clockwise from above: Richard Pilbrow (left) presents awards to Richard Cresswell and David Rose of Navigator Systems (for Test Track); David Harris from Clarke & Smith (for their cassette player for educational Navigator Systems (for Test Track); David Harris from Transec (for the SSOOD radio mic controller). Reunally and Richard Canley from Transec (for the SSOOD radio mic controller). Navigator Systems (for Test Track); David Harris from Clarke & Smith (for their cassette player for educational mic controller). Bruno and disabled use); Chris Gilbert and Richard Ganley from Trantec (for the \$5000 radio mic controller). Marshall.

Wavte from Harman Audio accents the Award for Best Overall Stand from BEDA's Tony Marshall. and disabled use); Chris Gilbert and Richard Ganley from Trantec (for the \$5000 radio mic controller). Bruno
Wayte from Harman Audio accepts the Award for Best Overall Stand from BEDA's Tony Marshall.

What they said about PLASA

"This year PLASA can be summed up in one word: Amazing! I've been in this industry for a long has come." Richard Pilbrow, TPC time and it's tremendous to see how far the Show has come."

"As a new exhibitor, the Show has presented us with a great opportunity to get a wide variety of people to see exactly what our product can do. It has generated a lot of leads." Phil Tucker, Pioneer "It's a sell out! We've been overwhelmed by the quantity and quality of visitors. PLASA's reputation for being the best show in the industry is well founded." Derrick Saunders, Pulsar

"PLASA '95 is the best ever. The Show truly has international status. We've taken a large number Webb, Harman of orders and built up business in preparation for the Christmas season." Sue

24 Pages of Light & Sound Show News and Pictures

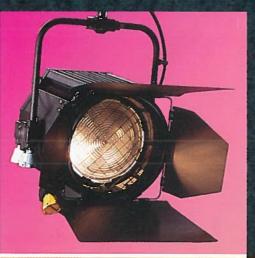
- Full coverage of the Show of the Decade: PLASA 95
- A fusion of technology at Sellafield the new Visitor Centre
- On Tour with Fish and Terence Trent D'Arby
- lan Herbert views the latest scenic designs in theatre
- 18 Pages of News, News, News



OCTOBER 1995

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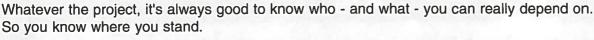
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### LIGHTINGS

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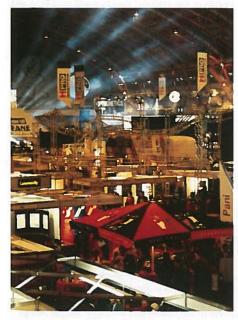
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A full round-up of the latest news from around the industry

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Six pages of the latest product catalogues from many of the leading companies

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On the scale of a military operation, L+SI dispatched its troops across Earls Court 2 to bring you the most comprehensive coverage of PLASA 95. If you missed the show, this is your chance to catch up on the news

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### LIGHTING SOUND News

### PLASA Looking to 1996 and the Millennium | Strand Regionalise

With visitors, exhibitors and organisers unanimous that PLASA 95 has turned into a resounding success, plans are already afoot for an even more spectacular Light & Sound Show 96. The high level of exhibitor interest follows the 1,000sq.m of extra floor space booked for this year's show, making a total gross floor space of 17,000sq.m. PLASA chief executive John Offord said: "It is always gratifying when exhibitors tell you that they want to be a part of the next show, but the reaction this year has been overwhelming."

As well as a promising level of exhibitor comment, PLASA, and organisers P&O Events, can commend themselves with an additional level of visitor attendance. Even before the show opened, forward bookings were massively increased and pre-registrations were up by an exceptional 70%.

Also during the PLASA Light & Sound Show, an exciting and strategically important plan was launched that will seek to establish London as the world entertainment and presentation technology capital by the year 2000. PLASA and P&O Events will develop the show as an international event and will encourage associated exhibitions to date themselves in London within the same period as the PLASA Show. The primary objective of this initiative is to stage a global event which will benefit the needs of the entire industry.

Jonathan Goold, managing director of P&O Events, told L+SI: "The ultimate winners in this initiative are the visitors. Over the past few years the PLASA Show has built an excellent international reputation as the leading exhibition in its field. Therefore it makes sense for all visitors and exhibitors alike, that events from all sectors of the entertainment business co-ordinate their activities in London at the same time."

Another major development also came at the PLASA Show when PLASA (UK), VPLT (Germany) and ESTA (US and Canada) announced the formation of the World Entertainment Technology Federation (WETF). Following the already close working relationship between these three major trade associations, agreement has been reached to work together in the areas of technical standards,



The broadening scope of PLASA is well illustrated by the increase in international visitors. Above, PLASA's Anna Pillow (left) and John Offord (third from right), together with Nicola Rowland of P&O Events (fourth from right) welcome a major delegation from China

trading methods, training and education, thereby enhancing the prospects for industry growth internationally.

WETF will establish a structure for the co-ordination of entertainment industry technical standards. These efforts include control protocols, trussing, rigging, and fog and smoke. International membership structures are being reassessed to bring the benefits of the federation to their members and

In a swift and surprise move, Strand Lighting have dissolved their UK marketing arm. As a result, marketing director David Brooks and other members of the marketing team have left the company, whilst some have been relocated within Strand.

The move follows a year of reorganisation, foremost amongst which has been the realignment of the international sales organisation into three regions covering Europe (including Africa and Middle East), Asia (including Australasia) and America (including Canada, Central and Latin America). According to managing director Chris Waldron, this regional structure will enable Strand to better serve its customers in each market.

Marketing activities including advertising, communications and sales literature will be handled directly by the regional sales team with the key individuals being Philip Lehmann in Asia, Fulvio Cotogni in Europe and Peter Rogers in America.



Chris Waldron.

### Martin Go Public

The public offer of shares in the Martin Group A/S, owners of robotic lighting manufacturer Martin Professional and Mach speaker systems, on the Copenhagen stock exchange was 11 times oversubscribed, according to issuing house Carnegie Bank.

510,000 shares with a face value of 20DKK were sold for 235 DKK each, and due to the success of the flotation Carnegie have exercised an additional option to issue an additional 50,000 shares. The total proceeds of the sale realised therefore was DKK 120 million, of which DKK 80 million will accrue to the benefit of the company directly, while the remaining DKK 40 million goes to the majority shareholder, Peter Johansen.

The successful offer will bring 2,460 new shareholders to the Group and the Copenhagen Stock Exchange has approved the distribution of the shares so that they will be listed for the first time on October 5th, 1995. The chairman of the supervisory board of the Martin Group, ex-Prime Minister Poul Schluter, commented: "We are grateful that so many investors have shown trust and we regard this introduction to the stock exchange as very satisfactory. The Group has strengthened its capital base, and now has the opportunity to take advantage of the substantial possibilities for growth in the market for entertainment lighting and sound in the coming years."



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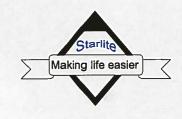
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### Osram's Museum Piece



Pictured above is the Duveen Gallery in the British Museum which has recently been refurbished with Osram's Powerstar HQI-T metal halide lamps. The lamps are used to illuminate the sculptures from the Parthenon, popularly known as 'The Elgin Marbles'. The new scheme is estimated to save the Museum around £30,000 a year in electricity and maintenance costs.

### Living Dangerously

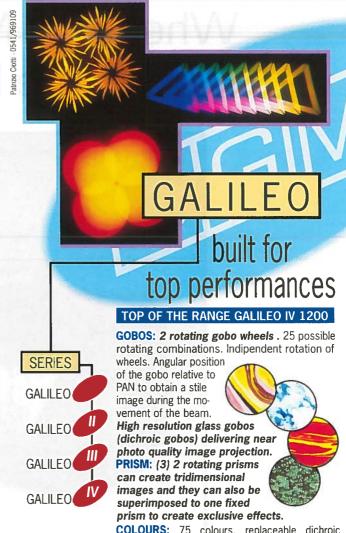
Morten Stove of Danish Pro Audio likes to live dangerously. Recently, he risked life and limb to record the launch of the Space Shuttle. And just weeks before its volcanic troubles, he visited the Caribbean island of Montserrat - ironically, to record ambient sound effects in peace and quiet. His mission was to provide atmospheric recordings of genuine Caribbean ambience for a new chain of restaurants opening in the States, which takes the Caribbean as its theme.

With partner Gary Baldassari, Morten improvised a highly idiosyncratic recording technique: "We each had two Bruel&Kjaer 4006s with cones, one mounted above each ear," Baldassari told L+SI. "We recorded wind, light rain, thunder, crickets, wind through bamboo, water, and the natural ambience of the city. We went down near the crater of the volcano and I stuffed my face in one of the vents, coming out covered in sulphur. The bottom of my sneakers were melting but I managed to get 60 or 70 seconds of lava bubbling! Altogether we got 40 hours of ambience on tape, which will be edited down to about 10 hours of uninterrupted effects.

### That's Entertainment

TC Electronic digital EQs and delays have been installed in the entertainment sound system on-board Royal Caribbean Cruises' cruise liner, Legend of the Seas. They are located in the 'That's Entertainment' show lounge theatre, where a 6032 Remote and 11 1128 programmable EQs are at the heart of the sound reinforcement control system. The room's complete entertainment system (audio, video, lighting and rigging equipment) is controlled by a single computer; the 6032 Remote has been configured with MIDI cards and interface software that enables the IBM compatible PC to control all the settings

In the 'Anchors Aweigh' lounge there are another 10 1128 EQs and a 1380 Multitap digital delay. Two 1280 digital delays help create clear sound with no echo in the Solarium, which comes to life at night with fountains and special lighting effects and music. Another two 1280s are incorporated within the pool deck sound system. Legend of the Seas is currently cruising the west coast of America.



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### Wild Design

Los Angeles based ultra-violet visual effects company Wildfire Inc has opened a full service design/scenic studio located on the premises of their current 12,000sq.ft facility in Culver City, California.

The new design services department is headed by VP/creative services, Eric Schwartzman and art director Kent Mathieu. Schwartzman told L+SI: "Wildfire can now offer a comprehensive design, layout and illustration service, in addition to the



execution of large-scale murals and the fluorescent visual effects design for themed entertainment, film and stage work which the company is known for. We're showing people - on an even greater scale than before - how to maximise UV effects to save money and create beautiful 3D images of colour and light."

### Sarner goes Native

A unique multi-sensory visitor attraction, which dramatically reveals ancient tales and legends from Malay culture and other Eastern lands, has been completed by London-based Sarner International Ltd.

Sarner was responsible for total creative concept, engineering, scenic construction and overall implementation of the project, known as Lagenda Fantasi.

Lagenda Fantasi is the name given to the centre piece of the Geylang Serai Malay Village. Stories are brought to life using multi-image projection, surround-sound, motorised three-dimensional scenery, theatrical tableaux and spectacular lighting arrays. Also featured are some remarkable special effects - including the appearance of a giant animated Genie and a spectacular flying carpet sequence.

Sarner's technical department produced hundreds of drawings on its CAD systems, whilst its engineering team constructed the main racks of electronic equipment and installed a complex cable network on which to run the numerous special effects and sophisticated AV devices; these included hundreds of theatrical lights, 16 channel surround-sound and 22 image projectors. In addition, three motion-picture film projectors, smoke machines, wind machines, three-dimensional transformations, motorised scenery and environmental special effects have been installed.

### New Facility for BL

Bandit Lites recently announced the opening of their brand new custom-built warehouse and office facilities in Nashville. The 30,000sq.ft complex has been specifically designed to accommodate theatrical and film lighting needs, and consists of two show rooms and a dedicated 'hanging room' able to lift up to 40,000lb rigs, allowing lighting designers time for programming prior to rehearsals. Bandit Lites believes this state-of-the-art facility will further complement the growth of the country music industry in Nashville. The grand opening will take place later this year.

### Yvonne Arnaud get KI

TP Sound have delivered a 16-frame Soundcraft K1 to Matthew Eagland, chief electrician at The Yvonne Arnaud Theatre in Guildford. It is to replace the old Soundcraft Series 2000 that has been at the theatre for some 11 years.

TP Sound's Paul Gosling told L+SI: "Matthew phoned me with his requirements for a new desk and several models sprang to mind. Then he told me how much he had to spend. After a quick call to Tim McCall at Marquee Audio we came up with the K1, which not only surpasses the specification, but came within his budget requirements."

### **Brilliant Expansion**

The latest board meeting of Vari-Lite holdings on Thursday 14th September came just in time to miss the PLASA show and thus rob Charlie Kail of the perfect platform to make an announcement. Following months of hard bargaining, and not a few sleepless nights putting together the business plan, Kail has secured Vari-Lite's agreement to make a major investment to expand Brilliant Stages.

Well known for its work in producing stage sets for the touring music industry, the company is now gearing up for work in many other related fields. Kail was able to outline areas to be targeted: "We will not just be producing stage sets for rock and roll tours, but expanding into theatre, trade shows and the industrial market. We'll be taking a more general engineering approach integrating motion control, hydraulics, and electronics into our repertoire." However, Brilliant intend to maintain stage sets at the heart of their business.

Moving quickly, Brilliant immediately made permanent their lease on the 26,000sq.ft warehouse adjacent to the TP, CPL and Vari-Lite HQ in Greenford. The expansion will also involve taking on more people. Gareth Williams, one of touring's leading exponents and certainly one of the most experienced operatives in the field of motion control, has already joined Charlie's team and more will follow.

Brilliant Stages has increased its turnover by 100% every year for the past four years since joining the Group. Now, of course, as he ruefully admitted, they have to live up to that level of performance.

Steve Moles

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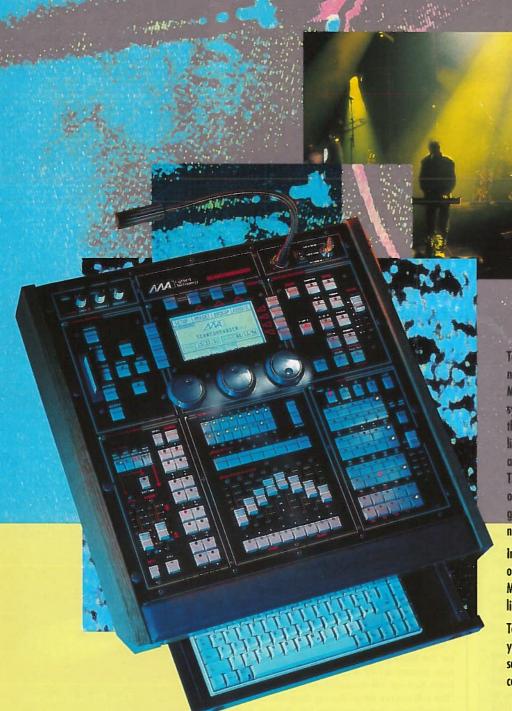
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### Half Moon Training

The Half Moon will be running another series of one-day training courses this Autumn, beginning with an introduction to lighting design for technicians. This course will explore the effects of differing lighting angles, directions and colours on the human form and provide a methodology for annotating and translating ideas into a lighting plan and cue synopsis.

An introduction to sound design will look at the role of the sound designer in the theatre, both in the specification of equipment systems and the provision of more creative effects. Other courses will cover the creative use of colour in theatre lighting, non-conventional light sources, smoke and pyrotechnics, tapeless sound recording and lighting design software.

Further information on the dates and costs of these courses is available from Dipak Mistry at the Half Moon, telephone 0171-265 8138.

### **Dimension & Jack Dee**

Dimension Audio have been awarded the contract to supply PA and foldback systems to Open Mike Productions, producers of the Jack Dee Show.

The PA System comprises four Turbosound Floodlight TFL-760Hs flown as a centre cluster, with a further two TFL-760H cabinets and six Turbosound Floodlight TSW-721 sub-bass cabinets, ground-stacked. Front-of-house control comes from a 40-channel Yamaha PM3000 console with the usual complement of ancillary equipment, whilst on-stage monitors are mixed on a Soundcraft SM16 48:16 monitor console.

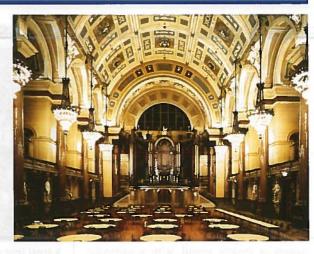
Guests on the show, which will be screened from mid-November, include Paul Weller, Bjork, Pulp, K D Lang, Lee Evans and Freddie Starr.

### St. George's Hall

A recent £2 million EU grant enabled Liverpool City Council to undertake a major restoration of its prestigious public building, St. Georges Hall. The work included a major new lighting installation which uses more than 1,000 Osram energy-efficient light sources.

The Hall is used to host a number of civic ceremonies and has an ornate main hall with a magnificent Willis Organ as a centre-piece. After it was proposed to use the Great Hall to host the civic ceremonies associated with the International Grand Regatta of Tall Ships, architects Buttress Fuller Geoffrey Alsop

Practice and Cheshire-based consulting engineers W E Hannan & Associates joined forces with Erco Lighting to design the installation. They were instructed by Liverpool City Council to develop a suitable scheme which met a number of criteria. Any design had to combine both aesthetic and

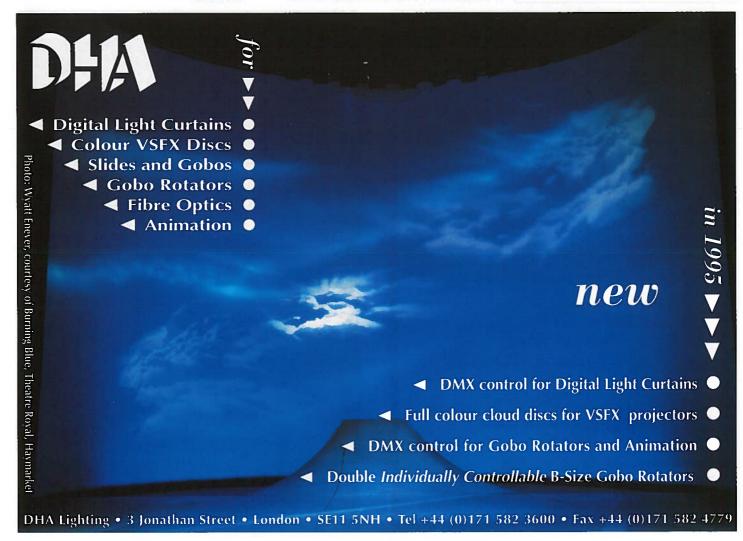


energy-saving characteristics. The lighting had to appear to come from the chandeliers in the hall and no use of downlights was acceptable, so the entire installation had to rely on indirect lighting. The restoration is still in its first phase, with further plans in store for the future.

### Stolen: ETC Expression 2x Console

Electronic Theatre Controls Ltd provided a console for Richard Pilbrow's `Super Session' during the recent PLASA Light & Sound Show in London, which was stolen on the night of Sunday September 10th, prior to the session, which took place on Monday 11th. Fortunately, ETC's Steve Vialardi had taken the precaution of making back-up disks of the show and another console was rushed to Earls Court, just in time.

The stolen console carries the serial number EXPN 1200 and ETC would be grateful for any information leading to the recovery of the equipment and the apprehension of the culprits. If any one is offered one of these consoles, or is requested to provide service, please contact ETC in London, telephone 0181-213 5290 or West Kensington Police Station.



### Going (theatre) Live!

Following the success of the Going Live series of sound reinforcement training courses, Soundcraft is to extend the format and dedicate a full weekend seminar to theatre sound.

The unique feature of Soundcraft's Going Live programme has been the participation of guest lecturers and tutors, highly respected in their field, sharing the experiences of their own successful careers with aspiring students. Continuing this idea, the Going Live Theatre course will draw its guest presenters from the front ranks of theatre production - sound designers and engineers from dramatic and musical theatre, opera and event spectaculars, from London and all over the UK.

The course agenda will feature most practical aspects of theatre sound, with a particular emphasis on equipment operation. Hands-on workshops will take place with live musicians and performers. Going Live Theatre will be staged on the 6th and 7th November from 10am - 5.30pm at The Players Theatre, Strand, London WC2.

### The High-way

High End Systems' products are currently on tour with a total of 45 artistes, including Blind Melon, Dan Fogelberg, Jethro Tull, Tim McGraw, Pam Tillis and Billy Ray Cyrus, all of which are supplied by Bandit Lites; Meanwhile, Bush and Lenny Kravitz, are also using HES equipment supplied by the Obie Company. Other names being lit by High End include Anita Baker, Van Halen, Julio Iglesias and Barry White.

### **DAMSTY Success**



A great time was had by all at the David Martin Memorial Sailing Trophy Weekend (DAMSTY 95) on 1-3 September. Although not yet confirmed, it is believed that funds raised for The Elizabeth Foundation charity for pre-school deaf children will meet expectations. After the sailing and antics in and out of the water, the Trophy presentation took place at Shamrock Quay on Sunday afternoon. This year's winners, Amptown (Germany), are pictured with the DAMSTY 95 Trophy, fellow survivors, sailors, press-ganged crews, and loyal bar supporters.

### JYG Venture into the Philippines

Another distribution contract was agreed at PLASA 95 between JYG and Italian manufacturer GMR, who manufacture a wide range of mixers and audio products.

JYG also announced a new venture with Philippines-based Stagecraft International. The two companies will be commencing business by holding a Christmas rave in the Philippines for 12,000 people on the 22nd December, and intend to stage other events throughout the Philippines, Malaysia and the Far East at regular intervals.

JYG's managing director Garry Clark told L+SI: "60% of the people who visited my stand this year were from overseas and the interest shown was amazing. As business becomes more competitive in the UK, I believe that export is the key to success for any growing company and that PLASA is definitely the best and most cost-effective platform to promote services to a worldwide audience."

The contacts made by JYG at PLASA 95 have resulted in new deals in over 20 countries worldwide.

### PROJECT ENGINEERS (AUDIO)

Glantre Engineering are specialist contractors carrying out installations of lighting, sound, audio visual and rigging systems for theatres, theme parks, cruise ships, studios and presentation facilities world-wide.

We seek to recruit experienced engineers with a background in professional audio system design, installation and commissioning. Good product and systems knowledge is essential while some video and lighting experience would be advantageous. The positions are based at our Reading offices with opportunities for site work in the UK and overseas.

A competitive remuneration package is subject to negotiation; good working conditions and career prospects are offered.

From time to time Glantre employs additional engineers on a contract basis for office or site duties for specific projects. We are presently updating our contract staff register and invite those interested to forward their CV details. Application form, job description and further details available from:

Lynn Rankin
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When you specify a Rainbow Colour Changer, you are specifying what is arguably the most reliable colour changer in the world. With a track record that encompasses international award winning shows, Rainbow Colour Changers have set the standard by which all other scrollers are judged. Having been designed specifically for the theatre, Rainbows are quiet enough to be used in ty studios and opera houses alike.

Blindingly last, there are Rainbows to fit the luminaires traditionally used in the rock concert market. If your need is for outdoor lighting, whether concerts, theme parks or architectural lighting, there is a Rainbow to fit the bill. And thanks to new technology, there is now a 4" Rainbow Colour Changer to give colour movement to 500/650W lanterns. Rainbows' evolve. Other scrollers just change.

Rambow, is the registered trade mark of Komator Rambow Production AB, World wide sales contact M&M, Studio 12, Cameron House, 12 Castlebaven Road, London NW1-8QW England, Tel: (44) 0171-284-2504-1ax; (44) 0171-284-2503



### Zero 88's Go-Kart Grand Prix



Zero 88 held its eagerly awaited 3rd Go-Kart event during the PLASA Light & Sound Show.

It has now become a Zero 88 tradition that a red London double-decker bus is used to transport the participants to the West London indoor go-kart track - a novel experience for some of them.

It was a truly international event, with 54 drivers representing 18 countries, and after three-and-a-half hours of thrills, spills, and numerous spins and shunts, an exciting eight man final was contested by drivers from six different countries.

The eventual winner was Bjorn Werner from Norway with Michael Olsen of Denmark in second place and in third place, David Catterall of Zero 88 - holding up the flag as the only representative from the UK to make the final. Pictured above is the complete line-up of competitors.

### POWER LOCK

#### SERIES CONNECTORS

The New 400 amp Single Pole Connectors from Litton Veam, offering the ultimate in safety and reliability under the most severe operating conditions, are now available.

### WINNER OF PLASA 95 PRODUCT OF EXCELLENCE AWARD

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#### POWER



### People on the Move

Bandit Lites has made the following additions to its staff in the Nashville office: Jim Smerbeck joins as national sales director. He was previously with both Lee Filters and Barbizon. Richard Davis joins as manager of the technical products division. Davis has been involved in all aspects of the entertainment lighting industry, from lighting designer for the Opryland park productions and Opryland talent agency shows, to field engineer for Teatronics Inc where he also assisted with research and development.

Renkus-Heinz has appointed **Brian Oppegaard** as director of engineering. He will be responsible for directing and managing all Renkus-Heinz product research and development. He joins the company from QSC Audio Products Inc, where he was director of engineering for 11 years.

Vari-Lite Inc has appointed **Shannon Park** as western regional sales manager, working closely with Van Rommel, Vari-Lite's dealer and leasing sales manager. Prior to joining Vari-Lite, Park spent five years at Colortran, Inc in Burbank where she was the senior project manager.

James Kinnu is also joining Vari-Lite Holdings Inc, as senior executive vice president and chief operating officer. Prior to joining the company, Kinnu worked with Andersen Consulting as a management consultant for the development of process-oriented management methods.

Novatec Group Inc of Ontario, Canada, have added Patrick Bouchard to their professional lighting and audio distribution team. Bouchard is well known in the Canadian entertainment lighting industry from his years with both Martin Professional Canada (Jam Industries) and Light Centre. Bouchard's technical expertise and sales support skills will benefit Novatec's entire national dealer network, and one of his main responsibilities will be to develop new markets for Novatec's range of professional lighting and audio products.

After three-and-a-half years at Martin Professional in Denmark, lighting designer Mark Ravenhill has left and is now working on a freelance basis. He can be contacted in the UK on (0385) 362849.

FAX YOUR NEWS ON (01323) 646905

### ALISTAGE

PORTABLE MODULAR STAGE SYSTEM



#### MODULAR TIERED SEATING MODE

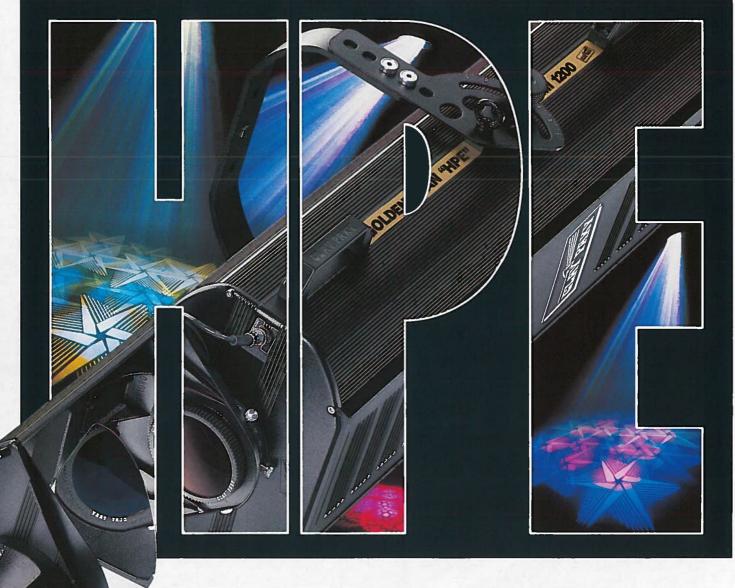
Available for hire, sale or lease. Can be supplied minus seating so that client may use own seats. Each tier has 200mm rise for perfect audience viewing. Guardrails at 500mm and 1000mm height. Modular construction ensures that the unit can be customised to client's requirements. Seat unit cost is considerably less than most other systems.

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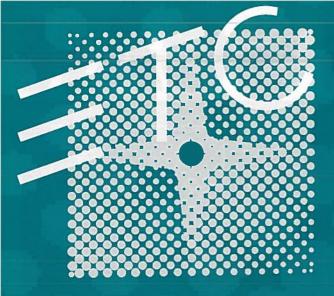
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- fumbling in the back of the can.
- Source FourPAR cuts your energy bill by 45%
- And your mains requirement. And your feeder cables.
- Source FourPAR is compact. You get more on a truss.
   More in a truck

#### Revolution.

Source FourPAR has a beautiful beam. White. Smooth.

- Did you ever *look* at a PAR64 beam? Use Source
- FourPAR at 230/240 volts, or in series pairs, with the
- 115 volt 300 hour or long life 2000 hour lamp.
- ETC Source FourPar... revolutionary! Better order soon.







### HPL High Performance Compact Filament Lamp

Lamp Code	Volts	Initial Lumens	Color Temp. (*K)	Average Rated Life (Hours)	
HPL 575/230V	230	14,800	3,250	400	WH-
HPL 575/240V	240	14,800	3,250	400	1
HPL 575/115V	115	16,520	3,250	300	TANKE
HPL 575/115X	115	12,360	3,050°	2,000	
HPL 575/120V	120	16,460	3,250°	300	-1111

### Shure's 70th Anniversary



Shure Microphones past and present.

Shure Brothers Inc, the Illindis-based manufacturer of microphones and electronic components, are celebrating 70 years of continuous operation throughout the 1995 calendar year. Having officially opened for business on April 25, 1925, the company is widely know for producing reliable, high-performance products such as the SM57, SM58 and Beta Series microphones, as well as many other wireless systems and electronic components.

Founded as the Shure Radio company by S.N. Shure (who still serves as chairman today), the company began as a distributor of radio parts. In 1928, Shure was joined in the business by his brother S.J. Shure, and the company's name was changed to Shure Brothers Inc. Following the Wall Street crash of 1929, Shure diversified, and by 1932 were producing two-button carbon microphones.

A condenser microphone was added to the Shure line in 1933, and a crystal microphone followed in 1935. At this time, Shure also created a separate department devoted strictly to microphone engineering. Out of this department came the 1937 introduction of the first modern noise-cancelling microphone, the first directional microphone with a controlled pattern, and an acceleration-measuring

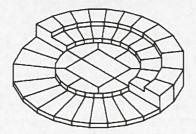
vibration pickup. By the end of the decade, the engineering team's work led to the development of Unidyne, the first single-element, unidirectional microphone, and still one of the most popular microphones in the world.

Following Shure's war efforts during the forties, the next decade brought about an era when stereophonic high fidelity sound became a reality. To aid technology's development, Shure's engineering team introduced the M3D dynetic phonograph cartridge in 1958. Like the Unidyne in the thirties, it became an instant classic. Continuous hi-fi phonograph cartridge advancements were made by Shure for the next 30 years. A highlight of the phono technologies introduced by Shure during that time was the U15 Series of cartridges, which included the Dynamic Stabiliser U15 Type IV (1978), and the U15 Type U (1982), which was outfitted with a beryllium stylus shank.

Shure entered the teleconferencing market in 1984, and their products became the preferred systems at Fortune 500 companies. Shure continues to develop affordable, full-duplex, DSP-based products in this arena, one of which is the ConferencePhone, a portable audio teleconferencing system.



### **ALISTAGE**



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BP 2500 C - Halogen



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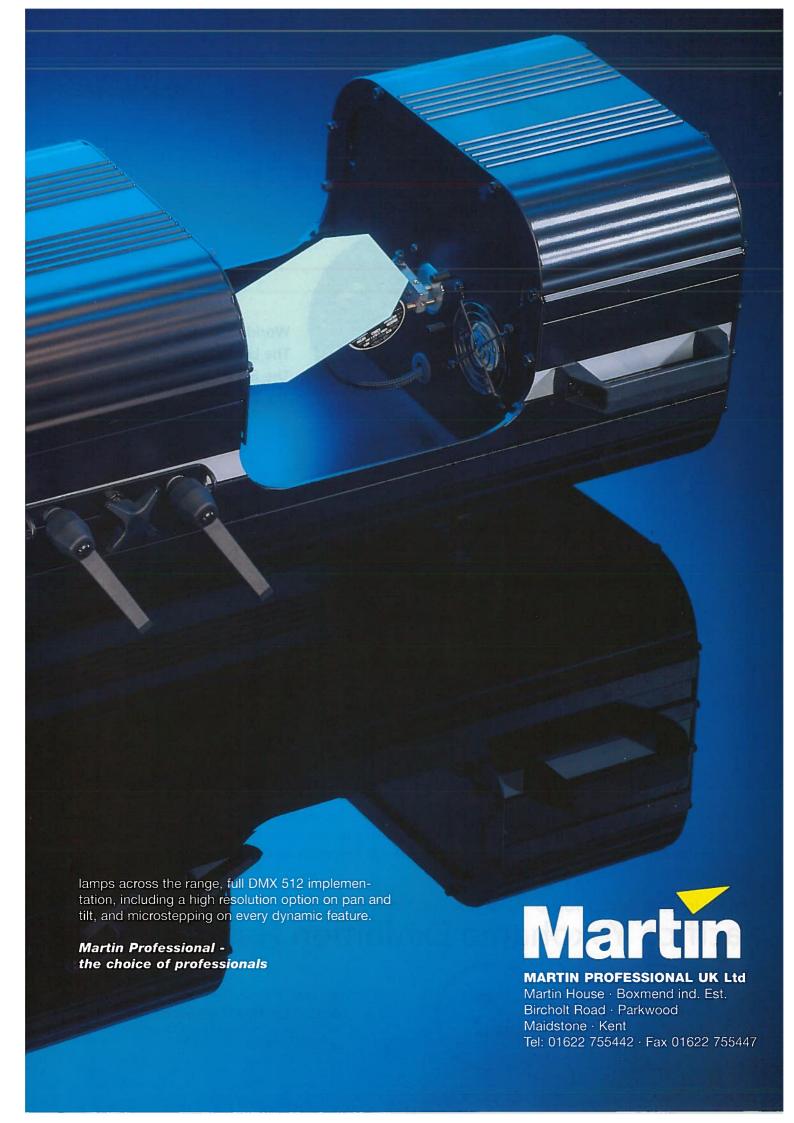
SOBOSCYN BRO 1530

At Martin Professional we are known for our range of Pro. entertainment lighting products. But out of all of this super-intelligence, the most brilliant of them all, is the Roboscan Pro 1220 CMYR.

Before CMYR, there was already the Roboscan Pro 1220, the brightest thing on the planet to date, with its excellent modular construction which enables anything from tweaking facilities to a full upgrade, thus radically extending the useful lifetime of the product.

CMYR adds an extraordinary, full-color, color-mixing system to all the other winning attributes which were previously synonymous with the quality and performance of the original Pro 1220. Plus rotating gobos, of which there are no less than four on-board every model in the new series, as well as 9 motorised fixed-aspect gobos. Standard or custom designs, or even etched dichroic self-coloured gobos are available.

In addition, the new, quieter Roboscan Pro 1220 series offers you the choice of HMI, or MSR 1200W





World Lighting Fair In Tokyo'96 The Leading Edge Of The Entertainment Industries To The 21st Century.

## World Lighting Fair in Tokyo '96

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### Arri's Camera Professionals' Day

Arri (GB) Ltd hosted a unique Camera Professionals' Day in August. The venue was the superb meeting facilities in the historic surroundings of Great Fosters country house hotel in Egham, Surrey.

The informal get-together was an ideal opportunity for leading professionals within the film and television industries to view at first hand new Arri Lighting product. Guests also had the chance to have in-depth discussion with representatives from the Arri Lighting factory in



Germany about the direction of new Arri products. In addition to a full range of Arri lighting and grip equipment, brand new luminaires were also on show, including the Arrisun 60, the Studio 10kW and 20kW heads, the Compact 6kW and the Compact 200W kit, and the three re-designed smaller Junior units: the 300, 650 and 1000 Plus.

The event was well attended and included many leading practitioners in the film and television industries. Amongst the many were such famous names as: Billy Williams (Ghandi, On Golden Pond); Ashley Rowe (The Cormorant, Karaoke); John Hooper and Bob Huke (You Only Live Twice, Battle of Britain, Ryan's Daughter). Following on from the success of this day and from the encouraging feedback, it is anticipated that the Arri Camera Professionals' Day will become a regular annual event.

### **Internet Draws Interest**

The Internet demonstrations given throughout the PLASA Show attracted a great deal of interest from both exhibitors and visitors interested in seeing what the Association's World Wide Web pages had to offer. PLASA's Web site (at http://www.plasa.org.uk/plasa/) now contains well over 200 pages of information including member details and product, services and supplier indices.

The vast majority of company representatives that were given a demonstration expressed a positive interest in having additional information about their companies placed alongside their contact details on PLASA's Membership listing. Although there remains a certain degree

of caution about the benefits of the Internet among some companies, the overall impression received on stand was one of enthusiasm for the possibilities that the World Wide Web can offer.

Anyone requiring further information about the World Wide Web, or wishing to have their own pages put on the Internet should contact Lee Baldock at the PLASA office.



L+SI's Lee Baldock demonstrates PLASA's World Wide Web pages to Bridget Beaurepaire of P&O Events, Hugh Scrimgeour, chairman and managing director, Earls Court Olympia, on the PLASA Stand during the Show.





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8-ch. 6 pages by 6 preset chases. Crossfade between programs and between chase scenes. Fader regulation of each channel level or MASTER. Pedal input for remote program changing.

REGIA 24

12 (24) ch. Manual control by means of 2 x 12 (2 x 24) faders. Preset Master and Grand Master. Chase Master. Scene cross Ø to 32 minutes. Audio input. DMX-512 output, RS-232 interface. Scenes: 144; 12 scenes x 12 pages (576; 24 scenes x 24 pages). Chase: 12 (24).



240-ch. light desk. Ideal controller for allthose who, want to control whether intelligent luminous effects or all the lighting equipment. DMZ-512 output, RS-232 interface. Record capacity: 20 memory registers (each containing 4 memories). 24 pages x 2 files for a max of 960 scenes. Masters: Registers, Flash, Preset 1, Preset 2.



The perfect work-mates for SGM desks are SGM dimmer packs, such as:



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10A/ch. dimmer. Channels: 8 (6). Loads: resistive or inductive. Load power s.:12-250 Vac, single or three-phase, 50/60 Hz. Pre-heating of lamps. Antiscratch filters. Input: 0-10V, DMX 512, RS 232, SGM 256.

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ELECTRONIC LIGHT

### High and Dry

Lighting equipment for the New York Shakespeare Festival had its own wardrobe this summer: raincoats. Both the Cyberlights and the Wybron colour scrollers in the Production Arts lighting package were waterproof and weather ready, giving lighting designer Paul Gallo his first chance to use the lights properly in an outdoor setting. The production in question was *The Tempest*, starring Patrick Stewart, in Central Park's Delacorte Theatre.

Gallo used 30 Wybron AquaRam colour scrollers - a water-proofed, enclosed version of the Wybron ColorRam. He also used six Cyberlights, working with City Theatrical and Production Arts to create a clam-shell type raincoat for each light, leaving only the mirrors exposed during use.

Having the AquaRam colour scrollers was especially helpful on the set of *The Tempest*, which featured a 50ft diameter beige disc as a backdrop. Gallo used the disc as a lighting canvas, so being able to tone the backlight to different colours was critical. At times, the scrollers were even used to live-roll, so that the colour would change from one shade to another. Both the AquaRams and the Cyberlights worked perfectly, despite a combination of thunderstorms and very high temperatures.

### Sensible Workload

The month of August saw equipment from Sensible Music out on the road with a range of performers, including David Essex, The Fabulous Thunderbirds, Andrew Strong (supporting the Rolling Stones), East 17, Marillion, Paul Weller and Take That.

### The UFO Effect

A stream of UFO sightings in the Chester area recently led UFO investigators to a local nightspot called Raphaels, which had just installed a 4kW spotlight, from Italian manufacturer Griven, on its roof. The light, a Tracer 4000, was supplied by local PLASA member Smithfield Electronics, who say that a rotating gobo within the unit can give the impression of multiple circles of light moving across the clouds.

However, this explanation of the strange sightings has not satisfied all concerned. A group of 30 UFO experts from the British UFO Studies Centre at Winsford keep a weekly watch on the skies around Chester and claim to see an average of 20 unidentified objects every month. Maybe there is something else that Smithfield aren't telling us...

### Soundcraft Go Green

This year's Greenbelt Arts Festival featured two Soundcraft SM24 stage monitor consoles. Wigwam Acoustics supplied the SM24s along with the monitor engineers, Moose and Charlie Jones. The Greenbelt Festival celebrated its 22nd year with artistes playing to a crowd of 25,000 as well as several million listeners via BBC TV, Radio 3 and Radio 4. Other Soundcraft consoles recently supplied by Wigwam include an SM24 for the M-People and an 8000 at the Edinburgh Tattoo.

### **IEE Guide Expands**

An expanded and updated 'IEE On-Site Guide' is now available from the Institute of Electrical Engineers. In particular, it is aligned to the recently published amendment to the Wiring Regulations.

In addition to the changes following the publication of Amendment No.1 1994 (AMD 8536) to BS 7671:1992 - Requirements for Electrical Installations, the new Guide picks up on changes to legislation since it was first published in 1991, including important changes to standards for switchgear, RCDs and cables.

The new Guide is available through all principal bookshops, price £11.00. Alternatively, it can be ordered direct from IEE in Stevenage, telephone (01438) 313465.

### **Spot Co Expansion**

The Spot Co have opened a 5,000sq.ft warehouse next door to their existing warehouse in Ealing. The new warehouse, which more than doubles the existing floor space, will enable the company to keep all their stock on ground level, increasing efficiency within the building.

The extra space also allows for the creation of a new WYSIWYG/CAD room to complement the existing demonstration theatre. Spot Co have recently purchased two Flying Pig Systems WYSIWYG computer systems for the new facility. Other recent additions to Spot Co's hire stock include 40 Clay Paky Golden Scan HPEs, two Flying Pig Systems Wholehog IIs and 16 Golden Scan Mk III Midgets - a half-size, cut-down version of the Mk III with a remote ballast that can be sited up to 20m away.



### FEEDBACK!

How ELSE

COULD

THE NEW

CPA6 SOUND

so good?

We listened to the ideas and suggestions put forward by experienced sound engineers and specifiers, put them into practice and came up with the new CPA6

Robust and reliable, in the Tannoy tradition, the CPA6 incorporates the revolutionary point source ICT drive-unit and is available with a custom designed, switchable 100 volt line transformer and easy-to-install brackets.

The CPA6 is a neat, unobtrusive system, finished in black or white with a sound balance ideally suited for background music in public venues such as retailers, restaurants pubs and clubs.

The new CPA6 - we've listened, now it's your turn.



CPA6
TANOY.

### Sensible OB

Sensible Music, supplier of pro-audio and studio equipment, has announced that it will be commissioning and building a new audio outside broadcast vehicle, due for completion by the end of the year. The company claims that it represents a revolutionary new concept in OB vehicles.

The vehicle will feature two Sony PCM-3348s and a Euphonix CS2000 digital audio mixing console. The Sony PCM-3348 is a digital 48-track audio recorder which comes with features such as external synchronisation, remote control, built-in timecode generator/reader, selectable sampling frequencies and 2-channel 20-second sound memory which has a reverse playback facility. The Euphonix CS2000 is a compact, digitally controlled studio system which features the SnapShot Recall system, to recall all controls and switches in less than one thirtieth of a second, and total automation of all controls and switches to code. It has been fitted with 96 channels of dynamic processing, 28 auxiliary sends per channel and an optional 48 track-routing to further enhance the system's overall capability.

The new OB truck has already been pre-booked for a long-term period by a highly prestigious client in South East Asia, where it will essentially be used for live recording of concerts.

### Phase Two Upgrade

Phase Two Recording Studios in Barnes, South West London, has upgraded Studio 3 with the installation of a SADIE digital audio disk editing system, together with new Genelec 1030A speakers.

### **CIBSE Seminar**

Part L of the Building Regulations will place restrictions on the use of artificial lighting for buildings occupying more than 100m in floor area. These regulations will apply to new buildings and to buildings where there has been a material change of use.

The Chartered Institute of Building Services Engineers (CIBSE) are holding two half-day seminars to explain the implications of Part L of the Regulations, their content, the methods of calculation and compliance, together with a



review of those areas specially excluded from the provision. The seminar is aimed at all those involved with the design process, as well as Building Control Officers who have responsibility for policing the Regulations, and who may lack lighting experience.

The seminar will be held on 24 October 1995 at the Building

Services Engineering Centre, London SW12 and will be repeated on 30 October 1995 at UMIST, Sackville Street, Manchester. For further details contact CIBSE in London, telephone 0181-675 5211.

### Cable Theft

During the early morning of 1st September a theft of cables took place from the outside-broadcast compound at Wembley Stadium. The equipment stolen was as follows: 3x100m of 125amp mains cable, 4x100m and 3x150m of camera triax and 3x100m, 4x50m and 4x25m of audio multicore. The blue audio multicore is clearly marked 'Sound Moves'. Anyone who has been approached and offered any of this equipment is asked to contact Sunset + Vine Mobiles Ltd on 0181-569 8800 or Sound Moves on 0181-471 4936. Any information will be treated in the strictest confidence.

### Follow Me follow-up

The 'Follow Me' auto-followspot system, manufactured by SLS Hellas Ltd, and launched at Rimini in March (see L+SI, April '95), will be in full production this autumn, say the company. The reason for the delay, and for the system's absence from this year's PLASA show, has been due to an extensive re-programming period to allow automatic set-up, and increase the number of lights the system can control. These changes were carried out following consultations with customers, and has resulted in a possible 24 intelligent lights being controlled via DMX, with the option of dividing the units to follow four separate transponders.

SLS now claim that the system can be set up to control 24 lights in just 20 minutes, making the system an attractive option for touring use.

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### Sweden's Hushed Ice

Swedish ice hockey league champions, Team HV-71, have installed a Mynah Hush mixer at their stadium, the Rosenlundshall. This features the innovative Hush single-ended noise reduction circuits in order to clean up noisy inputs. The Mynah mixer won over the competition solely because of this facility. The stadium has a very high powered PA system and the contractors needed to have complete silence from the system between announcements and bursts of music when the home team score.

Following this installation, another leading ice hockey team in Sweden, Lulea Hockey, also installed a Hush mixer at their arena, while in Russia, a 16-channel Mynah mixer has been installed for the Arhangelsk Russian Hockey World championship.

### Feile Marathon

Walker Audio has just completed the largest independent outside broadcast ever seen in Ireland, with its extensive transmissions from the Feile in Cork, scene of Ireland's largest music festival.

The three day event, which featured an eclectic mix of artistes, ranging from the Stone Roses and Blur to Kylie Minogue, was broadcast on several media channels, including RTE and MTV. Walker Audio installed a new Soundcraft Vienna console in one of their mobiles specially for the Feile fest, and this was used as the master soundtrack providing 15 hours of live music.

The 40-channel Soundcraft, complete with VCAs and a Walker Audio mod to the loudspeaker prefade system, was installed just weeks before the marathon OB.

### **MK Theatre Modelled**



The photograph above shows the acoustic scale model which Arup Acoustics have been using to optimise the acoustics within the Milton Keynes Theatre. A feature of the design, which has been tested in the 1:50 scale model, is a movable ceiling (similar in concept to that in the Theatre Royal, Plymouth). This moves up and down at the touch of a button, to change audience capacity, overall appearance and acoustics according to the performance. Other variable acoustic elements will complement the effect of the ceiling. Originally intended to be part of a commercial development, alternative funding for the theatre is being progressed.

### Flash Flood

Last month we featured a new installation by Leisure Resources International at Harper's Nightclub in Guildford. In the piece we mentioned that the installation featured a Turbosound Flashlight rig, when it should have read a Turbosound Floodlight system.

### **Direct for Klark Teknik**

In keeping with Mark IV Audio and PAG worldwide strategy, Shuttlesound have formed an independent company called PAG Direct. This wholly-owned subsidiary of Shuttlesound has been established in order to take sole responsibility for sales of the Klark Teknik product range in the UK and Southern Ireland.

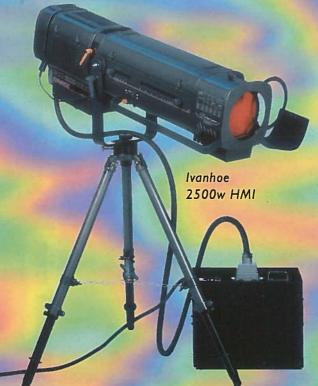
In a deal which was finalised at PLASA 95, Graham Allen, formerly of Behringer, has been appointed as managing director of the new company.

### **Party Night**

Over recent months, Meteorlites has been involved in a number of special events and tours, having provided the lighting and production co-ordination for the recent Gianni Versace/Elton John Aids Benefit Party, held at the Versace Salon in Old Bond Street. The staging was supplied by Edwin Shirley, with audio supplied by Concert Sound. When it was decided at the eleventh hour that the event would benefit from a discotheque, it was down to Spot Co to pull out all the stops to provide the equipment - literally just a few hours before the event began.

Recent tours for Meteorlites include: Laurie Anderson, Jimmy Nail, Mike and the Mechanics, REM, Faith No More and one-offs for both Sting and Rod Stewart in Brunei. Special events include the Clothes Show at the SECC, Glasgow, The National Eisteddfod of Wales, The Proms, The Greenbelt Festival and Metallica at Donnington.

### Followspots



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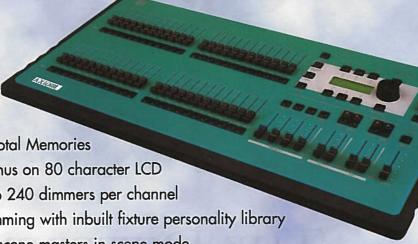
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#### **NEWS IN LIGHTING+SOUND INTERNATIONAL**

### Spirit on 'The Box'

Spirit is sponsoring cable television's interactive music channel, The Box. Its format allows individuals to choose from a menu of music videos and short programmes, make a selection with a quick phone call, then sit back and enjoy the programme. The Box reaches 800,000 homes in the UK, has over 2.5 million viewers and receives over



200,000 interactive calls every month.

Spirit is sponsoring 'Box Talk', a unique interview programme that allows artistes (recent participants include Soul II Soul, China Black, Moby and Madonna) to talk candidly and uninterrupted about music and more. A Spirit 'trailer' will introduce every programme and a series of monthly competitions will put Spirit consoles, microphones and Absolute 2 speakers up for grabs.

### Stage Tour

Star Hire's Mark2 StarStage is returning to Argentina for its second season. It left Tilbury in late September, for its first outing on a 12-day concert in the centre of Buenos Aires in October. The StarStage is operated in South America by Star Hire Argentina srl, and is available in any country which can be reached by road from Argentina. The hard-working StarStage is already heavily booked in the UK for summer '96, and is scheduled for a tour of Poland in July.

Star Hire Argentina are members of the El Techo production consortium, which has just been awarded a major contract to build 40m wide stages for Walt Disney World Co in Sao Paulo and Rio de Janeiro in Brazil. Both venues will stage a major Disney animation festival from October to December. Star Hire UK are supplying over 40 tonnes of English SGB scaffolding to the project, along with design engineering services.

In the UK, a busy autumn follows the intense summer period for Star Hire. The annual Alton Towers Fireworks Season will use Star Hire for the extensive 50kW sound system as well as to build 16 stages and other structures. Elkie Brooks embarks on another punishing touring schedule, which began rehearsals in early September and finishes just before Christmas. Star Hire will again supply sound and trucking.

### Young Vic's K3

Soundcraft has delivered the first K3 Theatre console to The Young Vic Theatre. Purchased through Marquee Audio, the 24 channel desk will provide sound reinforcement for a variety of performances.

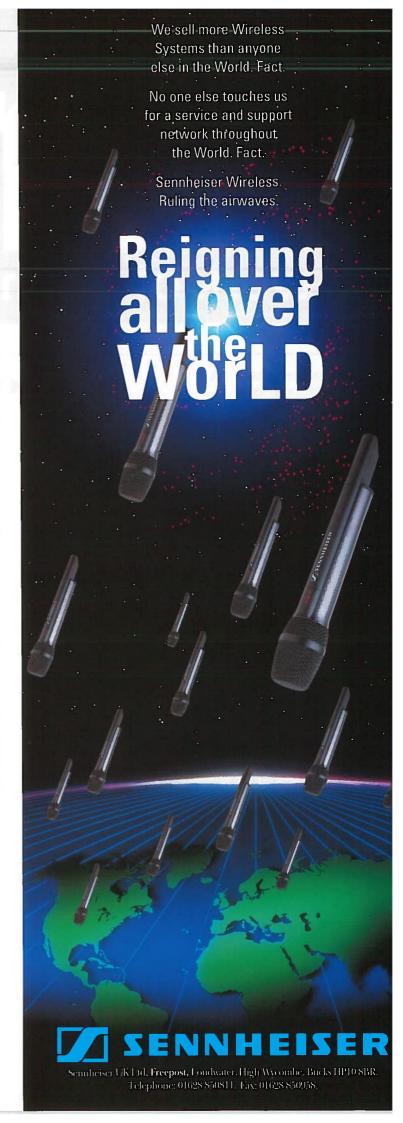
The Young Vic, which celebrated its 25th anniversary in early September, is a 500-seat theatre which is well suited to performing in-the-round or on a thrust stage. The Young Vic Theatre Company, although primarily a producing house, is currently co-producing Zenobia with the Royal Shakespeare Company.

### Phantom's HELL

Howard Eaton Lighting Ltd (HELL) has just taken its 15th consecutive Phantom production in to the brand new Musical Theatre in Basle.

Howard Eaton acted as a consultant on the design and build of the new theatre, which will officially open its doors for the first time on October 12th. The theatre was built specially for Phantom of the Opera, the musical produced by The Really Useful Group. The production has presented some interesting and unusual challenges, including the emergence of 150 of HELL's own flicker candles up to one metre high from a 150mm floor. To achieve this effect, the Howard Eaton team worked with Delstar, who handled all the engineering for the show, to produce a unit which bends around the corner as it emerges through the floor.

The company also supplied and installed a 12 channel radio system to control a wide variety of props including the chandeliers, organ candles, lanterns and candelabra. In conjunction with Stephen Pile Workshop and Terry Murphy Scenery, the company also constructed and supplied all the lighting effects built into the scenic elements. Other equipment provided includes a stage manager's desk, complete with 24-way SoftCue cue light system.





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### **Busy Time for CTS**

The summer months have been a busy time for Birmingham-based Central Theatre Supplies. Whilst the management team were formalising the new joint venture with Cerebrum Lighting, the installation team were involved with a number of large contracts including an installation at Solihull Arts Complex.

The theatre required a new stage manager's desk to house show relay, paging to dressing rooms, technical and FOH. However, the physical constraints of available space and the close proximity of the safety curtain controls, meant that a custom-designed unit would have to be built. The job was scheduled for the same time as the installation of new stage boxes, sound multicores and speaker runs. Despite the large amount of work to be undertaken in a very short time-span, CTS completed the job ahead of schedule.

### **Pure Promotion**

Pure Productions, having successfully established their own Nightclub at The Old Barn, Hildenborough, Kent in a group of 17th century listed buildings, are now committing themselves to the hire and production market once again.

As well as being established suppliers of High End Systems equipment, Pure now also offer a range of Martin Professional products, including the Roboscan 1220XR. The sound department has been expanded to include the Bose Panaray systems, ideal for conferences and exhibitions. Clients this year include Vauxhall, Avon Cosmetics and numerous Universities.

### Pilot on the Pops



Wybron's Daryl Vaughan (centre) with moving light operator Andy Dobbs and lighting director Will Charles on the set of Top of the Pops.

Wybron's Autopilot had its first television appearance recently on none other than the BBC's 'Top of the Pops' where the system was used to great effect with chart acts such as The Wild Hearts, Bjork, Montell Jorden and Livin' Joy.

LD Will Charles told L+SI: "I had first seen the Autopilot at last year's PLASA show where, of course, it won the 'Product of the Year Award'. I was delighted when Wybron offered me the chance to use the system. As far as I'm concerned it was a great success. I'm sure it won't be the last time that we see Autopilot on 'Top of the Pops'."

### Force at Rock Cafe

Wharfedale's Force range of loudspeakers have been installed by Pegasus Sound and Light at the newly-built Rock Cafe in Edinburgh's Princes Street. The venue is the first in a chain of Rock Cafes opening throughout Scotland. It is also one of the only restaurants in Europe to include a fully-equipped broadcast studio, complete with ISDN lines, for instant access to local radio.

### Millennium in Drama

Millennium Studios' specialist Lighting Unit, Elstree Light and Power, has secured a major contract on location work for flagship BBC drama 'Silent Witness'.

Due for broadcast in Spring 1996 'Silent Witness' is the story of a policy pathologist on the trail of a murder in Cambridge. It stars Amanda Burton of Peak Practice fame. Working alongside director of photography, Brian Tufano BSC and gaffer Paul Burns, this marks the continuing growth of Millennium Studios' involvement with TV drama production. Recently, Millennium played host to Tetra Films for a Channel 4 production of 'The Merchant of Venice'.

Currently in production on Millennium's 'X' stage, rock group Iron Maiden are shooting their latest video. With creative talent and technical support on site, Millennium now prospers as both a production village and shooting stage.

### Millbank Gunners

Millbank Electronics had the perfect way to say thanks to their local football club Uckfield Town, for a record-breaking season - they took them to Arsenal! Since they recently installed a state-of-the-art sound system at Highbury Stadium, Arsenal was the obvious choice and the Premiership giants were only too pleased to oblige.

The players enjoyed a tour of the ground and a chance to see how the other half lives in the heady world of professional football. Uckfield manager David Miller told L+SI: "It was a million miles from the Mid Sussex League but a great day to remember."



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#### **Denon Increase Service Support**

Denon's Pro CD players have outsold all others in the club, DJ fitness and installation markets, the company claim. To provide support for the rapidly growing number of end-users and dealers, Denon's Pro Audio Leisure Division have announced the appointment of six specialist service centres across the country.

Engineers at each centre are fully trained and experienced in the servicing of CD players, and have recently completed the Denon Pro Service Course on the DN-2000 MKI and MKII Club CD players. Each centre will handle consumer service for Denon CD and cassette products sold into the leisure markets, typically for discotheque, installation, fitness, BGM and live sound.

The centres will be located in: Belfast, Northern Ireland, telephone (01232) 452100; Horley, Surrey, telephone (01293) 786459; Leicester, telephone 0116-270 6330; Central London, telephone 0171-278 8890; Taunton, Somerset, telephone (01823) 279401; and Oldham, Lancashire, telephone 0161-678 8388.

#### **Wet Hands**

Specialist radio-microphone hire company Handheld Audio has supplied six channels of AKG WMS 900 UHF radio-microphone systems for the current Wet Wet world tour; two channels are for lead singer Marti Pellow's vocals using AKG's Tri-Power C5900 head, while the other four cover brass instruments and drummer's headset mic.

While the multi-channel system continues to tour the globe with Wet Wet - and indeed Rod Stewart - AKG has announced the availability of SR800, a single channel rack-mountable unit able to interface with all WMS 900 bodypack and handheld transmitters.

### **Cyber Cool**

High End Systems provided 38 Cyberlights for the recent CBS TV special 'Too Hot to Skate' featuring ice stars Oksana Baiul, Nancy Kerrigan, Elvis Stoyjko and Victor Petrenko.

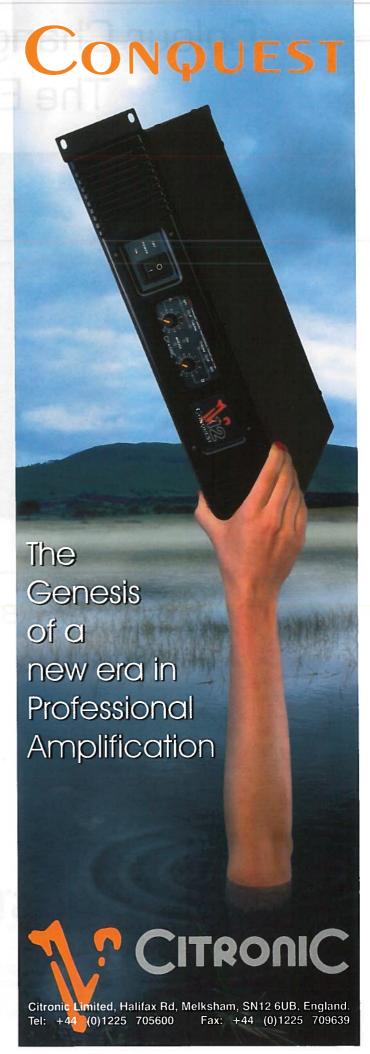
Lighting designer John Broderick, working with Tennessee-based Bandit Lites, admitted that the concept of an ice rink on the beach in July sounded crazy at first. Yet it worked beautifully. The ice rink and bleachers for 3,000 spectators were built over a car park behind the Boardwalk in Santa Cruz, California. Broderick chose the Cyberlights to follow the skaters in bright light. Special custom-designed gobo patterns were also specified to paint the rink with dramatic, swirling shapes and colors, captured on camera at ground level and above via helicopter. A white cloth tent covered the refrigerated ice rink during the day to shield it from temperatures of 80 degrees and the hot summer sun.

#### **Studio Season**



A Soundtracs Solitaire 32VCA console, installed by Larking Audio in the new BH Sound Services Ltd studio, is keeping busy, with more than 20 productions through the studio since its arrival in July. Based in the village of Eye, Peterborough, B&H Sound have recently been involved in recording three location albums, all mixed down on the Solitaire including Scott Storman and 'All Souls Big Band' live at the Barbican, due for CD release towards the end of this year.

The studio was designed by leading acoustic engineer Philip Newell, who incorporated variable acoustic surfaces to accommodate a wide range of speech and music productions.



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## **UK Group to EnTech**

PLASA has signed the papers to form another of its joint ventures with the Department of Trade & Industry and sponsor another group of UK exhibitors, this time to the EnTech show in Australia. EnTech '96 will be held in Sydney from 23-25 April 1996 and Connections magazine, the promoter of the event, has announced that the Show will alternate between Melbourne and Sydney each year. PLASA took a very successful group of six UK exhibitors to the launch of the event last year and UK exhibitors can expect very good grants if they register their interest with the PLASA office.

PLASA and the DTI jointly sponsor three other overseas shows, these being: Pro Audio & Light Asia in Singapore, SIB in Italy and LDI in the USA. Please call the PLASA office on (01323) 410335 if you would like further details and note that non-members are welcome to join these exhibitor groups.

### **Reproduced Sound**

The next Reproduced Sound event will take place at the Hydro Hotel, Windermere, from 16th - 19th November. The popular combination of conference, training course and exhibition covers the whole spectrum of communication acoustics and will feature technical sessions, discussions, training sessions and topical reports and information on state-of-the-art developments in the industry.

For more information contact the Institute of Acoustics, telephone (01727) 848195.

#### Jem Extend Network



JEM have increased their overseas distribution network after signing two new exclusive contracts were signed at this year's PLASA Show.

Laser Theatre Lighting, headed by Lawrence Chan (pictured above left, with Jem's Jon Petts), will be responsible for the distribution of all JEM Smoke Machine products in the Republic of China, Hong Kong and the Philippines. JEM have introduced a special low-priced Fogger especially for this extremely competitive part of the world.

The second part of the exclusive distribution arrangements has been struck with Lightone of Israel. "We have been doing business with Lightone for the past five years and sales have grown dramatically. It was an obvious decision for us to strengthen our commitment and offer them exclusivity," Bob Wells of JEM told L+SI.

## \$100m Renovation For Chicago Opera

Production Arts of New York were involved recently in the integration of a complex lighting system as part of a \$100 million renovation at Chicago's Lyric Opera. With opera seasons continuing on schedule, lighting and other renovation teams had to work within four-month periods in 1994 and 1995.

Along with the obvious first move of replacing all the circuits with permanent, grounded wiring in conduit, the guiding principle for the lighting renovation was ensuring that the system was functional. An early step was the installation of circuits in many new locations - on the orchestra pit and balcony rails - and adding more to existing locations. Resident lighting designer Duane Schuler and project manager John Sofranko also replaced the control console with the ETC Obsession 3000. For the 1,500 new dimmers installed, they opted for 17 ETC Sensor 'Advanced Features' racks that will automatically tell a technician if a dimmer is having trouble, where it is located and what the problem is.

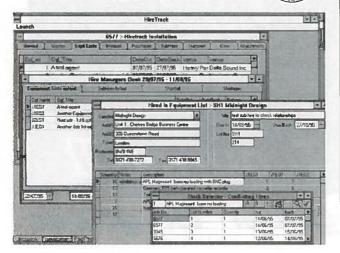
The renovation also included a permanent Vari\*Lite automated lighting system. Vari-Lite Dallas provided 19 VL5 wash luminaires, 11 VL6 spot luminaires and one mini-Artisan 2 control console to the Opera House. Duane Schuler chose Vari\*Lite because of the reliability of the product - an important feature for an opera. The VL system has now been in place for three months and is currently lighting up to four different repertoires per day.

The Lyric Opera's decision to use Vari\*Lite follows a similar move by The San Francisco Opera, who installed 26 VL5s, nine VL6s and a mini-Artisan console last year.

# Hire Track

Hire Software





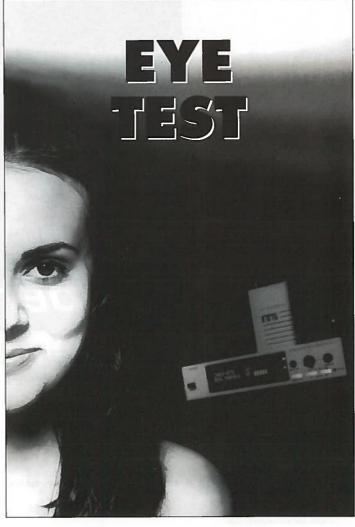
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#### New PLASA Scheme | A World Premiere



A new industry insurance scheme was launched at the PLASA Show. The Association's Anna Pillow (left) is pictured above with Martin Tinsley of brokers Allan Chapman and James, and Terry Douris of Stage Two.

#### Castles in Spain

When I wrote my article about the Port Aventura theme park near Barcelona in Spain (Sept 95, L+SI), I was blissfully unaware that Spanish company Stonex SA were responsible for the supply and installation of lighting and stage machinery for the park. I am very grateful to Senor Domingo Latorre for correcting me on this issue and am delighted to put the record straight.

Stonex carried out the installation of all stage machinery, fire curtains, rigging, hoists, dimmers, control desks and in El Gran Teatro, the major stage in the park to which, unfortunately, I was denied access, and the lighting equipment in the Mexican Cantina. Stonex also supplied the largest lighting control desk sold in Europe, the VLC manuafctured by AVAB for the Teatro Real Opera House in Madrid. The company are distributors for Altman, AVAB, ETC, M&M Lighting and Selecon. **Tony Gottelier** 

Possibly the most unconventional event of the 1995 Proms season was the world premiere of Benedict Mason's Clarinet Concerto, specially commissioned to mark the 100th anniversary of the Proms concerts.

To start with, there was no conductor. The orchestra was not on the stage, but scattered around four levels of the Royal Albert Hall, and the 32 musicians of the London Sinfonietta were joined together by a radio link. Making it all possible was the in-ear monitoring technique originally developed by the London-based electronics company Garwood for the stadium stars of rock 'n' roll such as U2, Rod Stewart, Phil Collins and Peter Gabriel. Comprising a transmitter and small belt-pack receiver, each system delivers a precise stereo signal directly to the user's earpieces via UHF radio transmission.

The device chosen by Benedict Mason for his performance, the Garwood PRSII in-ear monitoring system, is most often used in a transmitter/receiver per musician configuration. Mason, however, wanted one transmitter and 32 receivers! On the night, each member of the London Sinfonietta, fitted with belt-pack receivers and ear-pieces, received a click-track sent from



Outside the Royal Albert Hall, but still in concert, with Garwood in-ear monitoring system

that single transmitter, enabling them to play in concert without a conductor, and to synchronise their performances with that of the solo clarinettist. The soloist, Kari Kriikku of Finland, remained on stage, receiving his own click-track signal, while members of the orchestra played their parts as they walked around the corridors of the Hall, around the fourth floor gallery, in the backstage hospitality rooms and under the stage!

This is the first time in-ear monitoring has crossed over into a classical music application, although you can see Garwood systems in use on the current shows of REM, Take That and Wet Wet Wet.

### Signal Processing on Disk

BSS Audio has just launched its new multimedia interactive product catalogue. Available in both PC Windows and MAC formats, this single 3.5" floppy disk holds photographs, descriptions and technical specifications of all the audio signal processing products in BSS's range. A single keypress allows a print-out of any model's data and photograph, which may then be faxed to clients if

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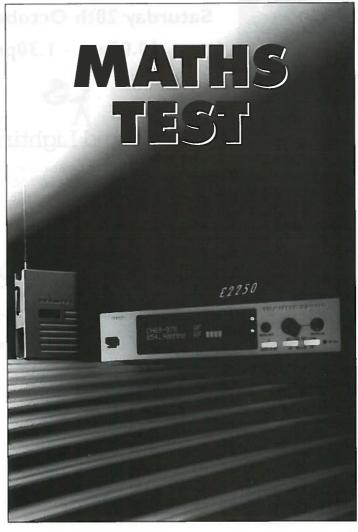


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### **PLASA Distinguished Service Awards**



Tony Akers (right) receives his award from PLASA treasurer Matthew Griffiths.

Two special awards for Distinguished Service to PLASA and the industry as a whole, were presented to standards officer George Thompson and committee member Tony Akers during the recent PLASA Light & Sound Show at Earls Court in London. The Awards formed part of the main product and stands award ceremony hosted during the exhibitor reception on the first night of the Show. Until his recent retirement, Tony Akers,



George Thompson (centre) with Matthew Griffiths and PLASA vice-chairman Paul Adams.

former managing director of Citronic, was the longest-serving member of the PLASA executive committee. For George Thompson, this was a second attempt at retirement, and to mark the occasion, PLASA presented him with a silver tea service. He makes way for PLASA's new standards officer, Tony Douglas-Beveridge, who is based at the Eastbourne office. The awards were presented by PLASA Treasurer Matthew Griffiths.

#### **Martin Motoring**

Martin Professional had a field day at the Frankfurt Motor Show where their robotic projectors were used on the stands of several major car manufacturers. In particular, Opel's stand (pictured below) included a 20 minute mechanical ballet of moving machinery, cars and engines, with colour added by 12 Roboscan CMYRs and 50 Roboscan Pro 400s which were used for back, side and up-lighting. Control came from a Martin 3032 controller and the equipment was provided by German distributor Zitrone.



Elsewhere, BMW entertained their guests and dealers to a sit-down dinner and live show also featuring 12 Roboscan Pro 1220 CMYRs, supplied by Dutch rental house Alpha Lighting. Again, a Martin 3032 provided the control.

## **Power Light in Basel**

Power Light Productions Ltd was contracted by the Basel International Exhibition and Fair Centre to renew the lighting installation in two venues this summer.

The £150,000 contract included a pair of Jands Event Plus 120 channel desks, three Jands 60 channel DMX decoders, 72 Thomas Par cans, 12 Vision 1200W PC spots, six Vision 1200W Profile spots, nine Vision 2500W Profile spots, six DeSisti 5000W Fresnel lanterns, 30 Rainbow Two-16 Scrollers and six Rainbow 15" Scrollers.



Power Light's Nicolas De Courten, project manager for the installation, with the Jands Event.

Power Light also supplied nearly 100 Thomas black Par cans to *Phantom Of The Opera*, which opens in Basel this month.

#### L+SI T-Shirt Offer

If you're a follower of fashion then you won't want to miss out on L+SI's Special Edition Tenth Anniversary T-Shirts.

To celebrate our ten years at the top we are giving away these T-shirts for just £3.00 (inc post & packaging) to the first 100 people to apply in writing, enclosing a cheque or postal order (made payable to PLASA Ltd) for the above amount.

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#### NEWS IN LIGHTING+SOUND INTERNATIONAL

### College Seeks Help from Industry

The City of Westminster College is running a new BTEC Higher National Certificate in Audio Engineering and Performance Lighting Technology.

The College is appealing for assistance from companies who may be able to offer either a work experience placement for one day per week for students taking the course, or donate any equipment that is



no longer needed. If you can help, please ring John Mizzi on 0171-258 2782.

#### Universal Studios choose Garwood

Universal Studios in Orlando, Florida, have commissioned six Garwood PRSII in-ear monitoring systems at the heart of a new sound system specially designed for the 'Beetlejuice Rock 'N' Roll Review', a 12-times daily show, staged in a dedicated theatre in the Universal theme park.

The new house and monitor systems for the production were designed by Tom Martin of Real-Time Audio, Orlando. Martin explained that the Garwood PRSIIs provided a number of benefits, resulting in a dramatically improved system both sonically and operationally. Monitor levels from the main stage, initially supplied by traditional monitor wedges, were much too high and thus were ruining the house sound mix. In addition, a revamp of the production called for cast members to move about the entire building, making remote monitoring difficult.

Six cast members for each session of the 20-minute show are outfitted with Garwood systems comprising IEMII moulded earpieces linked to compact beltpack UHF receivers that provide highly sensitive, stable reception. The receivers include individual volume control, as well as a soft muting system that eliminates clicks or pops.

#### **Total Quality Extend**

Total Quality Lighting Ltd of Glasgow, acquired the rental stock of the former Front line Production Services of Falkirk in July. For the past two months they have been overhauling the equipment, preparing it for rental. They now claim to have the most extensive lighting and rigging rental stock in Scotland, including Slick and Thomas trussing, Verlinde and Lodestar hoists, Avolites and Celco control desks, and Thomas Pars, CCT, ADB and Arri lights available for hire.

#### Cadac in Vienna

Cadac consoles are enjoying a high profile in Vienna. Clive Green & Co recently sold a Cadac J-Type console to the Vienna Festival (Wiener Festwochen) organisation, and the Raimund Theatre's resident E-Type has just been commissioned on the new production of Beauty and the Beast.

The Vienna Festival console was supplied via local distributor, ATEC, with the 40-input desk selected principally for its sophisticated routing facilities. The desk was installed during the summer, when it was commissioned immediately on the summer festival activity. In between their main events, the organisation plans to hire the console out for other performances in Austria. To date, activity for the J-Type has included a classic music festival, a film festival with live performance and a six-week dance festival.

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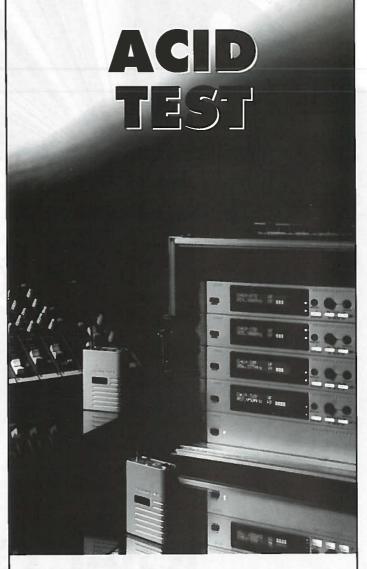
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The S5000 has also made a name for itself with a number of broadcast and professional theatre companies and has even made its West



If tests are anything to go by, the S5000 is right up there with the best (and in some cases quite a bit better)

In fact, it's so good that two of the UK's leading AV/Conference rental companies recently switched End début in the Fats Waller musical *Ain't Misbehavin'*. (A big thanks to Orbital)

In short, the S5000 out-looks, out-prices and most importantly, out-performs almost every UHF receiver around - and there are tests to prove it.

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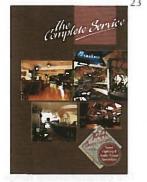
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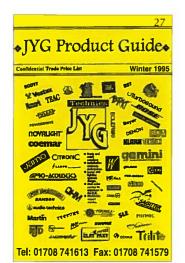


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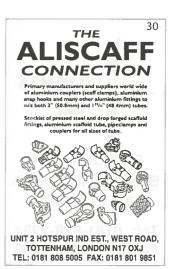


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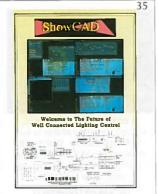
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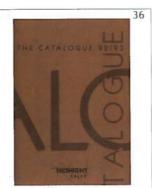


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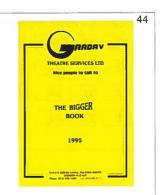
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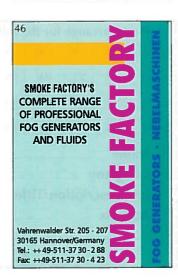


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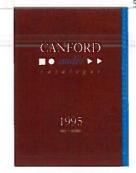
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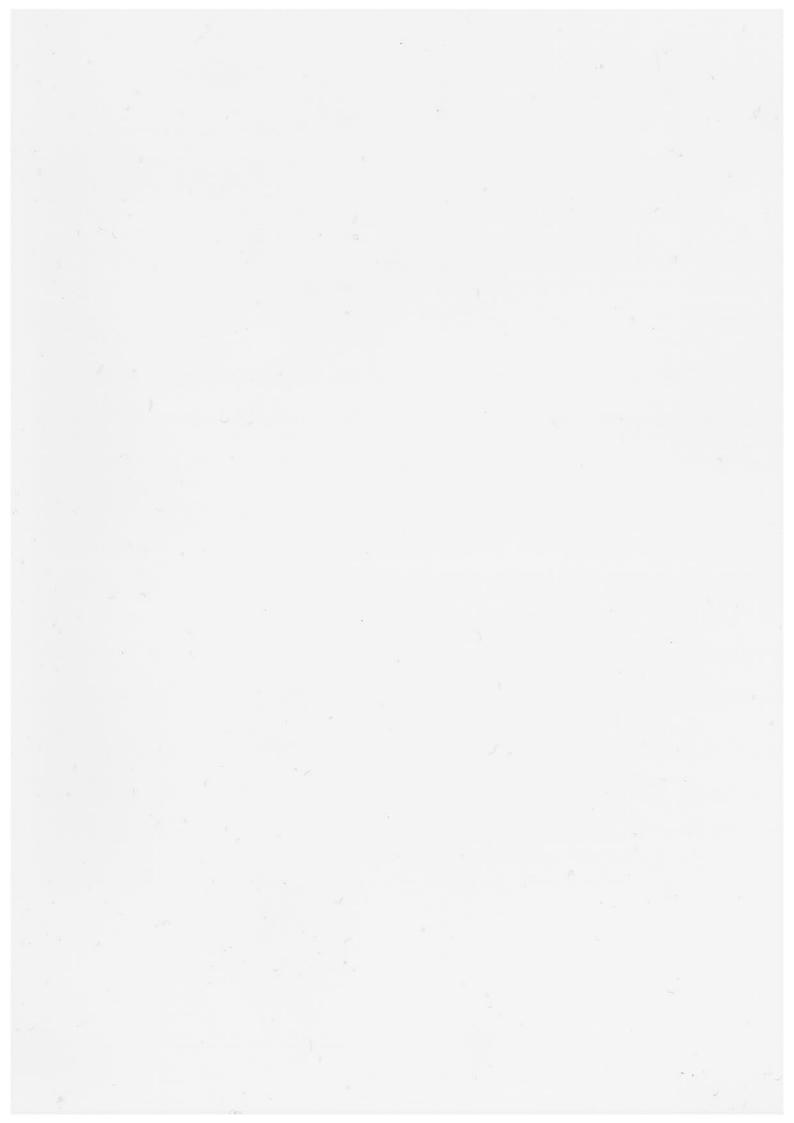


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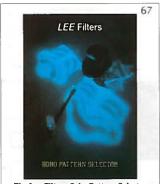
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## **OPERATION PLASA**

On the scale of a military operation, L+SI dispatched its troops across Earls Court 2 to bring you the most comprehensive coverage of the PLASA Light & Sound Show 95

As was expected PLASA 95 shattered all records: anyone who made the trip to Earls Court 2 in September didn't need the official facts and figures to confirm what their eyes and ears told them - this was the big one - and would go down as an important milestone in the history of the show itself, the PLASA Association and the industry as a whole. The positive feedback was instant: the level of business reported and quality of visitors attending exceeded all previous shows.

The visitor count increased to 11,660, a 17% increase on the '94 Show, and combined with exhibitor and other registrations, it pushed the total figure up to 14,629. Those making the annual pilgrimage to Earls Court came from all over the world, from as far away as Australia and Japan and from as near as Ireland, to swell the overseas visitor totals to 3,157. What lay in store once through the doors were 264 exhibition stands, with 58 companies participating for the first time.

Not surprisingly, the exhibitors were overwhelmed by the number of visitors coursing down the aisles. The growth of the show has demonstrated that now, more than ever, PLASA is the key international launch exhibition for the lighting and sound industry. And the launches came thick and fast as the following reports testify.



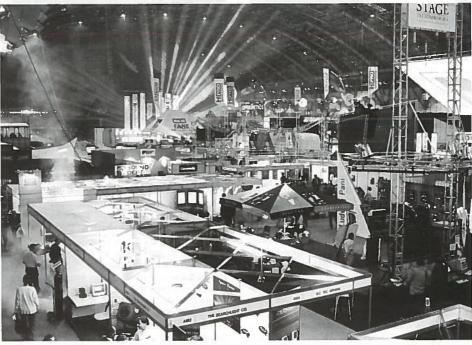
As a result of recent product diversification and the entry into new markets, many audio companies, particularly those in the broadcast and MI sectors, were exhibiting at PLASA for the first time and found the show to be of major importance.

Despite the ambient volley of techno dance music that one comes to expect at such affairs, it rather puzzled me why, in the mid-nineties, some PA companies (who shall remain nameless) continue to demonstrate the efficacy of their wares by playing Pink Floyd's 'Money' and 'The Eve Of The War' from Jeff Wayne's War Of The Worlds. Is this a statement of the progress of record production? Or are the exhibitors in question just a bunch of old hippies? Either way, this didn't detract from the quality of some of the excellent, and occasionally ground-breaking, new audio products on display.

Celestion's latest products included their CX Series cabinets which incorporate the company's new drivers. Designed for the club market, there are four models: the CX 1220, a 250W two-way 12" passive system; CX 1520, 300W two-way 15" passive; CX 1522, 500W dual 15" two-way system, bi-amp switchable; and CX 1542, 500W double 15" bass enclosure. Associate marketing director, Richard Wear commented: "All the cabinets are made from birch-ply and the systems include protection circuitry to prevent accidental damage to the high frequency components. They



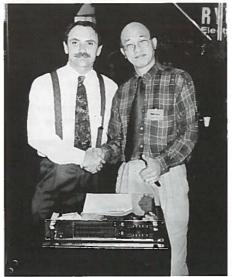
Martin Reid of Turbosound with the New Impact loudspeaker system.



The busy hall of Earls Court 2 - witness to the most important show of the decade.

have been designed with value for money in mind, without compromising on the audio quality." The company also announced two new ranges of products at the end of 1995 for the installation sector.

Both extremes of the Turbosound product range were in evidence. On the high-end side, the company's mainstream products such as Floodlight demonstrated its commitment to the rock 'n' roll market with a high pack - a 2 x 18" and a 1 x 24" as the system on display. But an equal dedication to the lower ends of the market was shown with the launch of a new range of plastic cabinets called Impact intended for general installation use. There are three versions of the Impact product: the 180 is a single 18" sub cabinet, the 120 is a two-way 12" cabinet incorporating a 5" high frequency cone, giving tight dispersion at mid to high frequencies, and the two-way 80 cabinet features a single 8" driver



Roger Skuse of PSL (left) presents the first of their new chrome-plated amplifiers to Philip Wong of

and a tweeter. David Bruml explained: "All are fully passive and priced within the budgets of most small clubs and music retail outlets." A range of flying and mounting hardware is optionally available to implement safe and effective installations in a variety of areas.

Acoustic Sound Systems displayed its new 2 x 18" bass cabinets along with the DX1 two-way full range cabinet which was recently installed at Stringfellows, while the DX2 has been installed in the Cross Bar, Kings Cross and various other locations in London. Sharing the ASS stand was PSL Power Amplification who displayed its new EF range of amplifiers, alongside its VP Series which features the revolutionary Airflow Management System. Kelley Rossell of ASS commented: "We are currently in partnership with PSL on a number of installation projects, including London's Hard Rock Cafe and Bill Wyman's Sticky Fingers restaurant."

RCF MD Phil Price told me: "This is the best PLASA ever and the quality of visitors, even on the Sunday, has been excellent. Apart from seeing all our regular customers, the amount of overseas people with whom our export staff have had contact has been unprecedented. Next year, we will be expanding our stand in a major way."

Visitors saw the worldwide launch of the RCF Event 6000 Series three-way speaker system which Phil Price claimed is being targeted at the touring and high-end market as the top of its range.



Glyn Baxter of Chevin Research with Phil Pell of Celestion.



Phil Price of RCF Electronics with contractor Keith Monks of Sound Systems.

The system, which is supplemented by a 15" sub-bass unit, incorporates a 2 x 15" chassis, a single horn-loaded 8" mid range and 1" compression driver on a 90 x 75 flare, using a passive crossover. Also shown were the Series 2000 PA amps which are programmable and comply with European EMC and CE regulations.

Something visitors could not fail to notice was the monstrous Community Leviathan II loudspeaker on the **Sound Department** stand. Steve Smith commented: "A lot of visitors assume it is a dummy, when, in fact, it is the largest working speaker in the world, and is full range, from about 40Hz to 12kHz. People are now rediscovering Carver amps which disappeared in the UK for a while and we took them on about 18 months ago when they began to launch the new range of products."

Other surprising products included the SA2 in-wall speaker from Sound Advance - a system which can be totally disguised by filling the edges and covering it thinly with plaster and wallpaper. Also featured by the Sound Dept were Biamp's sound contractor products, such as the SPM 522D programmable stereo pre-amp/mixer, and Ashly signal processors, including the PQX 571 and 572 one and two channel parametric eqs, while the Astatic mic range included the Contractor series miniature gooseneck and boundary mics.

**Lighting Technology Projects** were host to **EAW** whose KF300i cabinets are on their way to the BBC, via JHE Audio. Such has been the BBC's acceptance of the EAW KF300i that their technical workshop and JHE have developed a special flying frame for the units, with additional help from Peter Kenny at LTP.

Tannoy raised the roof with its new ceiling speakers - the CMS 6.5 ICT and CMS 6 TDC - designed predominantly as installation PA systems in airports, shopping centres, hotels, conference suites. The successful CPA Contractor range of speakers has previously been used in many major UK airports and Virgin Megastores, and the latest in the series - the CPA6 - was premiered at PLASA. But, as John Fraser pointed out, the major launch was the SuperDual range of high performance 10". 12", 2 x 18" sub-woofer and 15" bass loudspeaker units, as well as the addition of stage monitors which include a 12" Super Dual driver.

The new R3823 15" sub bass unit from **Volt Loudspeakers** received its first showing along with new 12" units on cost-effective, pressed steel chassis.

Paul MacCallum, whose birthday party was one of many extra-curricular highlights, demonstrated



Sound Officers Steve Drewrey and John Revington measure up Wembley's Paul and Bonnie MacCallum.



Dave Budge (left) and Paul Ward (right) of Canon Audio with David Hunt of Direct Communications.

the Wembley Loudspeakers compact Tourtech TFR full range speaker cabinet. It includes the company's own B/Line 18" drivers with mid-highs handled by 2" Vitavox S6 horn drivers, coupled to a proprietary horn flare, and frequencies above 7kHz delivered by a Beyma tweeter.

Among the many product ranges on the Adam Hall stand were loudspeaker systems from Wharfedale and Fane, as Pete Maddison explained: "Wharfedale provides a wide range of loudspeaker solutions from a small cafe-bar system (Force 1) up to small nightclub or music venue systems. We now also have the Force 1 with a 100v line which is new for the show, along with the Force 2, both ideal for background music. Wine bars which require background music during the week but want to turn it up at weekends will benefit from the 100W Force 2180, and the larger 175W Force 3180 delivers a punchy, heavyweight sound for large pubs and small clubs. Force 9s are available in either MDF or plastic, the latter weighing only 11kg. They can be used either as a full-range unit or with a bass unit on a two-way crossover." Fane's new products include 10", 12" and 15" coaxial modules with various power handlings up to 300W which will become available before the end of 1995. Maddison added: "We now have a leasing service available, so we can provide a complete sound and lighting system to a club, using local installation crews."

Avitec were demonstrating the Spanish DAT (Dynamic Audio Technology) loudspeaker cabinets which are new to the UK. The three-way SR325 mid/high all horn-loaded cabinets were coupled with the SR Max-18 2x18" horn-loaded bass cabinets in a tri-amped system utilising DAT's own DSC-1 dynamic crossovers which include a two-stage active feedback speaker protection. The SR-325s are long-throw with a maximum peak output of 138dB at 1m, whilst the SR Max-18s achieve 137dB at 1m - a loud system indeed!

Paul Sayer of **Beyma UK** had the company's new 2" compression driver which delivers high acoustic power output over an extremely wide frequency range. It features a compact neodymium rare earth magnet system, a titanium diaphragm and aluminium voice coil which contributes to a weight reduction of around 50%.

Dave Budge, meanwhile, demonstrated Canon Audio's V100EX wide dispersion speaker, the external version of the V100 launched three years ago. General response has been very good, especially on the international side.

The new range of LX Club and Contractor Series cabinets from **Court Acoustic Systems** can be



Peter Maddison of Adam Hall, who promoted the Wharfedale range, with Mike Tolley of TR Music.



David Lyth of Volt Loudspeakers gets down to details on the company's radial chassis range.

configured as a full range and compact 1kW array for disco or live sound applications, while a range of RCF and Celestion-loaded budget, mid-range and professional PA cabinets from **Loud Audio** will suit installation and mobile disco applications. Loud's Edward Rooney also showed the new Elite Series background music speakers and monitors, ranging from 60W to 100W.

An extremely animated Bill Andersen of California's legendary Cerwin Vega (to be seen on the Lamba stand) earned the unofficial accolade of 'Most Bizarre Press Launch' for his zany account of the company's history and introduction of two new products in the Intense! series of loudspeaker cabinets. The T-250 mid/high horn-loaded system is divided into two sections which can be operated in biamp or passive full range mode. Meanwhile, the T-36 18" horn-loaded subwoofer builds on the company's successful L36 'Portable Earthquake', but boasts a further 4dB sensitivity gain and twice the power handling. But what everybody really wanted to know was the significance of the omnipresent exclamation mark!

As well as showing its wide range of UK-manufactured PA cabling, Adastra's new Vocal, Entertainer and Stage uni-directional cardioid microphones received their launch, while the upgraded M49 paging microphone with additional switching functions was another source of interest. "We have also introduced 20W and 40W outdoor-style column loudspeakers finished in heavy duty aluminium, and the great thing about them is that both of these have wattage switching on the outside, so that there is no need to keep going inside to balance the system," said MD Michael Leaver.

**DNH Worldwide**'s reputation in the loudspeaker manufacturing business was given a significant boost by its introduction of the M6 speaker for voice evacuation systems.

Also displaying its own PA/voice evacuation system was **Audix**, a company recently involved with the sound installation at Manchester Arena. It has microphone inputs for normal paging microphones which can address all zones and a fireman's microphone giving priority over all other signals in emergency situations. Digital alert messages can be played over the system in either specified zones or throughout the whole building, and there is also a monitor system which allows fault-finding of the installation. Also on show was a range of horns and VLS vertical dispersion column loudspeakers, plus PA equipment including the new Audix Compact PA system



Bill Anderson (left) and Mike Cerruto of Cerwin-Vega flank Anna Webb of Lamba.



Dave Gosley from Hz International demonstrates the lightweight qualities of the company's SB600 passive loudspeaker.

which comprises an amplifier, mixer unit and dedicated microphone. Terry Gould said: "The whole system is driven by software with no faders or pots and a security PIN number is required to access control of the system. The reduction of mechanical parts has led to increased reliability."

PLASA saw the launch of the road and touring versions of the Mach speaker system which includes a 21" sub cabinet. The system was later to be heard at the Battle Of The Bands competition final at the Live '95 consumer electronics show.

One of the more eye-catching speaker designs was to be seen on the **Next** Two stand - the Eyeball 4W ceiling-mounted speaker, which swivels on its own axis to direct sound where required and is ideal for installations with 'eyeball' ceiling lights. Next Two products are currently in use on the London Underground and the Channel Tunnel.

Dare Pro Audio's MD Sammy de Havilland explained that after three years of being represented at PLASA, the company had its own dedicated stand for the first time. "Our 300W Micro 10 full range cabinet has been very well received," he explained. "The TX range, which includes the trapezoidal design TX12 12"/2" cabinet and TX15 15"/1" cabinet, fills many applications we were not able to cover before. The Eclipse system is evolutionary as a concept and in general club applications it will consist of a horn-loaded mid-bass cabinet, 14" compression horn driver and a mid-high unit which is a 6.5" driver and 1". Our philosophy is to make speaker cabinets that are well designed and loaded with premium components from Electro-Voice and JBL, yet priced honestly.

Distributed in the UK by Lightfactor, the new ND-8 2" compression driver from **DAS Audio** has



Jack Palacio Jr of DAS (left) and Dick Carrier of Lightfactor toast the success of their partnership.



Janet Dean, Kevin Tester and Barry Breach with one of Next Two's 'explosive proof' horns.

a Neodyne magnetic structure which, according to Jack Palacio Jr, is "not something that every manufacturer has to offer". DAS also announced the completion of its Factor and MI series with polypropylene cabinets. The Factors are available as 5", 8" and 12" in various versions and with transformer line options, while the MIs come in 8" and 12" formats. Palacio added: "We also have four power amps which range from 300W per channel into four ohms up to 1000W, as well as three different signal processing units which were specially designed for our touring range."

Eminence launched both its Pro range of speakers featuring cast aluminium frames and the ME series on pressed steel chassis for OEM manufacturing purposes. Also introduced was a range of hardware including dishes, top hats, handles, clamps, sockets, corners and grilles. "This is aimed at smaller manufacturers to come to us as a single source and buy a full package of products in addition to speakers and crossovers," Neil Barnes commented.

Dave Gosley of Hz International was in buoyant mood discussing a recent commission to install a sound system in the Royal Albert Hall. Hz showed its newly-designed polyethylene cabinets with titanium tweeters - all self-powered with a bi-amp module inside each cab with a system control, sub-bass limiter and contour control. Gosley explained: "Even with these components, the PE300 cab still weighs only 20kg. The 400W PB400 active powered sub-bass system and SB600 passive model weigh only 30kg and 22kg respectively." Also on the stand was the DPX range of Mosfet power amplifiers and a new, six channel stereo 1U mixer.

For **Ohm** it was the first showing in the UK for



Roman Wieckowski of Ohm with the company's new BR215S speakers, which received their UK launch at the Show.

the five new speakers in the BRS series, which range from the 10" speaker, plus 1" compression driver, through to the 2x15" bass unit with 1.5" compression driver. Paul Adamson explained that they had been inundated with enquiries about their new 'S' series, not only from the traditional disco and club markets, but also from the theatre and live areas.

It was a busman's holiday for Martin Potter aboard Jamo's customised double decker as he showed me around the Danish company's exhibits. "The whole objective of us being at PLASA was to reach the pro audio sector because although we have done very well in the commercial field we are not yet established in pro audio, but our five year plan is for Jamo to become one of the top three loudspeaker companies in the world," he explained. The Jamo range included three lightweight cabinets - the PA 5001 full range, 6000 subwoofer and 4008 double horn loaded enclosure - forming either a full frequency or two-way optional system with dedicated EQ.

Three new Martin Audio products were launched: The ICS professional sub-bass cabinet has been designed for use with the ICT 300 full range loudspeaker in demanding situations to extend the system response to below 40Hz. The two new products in the Wavefront series were the W0.5, a miniature, passive two-way system combining an 8" high power bass driver, 1" compression driver and horn, and the W3P passive version of the successful Wavefront 3 which is a compact enclosure giving true three-way, full frequency performance.

New on the **Autograph Sales** stand was the Meyer Sound UPA2, an upgrade of the UPA1 wide dispersion cabinet which enables suspension in



Arthur Barnes of Eminence (left) with sound engineer Paul Brown.



John Freeman, Gordon Fiddy and Floria de Martino of Audix.



One of the award winners in the audio sector was BBM Electronics for the Trantec radio microphone computer control system, seen here with Richard Ganley.



Roy Millington of Cloud Electronics (right) with the CXM and CXF mixers.

tighter arrays where greater infill is required. The MSL4 is a new full range cabinet, working from 60Hz upwards to 20kHz and powered by Meyer's own amplifiers. This is currently out on the road with Cane Green on the Paul Weller tour. Another new cabinet is the MTS 4, a powered full range cabinet with an 18" sub-woofer, 15" bass enclosure, 12" mid enclosure and a 2" high frequency enclosure, designed for convenient, easy rigging. Also new was the Klark Teknik DN6000 real-time spectrum analyser which replaces the popular DN60. A fully-featured DSP unit, Autograph sold the first DN6000 in the UK to Cray Acoustics. Other products on the Autograph stand included the Out Board Electronics Octopus automation system, BSS processors, Clear-Com intercom systems, EMO products, Garwood in-ear monitoring, Milab microphones and Lab Gruppen amplification.

One of Canford Audio's latest products on display was its flexible and lightweight HSJ multicore, available in four, seven, eight, 12, 16, 20 and 24 pair versions, and described by Judy Nicholls as "very sexy" - if one can apply such an adjective to cabling! Canford also displayed its new Tecpro head-worn communication system, shock-absorbing microphone stands and Re'an patch systems.

Not content with being the supplier of Earls Court 2's sequential mains switching system, EMO showed off its new Line Identification Box which uses a combination of line-up tone and spoken word to provide the identification of audio lines.

Dennis Drumm whisked me around the John Hornby Skewes stand where the new Ross MTA 1200 digital power amplifier was being shown for the first time. He told me: "It uses a switching rate of 100K instead of the usual 50-70K, with the result of a much faster bass, sounding less like a digital amp." Also new from Ross was the RCS 2842, a 28-channel desk built into a rugged SKB flight case. It has up to eight aux channels, four bands of EQ, plus other regular features. There was also the flightcased MT 650 and MT 850 which are a six and eight channel integrated powered mixer and amp, both using the new Ross digital power amp technology. Other products on show included Rapco cables and accessories, two new Hughes & Kettner power amps, Target mixing consoles and the new Scanner radio microphone. Available for use on five frequencies, the competitively priced Scanner has a DC powered receiver which, unlike most other radio mics, can take popular batteries such as Duracell. Drumm commented: "We use something called Pilotone which is a high frequency audio tone transmitted with the carrier wave which opens the gate in the squelch circuit and it is virtually impossible to get RF breakthrough."

**Proel International** took the opportunity of its first PLASA appearance to show its new eight core speaker cable with two 4mm cores, two 2.5 and four 1.5 cores all in one cable, along with the range of FBT PA equipment and British-made RSE amplifiers.

Kelsey Acoustics, now a BSS dealer, has published its latest catalogue and its wide range of cables, cables drums, connectors, wall boxes and crossovers was on view. Richard Vickers said of Kelsey's new developments: "Our 'A' gauge patch bays now have proper legend strips which nobody else has, and from this autumn we will stock Neutrik five-pin PCB Chassis XLRs for DMX applications."

AKG introduced a new line of small, discreet microphones aimed specifically at installers working in churches, theatres and conference venues. These include slim gooseneck mics, providing excellent sound quality, as well as mics which will suspend on non-twist cable from roofs to mic choirs and allow access to awkward situations. There are also boundary mics which can be positioned on table tops or floors. Shown for the first time was the SR 800 single channel receiver which works with all the transmitters in the WMS 900 UHF radio microphone range, which is currently in use with the Rod Stewart and Wet Wet Wet tours. Also making its debut on the AKG stand was a series of graphic equalisers from dbx, aimed at live sound companies and broadcasting. Justin Frost said: "Graphics is a new area for dbx, but a good complement to its existing range of processors."

BBM Electronics demonstrated its computer control system for the Trantec S5000 UHF microphone which was previously seen in the UK at Audio Technology 95 and launched at PLASA '94. A Windows-based system, it can

communicate with, and co-ordinate, up to 16 receivers. BBM MD, Chris Gilbert confirmed that hire companies Orbital, Dimension Audio and Delta Sound have already purchased more than 100 S5000 systems for rental in various applications.

Mark Terry of **Beyerdynamic** was celebrating an order by Wigwam for a number of XTA DP100 delay processors for a Disney installation. Beyerdynamic now has Windows control software available for the DP 100. "We are also showing our NE600 UHF wireless diversity receiver, the MCE 83 electret condenser microphone, the DT200 headphone series and the most recent Soundtracs consoles, including the Megas Mix II multi-functional desk," Terry explained.

The recently-introduced QSC Powerlight amplification range took pride of place on the HW International display. Boasting an exceptional power-to-weight ratio, the Powerlight 1.0 gives 500W per channel into 4 ohms and the 1.8 900W per channel into 2 ohms, while January will see the launch of the CE approved PM4 which provides 2000W per channel into 2 ohms. The new Shure SCM 810 is an eight-channel automatic mixer featuring automatic gating which is ideal for conferencing and court rooms. Six of these units have been installed, along with Shure microphones, in the House of Keys on the Isle of Man. The full range of Shure radio microphones and wireless diversity systems were on display, and there are plans for more cost-effective systems for the MI market to be launched next year. Peter Barnard was keen to extol the virtues of GAE loudspeaker cabinets which have risen above the problems associated with a heavily saturated market. GAE products on show included the mid-priced Pro Stage series, and the full range, passive Panorama Series 1202 cabinet featuring an RCF mid-range 12" driver, and a B&C 2" horn in a custom built flare. HW also had 3G mixers, such as the Mynah Plus, plus a demonstration of the Wincaie computer control system, which will run up 125 amplifiers on one card.

Audio Technica's new range of studio headphones, the ATH-M40 and ATH-D40, represent a relatively fresh area of the marketplace for the company. Two new communication



Mike Reay of EMO (right) with the new 8-channel direct injection boxes.



Paul Mason of AKG (left) and Justin Frost of Harman Audio with AKG's range of Discreet microphones.



Judy Nichols of Canford Audio with audio consultant Frederick Fuller.



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Dave King (right) and Carey Davis (second left) of Allen & Heath, together with Jon Bickle of Harman (centre, right) show a visitor the new GL4 desk.



Sandra Cockell of Formula Sound (right) demonstrates some of the company's award-winning products, including the Shadow and PM-90 mixers.

headset microphones were launched and Paul Maher explained that Audio Technica has "continued to re-engineer products as usage of them changes, in terms of combining battery and phantom powering." Based around the earlier AT-MX341, PLASA saw the first UK showing of the new 'smart mixer', the AT-MX341a. This mixer is capable of managing up to four microphones, and units can be daisy-chained to operate multiple additional mixers and microphones.

Released next January, but previewed at PLASA, the **Sennheiser** 1083 system is a budget 16-channel switchable UHF package which enables access to all the legal channels. It includes an MKE2 microphone, body pack and receiver all in one. Also new was a dedicated microphone set for drum kits, including overhead mics originally part of the MKE 6 system, a snare drum mic and a 521 for kick drum. The full range of Sennheiser's industry standard headphones, microphones and wireless systems were also on display.

Andy Rigby-Jones introduced Allen & Heath's 'smallest serious mixer', the GL2-S - released as a stereo version of the GL2. It has six stereo channels, six mono channels and two stereo sub groups with its primary functions as a keyboard mixer, club mixer, zone mixer or as a console expansion module. "We have stereo versions of the GL4 Live PA which are fully-featured with 10 aux sends, eight returns, four band full sweep EQ, low cut filter and fully routable, as well as the GR1, a zone mixer with a built-in compressor, automatic audio ducking, alarm inputs and remote control."

At its first PLASA show, **AMEK** premiered its 501 live sound console by Langley which Geoff Muir described as a scaled-down version of the popular Recall console. It features eight auxes, four VCA masters and a 10 x 4 matrix, together with optional MIDI-controlled outboard effects which supplement its automation packages.

Shown as a prototype last year, the Cloud CX-A6 six-channel power amplifier was launched. Complete with individually balanced line inputs, its route switching facility allows the configuration of different inputs to different outputs. It has a modular construction and each of its six individual amplifiers is capable of delivering 120W RMS into a 4 ohm load. Complementing the CX-A6 was the CX233 zoner, a three zone unit with three line level inputs and two microphone inputs. Also at the Cloud stand was the lethal combination of two Pioneer CDJ 500 pro CD players and the Cloud CXM-8 modular mixer to form what many visitors believed to be the ultimate DJ's tool.

Crest Audio's new V and Vs Series amplifiers for installation and touring use were debuted, each model being a 3U unit with built-in Tour Class protection circuitry. Also new was Crest's latest live production mixing console, the Century Vx-an eight sub-group, 32, 40 or 52 input modular board. It includes an eight output matrix, eight VCA groups and four scene mutes as standard. "The show's been very good for us, as ever," said Andy Simmons. "This is only the second time we have exhibited in the UK."

Bizarre contract of the year so far, has to go to MTR who received an order for 154 of its SPA800b amps from its distributor in Taiwan. These are being used in mono-bridge mode in a government project and are connected to a huge array of re-entrant horn PA speakers lined up along the coast of Taiwan for broadcasting news!

It was a fabulous Show for Formula Sound, who once again won a Disco International award. Sandra Cockell commented: "We have always sold modular mixers before now, but have taken on the distribution of a new seven channel mixer, the Dateq Apollo, to fill a gap in the market." Formula also showed the prototype of a new micro-processor based mixer/zoner that will be out later this year.

With **HH** absent from the show for the last four years, Simon Fraser-Clark believed that the company's presence this year helped to dispel the rumour that it no longer exists. HH showed its new powered and unpowered mixers. The Miscara range offers a series of dual stereo mic line channels allowing users to input mic and line into the same fader. The desk is available in 10, 12 and 16 channel versions with the option of built-in 300W per channel amplification.

Klark Teknik analysers and processors, Midas and DDA consoles and Electro-Voice cabinets filled the all-new Mark IV Professional Audio Group stand. On the highly-acclaimed Midas XL4 automated live sound console, vice president Bob Doyle told me: "The XL4 is finding its way into live on-air TV studios, the Broadway show market, opera houses and theatres, and there doesn't seem to be any area that is exempt from penetration." For the first time in Europe the Midas XL42 was also on show. In just 1U rack of space, this dual channel pre amp equaliser system for live and recording applications incorporates XL4 four band parametric equalisation with mic/line preamplifiers and 48v phantom supply.

The new, seven channel **Soundcraft** D-Mix 500 professional mixer complements the larger and already established D-Mix 1000 as the second in an on-going range of disco and club products. Easy to set up and use, the D-Mix has five stereo and two mono input channels, and each channel provides a choice of two inputs, potentially offering up to 10 stereo input sources. The recently-launched K3 Theatre professional eight-bus console, the first of which was sold to the Young Vic theatre, was also on show, as was the K1 compact four-bus mixer and SM12 Stage Monitor console.

This was Citronic's largest stand ever and it was necessary to accommodate the launch of no less than six new products. The Predator DJ mixer was



Bob Doyle of Mark IV (centre) hands-on with the Midas XL4.



Martin Audio's Martin Kelly (left), Sean Turk (second right) and Sally Milne celebrate with Dave Wiggins of LMC and Steve and Richard Waterhouse of dB Audio following their purchase of four stacks of Martin Audio Wavefront 8s which were recently installed in the Electric Ballroom in Camden.



Audio Factor's Peter McMillan and Neil Hester with Custom Sound speakers and the Comsys system.



Richard Frankson (left) and John Midgely (right) of Beyerdynamic with Chris Gilbert (Trantec).

the main new product, capturing the attention of visitors so well that it was hardly out of use throughout the whole four days of the show. "We have sold all our production models and have taken orders that will keep us busy for the rest of the year," enthused Mike Gerrish. "We are very pleased to have the Conquest 16 to complete the Conquest series of power amps . . . we now have high and low-priced products in the range." In addition to these, the company launched Battlemixer, a low-cost DJ mixer in four eyeboggling colours, the UK's first mid-budget, professional standard dual CD player and controller and the powerful Bass Reflex System,



Ken Achard of Peavey keen to highlight a new range of HiSys speaker enclosures.



Paul Gowlett of Arbiter (left) with Steve Woolley of Fender looking to develop the pro audio market.

trapezoidal full range cabinets designed to provide a faithful reproduction of the signal source at high sound pressure levels.

MGM cinema supplier, Ampetronic displayed four induction loop drivers including the ILD 20 for bank or building society counter systems. The ILD 60 is designed for medium sized rooms of around 60sq.m in nursing homes and sheltered accommodation, while the ILD 4 covers areas of up to 120sq.m in small churches and council chambers. A larger version, the ILD 9 covers theatres and concert halls, and at the end of the year Ampetronic will be launching the 1U high ILD 300 which can be battery powered.

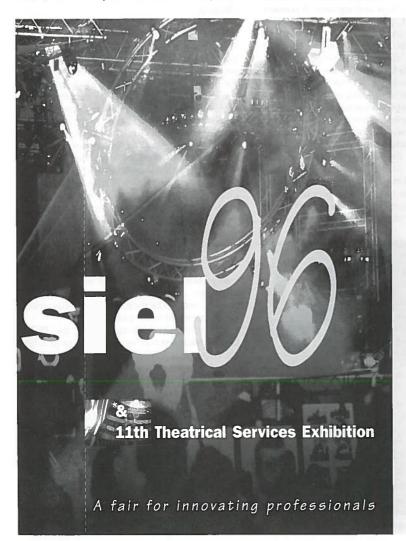


Malcolm Hill of Malcolm Hill Associates demonstrates the Chameleon 200D.



Mark Withington of Delta Sound (right) discusses the company's range of PA equipment and systems.

Audio Design Services offers 'sonic solutions' in industrial background music applications. At the close of the show's busy first day, Bill Mackie told me: "We are launching our Sigma 6 and Sigma 8 speakers, the Maestro combination background music speakers which are 30W low impedance and 100W line, and the voice alarm corridor speaker which has been acoustically treated for maximum intelligibility. We also have a range of mixer amplifiers, including the Merlin modular amplifier which is 300W per channel or 150W per card with each card individually controlled. Another recently introduced product on show was the Mole underground speaker which has been



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Hans Freytag of C-Audio with Guy Hawley of JBL.

installed in a number of theme parks. There are also background music cassette systems, available with or without a 50W amplifier. We believe we are the first company in the UK audio industry to be awarded not only the British Standard ISO 9001, but also the Investors In People accreditation. We worked hard to get it, so why not tell everyone!"

Three amplifier ranges were shown on the Baldwin Boxall stand. The Midas Two series features 30W, 60W and 120W amplifiers for industrial, commercial and leisure applications. The Adept amplification system is available in 60W, 120W and 260W versions and is fully modular with the choice of battery or mains power. The Vigil is a voice alarm and PA system designed to meet the life safety issues which have resulted from the fire alarm standard BS5839. Andrew Latham explained: "This system is already in use in a variety of high profile installations, including London Zoo, the Bank of England, Wembley Stadium and Warner Brothers cinemas."

Forming part of the Chevin Research A Series amplification range, and shown at PLASA for the first time, was the A700v 1U unit, 600W mono amplifier. Glyn Baxter of the West Yorkshire firm said: "Until now we have always concentrated on our export business, and we have had a lot of success with Team 108 in Singapore and the French PA company, Dispatch. Through Hong Kong we finally broke into mainland China and we put a major contract together there this year. PLASA is our first real exhibition venture in the UK and we've had some great feedback."

Previously shown at June's Audio Technology show, the Chameleon amplifier range was displayed on the Malcolm Hill Associates stand, with the 2000D topping the bill for features and power. The wide range of Ecler amplifiers were on show with a demonstration of its trademark SPM Technology - a system based on the use of both switching Mosfets in analogue functions and a system of non-interfering audio quality protections. As a result, the amps - PAM 3300, 600, 1000, 1400 and 2200 - provide greater power with less distortion and more protection.



Bill Woods of Shuttlesound with E-V's SX2005.

Among the latest from Peavey Electronics, MD Ken Achard was keen to highlight a new range of HiSys speaker enclosures which are manufactured in Britain for the European market, and were demo'ed on the Pulsar stand. Borrowing heavily from previous HiSys products, they are specially designed for flying, and feature Kevlar impregnated Black Widow drivers within a trapezoidal, military specification design. Further debuts included new DJ mixers, equalisers and other speaker enclosures for mobile applications.

Like other M1 companies, Fender (on the Arbiter stand) has been attempting to break into the pro audio market and looking to develop installation and hire accounts. It is no surprise. therefore, that it has launched its Tour Series PA which features drivers manufactured by Eminence to Fender's specifications. The stand highlighted the range of MX mixing consoles with a choice of either 16, 24 or 32 channels and four sub groups. There were also 8, 12 or 16 channel PX Series powered mixers with the power amp housed in the bottom of the case, which also cleverly doubles as a stand. Digital effects are built in along with two nine-band graphic EQs which are assignable either to the main mix or monitors. All the wiring is housed within the legs.

Audio Factors showed, for the first time, its Megasys professional satellite system - a 500W three-way satellite bass and top unit. A portable version, Comsys 1, and the small Minisys system for pub and club installations was also included among the exhibits, along with the Trucker range of cabinet fittings, cables and other accessories.

First-timer, Delta Sound was recently appointed the exclusive distributor for the Pyroyox voice evacuation system which was on display. It is a fully-monitored voice evacuation system and we've had a tremendous amount of interest from both UK and overseas visitors. Paul Newman (no. not that Paul Newman) noticed much interest over the four days in the Paso 400W horn speaker which delivers 110dB over one-tenth of a kilometre. He told me: "It was originally designed for installation on the top of mosques so that people in the desert could be summoned. Paso didn't think there were many mosques in the UK,



Jeff Allen and Bob Kelly of Sensible Music.

but we told them otherwise!" A new 15W sound sphere from Paso, the C59TB, stood adjacent to Delta's BGM products including the CP22, a twin auto-reverse cassette player, and the CP31, which is a twin auto-reverse cassette player with an integral 30W amplifier. Both have removable cassette modules to simplify service and repair.

The award-winning Harman Audio stand made a big feature of JBL's new EON Series powered 15" cabinet with a 15" driver, horn and 3/4" compression driver. It is separately bi-amped internally and has phantom power on the input. Mark Bailey commented: "The vents are specially configured to act as a bass port while the fins keep the unit cool so that the harder it works, the better it performs over a long period. It has a 150W amp powering the low frequencies and 50W on the high frequencies. The high frequency amp has plenty of headroom, so when it is driven hard it does not distort." Other cabinets available now in the EON range include a 10". Also on show was the P66 portable, high performance touring sound system which operates in three-way passive/active mode, using dedicated JBL MPA power amps.

Eagle International displayed a new range of sculptured, MDF wooden column speakers which are designed to look subtle and merge easily with the decor of a venue. The cloth covering is positioned inside the cabinet to allow easy cleaning.

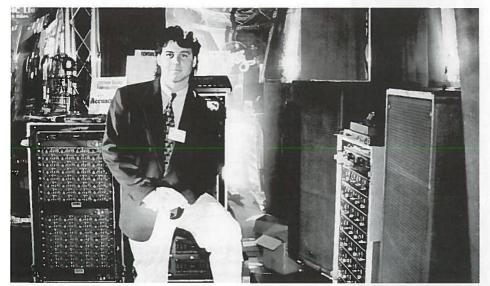
On the Fuzion stand there were new products from Crown, Nexo, Radio Design Labs, Symetrix, Atlas, Sabine, ARX, Stedman and Radian. Of particular interest was the Real-Q from Sabine, which picked up a Product Excellence Commendation. By generating sub audible tones through the system, the unit analyses parameters and compensates accordingly in real-time. Also of note was Crown's MT 2400 power amplifier for touring and installation applications, delivering 800W per channel at 4 ohms in stereo mode.

At dealer LMC Audio's stand, the new product on display was the Soundcraft Spirit Live 42, a four bus console available in 12, 16, 24, 32 and 40 channel frames and aimed at the pro live sound market. Other manufacturers represented by LMC included EV, DDA, Yamaha, Midas, Crest, C-Audio and Amcron.

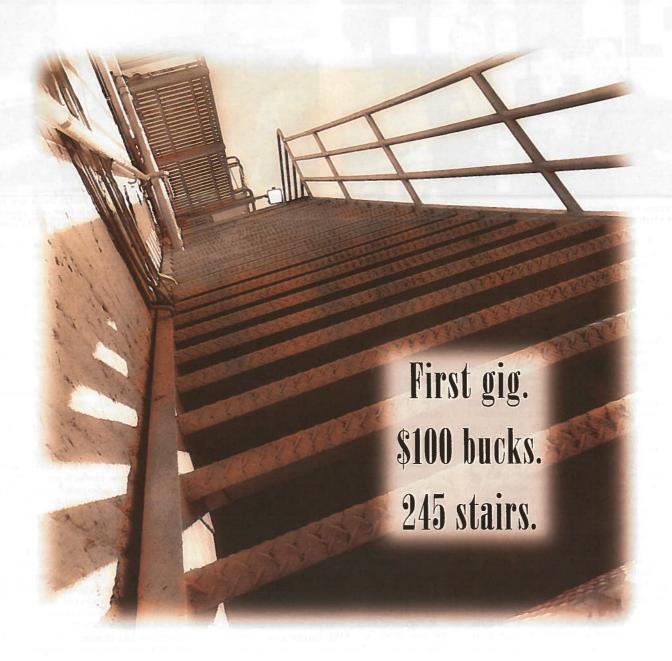
Marquee Audio, meanwhile, promoted the new Turbosound Impact cabinets, Garwood IEM, Yamaha's O2R digital mixing console, RCF loudspeakers, JBL's EON powered speakers, BSS Varicurve and Omnidrive, the Soundcraft K3 console and the Databeat intelligent music system for programmed music playback.

Lex Verwijmeren demonstrated the Philips Communications and Security SQ20 range which includes a new mixing amp and mixing pre-amp with dual tone control, due for release in January. Each microphone input has a speech filter and frequency response can be adjusted to achieve optimum speech intelligibility, with speech given overriding priority to background music. Also new was the SQ24 digital tuner - the first in professional audio - and a mobile range of amplifiers (45, 90 and 180W) with an integral second amplifier driving an intercom facility in two zones.

Attracting enormous interest for Sensible Music were the new Acusound orchestral microphones and the Garwood in-ear monitoring system, of which Claude Taylor made a real song and dance: "We are doing more and more business all the



Barry Clair of Clair Bros with the company's range of sound reinforcement equipment.



SOMETIMES THE DIFFERENCE between taking a gig and not taking it isn't the money. Or the exposure. But the schlep. Which is why we created the new EON Portable System. At about half the weight of any other system, it's made to be portable. Yet it gives you all the sound quality and reliability that JBL is known for. At a price that is noticeably lighter. In fact, it may be the perfect first step for any rising star who's just starting out. And plans to get to the top.

H A Harman International Company



L+SI editor John Offord presents an Award for Product Excellence to Frances and Frank Clark of Clarke & Smith for their radio/cassette recorder for the blind.



The DJ Competition, organised by DJ magazine and Vestax was a new feature. The competition enabled DJs to test their mixing skills in front of an appreciative audience and a top judging panel. The eventual winner was Gary O'Donnell.

time with in-ear monitoring. It seems that an increasing amount of people at all levels of performance are realising that it's the way to go."

The chaps at Sensible also did "great rental business" with their mobile recording units featuring ADAT machines and Focusrite amplification, offering 26 channels of digital recording. Taylor added: "Of course, the Clair Bros PA system seems to sell itself and we've had a lot of overseas enquiries at PLASA."

New from Rane on the Shuttlesound stand was the CP60 commercial processor, ideal for restaurant and bar installation, with the ability to send audio to two distinct zones. It has two paging inputs - one for mic level and one for line level designed to take the output from a telephone system so that paging is possible. Both paging inputs have ducker sensitivity with 40dB ducking depth of the programme material. There are four stereo high impedance line level inputs which are RCA- terminated and can take outputs from sources such as television audio, CD players or juke boxes. Rane expert, Jon Ferren said: "One of the programme inputs is designed to have priority over the other three, so if you have a bar with a juke box set up, the unit automatically overrides the TV audio, for instance, and is selectable in either or both zones. Each zone has seven bands of EQ and the ability to select level control and which of the four programme sources is active in either zone."

Rane's new DJ mixer, the MP22 is the baby brother of the much-acclaimed MP24 at about two-thirds of the price, and product updating for the show included the addition of XLR connections on the MP30, the single channel, third octave 20mm fader unit. The Shuttlesound stand also represented the latest from Electro-Voice in the shape of a new series of precision amplifiers - 300W to 1200W per channel - designed primarily for installation use. They are bi-polar with built-in switchable limiters, four large fans in the larger amplifiers, two in the smaller ones, and all thermostatically controlled. David Fisher claimed that they are "the first range of amplifiers to be marketed in the UK with the CE mark on them, which is compulsory from January 1996." EV's simple-to-rig Sx 200 full range stage speaker system includes the Proline 125 low frequency driver and DH 2010A compression driver. New products also included the DX34 system processor.

Audio Video Systems was at the show to promote its audio, video and data system's design and installation service, and discuss recent projects, including the voice evacuation and paging system at Birmingham's National Indoor Arena and the PA installation at the Purcell Rooms, London.

Audio distributor **Willow Vale Electronics** was at PLASA for the first time and it was a chance for them to explain the philosophies behind their new spin-off design consultancy service, De-Zine-Line, and display the line of products from TOA, Philips and Bose.

Background music systems manufacturer and Pioneer distributor, AWE Europe previewed its AWE Series 600 BGM system which consists of four main units, including a twin tape paging amplifier, a paging amp, slave amp and a twin tape player with line output.

The main features of the system as a whole are: 2 x 60W RMS output, independent microphone and music volume controls, two zone paging facilities built directly into the unit. Stuart Tickle commented: "The cassette modules are easily removable and the mechanism is the most reliable we have come across. We have kept the features down to the essentials rather than packing the units with unnecessary gimmicks."

Another first-time exhibitor Wintonfield Systems brought their range of infra-red sound systems manufactured by Williams Sound Corporation of America. The SoundPlus system is ideal as a 'hearing helper' for auditorium, conference and educational applications.

Innovators since 1946, Clarke & Smith launched two new products on the first day at PLASA - a schools audio centre and a background music system. "The interest in both has been extremely high, particularly the schools audio centre which combines a CD and twin cassette player, radio, clock timer, amplifier and speakers in a TV sized enclosure," said David Harris. "We entered two products for the PLASA Product Excellence award and we were overwhelmed when our radio/cassette player for the blind won. The company is 50 years old next year and it is going to be very satisfying to celebrate by hanging the award on our office wall!"

DJs crowded the **Denon** stand to catch a glimpse of the SMX 2000 digi-scratch sampling CD mixer,



Paul Clark, Leon Pieters (seated) and Patricia Percy of Ampetronic.



Richard Woolley and his wife of S&CV magazine with David Neal of BSS.



Robert Males of SCV with the company's universal buffer systems.



Matthew Alway and Nick McGeachin of Numark which launched its DM1000X scratch mixer.



Metro's Nigel Cunningham demos their range of communications systems to Janette Morgan of CTS.



David Boxall of Baldwin Boxall discussing the latest in voice alarm and PA systems.



John Oakley of Soundcraft in demonstration mode at the AES protocol meeting.

one of four Denon world launches. This is an exclusive format, as Denon owns the world rights for the facility to be able to scratch sampled sounds from CDs. "The broadcast standard DN 1100 has undoubtedly been the shock launch," commented Simon Curtis. "It is our first 19" rack mounted MiniDisc machine with the unique Hot Start feature enabling the user to load the first ten tracks into 10 dedicated access buttons which trigger instant playback. We predicted that we would sell only five a month, but we've sold 25 already!' The DN 610 is a combination CD player and cassette deck in one unit, 19" rack mounted with a pitch control and auto reverse cassette deck, and DN 2000 Mk II transported CD player. The fourth 'newie' on display was the DN 1400 200 CD jukebox with twin arm drives, enabling the user to have continual back-to-back music. PC-operated, the DN 1400 allows two CDs to be played simultaneously in different zones.

Vestax Europe have been beavering away on lots of new products to feed the music technology industry. A new CD player, the CDX-25, and the PMC-05Pro, PMC 50 and Streetmaster 5005 mixers all received their debut. The PMC 50 features a massive 12 input capability, with input sockets, aux sends and returns on the front panel, to facilitate the quick addition of production tools such as samplers and frequency separators. Other lines were popular too, as Rob Peck noted: "Our HDR8 direct-to-disc recorder caused much more interest than we expected due to visitors from other areas of the industry coming this year."

Numark Industries launched its DM1000X scratch mixer, of which the company's Malcolm Burlow said: "If there was any doubt that we were innovators in DJ mixing, it has surely disappeared with this introduction."

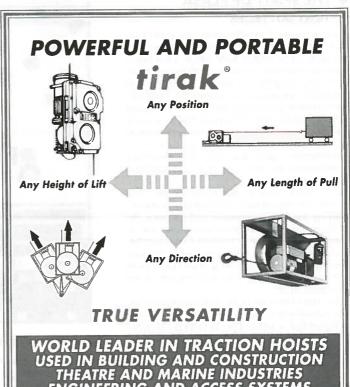
One of the biggest attractions at PLASA was the commended Pioneer stand which boasted star club DJs 'doing their thing' on the decks throughout the show. Given a swift boost was last year's star, the CDJ 500 CD turntable for DJs with a number of innovative features including master tempo. This year, Pioneer introduced a new mixer console, the DJM 500, which is designed to be a perfect fit with the CDJ 500. Filip Neirynck said: "Before we developed the CDJ we undertook extensive research among the top UK and US DJs, and came up with a mixer which has two automatic BPM counters on board along with a range of adjustable special effects, such as echo, delay, reverb, pitch shifting and flanging. The user has everything at his disposal to be able to create new music on this equipment."

The presence of Marantz's new PMD 321 rackmounted CD player on the SCV Electronics stand was of great interest, along with the portable PMD 601 DCC player which offers full digital compatibility, recording with a 10 hour battery life and microphone inputs. "Having a concentrated stock of Marantz products has been a real bonus to us," commented Mark Perrins. "We have a couple of new products in our own LA Audio range, such as the C8 eight channel compressor and V8 eight channel valve signal path for use with digital audio recording equipment for a warmer sound.

Last, but certainly not least, Soundivision had great pulling power among DJs who moonlight as would-be pop stars. The stand was laid out with all the hardware necessary for the DJ to create fresh productions from existing dance records. David Graham explained: "We supply equipment from Roland, Steinberg, Boss and Novation which kids buy to add to their turntables and mixer. A typical kit would include a Dr Rhythm drum machine, a Roland MS-1 sampler to loop samples, an XP-50 keyboard to play them and a Roland M-DC1 dance module will also allow you to layer more than one sample on top of one key." Soundivision also announced the formation of a dedicated distribution company to represent the DJ technology range of products.



'Acoustics - the final frontier': Peter Mapp and Doug Edworthy led the seminar.



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#### THE SPIRIT OF PLASA

#### TONY GOTTELIER

Nothing summed up better for me the spirit of this year's PLASA than Richard Pilbrow's seminar in the adjacent Brompton Suite where a full house sat spellbound as he explained, with the assistance of several suppliers, a project which he had initiated for a repertory tour in the USA. Typically, Richard continues to push the boundaries forward as he has always done in the past. I had gone solely for the pleasure of listening to his performance, because he is annoyingly good at such presentations, rather than expecting something revolutionary to come out of it. I should have known better!

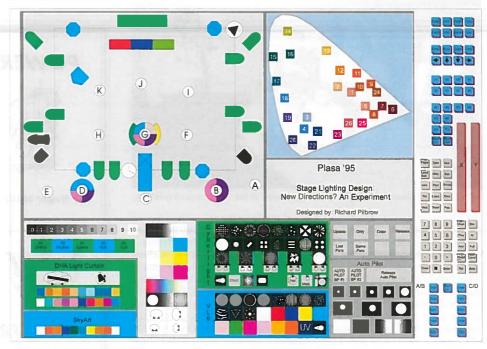
The whole exercise epitomised for me what PLASA and indeed our entire industry is about working together to improve and enhance the performance. And the most exciting moment, of course, is when all the technology comes together to do just that! Even in this case, when the idea never got beyond the drawing board for reasons of time, the feasibility was quite enough to stir something in me.

The rest of the cast of this little melodrama are also names to be conjured with. The involvement of Robert Bell, creator of the WYSIWYG 3D CAD lighting software system, in particular, made me feel that L+SI had played a small part in the affair also, for it was John Offord and I who introduced Robert to Pilbrow in Toronto a couple of years ago when he was lighting Showboat there. It was on that trip that I had first caught sight of WYSIWYG and I then experienced that same fissure of excitement that comes with the sure knowledge that you are looking at something which might really change the way we think. The other players were Fred Foster of ETC and Keny Whitright of Wybron wearing his Autopilot hat, representing the control fraternity, Brian Croft of Vari-Lite UK and Philip Nye of DHA Lighting the makers of one of Pilbrow's favourite tools, the Digital Light Curtain, from the luminaire producers and, last but not least, from the system providing end, the ubiquitous Steve Terry of Production Arts who was, I suspect, the 'glue' that brought and bound them all together in the first place.

The issue was - Richard: "I will be using a vast array of automated lights to tour with this big musical production, every week a different State, every week a different theatre. Programming will be enough of a nightmare on its own without having to re-programme for every different venue. Can we do something with all this technical wizardry you will be providing to make things simpler? Steve Terry: "I am not sure, but I have an

idea. Let me make a call."

It may seem odd at first sight that the person Steve called was Keny Whitright, best known as purveyor of gel scrollers to the masses, but then just when the rest of us were wondering if we would ever be able to do something with Wybron's other product, namely the followspot



Richard Pilbrow's graphic plot for the 'New Directions in Stage Lighting Design' presentation.

emulation known as Autopilot, Steve was about to turn the entire concept on its head.

The question was, could the XYZ co-ordinates which are constantly being re-calculated in Autopilot's processor, be stored as cues for subsequent global edit so that if one co-ordinate changes, normally the trim height, the others are re-calculated automatically?

"Sure" was the definitive reply, and hence Co-pilot was born.

Pilbrow's ambitious plan was to do his plotting from the stage as usual, simply walking with the Autopilot transponder to where he wants a light to go, calling the level, colour etc. to his assistant Dawn Chiang. She would be working with a combination of WYSIWYG and the ETC Obsessions and its new interactive tablet interface, a digitising Kurta XTG graphics tablet



Fred Foster of Electronic Theatre Controls (ETC) with Tom Littrell of Vari-Lite Inc.

familiar to all AutoCAD users but, in this case, tailored to lighting designers use. I had witnessed him fall in love with this device at LDI, and to simplify the whole business of remote programming, the focus presets would be stored as adjustable co-ordinates through Autopilot bolted onto the Obsession console. (The Tablet concept had appealed to me since Tim Burnham first mooted it at one of Francis Reid's technology love-ins for the British Council some four years ago. This year I finally got my hands on a similar working version, the 4-D Track from Avolites, which was simplicity itself to use and far more friendly than a mouse could ever be. If you're 'pooh-poohing', remember you're not expected to run the show from the tablet, simply to design your cues. Faders and wheels are definitely not the best way to do that.

Anyway, Richard successfully demonstrated that it was all entirely possible and we saw it with our own eyes, but unfortunately not just at the time that he really needed it; there simply wasn't enough development time for the whole team to get it together for his tour.

Incidentally, we also got to see, courtesy of this demo, ETC's new PAR lamp, which threatens to do for the Par Can what the Source Four has done for the ellipsoidal in the USA (they claim to have sold some 80,000 Source Fours).

One other thing to come out of the Richard Pilbrow Show, was the first question from the audience, which I missed but which I am told went something like: "With all this automated kit, don't



Mark Thompson (left), Bill Gallinghouse (second, left) and Patrice Sutton of ETC (UK) present the first white Source Four to Peter Marshall (centre) and Alan Thomson of Theatre Projects for use in TP's new reception area!



The 'New Directions in Stage Lighting Design' seminar in full swing.

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Shahid Anwar of Avolites (left) demonstrates the company's new 4D Track.



Mick Martin (left) and Rowland Hughes of Axon explain the advantages of ShowCAD.

you miss the good, old-fashioned framing spot?" Apparently, Pilbrow isn't as switched on as I had expected, because in his affirmative response he failed to point out that one of the new releases on the Show floor was, in fact, an automated framing spot from, never to be underestimated, Martin Professional. It's good to know that he is human after all!

And now to the exhibitors allocated to my critical eye by the Ruthless one herself:

AC Lighting were at last able to reveal the Wholehog II, or should it be 'Too', for this new baby is chock full of such tasty little goodies (see Richard Knight's review L+SI, August 95), and with the pent-up demand caused by the development hiatus, I am sure that they will be doing little else over the next few months other than stuffing the bright little monster into flight cases to dispense them to an anxious public. So too, for the Jands-Hog, the sawn-off version based on the same software. The linking of either of these with the aforementioned WYSIWYG, will be a formidable combination on all self-respecting, forthcoming tours. Like the ubiquitous Maglight, never go on the road without one. Spotted (ugh) also on AC's booth, was a cut-down version of the Golden Scan 3, courtesy of the SpotCo. I'm not quite sure how they managed to achieve this by DIY with the case moulding etc, but they've managed to separate the PSU and saved approximately one third of the length, and probably split the weight in half across the two separated sections. Judging by the level of interest from Pasquale Quadri of Clay Paky, Pete Miles achieved this result with no help from the manufacturer, but how long will it be before they catch on? And why aren't other manufacturers' un-choked versions similarly diminutive? A bigger question yet, why was it painted white? Surely not for the wedding chapel market!

It was also a pleasure to see smiling Larry Cada of Diversitronics on AC's stand. Larry has been blowing me away with his strobes for 20 years at least and his new range of DMX driven flashers are no exception.

As I have already said, Avolites 4D track pleased me greatly, and I had great fun tracking visitors in the adjoining aisle straight off the board simply using the digital pen, or 'wand' in the jargon. Colour mixing was just as simple and somehow seemed easier to achieve precisely the shade required than other methods. The top left-hand corner of the tablet is given over to your own fully scaled stage layout which provides absolute positioning and any number of lights can be grouped to move together. This friendly little interface works alongside any of the current



Keith Dale of Celco lines up with the company's range of control consoles, the Aviator EPX taking pride of place in the foreground.

Avolites desks, including the Pearl, which makes a very friendly package cost-wise also.

One new item wasn't enough for the hyperactive brain of Rick Salzedo, and Avolites also introduced the new 'Active Rise Time' or ART dimmer system. This chokeless ART12-16 'intelligent' dimmer pack is said to be completely silent and to deliver highly accurate definition rise time in excess of 450 micro-seconds. There are two DMX outputs with separate addresses and Merge, and all channels are 100% duty cycle and comply with all CE norms. Each channel is protected with both RCB and two-pole MCB and each has its own thermostatically low-noise fan. Inductive sources can be safely controlled without the need for dummy loads and the front panel provides back-up memory and playback of preset channel levels, as well as test facilities. Additional memory facilities are available for integrated systems.

Makers of the ShowCAD, PC-based lighting control software package Axon Digital (on the Cerebrum stand), revealed a handy little DMX gadget which even had DMX widget specialist Bob Goddard taking notice. Small, but so beautifully formed it fits into an XLR plug, The Terminator is a combined DMX-512 line tester and the standard-mandatory, end-of-line terminator which ensures error free data transmission. It's a sad sign of the much abused standard that it comes in five and three-pin versions. Once in place, the Terminator continues to provide visual feedback via green and red LEDs



Pulsar's Derrick Saunders (left) with Roy Tazawa of Ushio U-Tech Inc, Japan.



Nils Thorjussen of Flying Pig Systems (right) with the eagerly-anticipated Wholehog II.



Mike Wood of High End Systems (left) with Colin Lemmings of Electrosonic.

of the status of the line, indicating shorts, blown drivers and open circuits. No installation should be without it.

Axon also unveiled, courtesy of their friends at Lynx Lighting, a tactile version of their ShowCAD playback panel using momentary bump buttons, so that the operator can 'feel' his assignment. All keys can be configured to meet any requirement of the user, though by default the two keyboards provide rapid enabling or disabling of up to 256 ShowCAD scenes. User-definable peripheral keys provide control for such items as hoists, SFX and other non-dims, or houselights. Other buttons default to global functions such as Blackout, Clear, GoTo and cursor.

Those intrepid men with their flying machines, Celco, have almost run out of fuel when it comes to new names in the aviation genre, after all Pigs is definitely not available, though Jumbo comes to mind, and how about Ginger, or Biggles, or is that all too archaic? In fact, they've plumped for discovery as a natural extension and after Pathfinder, we now have Explorer. One major concern was to deliver a new product at the Show, which was proven and working before it got there and which also had to be backwards compatible to the existing range of boards. This has been achieved and the designated EPX software is available for Navigator, Pathfinder and Aviator 180, where it also increases channel capacity to 512 channels.

Explorer EPX controls 120 channels with soft patch to up to 512 dimmers, with 12 sub-masters and SVGA output port to 'theatre-style' full colour monitor screens. Comprehensive Time Fades are available for every cue and the EPX software includes a series of sophisticated programming tools, some of which will be particularly useful for robotic lights, such as Stack Playback and advanced Sequence and Effects bay, including sequence templates and modifiers, and assignable sound-to-light which can be driven from a number of different audio samples. I am also convinced that Celco are on the right track with their M9 videowall controller. We have all been turned off by the stodgy image of the videowall box trying to create animation from inanimate control systems, but before you turn off altogether, consider the television monitor as an infinite colour palette and possibly the most comprehensive 'intelligent' light source we have at present. Companies like Xylo, now enjoying a resurgence at the hands of lighting designers such as Vince Rice and, indeed, my own company WWG, have shown the way and Keith Dale agrees with me.

What is great about this nine monitor video splitter is that it can be run from any lighting desk



Chris Rolph, Graham Barron and Ian Brown of Coe-Tech, UK allies of Italian giant Coemar.



The Lightwave Research Status Cue is demonstrated on the stand of Lightfactor.

via DMX512. By simply changing the level of the faders, you can control the colour of each monitor, the position and size of the image magnification and execute freeze frames. This is the first natural product of the marriage between Celco and parent Electrosonic, showing that there is synergy in the union, and I hope that designers will reconsider video as a serious option in the light of it (if you'll excuse the rather clumsy pun).

Clay Paky traditionally keep their powder dry at PLASA, saving the big news for Rimini, though the Golden Scan HPE continued to receive plaudits from those who hadn't seen it before. So this is all the excuse I need to move Pulsar up the alphabetical pecking order and to talk about their show, which I thought had great potential as a product-relevant presentation. Based on the typical heritage or Expo type 'walk-through', there was a pre-show, AV warm-up using in-house computer-generated graphics animations, followed by a conducted tour of product displays with associated video information and an occasional special effects show to make sure nobody's attention span is waning. If you wished you could also include the Clay Paky 'Holmes and Watson' corporate video which was Pio Nahum's swansong. The product displays were made decidedly more lively by the use of Pulsar's Display Unit as an interface, which allows instant switching between different display software, so that a degree of interaction in seeking data on each displayed product was made possible.

The Coemar, TAS, Coe-tech combination were hard at it promoting their range of NAT automated luminaires and, as their award confirms, they seem to have come up with a winning formula for the comprehensive presentation of these products via a very sophisticated lighting demonstration in including the TM and the PC. For once we were able to see the full range of each instrument's capability in a range of applications which spanned the disciplines. Now that budget versions of the turret-headed TM 1200 are available in the DX version, my company, which is known to have



Ron Turpie (left) and Andy Holmes of Laserpoint who launched N-Vision at the Show.



PLASA standards officer, Tony Douglas-Beveridge (right) with Hamish Robertson and Paul Mardon of Pulsar.

a vested interest in the luminaire, are looking forward to a steep rise in the royalty payments which will follow the inevitable explosion in sales following the Show! Wont it? Dichroic glass gobos are now available for these instruments.

The show was preceded by an interactive demo of what I can only describe as a virtual light 'harp'. Based on Nic Bourne's original Live Wire concept, Opti Music generates synthesised notes from human interaction with a relatively standard light-curtain, using only reflective gloves or a disc in combination with receptors on the light sources. By hand-dance we saw and heard how it was possible to busk or scratch with the system using extra sensory reflection.

New innovations from TAS included Colore 200 MSD, obviously a programmable dichroic colour changer based on the very successful MSD 200 lamp, but offering a choice of nine colours in combination with a shutter. Gobos are an optional extra, but most interesting is the variable field angle of the lens from 11.5 to 22.5 degrees. Crono is the successor to the successful Symbol, and is a nine-parameter, mirror-driven automated light with 11 colours and 10 gobos, of which five can be rotating, plus iris, shutter and mechanical dimming.

Electrosonic have set about fulfilling another small matter on the video wish-list, that for compact video cube walls. Their 2-by-View, is a virtual giant screen telly with a huge 106 (2.7m) diagonal screen which is virtually seamless. You can also configure a three-by-view should you wish to. Driven by their Imagestar processor, the great benefit of the design is the front-to-back depth of only 760mm. I would be negligent if I failed to point out that Electrosonic are not the only company to have perceived this niche in the market (see also Laserpoint, below).

The Italian contingent was also personified by FAL whose Proscan 2, extensively reviewed here after Rimini, continues to impress and surely shows the benefit of the company's close relationship over recent years with British lighting



James Foster (left) and Paul Dodd on the Lightmasters/FAL stand with Proscan 2.



The ALD 'Discussions on Lighting Art' seminar attracted a full house.

designer and show programmer extraordinaire Paul Dodd. The Roulette 575 is another neat little scanner with rotating gobos, and given also the option of an MSD 200 lamp, not available at present but envisaged, it could probably stir up the marketplace somewhat. James Foster, ex-disco lighting designer turned product purveyor, is offering astoundingly attractive rental packages for FAL's products for whom his Lightmasters company are the exclusive UK distributors.

Staying with the 'F letter, but a three letter word, FLY are another Italian company with whose products we are familiar from SIB Rimini where their Chroma and Trichrorama made a big splash. At PLASA they seemed at last to have found a natural soul-mate in the shape of Andrew Stone's Stagetec UK, also the distributor for Compulite now that they have both parted company from Lighting Tech. Animator has always been FLY's controller of choice.

Finnish parent of the parent Helvar-Electrosonic were strangely parked out front in a caravan like new age travellers. It was a miracle that no one asked them to move on, but perhaps they thought that they could make a special impact from extreme front-of-house, as it were. Their new age technology embraces all the architectural lighting control products of their UK progenitor, as well as the MIMO range of energy efficient lighting products, together with the LP range of controllers based on the virtual-standard network system for building management called Lonworks, which provides the possibility of full system integration with many other manufacturers' products.

Finding things a bit thin in the laser market in the UK at present, despite the increasing girth of certain people who shall remain nameless (and I include myself in that), Laser Grafix have very cleverly re-imagined themselves as the London Fog Company, offering a range of smoke machines from the sublimely small Micro and its unidentical portable 12v twin Micro+, which could have applications for embodiment into figures or features in confined spaces in heritage





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The Martin Professional stand - an annual attraction for the crowds.



The brightly lit Avitec emporium which featured the combined talents of Griven, Metro USA, Mode Electronics, Disco Neon and Penn Fabrication.

museums - to the Factory, which is guaranteed to jet you through the wall at a thousand paces. In between are Volcano and Attaché, whilst there is also a multi-head system, inevitably named Medusa. Clever promotion via a smoke-emitting radio-controlled model car which toured the show floor, and two people of the female persuasion, who would not have gone unnoticed on page three of The Sun, guaranteed a busy, if often obscured stand.

I had to send an amanuensis to Laser Innovations' stand due to lack of time. He was very impressed with their new laser controller called (whoops), Voyager! Based on CorelDraw under Windows95, which enables the simple generation of images for despatch to the laser display, the system also allows control for up to eight optical effects heads. Lt's PanScan and NatScan fibre-optically fed effects heads, from the controllers DMX outputs, also turned his head (oh dear, another one!). New company Audio Image Systems has now entered the laser fray, and brought with them a new laser controller based on electro-mechanical hardware.

It seems to me that Laserpoint have now moved so far away from the point of their original name, that a change might be considered, since videowalls, projection cubes and control must now be the bulk of their business. At PLASA, they launched their own version of the four-into-one video cube wall beating the competition statistics while they are at it. This one's only 600mm deep with a 127 (3.2m) diagonal and is called N-Vision. Laserpoint's Sussi Christiansen told L+SI: "We wanted to be able to provide a projection videowall at the equivalent monitor cost. Its worked: sales already exceed budget by 15% and we reckon that this year's show has generated over £1m worth of sales enquiries for our products including N-Vision." The company are now onto version three of their Aquarius 3D animation, laser control software, version one first reviewed in this very magazine, which runs on a high-end PC.

Light and Sound Design, still revelling in their Houdini-like escape from corporate rock and roll, were maintaining the high profile of the Icon, while insidiously pushing their less-well-known, but equally sexy looking, WashLight. Dave Smith told me that most recent development effort has gone into the strangely named Mock-loon, which is the control desk's Mac-based emulation, to turn it into a hard, but more user-friendly face via their Icon Mini console, which should go down well for small volume hires.

Talking of new-age travellers as we were earlier, here's news of new world traveller and Internet surfer, Mike Wood, who has taken on the unenviable task of understudying, or is it underpinning, the mercurial Richard Belliveau in High End Systems, LightWave Research development team (to be found on the Lightfactor Sales stand). Wood's particular remit is control systems, but naturally it also includes smoke machines and, somewhat surprisingly, gobo

development. On the control front he told me that he wants Status Cue, High End's lighting board, to take on a rather more theatrical function to the diminution of r-n-r and plans to add 'Cue List' facilities to the Beta version which will be on show at LDI. In future, all Cyberlight gobos will be glass litho, for which 2,400 DPI resolution has now been achieved. He has ambitious plans to have a pattern library available on a node on the World Wide Web. For Studio Color, HES's much ballyhooed colour mixing, yoke driven spotlight, it isn't only the name which has been re-configured, but also the lamp. Out goes the 3,200K, 750W halogen lamp, in comes the 5,600K MSR with auto-sensing electronic ballast. This is promised ready for January delivery.

As a long-standing DMXster, Wood plans to move swiftly to the exclusive use of the 512 protocol as soon as possible, ditching the in-house alternative on the way.

It is a curious turn of events that PALS was the acronym for Strand's less than successful venture into automated theatre luminaires and Martin Professional, who now manufacture robotic scanners for Strand, have called their first theatre-style spot PAL. This one stands for Profile Automated Luminaire and is, in fact, a remotely controlled framing profile spot with full colour mixing inside and position control on the end. It caused a considerable stir at the Show, with Peter Johansen telling us: "Even I was surprised at the level of interest shown; we actually took orders for several thousand pieces straight off the stand."

The PAL 1200 was designed in co-operation with the Aarhus Theatre, and claims to be a world first, using as it does a patented drive system, synchronising a pair of stepper motors on each side of a framing mechanism to enable fully flexible control in any direction of the entire shape of the image, and fine adjustment to a resolution

The K2 from Optikinetics.

of 1mm. On top of this, the whole device can be swivelled by up to 20 degrees in any direction. The luminaire is based on the highly successful MSR 1200W lamp with a new and highly efficient profile-style optical system. A dimming shutter provides slow fades down to full blackout which supports the statement that everything about the PAL 1200 has been designed for precision, even at the sacrifice of speed, with the requirements of live performance and theatre in mind.

The PAL 1200 has remote zoom from 13 to 23 degrees with linked remote focus plus, of course, pan and tilt, via a large 20 x 30cm aluminium mirror, and all these functions use microstepping drive techniques to smooth out the movement. In addition to Martin's full colour mixing system (cyan, magenta, yellow), PAL also incorporates a special diffusion filter to smooth out the colour field and to eliminate the hot-spot endemic with this type of lamp. There is a colour wheel normally carrying the three primary colours, as well as a 5,600/3,200K colour temperature correction filter and all these 52mm square dichroic colour filters are fully, and easily, interchangeable. There are four, theatre-standard, D-size gobos on-board, all of which can be rotated, and in rotating mode they are fully optically indexed for precise positional repeatability. Again, these gobos are readily interchangeable. There is even a fully variable frost filter, for those softer wash effects. All of these functions are fully DMX512 implemented.

Another new Martin product, and one which you read about here first also in the Rimini review of 1994, is the Case controller for which Martin have acquired the manufacturing rights and which now looks a very serious lighting board indeed, especially for moving lights. Two models are available, with either two or three DMX lines, so from 512 to 1536 channels, or from 512 to 2048 channels. The larger of the two, the Professional 2, successfully uses P&G fader-belt technology in combination with 16-bit fading. Both systems offer 2000 memories with 350 presets, 1120 cues with either four or ten playbacks per cue, whilst up to 16 different protocols can be run simultaneously without interfaces, and up to 70 multi-parameter lights can be driven, or run in combination with dimmers, to conventional fixtures. Among a number of useful features to assist with programming, the pre-programmed geometrical tracking patterns seemed particularly worthwhile.

A visit to **Optikinetics** proved to be the pleasant surprise of the Show, as I had kind of given up on any British company coming up with a style and design for special effect projectors which could leapfrog the Italian dominance of that particular scene. We had it all in the seventies, admittedly with bent tin boxes, but along they came with their castings and, with not a little help from the Divine Margaret, dumped us Brits right in the umbra. In fact, the only survivor of the genre from that period was always our best hope of lifting us out of the doldrums, and so it has proved to be the case.

Judging from the number of white-finished



Andy Graves of Pulsar (left) with Nic Tolkein of AC Lighting and the Wholehog II.



Bob Simpson of Electrosonic (left) deep in conversation with Mike Lowe of Teatro.



L+SI's Sheila Bartholomew with Irina Nedumova and Ekaterina Savitzkaja of Russian company Greet.



They came from all over the Universe to PLASA and returned to their Mother Ships with valuable info.



Tad Trylski of DHA with Chris Fenwick of Zero 88.



Russell Dunsire (left) and Nick Mobsby of ADB.



Vic Dobbs (left) and George Puthenkulam (right) of Glantre with Ken Walker of PLASA special projects.



The Smithfield duo of Matthew Bond (left) and Chris Aberdeen (right), flank Mike Earnshaw of Technotronics and Steven Wakefield of Intek.



Maico Chang (right) and James Yeh of Kupo with the company's range of pin connectors.



Larry Schoeneman of Interesting Products with George Sabbi, chair of ESTA's technical standards.



Clive Standley of Phoenix Fireworks (left) with Dave Smith of Light & Sound Design.



Bryan Raven of White Light (left) with Alan Jacobi of Unusual Rigging (centre) and Philip Nye of DHA



Multiform's Mike Galloway (left) and Jain Price-Smith with the new Zodiac 36 memory desk.



Yuval Shoshani of Compulite/Stagetec with the Photon 120-channel desk launched at the Show.



M&M Showmanship reaches new heights with a stilt-walker.



Neil Rice of Optikinetics with a brace of K2s.



Peter Johansen of Martin Professional (centre) with Ferdinand Philipsen and Marc Colemont of Case and their new controller.

samples on show, I suspect the pressure has come from the display lighting market who are embracing gobo projection in a big way. Opti's new generation projectors in die-cast aluminium of the K mark have that in spades - good looking, so refined and a modular gate in the two-pronged fashion of Rank Aldis Tutor projectors which started it all in the sixties. You can see exactly what was going on in their minds. The K2 is based on the MSD 200 lamp, with a dichroic UV and heat filter and forced air-cooling to prolong the life of the effects. Various options are available via the flexible front-of-lens system and the modularity of the design of the body: such as a DMX interface with sequence memory for stand-alone operation, important in shops and stores; a so-called intelligent interface which provides automatic sensing of smart accessories, sound animator, dimming shutter and a lamp usage meter. K1 will replace the Solar 250 using the same M33 lamp, and K4 the MSR 575 lamp. Congratulations to Neil Rice and everyone at Optikinetics in beating the time warp. Brilliant job!

In a neat exercise in the reverse engineering of their marketing strategy TMB Associates, represented at the Show by Western hero Marshall Bissett, announced the company's plans for their new UK offices, which will be headed up by Valerie Walsh. Whilst the sales effort will continue to be directed from the US, TMB UK will stock selective products, concentrating on the Popular Proplex DMX range and the Pro Cable series, whilst looking to exploit gaps in the market-place.

#### • ON TOUR - STEVE MOLES

Abstract Design to Light displayed three new products for the club/pub lighting installation market. Version III of their established Twister now has 16 colours available, while their DMX controllable scanner Future Scan Three now has faster movement response. Also on show was the



Lori Rubinstein and John McGraw of ESTA, who headed up a strong American contingent.



Tommy Stephenson and Marshall Bissett of TMB with L+SI's Tony Gottelier.



David Churches of Batmink showing the dynamic new centre-pieces from Lampo.

new four beam UFO centre-piece effect with 250W M33 lamp.

Two similar products from Lampo, the Tintoretto and Raffaello caught the eye on the Batmink stand. Both centre-piece effects have three-colour dichroic mixing, improved speed of operation and 'faster intelligence'. Showing for the first time ever was the Omega from Genius, a DMX-based automated lamp (575 HMI) with 12 colours and gobos, rotation, and pan and tilt of 270 degrees. Watch out for a similar light using a 100W HTI in the near future.

NTL Audio have been added to the range offered by **Smithfield Electronics**. These Germanbuilt audio products, new to the UK market, include three small fill speakers, three neodymium microphones, and amplifiers with built-in crossovers and limiters.

For a small stand, Soundivision managed to pack a lot in, including the C Lab Falcon Mk1, an Atari-based digital audio computer and Novation's Bass Station, a rack-mounted analogue synthesiser with Midi-CV converter. For Roland's XP-50 Workstation, barely three months old, five new synthesiser modules, each dedicated to a particular music style (dance, vintage synthesiser, strings, orchestral, and cross section) were on active demonstration.

Avitec was another dealer with a packed stand, new products included the Omni disco DMX lighting controller from Meteor. This rackmounted MIDI cueable 2U desk has a lockable edit to keep idle hands at bay. Just as well, as the list of excellent features contained within this relatively small unit is endless. Also from Meteor was the Lumina 250W effects projector with a choice of three front ends, rotating drum mirror, mirror blades or prisms. Sharing the stand, Griven gave pride of place to the Sloop, an effects projector available with two lamp sources -650W or 575HMI - all with triple mirrors producing focused beams in a variety of colour and gobo



Roger Myall of L+SI, demonstrates the Internet to High End's Mike Wood.

CONTROL SOURS DIFFERENCES OF ACTORES (ACT



The Fabtronic team, specialists in motorised effects, launched three new products.



An LSD triumvirate of Dave Keighley, Joanna Mackay and Nick Jackson.

combinations. As if that wasn't enough a double Sloop, the Cruiser, is also available. Although Penn were officially sharing the Avitec stand, they enjoyed a much higher profile at this year's show with their trussing in evidence on no less than nine stands. Additionally, Penn's System 2000 canopied ground support package has gained a further foothold in the market with Aliscaff taking three complete systems for their hire department.

NJD have totally re-designed their IQ500 and IQ250 scanners to include new heavy duty stepper motors for greater durability and accuracy, improved optics for a brighter light, and modular construction for easy servicing, making an altogether better pair of intelligent scanners. The IQ500 also has a new CID575 Halide lamp, and this brighter bulb is also found in the new Super Blitzer 20 beam, six colour strobing flower light. The IQMX60 is a new addition to the IQ range of controllers, it provides 12 pre-programmed patterns and two user-programmable patterns and a run facility, giving all the expected gobo, colour and strobing sequences.

The Luna 2000 from **Fabtronic**, first seen at last year's show, now has an improved sound board for greater accuracy in synchronising to a sound signal. This same board is used on the new Zapper 2000 a 100W halogen, six dichro' colour lamp with sound-activated moving mirror. The Diamond UFO, a tri-axis centre-piece type feature is also new to the range. A spinning disc with 16 beams from a single 250W halogen is fitted to a moving yoke with a claimed spin speed of 80rpm.

One of the busiest stands at the show was that of Cardiff M Light & Sound, who have recently taken on the distribution of Constella products (see below). During the show this adventurous company announced it had just shipped a big order to Hanoi for the new Ritz night club.

Constella just managed to get the prototype Star Trakker built in time for the show. This 250W halogen moving-mirror intelligent light features



Graham Walne with his new book 'Projection for the Performing Arts', with Focal Press series editor, John Offord, looking on.



Roland (left) and Matthew Vulpillat (right) of RVE with David Stressing of ESP and the HDX dimmer.

four fixed gobos, seven colours and has a built-in microphone for automatic operation or DMX for more sophisticated control. The lamp will be in full production by November.

Mystical displayed just a few of their large range of light boxes, but the stand attracted most interest for its new line in metal-finish flight cases aimed at the mobile DJ market.

Another relatively new scanner (just four months old) is the Ultrascan 250 from Leisure Lighting (who also carried the Electrovision range on stand). Operating from a dedicated controller (the LL195), or automatically via sound trigger, this lamp features nine colours, four gobos, strobe effect and full blackout. Of perhaps greater significance was the showing of the first DMX product from Leisure Lighting, the Ultrastar, a strobing moonflower-type lamp with built-in colour changer.

The Laser Science FX laser products are a totally new range for **Nu-Light**. The 5 and 15mW lasers utilise the same technology found in 'pointer pens' and are a very affordable way into laser lighting. The bigger 52mW (red) and 200mW (green) lasers and control offer full text and graphics. Nu-Light's Debbie Clayton announced that the company are now totally focused on providing laser products.

A new smoke machine in unfamiliar packaging



Adrian Brooks of Lite Structures shows their innovative 'key' system to visitor Sharon Haigh.



Bob Wells of Jem (right) with HOT Technology.

- a Par 64 can - attracted much interest on the **Jem Smoke Machine** stand. The Par Foggers come in 250W and 1000W versions and are complemented by a Par-mounted fan. As yet, only the 250W unit has DMX remote facility. Also on show was the Hydrosonic 24G. Launched last year, this machine now has, due to demand, an upgraded heavy duty casing.

ESP represent RVE in the UK, and this range of French-manufactured dimmers had a couple of new additions on display. The HDL is a twin channel plug-in module version of the HDI dimmer, with features including electronic soft



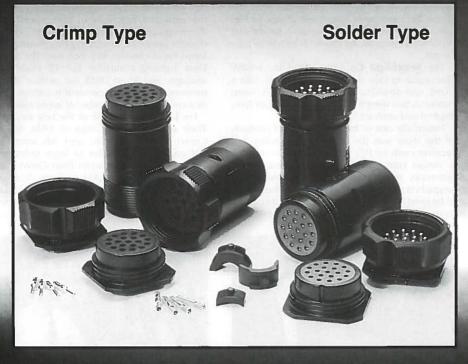
Wayne Howell and Tracey Patterson-Skinner of Artistic Licence and their product commendation.

patch, curve selection with BBC, halogen, fluor, linear and relay as standard, plus three other user-specified curves. Available in 3, 5 and 10kW versions, this modular unit can be unplugged and swapped under load, and newly inserted modules are instantly updated with patch and curve information.

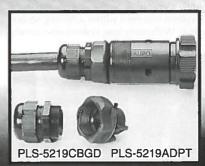
The HDX transistorised dimmer, similar in features to the HDL and designed to run alongside them in the same chassis, has an integral electronic breaker and so requires no MCB or similar breaker across the power supply side. If the dimmer detects any short circuit it automatically shuts down, returning to the last cue setting once the problem is fixed. Cool running and quiet, the modules are also considerably lighter channel per channel. Also on ESP's stand was a new range of Mobil-Tech wind-up speaker stands, able to support a 60kg load.

Lite Structures have followed a natural progression with their live rail in truss system. The Quatralive 2 has, as the name suggests, two live cords in a four cord truss. A novel use of Lite Structures' variety of trusses is in the Spike range of furniture. Cut sections of truss form the basic building blocks of a series of chairs, tables, etc, intended for the retail market. Adrian Brooks was also keen to draw my attention to the new key









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Total Fabrication's Ian Coles (centre) and Chris Cronin (right) with their new folding truss.



Anytronic's Bob Hall (right) demos their lighting control systems to Richard Bunn of Glantre.

connection system, the advantage of which is a simple spigot with no male/female orientation.

The Scroll Control from **Artistic Licence** is a new hand-held unit for up to 30 DMX scrollers. Battery powered, the unit provides up to 200 cue memories with timed sequence playback available. Sequences can loop automatically or be triggered from console.

The Mission Control from German manufacturer Ultralite is a sophisticated moving and conventional light controller. This 2x512 channel desk has 32 button selection for direct scanner access, with up to 25 parameters per lamp. Most main DMX-controlled scanner types are already resident in the memory, while others can be user defined.

Audio Video Systems are a design and installation service provider for the audio, video and data user. Although no products were on show, the stand caught many people's attention with the photographic display of previous contracts, surprising many with the scope of their services.

James Thomas Engineering displayed one brand new lamp, a Par 30, complete with barn doors. They also showed the fully EU-approved Par 64 safety lamp with fine mesh front grille, wire bonds on all removable parts and enclosed rear end with external bubble alignment. The company have also added an extruded 2" pipe to their range with a slot that accepts 10mm nut heads for the easy mounting of lamps in variable positions along the pipe length.

Mitch Clark of American trussing manufacturer **Tomcat**, provider of structures to many of last year's mega tours, was delighted with the success of the eccentric structure of AC Lighting's double-decker stand which they engineered.

**Total Fabrication** featured two new products. The Folding Catwalk is, as the name suggests, a catwalk system mounted within a folding square truss section. With many truss systems now merely



Jim Khan of Studiomaster with the new 700D and 1200D amps.



Selling Porkies? Mark Joseph and Garry Clark of JYG featured a number of new products.



Victor Fergus (seated) and Bill Simpson (right) of FPF demonstrating Windows control via telephone.

deployed to hang automated lamps from, the basis of this folding design could be used across a variety of different truss types and give great savings in truck space for touring systems. The new joiner developed for the folding system, basically a truss pin but with the addition of a knurled ring that enables the joint to be locked up tight, makes for a 30% increase in the overall load capacity of trussing. It is also makes locating and joining extremely easy. An unusual product for Total Fabrication, the Sound Wall is a prefabricated studio engineering environment. The combination of materials and geometric designing gives a reputed 99% of real studio control room quality in a quick and easily rigged flat-pack form.

There was also a new name on the trussing scene, **Structure Systems**, based in the UK, whose alliance with Unipar has led them to offer a complete lighting and frame service for both fixed and mobile installations. From a little farther afield came **Milos**, offering their own Czechoslavakian brand of trussing.

Andolite showed their Stage Base staging system, first shown at ABTT earlier this year. The simple deck and frame system uses 2" pipe for legs allowing the user to build variable height and multi-tier staging by the careful selection of pipe length.

The **Searchlight Co** have added the 6.6kW Dominator to their list of rental products. Like a giant non-strobing flower effect, this lamp produces two rings of 12 beams which can turn, expand and contract high into the sky.

Potentially one of the most powerful products of the show was the DMX512 transmitter and receiver cards for PCs from FPF Ltd. On show as a 'design your own lighting desk' idea, with a gimmicky remote-control from a tone phone keypad via modem. The potential is for these cards to be used for environmental and security control in anything from large industrial to small domestic



Mick Hannaford of Lightfactor with Andy Dobbs



Mitch Clark of Tomcat (left) with Lou Farina of followspot manufacturers Lycian.



Colin Lane and Rick Wilson of Le Maitre with ubiquitous PR-person David Neale.

installations. Install a voice recognition package and, hey presto, you can walk in through your front door and demand "lights on, heating up five degrees" and away you go.

Le Maitre showed a selection of their new DIY fireworks packs for sale to the general public and the new Sky Fire professional electric firing system. The G300 multi-function smoke machine was launched last year but is now in full production. This machine can, by use of a variety of fluids, be used for regular smoke, low smoke/dry ice effect, and a cracked oil type vapour without any of the ensuing filmy deposits associated with such machines.

**Light Processor**'s new Q Store and Q Commander took pride of place on their stand. The Q Store is designed as a back-up for a DMX control desk and will store 64 presets. The Q Commander is a controller suitable for both club and live shows. Simplified programming and operation make it easy to use for both automated and conventional lighting.

International Electronic Service (IES) from Holland showed a very compact (only 2U high) rack-mounted 6 x 5kW digital dimmer. As well as the expected functions of high specification dimming control (on board soft patch, etc), the dimmer features a unique cooling system which keeps the electronics 99% dust free. The new Pro Desk lighting controller has 12 channels of analogue and 96 of DMX out, with a 10k cue memory. The desk has personality settings for use as a controller for a number of applications.

For Lamba, it was one of the best shows yet. Their entire product range of KAM, Stanton, Cerwin-Vega, Gemini and AB amps was well-received. A number of large orders were taken for the Intense series from Cerwin-Vega, whilst for the range of KAM products, distributors were appointed in both France and Finland. KAM's latest DMX lighting controller, the Apollo, was attracting a great deal of interest, as was the



David Higgins of Gray Interfaces, manufacturers of a range of lighting control interfaces.

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Patrice Bouqueniaux of Juliat (left) and Tom Mannings of Decoupe (centre, right) play host to lighting designers Paule Constable and Mike Atkinson.



Ignace d'Haese, Ronnie Van Gorp and Giovani de Schampheleire of Arf & Yes (Belgium), in cahoots with Brian Croft and Tom Littrell on the Vari-Lite stand.

new GM25 Commando, a bedroom scratch mixer, kitted out in khaki no less, and the new Made2Fade range, which will be available come January 1996. Talk of awards is always a feature of this stand, as both KAM and Stanton picked up DI Awards at the Hippodrome.

Anytronics' huge range of products continues to grow with the addition of a hand-held DMX tester with simultaneous control of four DMX channels. Also on display were the 192,193 and 194 series of dimmers, all DMX controllable as an option, and all available in a variety of channel and power handling combinations from 3 x 40A to 12 x 10A.

Ryger's Discovery Linx is an interesting development of their Discovery 400 HTI intelligent scanner, basically replacing the latter's automated flat mirror with a rotating cylinder mirror that can also pan and tilt. Like other members of the Discovery series the lamp has a range of 20 gobos and 10 colours.

**Ultimate DJ** encountered overwhelming demand for their Pro-Sleeve CD storage system, so much so that manufacture has been increased to cope.

Exhibiting at PLASA for the first time, pro-audio suppliers **Studiomaster** showed their 700D and 1200D stereo power amps. These brand new amplifiers feature signal limiter on the input, electronic gate to mute at power on/off, and Crow Bar speaker protection to prevent DC voltage damage. Also on show, a recent addition to their range of small 8-16 channel mixers, the Horizon 8 channel (6 mono, 2 stereo) mixer has built-in 2 x 600W power amps. With stereo reverb and MIDI on board, these mixers are an ideal all-in-one control for the club performer.

**DiscoTech** are a Polish manufacturer who were new to PLASA. A range of 30 effect lights designed for the small disco/club market are available. On display was the Fire Ball - their biggest seller back home, which consists of two contra-rotating balls producing 12 separate beams each from twin 150W bulbs in nine colours.

Next door on the JYG Ltd stand, the full weight of Sagitter, SGM and Porkies products was on show. Most notable was the very affordable range of JYG's own Porkies mobile lighting effects with the occasional blast from the Sagitter Digiflash Pro

2.5kW strobe and the new Galileo IV from SGM. Terralec, meanwhile were showing the new DMX-controlled Cirrus 5 from Geni, alongside a new range of Lyonforge amps and JB mixers.

Less than a year old, MAD's product range has been developed and rigorously tested with the co-operation of Ness Inc. The result is a range of scanners, colour changers and effects units based on full DMX specification and microstepping control. Their new DMX lighting controller shows some clear thinking, as it uses MIDI facilities to reduce the amount of kit needed for a show.

Another first timer was **Black Box AV Ltd**, producers of a full range of background and mid-ground music equipment for the installation market. Black Box manufacture all their own products making a large range of highly durable CD and cassette players for intensive use.

**Deco Leisure** featured the Dare Audio SC4 digital cross over. This tamper-proof unit has scene sets in built for music styles and a feature for sound adjustment from when the playing environment is first open and empty, to full. Dare also have a range of 14 new speaker cabinets to fill a gap in their range.

The Audio/DMX Converter from **Gray Interfaces** converts DMX data into a format suitable for recording in real time onto audio tape, DAT or laser disc. Previously available through **Strand**, this Canadian company, based in Alberta, was exhibiting at PLASA for the first time to demonstrate it's extensive range of protocol converters, DMX and other control products.

New for the karaoke market is the VCD 1000 video CD player from **Nikkodo**. This machine has full karaoke function, two mic inputs, echo control and two video outs switchable between PAL and NTSC systems. **Synthesis AV**, as sole distributors for the Pioneer laserdisc karaoke were showing the latest innovation based on CD graphics format.

Following demand from last year, PJ Lighting have added wheels to their range of folding base three-leg stands. They are also providing a new racking system for 19" modules, especially control panel type modules, where tilt alignment is required for ease of operation.

The Stratos Color is a full colour mixing (CYM) automated lamp from **Studio Due** of Italy. This

700W MSR lamp is DMX controlled with 14 channels for 12 bit hi-resolution operation, and offers six static gobos (just one interchangeable), full mechanical dimming and fast shutter strobing.

Superstar Lighting Co Ltd of Taiwan offered four new products to their extensive range of small club lighting effects. Unfortunately, none of them was displayed and, as yet, no product information is available. They did, however, have a very neat little strobe unit mounted in an intercom belt pack enclosure on show.

Working under Windows 95, the **Digital Art System** PC software allows for the creation of your own customised lighting desk, able to multi-task, play sound and light together, with DMX in and out, and all in real time for live work.

The Mushroom Lighting stand played host to several overseas suppliers, mainly through an association with BML in the USA. The DMX Pro is yet another DMX diagnostic tool which can also save and recall up to seven scenes. The ColoRocket is a range of three colour scrollers from Christie-Lites of Canada, available in analogue (0-10v) or DMX control, all three sizes of unit (ellipsoidal, Par 64 and 8-Lite) have removable gel reels. The Elektralite CP10 is a very neat and sophisticated programmable DMX light control unit housed in a 2U package. The unit has achieved success in the US, where it is popular in retail environments. It's used for controlling the kind of complex lighting shows that are now found in specialty stores like Warner Brothers, and features a fixture library containing the main Martin, Lightwave, Coemar and Clay Paky lamps. The Rigstar is a range of electric chain hoists built specifically with the entertainment business in mind. The hoists have a jam-free nylon chain guide, a chain bag design and attachment system that works with 'motor up' or 'motor down'.

The Theatre Projects, Concert Productions Lighting, Vari-Lite and Brilliant Stages stand had little in the way of new technology on show, but plenty to talk about. The New VL5B from Vari-Lite at last addresses the singular complaint against its forebear, the VL5, namely a lack of range at the blue end of the spectrum. The 5B has a much greater range and by dint of the new colour mix also produces a few good pastels as well. TP were



Mike Bridgewater and Jonathan Knight of Black Box AV, targeting the background music market.

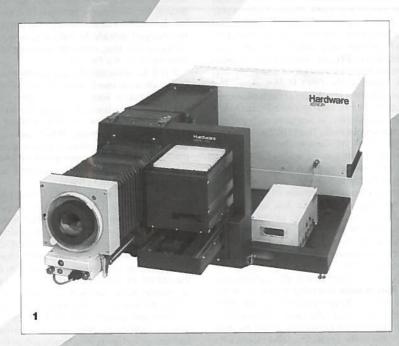


Breakfast on DMX - the early morning User Group meeting in p ogress.



Alex Collister of Andolite launched the Stage Rase modular rostra units.

# HIGH POWER SLIDE PROJECTION









1 TITAN 7000 WATTS - 85,000 lumens TITAN 5000 WATTS - 60,000 lumens

18 x 18.5 cm slides

Image up to 50 metres wide at 330 metres distance The top of the range for giant image projection.

2 TITAN 2000 WATTS - 20,000 lumens

4 x 5 inch or 18 x 18.5 cm slides

Image up to 16 metres wide at 100 metres distance The  $4 \times 5$  in. format is used for professional image. It also gives the best value for money in projection. The following options are available for 7000W,

5000W and 2000W TITAN projectors:

Dissolve, manual slide changer, automatic slide changer, image scroller, double image scroller, slaved focusing, image rotation, overhead suspension, horizontal projector rotation.

• Automatic slide changer for 18 x 18.5 cm and 4 x 5 in. slides: 40 slide capacity, compatible with multivision systems and 0-10 volt light consoles, random access

Image scroller: Two powerful DC motors slaved to
two microcontrollers and working in opposition give
independent control of the film's speed, position
and tension. This high-tech solution provides a
compact image scroller, DMX 512 and RS 232
compatible and easily converted for double scroll
projection. Image scroller capacity: 30 metres,
speed from 10 centimetres to 8 metres a minute,
random access speed 0.7 metre per second,
positioning precision 5/100 of a millimetre.

TITAN 1000 WATTS - 10,000 lumens

For 24 x 36 and 6 x 6 slides

Image up to 10 metres wide at 90 metres distance in 24 x 36, 12 metres wide at 60 metres in 6 x 6 The high-power projector for 24 x 36 multivision .

4 TITAN 600 WATTS - 4,000 lumens

For 24 x 36 slides

Image up to 7 metres wide at 60 metres distance A compact and economic projector that allows normal conference room lighting levels to be maintained during projection.

TITAN projectors, designed and manufactured by Hardware Xenon, provide the solution for giant image projection both indoors and outdoors, purpose-built for multimedia and multivision use, presentations, light shows and backdrops.





Maris Ensing (left) and John Lethbridge on the Cerebrum Lighting stand.

keen to point out that many of the West End successes that are now transferring to Europe (especially Germany) are specifying TP systems as the home rental houses, unused to such productions, don't appear to stock the range of lamps required. TP has also repackaged the Sky-Art in its free-standing and truss-mounting versions, both of which are DMX controllable.

CPL were catching their breath after the Rolling Stones, but hinted that the whole circus might re-emerge in the new year. Brilliant Stages were crowing about their new rental range of robust lightweight rolling risers, and, after a very successful year, were champing at the bit to make an announcement but were unable to gain the necessary signatures before the show ended. However, the story did reach the offices of L+SI in time to make it into this month's news (see the full story on page 11).

Finally, the Vari-Lite stand was also home to Irideon, formed only last year, and now doing rather well in the architectural markets, and with LD Chris Watts about to join them.

#### NEW PRODUCTS FOR ALL ROB HALLIDAY

PLASA '95: what a show. An incredible range of stands, some established exhibitors at the show, others new and very welcome. An incredible range of products, some old favourites, some improvements to existing products, some working versions of products 'pre-launched' at last year's show, some genuinely new and very exciting. And an incredible range of people, from every corner of the planet. It was these people who really prove the show's claim to be a show of the highest international standing; so much so, that some exhibitors were heard to wonder whether a trip to the LDI exhibition in America in November was really worthwhile, given that most of the Americans they would hope to meet in Miami were in London in mid-September.



Fiona Francis (Zero 88), Dave Cartwright (Stage Electrics) and Philip Norfolk (Action Lighting).



Stan Gunkel of APS Rental with his management control system.



PLASA's John Offord (left) and Anna Pillow (right) welcome director Francis Reid and members of the British Council's international LDs course.

What made the show so exciting, though, was that many of the new products weren't those that would just benefit the top levels of international theatre or entertainment lighting, but also ordinary theatres around the country.

Three lanterns showed this most clearly, and all are based around new bulbs. Theatre lanterns only seem to move forward a generation when based around a new bulb, but this kind of innovation seems to have been sadly lacking in recent years. The Source 4 from ETC isn't strictly new - it's been around in the States for a couple of years now, and was first shown at the 1993 PLASA show. The difference is that it is now being actively promoted in this country by ETC and their distributors M&M and, more importantly, is available with a 240V version of its unique bulb. The 110V Source 4 was incredible - a 575W lantern that matched or exceeded the brightness of most 1k/1.2k units. None of that seems to have been lost in the transition to the higher voltage. And since the rest of the lantern is the same, it retains all of the virtues that people have raved about: low temperature due to the dichroic mirror, compact size, incredibly high standards of engineering, and versatility through its wide range of lens tubes.

One unit equipped with a narrow lens tube (with a plastic lens, ensuring that despite its bulbous size it weighed practically nothing) was giving a **Robert Juliat** discharge profile a run for its money when both were projected on one of the hall's walls. Of course, the Juliat was brighter their stand once again featured probably the best lanterns at the show (including followspots with new integral colour changers, whose only real competition came from the Super Troupers on the Strong stand, the 2.5k Fresnels now starting to appear in this country, and a prototype of a moving Juliat profile). On the other hand, it was heavier, used more electricity and cost more!

ETC used the show to launch a new friend for the Source 4 - the Source Four Par, which uses the same bulb and a similar mirror in a housing that



Terry D'Brass, Graham Norman and Rob Field from Light Processor.



Monica Arnott and Bob Cameron of British Harlequin with their range of floor tiles.



Bev Bigham (Lighting Technology), Mervyn Thomas (James Thomas) and Rob Shuard (Glantre).

can accept clip-in Par-type lenses to give a unique Par can replacement, though the MAXLight Par shown at last year's show followed a similar concept. Again, it uses less power than a Par but is equally bright. The beam is better, without the horrible striations that generally appear in Par beams. And the lens can be rotated without getting hands anywhere near electricity - or the beam can be changed quickly by releasing one clip and swapping the lens, rather than having to fumble with the back of a Par can.

It will be interesting to see whether these two lamps attract as much attention here as in the US, where theatres love them for their 'lighting' virtues, but also because they've been receiving grants to buy Source 4s under federal energy-conservation programmes. Which sounds like the perfect use for lottery money - new equipment for theatres and more 'environmentally friendly' into the bargain! Try that argument with an administrator of your choice . . .

British lantern stalwarts **CCT**'s new product is also based around a new 575W lamp. Called Freedom, the all-new lantern range mounts the bulb axially in a new lamphousing, which can be attached to a new range of fixed and variable-beam lens tubes. The gate and colour runners of the new range are, however, identical to those of the old Sil 30, allowing a wide range of existing accessories to be used without modification.

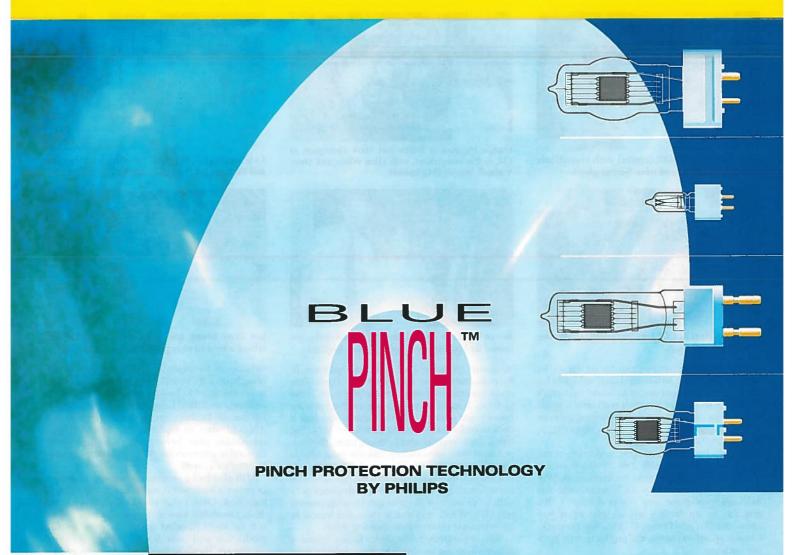
Like the Source 4, Freedom can be used as a conventional lantern with the benefits of giving near-Sil Turbo levels of brightness, while requiring less energy and generating less heat than the larger lamps. More interestingly, the lantern has two runners that can accept a DMX-controlled dimmer module. Feed in mains (it's 575W, so that's five per 13A feed), feed in DMX and bingo – a fully-fledged lighting system without the usual long runs of cable, ground-mounted dimmers, etc. It's ideal for conferences, school shows, theatre productions with lamps rigged in areas that are difficult to get lots of cable to, and a host of other



Paul Raymond of fibre-optic specialists, Par Opti Projects, with lighting engineer Brian Legge.



First-timers SES Film & Television, with their range of power distribution units.



# QUARTZ HALOGEN LAMPS

Pinch protected technology

applied to SSTV halogen lamps

reduces luminaire size and weight

# Benefits

Significant reduction in optical lens size

Significant reduction in fixture size and weight -

Can provide the potential for elimination of cooling fans -

Reduces the incidence of premature lamp failure -

# Features-

Pinch can be operated up to 500 degrees Celcius

Substantial reduction in light centre length (LCL)

Substantial increase in lamp power

Let's make things better.

Philips Lighting



PHILIPS



Raph Janssens of ADB (centre) with consultants John Rosetti (left) and Alan Bermingham.



David Manners of CCT Lighting (right) shows the new Freedom range.

applications. The dimmer can be set for either version of the bulb, to turn the lamp on locally for focusing or followspot use, or to 'scale' the lamp's brightness so that, in a system with only a small desk, lamps could be 'paired' (by setting them to the same DMX address), yet operate at proportionally different levels.

The idea isn't new, of course, and many of the people who worked with Tim Burnham on his Magic Lantern project found it interesting. But the standardisation on DMX for control, and the availability of these new lower-wattage bulbs probably means that it is an idea whose time has come, and it is good to see CCT leading the pack. I look forward to putting the production units to the test soon.

Control was the other area showing this type of potential benefit to many levels of user. At last year's show, desks were just starting to appear which integrated some degree of moving light control into conventional theatre lighting desks, to meet the demand from users who were starting to be able to afford moving lights in mid-scale theatrical productions. This year the trend continued.

Strand's 430 is the best example of this. A prototype on show last year hinted at this desk's potential. One year on and that potential is at last starting to be fulfilled. The desk is a common



Gary Pritchard and Alan Graham of LSC with the all-new Atom entry-level console.



Margie Heyman of Rosco and Mark Thompson of ETC in the foreground, with Ellen White and Steve Vialardi, also of ETC, behind.



Rocyn Williams and Carla Maris of Sylvania, are joined by Lighting Technology's Bev Bigham.

hardware 'platform' that offers a multitude of keypads, submasters and wheels for controlling multi-parameter fixtures. How many of these facilities actually work depends on the software chosen: for under £10,000, theatres can buy a desk to replace their ageing Gemini or M24. But if they then need to control moving lights, they can purchase extra software to enable the extra wheels and the desk's moving light capabilities. Though not a match for a dedicated moving light desk like the WholeHog II, shows of reasonable complexity with a fair number of lights can be programmed quickly and in a way that is clear and logical to users brought up on theatre lighting desks.

Most importantly to the desk's future, Strand is actively listening to users. The three desks on their stand were running three slightly different versions of the console software, each adding progressively more features and tweaks requested by people who've been using the things. And they were listening to the comments of visitors to the stand in a way that is very encouraging.

Round the corner from Strand, AVAB (on the stand of Robert Juliat) were showing Panther, which is their version of the same concept - and one which, in some respects, seems to offer more features than the 430, and with a nicer wooded surround into the bargain! For this country, the problems are that the desk's operation isn't as



Selecon/AJS line-up of Graham Eales, Graham Fathers, Jeremy Collins and Adrian Sant.



Bryan Raven and Phil Gladman of White Light.



L+SI's Rob Halliday with LDs Dawn Chiang and Bill Richards at Strand's 430 desk.



Jon Reay-Young and John Burgess of DeSisti, where a host of new products were launched.

familiar as the 430s to the many technicians brought up with Strand desks, and that AVAB has never managed to build a really strong presence outside of mainland Europe. Nonetheless, Panther has enough facilities, and is versatile enough that it could start to build the company a new reputation over here and, to judge by the favourable attention the desk was getting, possibly in America as well.

ADB also had a version of the same conceptor rather a Vision of it, since that is the name of their desk. Over a year after its first showing, the desk, a neat little idea with its panels movable for left or right-handed users, is now in full production and over 50 have been delivered worldwide. They also have new variations on their Eurorack and Memorack dimming systems, as well as their full range of theatre lanterns.

But as with **Selecon**, who had the final version of the 1.2k condenser profiles previewed at ABTT, though the lanterns are good, solid reliable units they were slightly overshadowed in my view by the innovations from CCT and ETC. However, Selecon continue their programme of development, and in addition to the Acclaim range, were also showing a new range of Acclaim metal halide lanterns, a new design of sub-kW flood and the Stage One, a 4" colour scroller, specifically designed for the 500/650W lantern market!



Bob Williams of ARRI talking nuts and bolts on the Arrisun 40/25.



The Unusual Industries team of Lucy Morris, Jim Douglas, Simon Garrett, Brian Rose, Alan Jacobi, Robin Elias and Gary White.

**DeSisti** launched the next generation of QH luminaires - the Micro range, available in 1k, 2k and 5k versions. The Micro has arisen out of a collaboration with Philips and features the first use of the 'Blue Pinch' lamps. With substantially reduced LCLs, housing dimensions and weight have shrunk significantly. Continuing their popular painter theme, DeSisti also added new products to their Goya and Rembrandt ranges.

ARRI were focusing on their range of luminaires, notably the Compact 600, which uses a single- ended lamp to reduce size and weight, the Compact 200, again with single-ended technology, combined with short focal length lenses and the Studio 10kW, proof of the company's continuing effort to provide a large fresnel lens in a small housing.

Allied to the lantern contingent, there are, of course, the lamp manufacturers and PLASA could rightly claim to have them in force. Whilst Osram and Philips were represented on the stand of MGC Lamps, Sylvania projected its new BriteXe xenon short arc lamp, ranging from 75W to 10kW, the principal benefit of which originates from the choice of xenon gas to provide high arc luminance, and an arc length which is small compared to the size of the electrode. Mico, and Primarc, also contributed to the wide array of lamps available, and Lighting Technology had bulbs of every imaginable kind and then some, as well as Limelight, a new followspot. Intended for touring use, it is a 2000W xenon spot, with an ultra lightweight electronic ballast, built-in frosting effects and has an extremely practical (and innovative) flat-bottom, so it can be put safely and squarely on the floor!

Although leading the way with new lamps, ETC has fallen a little behind the pace in the theatre/moving light control game (though it was interesting to note other manufacturers, such as **Avolites**, introducing graphic tablets of the kind ETC have been promoting for years), and were



Jack Exell of Action Lighting with the new Limelight followspot.

concentrating on introducing British users to the new names of their desks (Arri Imagine 3 is now ETC Expression 2x, complete with a new colour scheme). Here they seem to have pulled off a difficult trick very well: the desks are already so familiar in this country that there can be no prejudice against their US origins. New moving light developments for the Obsession range are promised for LDI.

The show was also a useful opportunity to compare the 'theatre-based' way of controlling moving lights with other methods used in other areas types of shows - indeed this was the theme of the 'super session' held on the Monday of the exhibition and led by Richard Pilbrow.

Even the smallest new desks at the show, such as **Multiform**'s Zodiac, 36 big brother of the innovative 18 memory lighting board which now has the ability to store fade times, as well as levels for each scene in a memory, and **LSC**'s Atom, available in 12-channel and 24-channel versions, enhanced by nine pages of memory for scenes or chases, providing up to 108 scenes or 216 scenes respectively, claiming to offer such support.

At the Super Session, Wybron's Autopilot proved to (most of) the sceptics that lights really could be made to follow people (or anything else wearing a suitable transmitter, such as the remote-controlled car on their exhibition stand!) automatically. And Cast Lighting's WYSIWYG showed how computer power can be very usefully harnessed in moving light control, giving a real-time, on-screen 3D display of light beams in the set. These two devices would have been my products of the year. Trouble is, being a theatre person, such useful systems take a while to filter through: the rest of the world knew about Autopilot a year ago, and gave it the prize then, while WYSIWYG seems to be generating a huge number of imitators (notably from Compulite and Artistic Licence) - the highest form of flattery.

From the Compulite/Stagetec combination,



Glantre's Richard Bunn, George Puthenkulam, Vic Dobbs, Richard Passman and Graham Fisher.

numerous new products were launched, most notably the budget-priced control system, the Photon. The system is supplied as standard to control 120 channels and 48 scrollers and incorporates many of the Applause functions, together with 20 multi-function submasters. The company also launched CompuCAD, a 3D CAD package aimed at both designers and operators.

The other talking point of the show was the WholeHog II. This desk, shown on the AC Lighting stand, is interesting partly because it is such a radical departure from the original, and also because that change makes it a very versatile desk that could easily span every area of the entertainment industry. Once again it feels like a high quality product, and its ability to let you name anything, whether it be colours, or positions, or whatever, is superb. And according to the brochure, it also has "the world's most comfortable armrest". Anyone care to argue?

The lower-cost Jands-Hog, also on show, looks more like a typical 'rock and roll' desk, with more faders - but actually looks less friendly for them, in the same way that MA Lighting's ScanCommander, an excellent little desk, looks very daunting at first because of its mass of tightly packed buttons. MA were demonstrating the desk fed from SMPTE timecode, thus avoiding the problem of having to press those buttons!

ETR, Seefactor and Transtechnik also added their voices to the debate with the launch of the Luna 24 (a 24-channel DMX memory/manual console), the Colour Co-ordinator (a portable console designed to control up to 512 channel DMX colour changers) and Prisma (offering 20 masters, dual crossfade system and a plethora of accessories) respectively.

Of course, all of these desks need something to control (although many stands were avoiding the problem of having to have lots of lights by just connecting their desks up to PCs running WYSIWYG) - and moving lights really were









Peter Winkler, Stefan Ettmayer and Herman Sorger of Pani with Anne Johnston of Production Arts.



Craig Johnston and Christine Czech of Columbus-McKinnon with Pfaff's Dennis Bramhall (centre).

everywhere. The smaller theatres may wonder at what relevance this has to them but, before too long, a light that can't move will be considered unusual, in the same way that the scroller now crops up in shows of any scale.

Vari-Lite are, of course, the leaders in this market and, as already noted, had the wide-angle VL6 and the new VL5B (why, oh why, didn't they call it the VL5 Pastel?) with its impressive range of theatre-based colours. Other players, including High End Systems and Light & Sound Design have been touched on elsewhere too, whilst White Light had a ProSpot with its very user-friendly LDS desk. Strand had a re-badged version of Martin's new PAL1200 - fascinating because it can do proper, rotatable shutter cuts under desk control, daunting because of its sheer bulk.

Moving mirrors were everywhere, and though many were in the 'noisy' end of the hall taking part in spectacular shows, Playlight were also featuring their stock of Golden and Mini Scans. Potentially of most interest, was the Amptown stand tucked under the shadow of Mushroom Lighting's truss construction. The ControLite PML, a hard-edged light that bears a startling resemblance to the VL2, has been making appearances in this country for some time, and has very smooth movement from DMX control and a bright, clear beam. The company were also showing their new Washlight, the first moving washlight I have seen that uses a Fresnel lens and tungsten bulb combination, giving it a friendly beam that would fit in well with conventional rigs. The only problem is the price as in so many other areas of life, German engineering does not come cheap.



Mike McMullan of Playlight (right) with Tony Lucas of Lee Lighting.



Patrick Louis and David Edelstein of Triple E (left) with Philip Sparks of Maltbury (centre) and Steve Tuck and Dominic Peissel of Blackout (right).

Getting away from automated lights, movement of a different kind - within the light beam rather than of the light beam - was a theme on many stands. DHA are probably the leaders in this field, and had their full range of animation effects, including the new Double Gobo Rotator with independent speed and direction control for each gobo on show. Apart from the Digital Light Curtains, now controllable from DMX through their DMX-LightTalk converter box, they seemed most proud of the overhaul they have given the traditional optical effects disks. After years of seemingly only being able to choose between fleecy or storm clouds (with the rest of the old Strand range only available by special order), DHA have started producing new cloud artwork, the results of which have already appeared on Oliver! and Burning Blue in the West End.

This launch ties in perfectly with the VSFX remote-speed cloud unit that White Light have been making for some time (and also with a similar unit from Stage Electrics, who chose not to exhibit this year), and with another new product from Strand - the Alto 2.5k effects projector. Seemingly more compact than the Cadenza EP it replaces, it is much brighter and should quickly find favour in projection work once theatre people get over the automatic prejudice they seem to have against any lamp that comes with a fan installed . . .

Of course, it will never match the brightness of 'big-boy' projection, represented at the show by the triumvirate of Pani, who had a new 4k HMI projector and 25-60cm zoom lens, **Hardware for Xenon** who had projectors up to 7k, and **E\T\C Audiovisuel** who also had 7k Xenon projectors,



Yves Ruellan of Hardware Xenon, whose projectors range from 600W to 7000W.



Peter Ed of Strand (left) with Glantre's Derek Gilbert and a model of the Star Princess cruise liner.

along with a host of ancillaries, including a moving-mirror that looked like the upmarket brother to Vari-Lite's VLM! All we need now is some way of getting this kind of light through those cloud disks (without them melting)!

For gobo-based animation, **DHA**'s American equivalent, **GAM**, also had a stand with their range of gobos and moving effects, including a double animation disk system, on show. **Lee Filters** were showing their gobo range once again, marking their first birthday with a smaller, pocket-sized version of their gobo catalogue. And if none of those gobos fits the bill, **M&M** were showing a new version of their GoboMaker kit. The original is still available, but the new version allows you to produce your own glass gobos which, to judge from the examples on show, and given suitable artwork, can be of a very high quality.

Though interesting to watch, the demonstration wasn't as much fun as the stand it took place on, M&M having set their products out as a circus carousel on a revolve - complete with stiltwalker. As well as winning my personal award for the most unusual stand, they also win the prizes for the products with the silliest names: a haze machine called Mr Mister?! Of course, the other familiar name on the stand, Rainbow, is spot-on for a scroller. One new member of the family was on show: the 4" version originally conceived, and announced at the ABTT show, as a low-cost scroller for 650W lamps will now also be available in a 'professional' version with XLR rather than phone connectors. Conveniently, this fits the Source 4, which M&M also distribute. It almost seems as if they'd planned all of this . . .



Ross Ashton and Esther Kooistra of E\T\C UK with the company's single-scroll projector.



The DHA Lighting team of Julie Harper, Philip Nye, Diane Grant, Vicky Fairall and Wyatt Enever.

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Rod Bartholomeusz of Lite Smiffs pays a visit to Anna Western and the stand of Rosco.



Mark Powell of Zero 88 with the new Linebacker, a 4-in-1 lighting control system.

Though Rainbows are probably the most familiar scrollers in this country, they are not alone. Wybron had their Coloram range, including the new, waterproof Aquaram version and Eclipse combined scroller/dimmer shutter HMI unit, on show. These scrollers always impress with their ability to take up to 32 colours. More interesting is the Intelligent Diagnostic feature built into the units, which feeds status information to the power supply and should be incredibly useful in trouble-shooting large systems. Feedback from equipment is another area that the DMX standard doesn't really address and its successor must. since proprietary, non-compatible methods are already starting to appear from different manufacturers.

Scrollers also featured on the stands of CCT and Compulite, which also featured Animator desks in just about any size you could want. The most unusual colour changer was on the Teatro stand: their Colourbox is a strange hybrid of scroller and semaphore, with three continuous loops of colour that can move independently of each other. With careful filter selection, a wide range of colour mixes can be achieved, and the unit can even fit on the company's 1k cyc floods. It was fascinating to watch this device going through its paces, but I'd hate to have to decide the colours to put in it! PLASA was also an opportunity for the Italian company to introduce its new UK operation, entrusted to the safe hands of Andy Collier.

Such decisions are much easier when each lantern just has one colour, and both Lee and Rosco had new swatch books in plentiful supply, and were joined on the colour front by first-time exhibitors Colourlite. The Rosco stand showed the company's recent diversification very clearly, with products ranging from their new dichroic glass filters and gobos to the IPS-DS-2506 dimmer strip, a line of six 2.5k dimmers that you hang on a bar, hang the lights from, then feed mains and DMX in to. Of course, if you bought CCT Freedoms you wouldn't need this system, but for



Paul Topliss of Lee Filters with a giant facsimile of one of their gobos.



Alan Cohen (left) and Eddie Daniels (right) of Harkness Hall, flank Greg Moger of R&G.

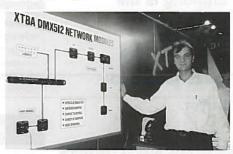
owners of older lamps it could prove a useful alternative to finding space for temporary dimmer racks on large shows or events in unusual venues. This is another product that can provide feedback about its status, but again using its own protocol.

Of course Rosco also had smoke machines on show, but so did many other companies. Indeed, with The Effects Company, The Smoke Company, MDG Fog/Smoke and The London Fog Company the biggest problem in this area seems to be becoming what to call your company! I'm afraid to admit I've become a touch disillusioned by smoke recently (mainly because, in theatre, audiences now cough as soon as they see even a hint of it, destroying any dramatic tension that's been developed by the cast). All now seem to have machines that can be controlled by DMX. All have either machines that will produce something similar to (but nowhere near as effective as) dry ice, or machines that will generate a finer haze than any of their rivals. All make the strongest claims for the safety of their product, while attempting to knock their rivals. And all claim that their machines leave no nasty residues, though the oily, slippery sheen on several of the stands' carpets seemed to suggest otherwise. Of the 'old timers', Le Maitre had their G300 machine as shown at the ABTT show earlier in the year, and JEM had their full range on display. Kupo managed to have a little variety, with a snow machine alongside the inevitable low-smoke machine.

The surprising growth area at the show, given its 'lighting and sound' origins, has been the number of exhibitors not actually directly involved in sound or lighting, but in other areas of entertainment technology. Blackout, for example, suppliers of custom drapes to a list of clients that any entertainment supplier would give their right arm for. Or Gerriets, supplying similar products with an equally long customer list. Or Triple E, supplier of tracking systems for such drapes. Or Maltbury, who now have the largest Steeldeck hire stock in the country, as well as a



Rosco showed the Intelligent Power System from Entertainment Technology, seen here with ET's Gordon Pearlman.



Chris Cook of XTBA with his display of network modules.

close working relationship (and a shared stand) with Triple E. The latter has launched new corded versions of its lighter duty Unirail track and the heavier duty Unibeam. Or Mainstage, with their Topdeck rostra system fresh from its success on the Wet Wet tour. Or Bridon, Columbus McKinnon and Pfaff without whose products most of the lighting and sound rigs would never actually stay in the air. And, of course, the companies now starting to specialise in the control of moving scenery, an area where some inter-stand (and inter-country!) rivalry could be felt between the UK's Stage Technologies (recent successes: Oliver!, Sunset Boulevard, the Royal Opera House, Take That, Phantom of the Opera UK tour) and Australia's Bytecraft (Sydney Opera House, Victoria Arts Centre Melbourne, Phantom of the Opera, Australia). It's good to see the idea of a standard 'scenery desk' has now been accepted, with Harkness Hall also having the latest version of Autostage (a computer-based operating system that allows the user to take control of stage and other devices from a central terminal) on show and Glantre talking about installations using Stage Technologies' Acrobat desk. (Italian shipbuilder Fincantieri has awarded Glantre the contract to provide entertainment systems for cruise ship Carnival Destiny). But, even more than lighting control, the deciding factor with this technology is probably the availability of local support.

Of course, there were also many invaluable lighting 'bits and pieces' of the kind that no show seems to be able to exist without nowadays. Howard Eaton Lighting are specialists at this kind of thing; they had a range of DMX network products on show, but since their raison d'être is creating specialist products to order, they were also just waiting for requests! XTBA are another bits-and-bobs company, and had their range of DMX network modules on show, along with a new, mid-price DMX tester, the MiniDMXter, and a system for transmitting DMX by radio. While everyone else was admiring Unusual Rigging's



Dan Martino (left) and Craig Schertz (right) of Wybron Inc with UK counterparts, Daryl and Judy Vaughan.



Andy Collier (left) and Mike Lowe (right) of Teatro with P&O Events' James Brooks-Ward.



All the fun of the fair: Adrian Hicks of M&M with the Source Four from ETC.



Scott Hunter and Sue Bates of Bridon, with theatre black products range.



Howard Eaton and Peter Willis on the stand from HELL.

tracking system with its complex mains and data slip rings, Chris Cook was wondering whether they'd send the data in by radio next time!

Doughty and Cerebrum chipped in with their usual ranges of stands and hardware, Doughty showing their new Mk II Zenith winch stands and a striking overhead frame, visible across the exhibition hall, whilst Cerebrum played host to the towers of Powerdrive, the ShowCAD system from Axon and the multi-media systems of Maris Ensing. Artistic Licence had Scroll Control, a battery-powered controller offering 200 cues for 30 scrollers. And Zero 88 introduced Linebacker, which is a neat little combined DMX backup and mini-lighting desk that, at its price, should quickly become the standard DMX back-up unit.

PLASA's waistline continues to expand with peripheral and service providers springing up all over the hall. One area which thrives is that of flight-case manufacture with Adda, Autopia Terakat, CP Cases, 5 Star Cases, Rufo Ans and Trifibre all vying to out-package each other, whilst the cables and connectors contingent of CEEP, Deltron and Roxburgh do battle on the links front, and those who pack the power punches such as Envetron and Kes, are on permanent standby.

Sections of the show also resembled a computer fair at times, since, after years of flirting with the idea, the entertainment industry now seems to have taken CAD firmly to its heart. As a result, a host of theatre/rock and roll-based programmes were on offer. White Light had the American Mac-based lighting design package MacLux Pro on show inside their van-come-stand (a crafty idea which attracted attention without having to build a complex stand, showed off the transport capabilities the company now have and probably gave the company the quickest strike at the end of the show!) and, at a new price of £299 were reporting a great deal of interest - as was the new hire catalogue, which vanished off the stand in huge numbers. Modelbox, who were first on the lighting CAD package scene with Autolight many years ago, were also on-stand to talk about the advanced rendering capabilities they can now offer to those people who successfully make the switch to computer-based design! XTBA had the much more expensive, PC-based MicroLux programme, which takes a slightly different approach to the same problem, but does seem to have better support for moving lights. And Starlite were showing their Stardraw 3D 'visualisation' programme and a near-complete version of the Stardraw 2D CAD package. This looks like quite a useful, easy to learn CAD programme, but what it isn't, to the disappointment of many who came to see it, is a lighting package; it can do lighting drawings and some degree of paperwork, but only if you draw your own symbols!

Lighthouse, hiding on a corner of the Robert Juliat stand, were showing another approach to the 'computer assisted lighting' problem with Highlight, a PC-based package that contains the full photometric data for a wide range of lanterns and can accurately render lighting effects based on that data - and can then take that data and feed it out to moving lights over DMX. The rendered images this system was producing were of a very high quality indeed. Those less concerned with art than safety were catered for by PLASA-newcomers Navigator Systems, showing their PAT test and hire record software.

The computer age was also much in evidence because of the many companies actively promoting their electronic mail addresses or the locations of their World Wide Web pages, with **PLASA** proudly leading the way. This is potentially a great way of obtaining accurate, up-to-date information from manufacturers and suppliers. And if it means the end of mistakes in hire orders due to illegible faxes, then that in itself will be progress!

Even in the midst of all of this technology, PLASA '95 still came across as a people show, and the range of people at the show was staggering: after years of near-misses, I finally met Richard Pilbrow: despite all the toys, that was the highlight of my show. The technology will have to work very hard to beat that! But you never know. The industry seems to be buoyant, and willing to spend money on new products and new technology, so I could be surprised yet. What will next year's show bring, apart from the need for more space? Who knows. The only certain thing is that you really should be there to find out.

#### **MORE TO FOLLOW!**

- AN EXTENDED SOUND REPORT WILL BE INCLUDED IN THE NEXT ISSUE OF L+SI'S SISTER MAGAZINE, SOUND+ COMMUNICATION SYSTEMS INTERNATIONAL
- THE NOVEMBER EDITION OF L+SI, OUR TENTH ANNIVERSARY ISSUE, WILL INCLUDE ALL THE SHOW PICTURES THAT WE COULDN'T FIND ROOM FOR IN THIS ISSUE.



# **FUSION OF TECHNOLOGY**

British Nuclear Fuels have a mission to inform. Ruth Rossington discovers how audio-visual technology is getting the message across at Sellafield

There can be few more sensitive issues in the 'caring' nineties than the research and development of anything nuclear. Positive coverage of sites like Sellafield in the media are about as rare as hen's teeth. Not surprisingly, British Nuclear Fuels Ltd (BNFL) has decided to grasp the nettle and initiate their own publicity- campaign, intent on getting their version of the message across to an often bewildered public. And what better way than a multi-media, interactive exhibition? None. So, in June this year, the new £5m Visitor Centre at Sellafield in Cumbria opened to the public.

Designed by Brennan & Whalley, and fitted out by scenic specialists Kimpton Walker, the exhibition seeks to explain the complete nuclear fuel cycle and servicing activities carried out by BNFL and the £1.8bn Thorp development at Sellafield.

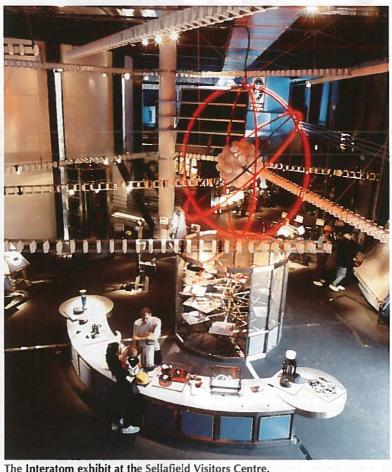
Kimpton Walker are well known in theatrical circles and milestone productions include Cats, Starlight Express, Miss Saigon and Sunset Boulevard. It is their involvement in the project that will form the focus for this piece.

The company were appointed

by BNFL at the end of last year after winning a competitive tender worth £2m. In the following seven months, the site buildings were stripped out and refitted to exacting standards of safety, durability and innovation. Scriptwriter Michael Glen of Touchstone Heritage Management, explains: "The Centre is by far the biggest visitor experience we have worked on. BNFL's wide ranging activities needed varied and innovative media to put them across to people of all ages in an entertaining and informative way. The very latest theatrical, interactive, audio-visual, graphic and cinematographic techniques have been realised by a team of specialists who have taken our ideas and developed them beyond what I had hoped to achieve."

The creative team, assisted by Touchstone's Michael Glen, were given an open brief by Dennis Brennan of Brennan & Whalley. Complex processes were 'distilled' into simple activities and visualised immediately into sketches by artist Peter Edwards at a series of meetings at Kimpton Walker's studios. Joining architects David Marks Julia Barfield, scriptwriters Touchstone and audio-visual producers Johnson Reed, Kimpton Walker quickly proposed adding theatrical set designer Douglas Heap and lighting designer Durham Marenghi for the theatres, with DHA Lighting called in for the main exhibition.

Many brainstorming meetings were held at Kimpton Walker's London studios. Concentrating on the exhibition area, Brennan and Whalley let the three main theatres develop through the expertise of Heap, an



The Interatom exhibit at the Sellafield Visitors Centre.

acknowledged grandfather of theatrical scenic design work spanning over 40 years and Marenghi, better known for his designs for the massive Wall concert in Berlin and the Jean-Michel Jarre concert in London's Docklands. Within two months detailed designs were approved and construction

"What better way than a

multi-media, interactive

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started in earnest. Kimpton Walker's project engineer, Roger Hart, assembled a team of five in-house engineering designers to work on the detailed design. From 27 design drawings they prepared 220 working

drawings, over the eight months of the exhibition fit out.

Many specialist contractors were employed to work on lighting and electrical control, model making and particularly animatronics. Two companies - Atlas Models and McAndroids, were retained from the outset. Meticulous engineering and modelmaking for each moving part took many months to bring

A new entry link tunnel has been built which passes through a 45ft diameter silver 'globe' before joining the main exhibition building together the buildings cover 15,000sq.ft with 11 distinct zones containing the Sellafield story.

The Earth House is a static model with an audio sound-track illustrating the potential harmful effects of the earth on itself and the solutions for improvements. Led down a darkened tubular corridor, visitors find themselves in a huge spherical interior earth. A cocktail of environmental problems - a toxic waste cargo ship that no port wants, trees dead from acid rain, car scrap yards - have been modelled into a foreboding heap environmental debris. The images are enforced with messages projected from hidden moving lights.

All the equipment for this part of the attraction was specified and installed under the combined auspices of Jonathan Howard of DHA Designs and Paul Greener from Howard Eaton Lighting Ltd (HELL).

The Corporate Story is a crisp, slick airline check-in environment explaining, through interactive graphics, who uses nuclear power worldwide and how BNFL's various activities serve the power generating industry. Common to many part of the exhibition, stainless steel used to evoke appropriately industrial setting.

To cover the history of the Sellafield Site, Kimpton-Walker have used a favourite multimedia technique - a Pepper's Ghost. Sequentially phased lights reveal two different

models through a 70% transparent mirror. The various stages of development of the site, since the armaments factory built in 1946, through Windscale, Calderhall and now Thorp, appear infilling a 'green field' model. Each is described by a voice-over storyline and news cutting images projected behind the model.

The level of detail required in the 1:2500 model meant that Kimpton Walker had to prepare and submit flight path diagrams for the CAA and seek special permission to overfly the site from the RAF base at Catterick. As a

result, a charter helicopter was commissioned as a photographic platform.

Measuring 2.5x2m, the sheer size of the model breaks new ground in 'ghost' technology, and has its own air-pressurised stage, backstage and auditorium, which accommodates up to 20 persons.

In the Safety Area, a moving lightbox display explains the activities of over 20 watch-dog organisations who monitor emissions contained in sea and land discharges. Another explains how one in every 10 workers is involved in health and safety management. Designed in clinical white steel mesh frames, the most striking feature is a 20ft high 'radiation' sculpture highlighting the fact that up to four times greater doses of radiation are experienced in long distance flying and three times greater radon emissions are found in dwellings built on Cornish granite foundations, than those that affect the workers at Sellafield.

The Atomic Theatre, part of the Elementary area, is a light-hearted look at the history of nuclear science and its key characters. Visitors first encounter Mighty Atom - their host throughout the Centre - live, in the Atomic Theatre, compering from a box, part of a six minute Victorian music hall revue with a cast of 13 scientists.

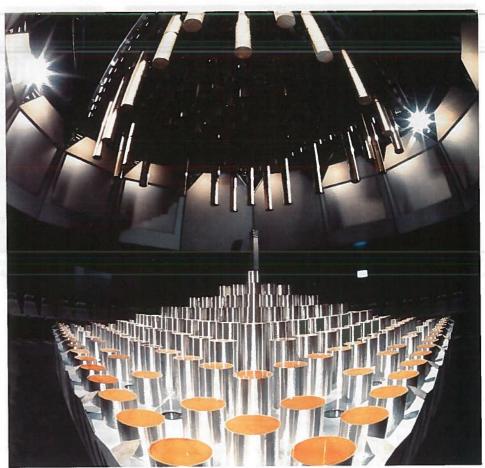
Conceived as a Monty Python-style Pollocks Theatre, the curtain rises on eight scenes starting in 1890 with Rutherford and Bohr in a Cambridge laboratory, and continues through Einstein, travels to Marie Curie in Paris and finally to Enrico Fermi in Chicago in 1951 and the building of the world's first Nuclear pile under the Chicago city stadium.

Over 40 air cylinders are used to drive the fully automated presentation, which is time-coded by computer. The positioning of the characters, their speech and the theatrical lighting was carefully choreographed and recorded on to an eprom digital memory. Brennan & Whalley's exhibition designer conceived the brocaded decor as a 'total surprise' to his otherwise stark, high-tech, industrial exhibition interiors.

Outside the theatre is a set of futuristic looking chairs in which visitors are invited to pit their wits against Albert Einstein, re-enacting Mastermind's question-master Magnus Magnusson. A collection of interactive buttons lead players through 10 programmes of general nuclear knowledge. These are also displayed to onlookers by lively computer graphics on large overhead TV monitors - part of a large battery of audio-visual equipment supplied by Integrated Circles in a specially air-pressurised AV control room, built into the back of the exhibition.

Part of Kimpton Walker's contract was to thread an extensive loom of electrical control and sound cable throughout the exhibition, to link each interactive switch, lamp, loudspeaker and television monitor back to the control room. If laid out, this loom would stretch 150 miles from Sellafield to Edinburgh!

Interatom is set in a large arena between two massive drums featuring the Reactor and Recyclorama theatres. It contains a collection of 13 interactive 'plores', developed and built by Science Projects, where visitors explore phenomena and experiment with technology. These interactive 'plores' are lit from an arrangement of lighting trusses cantilevered off three large columns. Over 700 PVC fins, in the form of ceramic insulators used on power lines by the National Grid, were formed and fitted



Inside the Reactor Theatre, complete with live size model fuel rods.

onto the trusses. Between the columns and over the information desk, a giant 3m atom structure pulsates and chases in red neon.

The Reactor Theatre is a purpose-built 17m diameter, sound-insulated steel drum structure, weighing 25 tonnes which contains a 40-seat, 360 degrees, 10 screen cinema. Entering through timed automatic doors, visitors are shown a three minute film in which Mighty Atom describes how Nuclear fission is harnessed to generate electricity.

This is followed by a two minute lighting, sound and thermal experience when visitors can sense all round them, how a reactor heats up and cools down. 290 fuel rod ends begin to glow with fibre-optic fed light, supplied by HELL, 10 computer-controlled Clay Paky Golden Scan 3s project light beams around the theatre, the walls glow red, a giant 'plenum' beneath the floor emits a blast of heat, then an authoritative Mighty Atom calls down 24 overhead control rods - the colours cool to

blue, the floor releases a second charge of cold air and, at the end of the show, Mighty Atom returns to guide his visitors onwards.

In this theatre, HELL also used the new Bytecraft Solution/Dimmers which were customised to include a 10v interface unit with relays to control opening and closing of doors, heating, ventilation and pneumatics. This was all managed via the lighting control system ShowCAD from Axon Digital Design, with the programming handled by Aemon Hunt.

The Fuel Line - a tubular link between the Reactor and Recyclorama Theatre - provides a quiet respite. Various sophisticated displays describe the geological origins and examples of Nuclear Fuel.

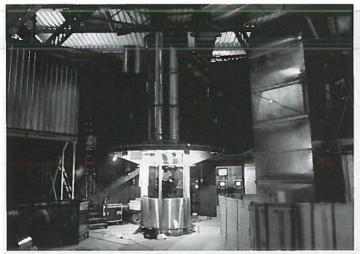
The Recyclorama Theatre is a similar size to the Reactor, but the whole construction weighs some 28 tonnes. It is an industrial interior which is a fully mechanised computer-controlled theatrical performance. This area is also equipped with Solution dimmers. Here, HELL



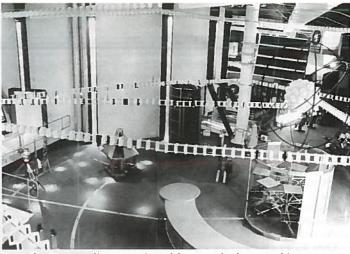
Visitors first encounter Mighty Atom in the Atomic Theatre, part of a six-minute Victorian music hall review with a cast of 13 scientists.



The Earth House, where visitors wander through a globe where the environmental picture unfolds.



The vitrification animatronic model takes shape in the Recyclorama Theatre.



From the Atomopolis mezzanine, visitors can look across this 'Interatom' interactive area, to the Fuel Line, Reactor and Elementary Theatres.

advised on the lighting of a whole series of tableau exhibits. Many of these exhibits has moving parts and the lighting had to be designed around this movement. The new HELL DMX splitter simplified the data installation for a series of mini scans. The Atoms are the actors, and describe in a sequence of 10 animatronic displays how nuclear fuel is recycled. The vitrification animatronic model takes shape in the Recyclorama Theatre, and is one of 10 animatronic displays which describe how nuclear fuel is recycled.

Each is revealed behind different types of air-powered doors and shutters. A fully animated Mighty Atom introduces the show and describes the processes, riding on a 75% life-size Magnox Flask traversing at high level from an overhead crane. Atoms arriving at

Sellafield in Flask are bathed, dissolved and separated by Thorp and the waste products stored in low, intermediate and high level waste processes - Drigg, Encap and Vit. Drigg, for example, is revealed as an old folk's home, complete with dozing, knitting elderly atoms - some in rocking chairs - all watching TV. Atoms escaping from the dissolution process are caught by Sixep and seen being scrubbed clean by car wash brushes. The process scenes are linked with giant translucent pipes, and the atoms are 'bounced' along the pipes by firing sequences of over 200 Xenon strobes fitted inside the atoms and pipes.

The *Processor* displays are real-life exhibits of the various types of travelling and storage Flask. Also featured here are seven interactive work-stations, where greater detail of the

Sellafield plant processes can be found. Above the 'user' monitor, large 'slave' monitors are mounted to allow waiting visitors on busy days to see what information is available.

Atomopolis - the final display - is set upon a large mezzanine - one of the first structures to be designed and fitted into the building. The floor is cut with nine underlit portholes infilled with blue glass. The principal display here is a section from a residential apartment within a high-rise building in the year 2050. Inside the lounge, a family watch and debate a TV documentary about life in 1994. Six figures, life-cast in plaster, are lit by sequenced lighting when they speak. From here, visitors exit through a graphic wall and into a glazed high level link, through an observatory, back to the reception.



# **SECOND TAKE**

By the time you read this at least one frantic burst of trade show activity will have passed. Exhibitions have a life and energy all their own and they are a branch of the entertainment industry in their own right. The rigs and derigs, or get-ins and get-outs according to your custom, are just the same frenetic late-night-till-dawn energy-sapping sessions as those experienced in TV, theatre or concert locations.

Come the day, in roll the customers or should I say the public, each sporting a badge which has disgorged itself from a computer system that knows more about you than you do and making all civil rights protests

about the carrying of ID cards irrelevant. It boils these contents down to a word or two for the benefit of the badge, but without much real thought. Indeed, the word intelligent is a mite overused in computer circles in my view and I would put very un-intelligent on their badge (they put 'partner' on mine which maybe makes the man on the stand think I am something to do with 'Come Dancing').

So how does the poor sap on the stand categorise me, the visitor, at a glance, with only the badge (upside down by now) and his instinct to help him. If the visitor is sporting a camera he is not a customer at all but an industrial spy from the Far

East stealing your ideas. If the visitor's hair is shoulder-length or accompanied by a size 14 lady in a size 12 dress, he is a rock and roller. He's a good bet - a pushover for anything that moves well and looks effective and colourful in smoke (no, not just the size 14). Don't try to sell him a lamp with a Fresnel lens, as he thinks the last delivery of those was from King Street by horse and cart. Don't try to sell him a dimmer bigger than a matchbox; with the mayhem he's used to backstage, the heat and hum not to mention the glow, from the super miniaturised version will go unnoticed.

If his hair is on the collar he is probably a freelance TV man. They come in two distinct types: one wears his hair that way as he is trying to be trendy without going over-the-top with the suits now running TV - it's a delicate balance. At the same time he must appear to be 'one of us' with the designer, writer, choreographer etc. The other freelance 'hair on

collar' group are those that haven't had a job for so long that they cannot afford the seven quid to get it done.

Particularly beware short neat hair, suits and, heaven forbid, polished shoes - he's awfully like you, a company man, and, as you know from school, like poles repel. He has read your catalogue ahead of time, knows the opposition price and is unlikely to be swayed by irrelevant detail like the performance of the lamp, its mechanical refinement and particularly the quality of the output. Just tell him these lights are equally useful on location in the studio, on news gathering and, if needs be, underwater. Cost-effectiveness is what he wants and don't bother with lamp life (unless it's an HMI with one of those dreadful counters) because no one has any idea of how long lamps last, do they Rocyn, Martin and Clive? (You would need to remember Wilson, Keppel and Betty to have seen a better three handed act than Williams, Christides and Salmon).

Anyhow, I hope all of you who bravely man the stands have evolved your own workable formula for surviving trade shows and avoiding the hazards which are, in order of aggravation, sore feet, lighting directors who pretend they never touch anything smaller than Gladiators but actually do 'The Time, The Place' once a month, and running out of drinks just when a real customer arrives. As for that rare breed - working lighting directors - they will have hopefully stored a few things in the subconscious for when the big one comes along.

Back at the studio, far from the glitz of the no-expensespared stands, ankle deep carpets, free wine and maybe an

audience with the MD in the inner sanctum, real lighting actually depends on the old faithfuls - sash, gaffer, that lethal windowlight, poly and black wrap (the invention of the decade) strong gloves and a strong stomach. The latter to combat the vending machine fodder now offered by most broadcasters as their contribution to worker/management relationships. I write on a production day in an unexpected lull; happily, the facilities studio is old-fashioned and has a canteen, and the production company have come up with a rather avant garde scheme whereby they have a rehearsal then a dress rehearsal, then a recording session - there is a God. I have just been down there refining my bit with cutters (flags) made of hardboard and string which depend entirely on my crew's ability to 'tie off' without losing any (they can), and the fact that it's a cool evening therefore the air-conditioning shouldn't cut in and, therefore, with luck, they shouldn't wave about. It's a high-tech business.



# AND PRODUCTION NEWS

#### Fish

The Willesden Empire

# **LD: Peter Parchment** SD: Andy Williamson

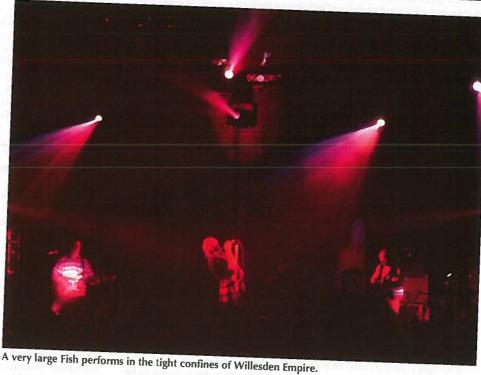
"A cross between Rab C. Nesbitt and Peter Gabriel" is one description of Fish. Well, hardly. The days when Fish was part of a band that in many ways mirrored the early career of Genesis are long gone. His on-stage humour is, however, well compared. An engaging raconteur with a canny eye for the pithy ironies of life, Fish, with his rich Scots accent, does bring an engaging and amusing presence to the stage. He did indicate during one of his rambles early on in the set that, ... you might see me up here as just a comedian in the future." The comment was made in jest, but with precedents already established by the likes of Jasper Carrot and Billy Connolly moving from singer to humorist, he might be advised to take his own counsel.

The show took place at the Willesden Empire a converted cinema that has for many years languished as a bingo hall. It now plays host to comedy club evenings and has just recently added the occasional concert to its itinerary. The show was a charity event in aid of The Big Issue and was to have included a performance by Craig McLachlan (of Neighbours fame and another frustrated rock star from that soapy stable), but having swum through a similar event staged outdoors on Edinburgh's wettest night of the year just a week earlier, he demurred. It mattered not one jot, as the 800-or-so people who did attend were there to see 'the big man' as he is affectionately known to his fans. They came from far and wide - a busload from Germany, a similar outing from Holland and not a few from the US. Fish's star may not be high in the heavens, but his constituency is wide and intensely loyal.

#### LIGHTING

Peter Parchment, best known by his now irrelevant nick-name of 'Fats', is lighting designer for the tour. He has progressed rapidly in the past two years, from lampie through board operator, to Icon technician and thence again to operator, picking up the prestigious operator's job on Suede's recent world jaunt on the way.

Despite his brief, and relatively limited, experience, he was brave enough to opt for a solely automated rig for this tour - 16 Icons, three floor stands and some simple netting to dress around the stage are all that fills the lighting space in the truck. Even with this small system he was obliged to compromise at Willesden, as the stage is barely 30 feet wide by 20 feet deep and still sports an electronic bingo display that hangs barely above head-height (especially Fish's head), effectively cutting off the whole upstage 10 feet of the stage to all but the drummer. Lighting-wise it's very awkward, the main saving grace being a 40 foot truss full of Pars out in the house. With a tiny performing area and nowhere to put his stands or netting, Fats cut his rig to 10 lamps, five on the floor, three on the house truss and two rigged from a pipe just downstage of the bingo board. He elected not to use the house lamps, due to there being only 63A three phase available for lighting.



Most lamps were operating at between three and 10 feet of their target area, but the variable focus of the Icon seemed well able to cope with this, getting wide enough to wash the stage fully and yet still able to tighten down onto just Fish's head when the occasion demanded which, in the absence of followspots, was often.

To compensate for the many restrictions forced by this tiny stage area, Fats put a lot of beam looks out into the house, and lit the band with perhaps just five or six instruments in two strongly contrasting colours. The overall effect was to

"This PA is like the one at the Mean Fiddler, but fortunately it's almost new and hasn't been caned yet." He did at least get his front end in, a 40-channel TAC 6000 and two effects racks filled with all the usual suspects, Andy's personal favourite being the Lexicon PCM80 effects unit which he lauds "for its size it's just amazing".

Poor Mike Rose on monitors was obliged to balance his TAC Scorpion on the back of a cockroach that had conveniently expired in a corner of the stage. He did get his own amps and wedges, but side fills were out of the question. Having said

that, the biggest problem alluded to by both men is dealing with Fish's voice, which is very bassy and lacks presence in the middle range. Andy puts a BSS 901 across his vocal for a more dynamic EQ and adds a small amount of delay to give an all-round 'bigger' sound to his voice. He is also currently experimenting with a Beta 58 microphon, having successfully used a Beta 87 for an acoustic tour earlier in the year, although the jury is still out on the former.

For Mike Rose it's early days: unlike Andy who has worked for the band several times, Mike is an SSE man and this was only his third show in the monitor hot seat. That said, he is aided by much useful advice from Andy and a band of great pedigree and experience (ex Pilot, ex Roy Harper) who would all be able to cope with playing in a tub of blancmange and probably have. Mike puts a modified mix of Fish into his wedge: "More the sound you hear out front than what actually comes out of his mouth," he said. Curious as this might sound, it certainly keeps Fish on his toes.

Despite everything, the sound was sweet and the band were tight - the sort of band that even roadies refer to as musicians' musicians. The show was very easy on the ear - and I don't mean quiet. The tour has now moved on to Europe for 12 weeks where it will play from Latvia to Germany in venues catering for 300 to 5,500. On the showing at Willesden, both the production and the band will take such variety in their stride.

"... the 800-or-so people who did attend were there to see 'the Big Man' as he is affectionately known to his fans . . . Fish's star may not be high in the heavens, but his constituency is wide and intensely loyal."

enlarge the visual aspect of the show whilst ironically thrusting the band further into our laps and making for an even more intimate performance. Lacking surface area upon which to project, many of the gobos he used went largely unnoticed, although one effect did have particular impact. Using split colour beams he passed the light through a simple gobo pattern held completely out of focus, resulting in two beams pointing in different directions, apparently independent of each other, from just the one lamp. It made for a very moody look.

#### SOUND

Fats may have had few things to contend with but at least he had his own system. For sound engineer Andy Williamson his SSE PA had to stay in the truck while he was obliged to use the house ASS rig. It wasn't all bad news though, as he explained:



colourfully-lit Terence Trent D'Arby at Grimsby Auditorium . . .



... and a starker look for the drape-covered stage.

#### Terence Trent D'Arby

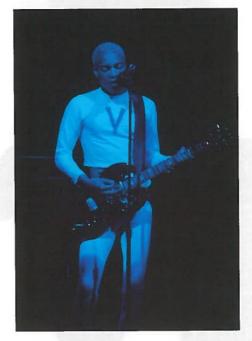
rimsby Auditorium

# ■D: Ian MacEwan D: Mark Pinske

few gold ropes and tassels randomly strung across the black backcloth was all that adorned this neat and tidy stage. Terence was about to erform a two-and-a-half hour set, a full >position of his works, and apparently with little theway of frills. As it turned out, an array of five backdrops, some clever use of lighting and a s I ightly erratic pacing to the set combined to make for a very lively, if occasionally bumpy, evening. B umpy because twice in the early part of the show, henthings were really beginning to rock and the capacity crowd was on its feet in the aisles dancing, he would suddenly drop to a slow and lengthy ballad, leaving them stranded and wkward. But this was a small matter. In a reversal of the 'peeling away the layers of an onion' technique, we were actually able to build up a fuller picture of the man as his performance progressed. Whatever his falls from fashion, or his artistic stalling after the promise of his first album some eight years ago, he is an artiste of unquestionable talent and an excellent songwriter, and with this show demonstrably so.

This is a another new venue to the touring circuit: only opened on June 16th, the Grimsby Auditorium had already staged 20 shows by the time Terence arrived. However, this was the first rockshow and it put the facilities to the test. The building was designed by the Sheffield branch of the British Design Partnership - a sort of enormous silvery Nissen hut or aircraft hangar with a fully glazed frontage exposing the two floors of the lobby area - it is more attractive externally than that description might imply. Council owned and run it adjoins the town's leisure centre and is intended to complement it. As a theatre, it can seat 1,440 end-on or, for an in-the-round performance, is licensed for 1,600. The seating can easily be folded away and the floor used for basketball or other sporting activities.

An end stage is dressed to a proscenium by the use of drapes. The house pipes are a bit sparse over the stage and a couple more teasers above the playing area would have helped black out the upper brickwork, which was easily visible during the brighter songs. The rigging steel is beefy to say the least, with a reasonable 9.1m between floor and lihe bottom of the roof trusses, for high trims it is somewhat limiting, as getting points onto the upper steel is awkward if you need to pull the trusses tight to the bottom of the lower steel. With 1 1 tons of available tolerance over the stage area, this hall will cope with all-comers. Load-in from



the rear is easy and open with plenty of space for trucks ( the venue is also easy to find and well signposted from the A180). The stage itself is a little small - just 32ft x 40ft - and would benefit from the addition of a few more sections for a show such as this.

Followspots are positioned on a catwalk up in the roof: access is awkward and the lamps have to be carried there (one small electric hoist would quickly solve this problem), but the position itself is marvellous. Being close to the stage, the spot angle is acute and as a result there is no unnecessary beam splash over the background areas. All in all this is a nice venue, and with the demise of the only comparable venue nearby, the Ritz in Lincoln, we are likely to see this one appearing on itineraries regularly in the future.

#### SOUND

Front-of-house is Mark Pinske, an engineer whose history is mainly tied up by a lengthy period with Frank Zappa, while the monitors are covered by Graham Hutchinson mixing from a Midas XL3. The PA is an EAW system from Concert Sound. For this show, six KR850s were flown each side in two columns, with three more on the floor atop three sub bass cabinets.

The room is effectively a long box with tiered seating rising in a single slope to the rear. There is no balcony other than thin ledges along the room's sides that seat perhaps 70 people in total, so this is not a difficult room to cover. Mark mixes from a Yamaha PM4000 and uses no new effects apart from the expected Lexicon 224 and PCM70. He

did have a Varicurve early in the tour, but changed to manual graphics, being of the old school bent. In truth, the sound was a bit one-dimensional - that is, Mark set a level and stuck with it, no matter what the style of song. When Terence announced, "Watch out for your allergies 'cos we're going to blow the dust of some shit now," the level was in fact no greater than the preceding ballad. This lack of colour in the sound can no doubt be attributed to Mark's studio background - the mix was balanced, but was bereft of a live feel.

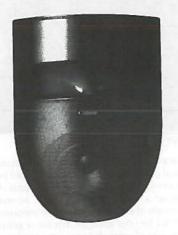
#### LIGHTING

Designer Ian MacEwan has done the last two TTD tours and also finds time to light Jamiroquai. Given a free hand, Ian designs to suit: "I did what I thought would be right for the gigs I saw on the itinerary." This seems an obvious statement until you see the gigs, which range from 9,000 seater shows at the Budokan in Japan to little bars in Germany for 150 people. The lighting system from Neg Earth and Spot Co comprises six Cyberlights, six Intellabeams, four Trackspots, 18 Pars with Color Faders, three four-lamp Moles with Rainbow scrollers and 10 Par 36s with four Lycian followspots out front. The rig is built upon two spans of folding truss cross-stage, with four spans of Trilite laid on top running up and down stage, as Ian explained: "I wanted something easily adjustable - a simple grid." This was a Spartan rig made to look bigger than the sum of its parts by its judicious use and the five backdrops mentioned in the introduction.

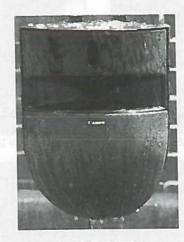
Controlling from an Avolites Sapphire, a desk lan hadn't used until this tour, and with no previous experience of controlling lamps from a DMX board (he was well familiar with the technology of the lamps, but more used to them eating up the channels on a Celco Gold) he has certainly learnt in four short months to get the most out of the system. Split colour beams, watery deep sea greens on the backdrop and a lovely fractured pattern that resembled what I can only describe as the reflections of early morning sun through shards of broken beer bottle glass, were all used to great effect. For such a paucity of lamps, lan was never wanting for looks, and although he may struggle to fill the void in the Budokan, in this venue nothing was lacking. He is a clever and creative designer, and modest to a fault - a talent to

This was a good show and a rather nice venue - despite a raucous audience. As Terence performed a delicate rendering of 'Sign Your Name', he sat in a single wide-angle beam of blue from one Cyberlight across his shoulder and a gently sparkling shaft from another behind. So light was the musical backing that he was almost singing a capella. At that poignant moment a rich fruity Yorkshire voice called out of the darkness "You gorgeous hunk you!" For a moment, I thought I was in a Boddington's advert.

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# **ASLEEP IN THE STALLS**

From 3rd-25th November you'll be able to see the 15 winning entries in this year's Linbury Prize for Stage Design on show at the National Theatre. I'd urge anyone interested in design to go along - it's a great chance for a tad of talent-spotting. In its short history the Linbury has thrown up some excellent designers, and their names keep cropping up.

Two past winners had work on show in Edinburgh last month. In the official festival, Angela Davies provided the very simple, but highly practical set for TAG theatre's adaptation of Alasdair Gray's Lanark in the Assembly Hall. With its huge thrust stage and awful acoustic, the Assembly Hall is not a designer's favourite space, but Angela built a series of gauzy windowed boxes on the back wall which could serve as both acting space and backdrop, and helped the audience keep a firm grasp on a play which switched helter-skelter between time and place zones. Angela has worked before for TAG, and has also developed a useful partnership with David Farr, designing Hove for him at the Cottesloe and making a stunning total Conversion of the Gate for The Boat Plays. She'll be back at the Gate for Farr's next, Ballad of Wolves, a brooding play by the Spaniard Ramon

Valle-Inclan, and at virtually the same time will be designing her second play by the poetic American writer Naomi Wallace for the Bush.

Meanwhile at the Traverse, Tim Hatley provided a huge see-through mirrored wall as backdrop for the premiere of Ariel Dorfman's Reader. Neither play, nor design, were Completely successful - a lot of subsidiary action took place not on the Traverse's thrust, but behind the mirrors, where audience members at the sides of the stage had to guess at what was going on. Tim has done some very good work at the Traverse, including the Tom Courtenay hit Moscow Stations, and has a useful association with Theatre de Complicité, for whom he did Lucie Cabrol and Out of a House Walked a Man.

Back in London another Linbury winner, Neil Warmington, was showing off his skills in the Matthew Warchus production of Henry V for the RSC. These two have worked well together before, at Leeds and in London, and Warmington's often jokey designs have featured in such offerings as the Mark Rylance West End Much Ado, which included a Wild West theme party as one of its

eccentric highlights.

For Henry V, Warmington made more than usual use of the Barbican's lifts, raising and tilting the stage for some of the battle scenes. Although Warchus's look-at-me productions can be alarmingly over-designed, Warmington's many

startling changes of set and atmosphere really worked here in the service Of the play - even if the idea of setting the French court scenes in what resembled an abandoned cinema, all swatched silk curtains in a false Pros, did seem rather wilful. The raising and lowering of the stage, plus a bridge and much action on the forestage, set interesting problems for Lighting designer Alan Burrett, whose work I seem to be noticing more and more these days. One cunning solution was to lower four large spots, roughly at each corner of the acting area, on scaffold-poles from the battens for moments when so much scenery was being slung overhead that lower light sources became necessary. The production was also notable for a strong sound-score, originally made for Stratford by Paul



► eil Warmington's atmospheric set design for the RSC's Henry V.

Slocombe and recreated for the Barbican by residents Steff Langley and Sue Carter.

The RSC has a penchant at the moment for dropping things on to its stages: the Coriolanus I raved about in the last issue starts with a chute of corn to feed the hungry mob, which apparently failed to go off at a recent performance and had the actors worrying for the next few scenes whether they were about to be swamped by it. For Henry V, there are regular showers of poppies, with the occasional snow flurry to boot. In the battle scenes, swords conveniently descend on chains. While over at the Young Vic, Louise Belson's simple in-the-round set for their Peer Gynt is enhanced from time to time by snow or falling leaves to give a gentle sense of the passing of the seasons.

At the Almeida, it was good to see their rain-bar back in use for Gangster Number One, Louis Mellis and David Scinto's brutal story of avenging low-lifes. The play itself is thoroughly untheatrical, a set of monologues developing - what luxury - into a few duologues in the second half. As if to offset this, Giles Cadle (a new name to me, but with a pedigree of assisting majors such as Maria Bjornson and Richard Hudson) built a very complex set of different levels, basically platforms for the monologues, with a street (rainswept by the famous bar) running down the middle of it. Jon Linstrum's lighting trained the spectator's eye to the stage areas in

use, but you always had the useful distraction of Cadle's set if the lack of action tempted the attention to wander.

At the National, Jeremy Sams' jollied-up revival of John O'Keeffe's Wild Oats at the Lyttelton is their crowd-pleaser for the year, and who better than Bill Dudley to provide a few nudging jokes in his designs. So his eighteenthcentury signposts have a rusticised motorway flavour, and his inn sign is more AA recommended than period; but the interest for the student of stage design lies in Dudley's use of what were in the late eighteenth century revolutionary techniques. Deliberately twodimensional painted flats, embellished with gauzes and cut-outs, slide on and off laterally, and there is a splendid backcloth that pays further homage to de Loutherbourg, O'Keeffe's designer, and the greatest innovator of his day. Deprived of the opportunity for his usual penetrating shafts of light, Mark Henderson contents himself with lending warm tones to this amiable romp, with only a shattering thunderstorm (sound by Scott Myers) for exercise.

There's a special fascination in seeing shows where the designer is also the director. One of the best examples is Philip Prowse, whose Don Carlos for Glasgow's Citizens was one of this year's Edinburgh highlights. For once Prowse, the monumental masonry specialist, was over-

shadowed by Prowse the director, supplying himself with a (for him) very spare set that could double as both palace room and open courtyard for Schiller's extremely complicated drama of intrigue. David Fielding gave himself a lot more work in his RSC revival of Botho Strauss's The Park, a bleakly funny sequel to A Midsummer Night's Dream set in various parts of a modern German urban wasteland. The Park demands a score of different settings, and I've seldom seen the limited resources and stage space of The Pit so imaginatively used. Like Bill Dudley over at the Lyttelton, Fielding uses sliding walls and drawn curtains, this time because there is no possibility of flying in the low-ceilinged Pit. He gets tremendous mileage out of them, moving us quickly from the park of the title - a wrecked rec - to an office, a cafe, a hospital room, an apartment: you name it, he'll slide it on. The final scene - a dusky drawing room where the main characters wander like ghosts in a 20-years-on postscript to the main action - is visual magic of a high order. And he's directed this difficult, but extremely rewarding, play with a vision and clarity that matches his excellent designs.

Finally, a special word of praise for Nettie Edwards, who has achieved the most amazing conversion job on the Theatre Upstairs for Simon Block's Not a Game for Boys. I've admired Nettie's work for Cheltenham in model form in the Make Space exhibition, but she doesn't often work in London and this is the first time I've seen an actual set by her. She's taken the entire back half of the room and turned it into a seedy sports club, complete with bar and pool table, and the loving care with which she has adorned every available inch of peeling wall space with notices, tournament sheets, fading posters and trophies shows that she has done her homework. Rarely have Theatre Upstairs actors had so much space to work in - it's great that a first play should have such meticulous design attention lavished on it. Oh, and by the way, it's a super show.

Ian Herbert

lan Herbert is the editor and publisher of the critical journal, Theatre Record.

Waiting for the corn to drop? Coriolanus at the

Barbican.

photo: Alastair Muir

# EQUIPMENT NEWS

## Spirit Launch Live 32

Following launch of the Live 42, Spirit have released professionally featured console, the Live 32, available in 8, 12, 16, and 24 channel frame sizes, with mono and stereo The Spirit Live 32.



inputs, offering a maximum of 32 inputs (24 channel frame). Spirit's new UltraMic Plus preamp is in evidence once again and with a full 66dB of gain range, ensuring that the Live 32 input stage can handle a wider range of input signals, and deliver cleaner sound than before.

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

## BriteXe from Sylvania

Sylvania Special Products Group has launched its BriteXe xenon short arc lamp, developed for projection-type devices in cinema, video, stage, studio, theatre and security applications. Its principal benefit originates from the choice of xenon gas to provide high arc luminance, and an arc length which is small compared to the size of electrode. BriteXe features instant strike, and both hot and cold restrike.

For further details, contact Sylvania in Shipley, telephone (01274) 537777.

#### Celestion's CX

Celestion's new CX Series, a range of sound reinforcement enclosures designed specially for club installation, receives its UK launch this month. Utilising a new range of specially developed drivers, the CX series systems are designed, say the company, to deliver exceptional sonic performance and system reliability. All four models feature jointed birch-ply cabinets and include fly-points for easy installation.

For more information contact Celestion in Ipswich, telephone (01473) 322222.

#### Pioneer 's HS DAT

Pioneer High Fidelity (GB) Ltd have launched the D-9601 DAT recorder for the professional audio market. Dubbed 'HS DAT' (High Sampling), the D-9601 can operate at a 96kHz sampling rate twice that of conventional DAT recorders. It can also operate at 88.2kHz, as well as the standard 44.1kHz and 48kHz sampling frequencies.

To achieve 96kHz sampling, the tape passes the head drum at 16.3mm per second, rather than 8.15, and the head drum's rotational speed is doubled from 2,000 to 4,000rpm. As a result, high frequency response increases to 44kHz and any undesirable side-effects of anti-aliasing and post-DAC filtering are forced an octave higher in

For more details contact HHB Communication in London, telephone 0181-962 5000.

#### Shure Mic Advance



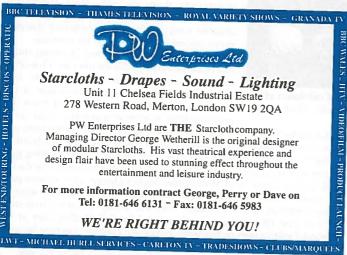
Shure's range of microphones has been extended by the introduction of the new SCM810 automatic microphone mixer. Featuring Intellimix, the SCM810 utilises Shure's system to activate only those microphones being addressed, minimising poor audio quality caused by multiple open microphones. Automatic operation permits an individual talker's voice to rise above background noise and room reverb to become clearer and more intelligible.

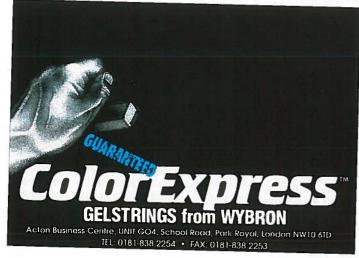
For further information contact HW International in London, telephone 0181-808 2222.

## **Autopia Rack-Stands**

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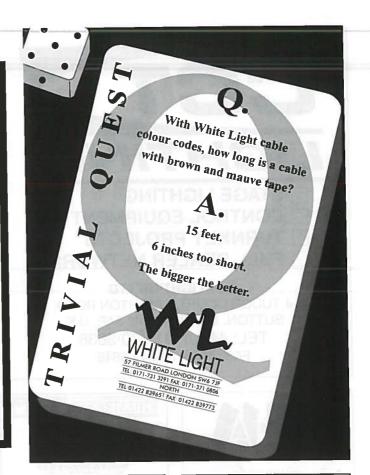
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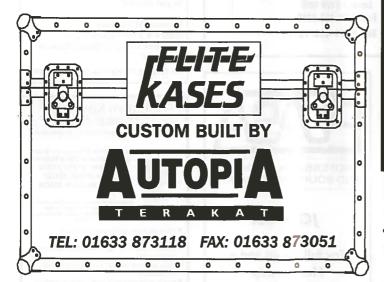
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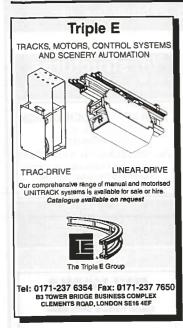
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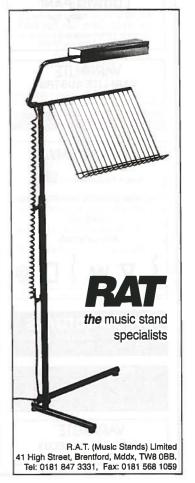
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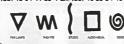
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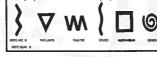
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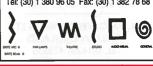
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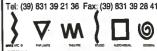
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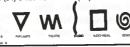
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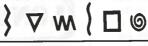
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# VIEWPOINT

#### Jason Greenaway

# To Move or not to Move?

Technology has always been responsible for moving lighting onwards. After all, one of the major factors in its art is its tools. Over the last 20 years, the concert lighting industry has seen major innovations, not only in its control technology, but also in its luminaire sophistication. Led principally by Vari-Lite, the 'moving' light has settled into an effective and spectacular role on the concert stage and theatre lighting designers have looked on with envy at the proliferation of such complex and expensive technology. Mixed with this reaction has been an excitement at the dramatic possibilities of such a vital source.

Indeed, in the technical specifications of these sources there are many advantages: DMX protocol, obviating the need for a new control console, dichroic filters, gobo opportunities, internal dimming, high efficiency, consistent colour temperature etc, etc. No-one can doubt that the average lighting designer could find a place for a VL6 in his lighting design if one were offered for free! The prospect of installing the sources in installations shouldn't be as nearly as expensive or technically difficult as once was thought. DMX cabling would eat much of the cost, but once installed should be efficient and allow for future expansion. Power could be fed along existing lines and operating costs should, in the long term, be reduced.

If we accept that theatre is to go 'automated', either through the mirror-controlled sources or the moving lantern philosophy, which must happen soon, it is impossible to accept that theatre lighting will not open its arms to automation. But does the theatre need automation and what effect will this have on stage lighting for the dramatic event?

Ever since Appia first talked about the unifying and vital nature of stage lighting, it has been accepted that light for drama is a principal source for the evocation of mood, atmosphere and location. Its power to express symbolic qualities and to aid the rhythmic progression of the dramatic event are now accepted as part of the stage lighting arsenal. The use of colour is significant in the creation of mood. Fades are significant in progressing the rhythm of the drama,

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and if we look to the music industry we see that fast fading, flashing or movement, in conjunction with loud music, induces a sense of urgency. A large dose of adrenalin is released from the layman as well as the lighting designer when standing in awe watching a stunning light show!

The use of the movement of the beam in the dramatic presentation is limited. Theatre is a collaborative art and requires a humble approach. If an actor upstages another, we are disapproving. The same should be true of all the elements involved in theatre, including lighting! While the possibilities offered by intelligent lighting are enormous for a 'lighting- only' performance, their scope in theatre is limited.

Automated luminaires offer many possibilities: they are easily controlled, which makes for easy focusing, dichroic filters mean that hassle with regular media is non-existent and can create spectacular effects. Their use as a vibrant source means that they are able to mimic a variety of standard lanterns, and flood, profile or Fresnel are all possible with one lantern. The beam's ability to move and change focus points to the inevitable conclusion that automated lanterns are a solution to the increasing complexity of the current multilantern designs. The inefficiency of a multi-lantern fan set could be greatly alleviated by replacing conventional units with automated ones. Currently, many lanterns are required in order to achieve a general wash of two colours. This number could be halved by using automation. This is aside from the specials which could be made up from the unused standard lanterns or unused automated luminaires from the wash.

The designer could spend more time and energy working on a design that realises lighting's full capability. Variable focus and unlimited colour mixes could reduce the compromises that take



Jason Greenaway is a freelance lighting designer and theatre technician. He has been lighting productions for the past six years and has successfully lit productions of all styles in a variety of venues, including spaces not previously considered for performance. He has an Honours degree from the University of Hull, where he specialised in lighting and technical theatre and also received the Dora Jones Prize for Creative Practical Contribution.

place when lanterns are doubled up.

Automated lanterns offer a solution to a problem which detracts from lighting's power. This is only if the automation is handled with a humble spirit. Reserve 'concert' effects for only when necessary and use the lanterns capacity for refocusing in order to preset for the next possible state, or even to introduce a new kind of fade; where the lanterns 'sweep' into the next picture.

Automation should be welcomed as a gift for the theatre. Let us see it open yet more artistic opportunity for the lighting expression.



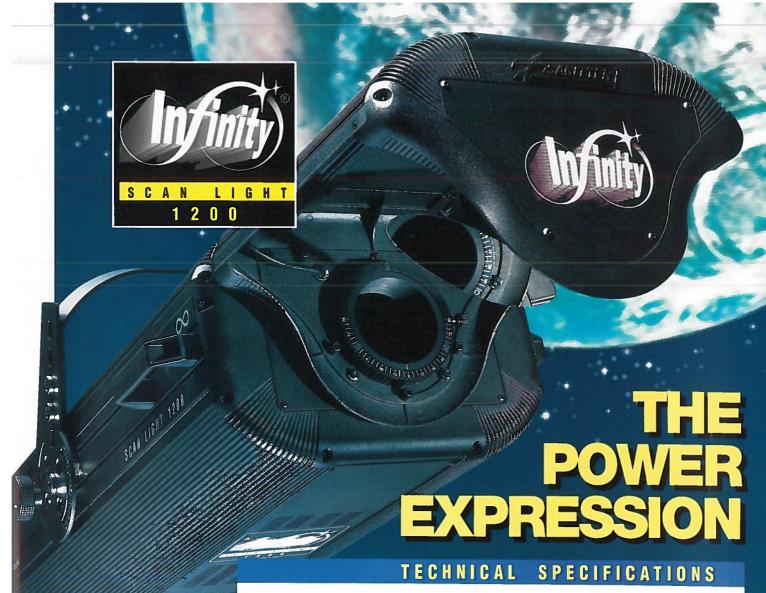
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