

LIGHTING+ SOUND

International

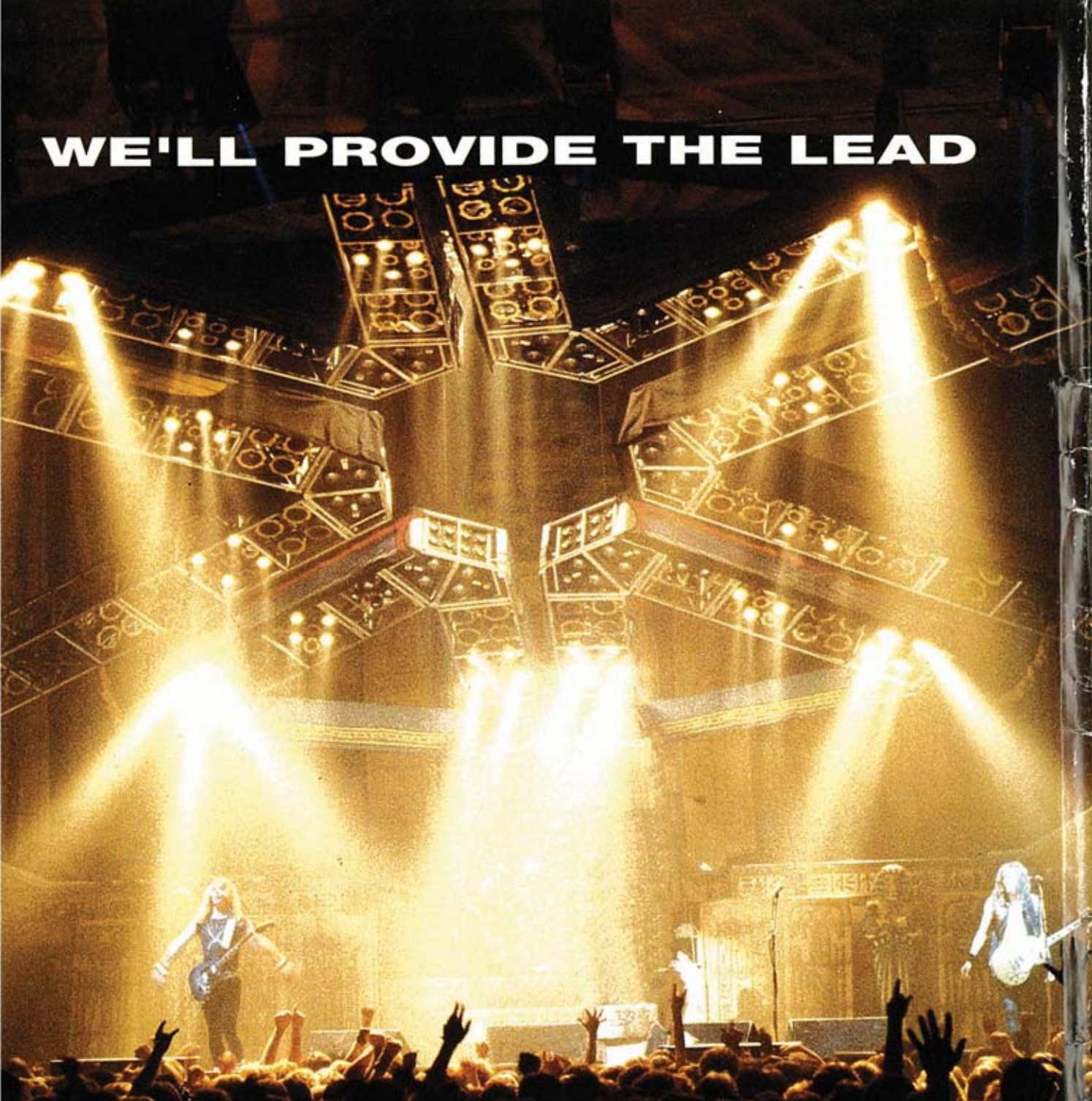


DANCEDAZE AT THE BRIXTON ACADEMY

- PLASA Light & Sound Show: 21 pages of coverage
- Francis Reid on Lighting: can art keep up with the science?
- Showboat: background on the Sound
- DanceDaze: lighting for television at the Academy
- Pushing the boat out in Glasgow
- Behind the Scenes at Strand

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LIGHTING+*Sound* International

published monthly by the Professional Lighting and Sound Association
© Copyright Professional Lighting and Sound Association ISSN 0268-7429

Editor: John Offord
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Published from the PLASA Office:
7 Highlight House, St. Leonards Road, Eastbourne, Sussex BN21 3UH England
Telephone: (0323) 642639 Fax: (0323) 646905

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The magazine is available on annual subscription:

UK: £30.00; Europe and rest of the world £45.00; Airmail £60.00. Single copy price £2.00 plus postage.

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*EMMY AWARD, 1986.

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MARILYN LOWEY on the set of "YO! MTV LAUGHS" (MTV) at the Regency West, Los Angeles.

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LIGHTING|SOUND *International News*

PLASA SHOW: 7000 Plus

The biggest and best yet, PLASA's Light & Sound Show 90, held at Olympia 2 in London from 9-12 September, exceeded all expectations with a dramatic increase in visitor attendance of 30 per cent. A total of 7,192 visitors streamed through the doors of Olympia 2 for four days to view new and existing products from more than 180 companies exhibiting in over 5,000 sq.m of stand space.

Almost 1,000 visitors came from overseas, a 42 per cent leap in international visitor attendance over the highly successful 1989 Show. Every continent was represented with buyers coming from as far afield as Brazil, New Zealand, Japan, South Korea, the USA and eastern European countries. More than half of the international visitors came from the EEC while strong attendance was also recorded from Scandinavian and other non-EEC European countries.

Following casual enquiry of attendance figures on the final day, L+SI's editor John Offord found that the registration of the 7000th visitor was imminent. It turned out to be Kash Behbahani of Kings Best Co in Los Angeles, USA. And as if to emphasise the international nature of the Show, numbers 7001 and 7002 through the door were Mr and Mrs Kazuo Hatanaka from Communication Link of Japan, on a business development consultancy mission for the Japanese Government.

David Street of 3D Services, the show organiser for the Professional Lighting & Sound Association was extremely pleased with the clear success of the 13th Light & Sound Show 90: "I had anticipated that we would significantly increase visitor attendance this year to over 6,000 from last year's figure of 5,510," he said. "But it became clear after the first day, when the number of visitors coming through the halls numbered more than half of last year's total, that we would witness something much more exciting."

Making an overall comment on the show's success, PLASA's chairman Kevin Hopcroft said: "I think that there is no argument at all now that the Light & Sound Show is one of the leading entertainment equipment exhibitions in the world. There is really nothing else quite like it which presents state-of-the-art equipment from such a wide range of companies to such a broad spectrum of the industry. With more than 15 per cent of the visitors from overseas there is clearly no doubt that the Light & Sound Show is a truly world-wide forum with a confirmed entry in the annual international calendar."

The dates for the Light & Sound 91 have been confirmed as September 8-11, 1991 where it will be staged once more on all five floors at Olympia 2, London.



Kash Behbahani (visitor number 7000) is greeted on arrival at Olympia 2 by PLASA chairman Kevin Hopcroft. In picture behind (left to right) are Show organiser David Street, PLASA vice chairman Tony Kingsley and David Baldwin of Coventry Data Systems who counted down the approach to 7000.



Kevin Hopcroft welcomes Mr and Mrs Kazuo Hatanaka from Japan, visitors 7001 and 7002 to Light & Sound Show 1990.



The regular early morning queue at Olympia.



A typical scene at Light & Sound Show 90: the Strand Lighting stand.



One of the eight Seminar sessions in progress at Olympia 2.



It took a big team of computerists to keep the queues moving.



A new Visitor and Exhibitor information services was inaugurated at the 1990 Show. A computerised system gave information on exhibitors and their products.



PLASA chairman Kevin Hopcroft gives the Show low down to Simon Cummings of County Sound Radio and Squire Sound & Light.

Cerebrum Lighting to Distribute ALS Enigma

The world-wide marketing and distribution of the Enigma and Enigma Micro controller range, manufactured by Advanced Lighting Systems (Scotland) Ltd., are now handled exclusively by Cerebrum Lighting Ltd. In 1989, readers of Disco and Club Trade International magazine voted the Enigma 'Controller of the Year'. At this year's Disco Awards ceremony, the Enigma Micro won the same award for 1990.

Commenting on this double accolade and the new agreement with Cerebrum, ALS's John Macphail told L+S: "It's great that the readers of DI have voted our product number one control system for two years in a row, especially when one considers just how many control systems there are on the market. We see this as a tremendous vote of confidence in our ability to provide a product that really

meets the demands of the discotheque market. At the same time, our new association with Cerebrum Lighting will hopefully lead to a far wider range of users outside of the discotheque industry being made aware of Enigma's power as a fully-integrated audio visual control centre."

Cerebrum Lighting MD John Lethbridge told L+S: "We are very excited about taking over the marketing of Advanced Lighting Systems' product range. We have known John MacPhail for many years, and have been very impressed by John and Neil Munroe's innovative design and the creative possibilities of the Enigma range.

"The time is right for his control system to be introduced to a far wider global market than simply club installations, where this product is undoubtedly the leading edge product."



Pictured left is John Lethbridge of Cerebrum with Advanced Lighting Systems' John MacPhail.

dB Technologies Appoints AKG

Italian sound reinforcement and pro audio equipment designer and manufacturer, dB Technologies has appointed AKG Acoustics to handle distribution of its products throughout the UK.

AKG will carry the entire range of products from dB Technologies which include loaded loudspeaker enclosures, both powered and non-powered; powered wedge monitors, powered and non-powered mixing consoles, wireless microphone systems and the new, revolutionary multicore system that dB Technologies calls 'Snakeless'.

Industry Votes for Turbine

The Turbine, Xylo's revolutionary new video sound system, has been voted the best new video equipment in an industry awards poll. Tim Davies, Xylo's managing director, collected the award at a gala awards ceremony at the Hippodrome on Tuesday 11 September. The Turbine took the most votes in the Best Video Equipment category in the poll organised by Disco Club and Leisure International magazine.

HLS Distribution

Hill Light and Sound, of Lakeside, Redditch, have announced that they have been chosen by Laser Productions of Miami, Florida, USA to officially launch, for the first time ever in the United Kingdom, their complete range of innovative lighting products — laser simulators and special effects, lighting and controllers.

The official launch took place at this year's Hotel Pub Club and Catering Show, held at the Greater Manchester Exhibition Centre (G-MEX) from 25-27 September.

Correction

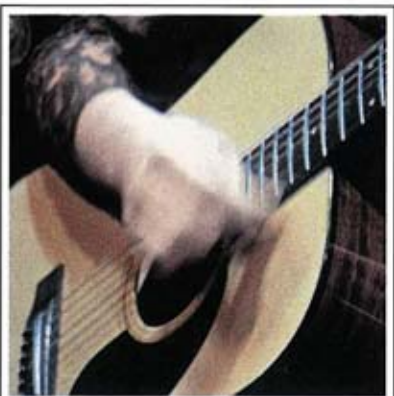
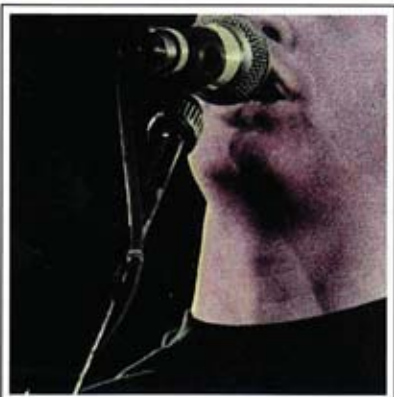
Further to our lighting console survey which appeared in July of this year, we have been asked to point out that Lightpower Lichttechnik GmbH of Paderborn (Germany) is not the producer of MA-lighting consoles, only the worldwide distributor. The designers and manufacturers of the MA units is of these units is MA-Lichtsteuertechnik of Würzburg (Germany).

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PanCommand Systems make Plans for European Representation

PanCommand Systems Inc. based in San Jose, California has announced that it plans on seeking European representation to handle its line of dealer oriented products and its family of moving lights. They will include the innovative ColorFader, ColorRanger, Color-Cue, ParFlector, PC Spot, PC Beam and PC Soft.

Marketing director Jim Gordon told L+SI: "We have been exploring avenues of marketing and representation recently and are still formulating plans for the proper way to address the complex European market. Many companies and marketing firms have come and discussed the subject of representation with us. We are still analysing the information that was gathered in these discussions. We are committed to find either a master distributor for all of Europe or strong individual distributors in each country to give us the type of close customer representation that we are looking for."

He continued: "Finding the right partners in Europe is difficult as you have to be careful on who you pick because of the politics in that market. In the UK, if you align yourself with one company, five other companies may not do business with them because of competition or past experiences. We seek

representatives who have as much neutral presence in the market as possible and who can give the deepest and broadest level of representation for our product line."

When asked about the decision not to show at PLASA, Gordon replied: "We had signed up for PLASA months in advance because it was a trade show in the UK. When it came down to the time period to go to the show, we made the decision not to go because the timing just did not seem to be right for us to attend. We are in discussions with potential master and regional distributors now. We have shown the PC Spot and PanCommand system to the major production companies already and are in discussions with a number of them. We are also discussing regional deals for PC Spots in a lot of other European countries. We want to set up these representatives, and then as a manufacturer exhibit at these shows to back up our distributors, or have them represent us at these shows. With this in mind, we felt it would be premature and not in our best interests to exhibit at this year's PLASA show."

"Our German representative has shown at ShowTech and will also be at Photokina. Worldwide tours such as Madonna, Cher and

Heart are touring Europe with our lighting products on them. For now, that is a good level of representation at trade shows and on the European market to meet our needs, while we get down to the task of exploring the right marketing channels for our company. I have heard some interesting rumours and gossip about our not attending the show, and we are quite flattered by all of the attention! But, it was quite simply a marketing decision based on the proper timing."

"We really are quite happy with the level of interest in our product line both in Europe, Japan, Hong Kong, Singapore, Australia and here in our own backyard in the US. We have finalised representation in Japan, Australia and Germany. We have found that the prudent business decisions for a company such as PanCommand Systems, centre around focusing in on our priorities and not spreading ourselves too thinly. We have some very specific and well thought out marketing goals and so far we are right on track with our short and long term plans because we have stayed focused on our plan and timetable for implementation. When we have finished our analysis of the rest of the European market, we hope to establish some solid representation there for our company."

Allen & Heath Update

Ocean Sound, the Portsmouth-based independent radio station, have recently ordered a 32:16:16 Allen & Heath Saber console for one of their production studios; the Alexandra Theatre, Birmingham, have purchased an Allen & Heath SC plus matrix mixing console from the Birmingham Allen & Heath dealers, Midland Theatre Services; the Barbican Centre, York, have taken delivery of a PA Saber as part of the contract undertaken by Northern Light of Leith; and finally two Sigma buss consoles have been sold to Maurice Starr, producer of New Kids on the Block.

A 32 input Sigma was installed in Starr's home 2" studio mating the Sigma with an Otari MTR90, and 44 input Sigma has now been purchased for his commercial facility, The House of Hits.

Clay Paky Award



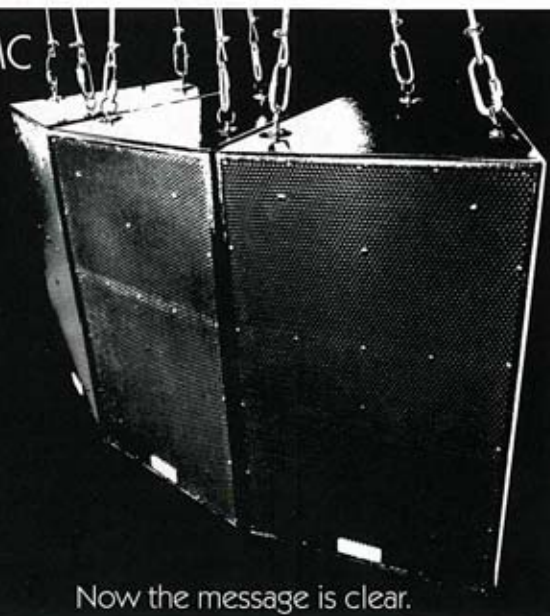
Pictured above is Pio Nahum of Clay Paky, Italy who collected the award for the best lighting effect of 1990 as part of the Disco Club and Leisure International awards held at the Hippodrome during the week of the PLASA Light and Sound Show. Their winning product was Golden Scan II.

Strong Distributor Network Established

J.L. Schmidt, product manager of the spotlight division of Strong International, has announced that A.C. Lighting Ltd, in England and A.D.D.E. in France will handle all future European distribution for the company's spotlight products. Strong International, headquartered in Omaha, Nebraska USA, manufactures an entire line of follow spotlights including the well-known Strong Super Trouper, and the powerful Strong Gladiator spotlights.

A.C. Lighting, in addition to England, will also handle distribution in West Germany, Italy, Spain, Portugal, Holland, Austria and Scandinavia. A.D.D.E., in addition to France, will handle distribution for Switzerland and Belgium.

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New Production Facility

Fane Acoustics has taken another step forward in its drive for BS5750 as part of the Wharfedale plc group of companies. The manufacture of chassis and initial assembly has been transferred to new premises at Blakeridge Mills in Batley, offering Fane new opportunities for increases both in production and quality standards.

Trading as the Fane Engineering Division, the Blakeridge Mills outfit will be developed as an independent supplier, both to Fane and the Wharfedale Group as a whole.

With the considerable increase in production created by the new plant it is expected that the Fane Engineering Division will eventually offer its additional capacity to other manufacturers — consolidating its value to the Wharfedale Group as a whole.

Pictured left is the interior of Fane's new manufacturing facility.

In-Service Training

The Half Moon Young People's Theatre have put together a programme of one day courses on a variety of topics looking at new developments in equipment and techniques for working technicians and designers in small and middle scale theatre.

The workshops will cover the Creative Use of Colour; Non-Conventional Light Sources; Basic Techniques in Lighting Design; Colour Temperature; Lighting Black and Asian Performers; New Techniques in Sound Recording; Smoke and Pyrotechnics; Lighting Design for Directors and Designers. For further details contact Dipak Mistry on 071-265 8138. Courses will take place in the Training Studio of Donmar Ltd at their base in Whitechapel.

Re-launch for BKSTS Exhibition

The organisers of the BKSTS biennial exhibition and conference have re-launched the 1991 event to reflect the keen interest shown by television and video equipment suppliers in the 1989 event, 'Film Video and Sound'. Entitled 'Film and Television Production 1991', the new exhibition and conference will run from 9-12 July 1991 at Olympia 2 in London and will focus on all aspects of production for the film and television world.

The exhibition will take advantage of a firm base of exhibitor support amongst the traditional areas of cameras, lighting, sound and post-production, but will in addition focus on certain new areas.

The internationally-respected papers programme will cover a wide range of subjects throughout the week. The conference will be heralded by Scene Today, traditionally the curtain raiser to the papers programme, which next year will be themed 'Entertainment in the UK and Europe'.

A social programme will be co-ordinated for exhibitors, visitors and conference delegates to provide the opportunity for informal meetings and discussions about the latest industry developments. Incorporated within this will be a 'Partners Programme' which will take place at the same time as the conference sessions.

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Brit Row fit out Damont

Damont Audio in West London, the UK's largest independent tape duplication company, has added master tape duplication to its in-house facilities with a new system designed and installed by Britannia Row Sales.

Britannia Row designed and built the system — desks and racks to suit the studio. The system includes an Amek BC2 console, AEG M20 and M21 2 track tape machines, Dolby B and SR/A racks and an extensive list of outboard equipment plus wiring and installation.

Keeping up with the Jones's

Both the hire and installations departments of sound engineering company RG Jones (Morden) Ltd have been going through a busy period.

The installation department are completing an audio and video system for the five conference rooms in the DTI's new headquarters. Two of the rooms will stand alone, while the other three can be used separately or inter-dependently as required. Another installation is for the new press room at Conservative Party Central Office which is being fitted with a sound system to match both radio and TV broadcasting standards.

There have also been successes for the hire department with a series of open air concerts at Kenwood Lakeside, and Kew Gardens plus two classical and one jazz concert at Leeds Castle. In addition to various corporate events and AGMs, RG Jones provided equipment for Polesden Lacey Open Air Theatre season, Henley Festival of Music and Arts and, more recently, the International Broadcasting Convention in Brighton.

Riviera Sound



Howard Barden (left) halls manager of the ERC, with Steve Norris of Announcement PA.

Torquay's prestigious leisure and entertainment complex, the English Riviera Centre, was recently the scene of a hard fought contest between a number of PA installation companies over a new sound system.

The winner turned out to be a local company, Announcement PA from Paignton, whose Hill Audio/Electro-Voice system came out the best in the listening tests. In order to provide good coverage to all areas including the balcony, Announcement PA used a spread pair of E-V Deltamax speakers hung either side of the stage with a bass bin beneath, plus a centre cluster flown above the stage.

Hill amplifiers on the rig include two DX1000s, two LC800, an LC800, and an LC400. One DX1000 powers the sub bass, with each channel driving one 18" driver in the bass bin. The other DX1000 powers the 15" bass drivers in the Deltamax. E-V specify this range of drivers at a minimum impedance of seven ohms so each amp should be giving its full 800 watts per channel into each pair of drivers.

Discoscene '90

Discoscene '90 is a one-day regional trade exhibition dedicated to showing the latest sound and lighting equipment, special effects and associated services to those involved in the discotheque and leisure industries. It takes place on Sunday 28th October 1990, at The Pavilion Suite, County Cricket Ground, Edgbaston, Birmingham.

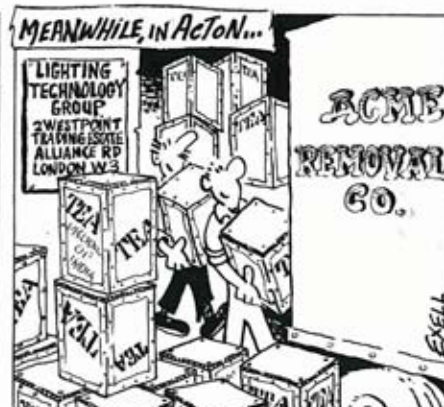
This will be the 12th successive year that the show has been held, and it is regarded as an ideal opportunity to see many of the new products unveiled at PLASA prior to the winter season.

The exhibition has a broad profile with last year's exhibitors including companies such as Bose, Citronic, Cloud, Ryger & Universal Lasers, through to first time exhibitors such as Fabulous Fountains and Unique Productions. A full list of exhibitors will be announced very shortly and it is expected that more than 30 companies will be participating.

A new feature to the exhibition this year will be a showcase of 'live' disco acts that will be of particular interest to venue owners/operators seeking to book acts for their venues during the coming months. The showcase is being organised by Area Entertainments of Leeds who specialise in this area.

This will be the third time that the event has been staged at this prestigious venue that offers a location close to Birmingham city centre with excellent road and rail links. The show opening times are 12 noon until 5pm and admission is £1.50. If anyone requires information they can contract Terry Lees at 11 Netherfield Gardens, Acocks Green, Birmingham B27 7XA or telephone 021 707 1925.

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INTEL 91

The 12th Mostra Internazionale Elettrotecnica ed Elettronica — INTEL 91 — will be held from the 25th to the 29th of May, 1991, at the Fiera di Milano Exhibition grounds. This is the leading European Exhibition of the sector, and one of the most important in the world. It is promoted by ANIE, the National Association of Electrotechnical and Electronics Companies, and by FNGDME, the National Federation of Electric Material Distributors and Wholesalers.

INTEL 91 will host about 1,100 direct exhibitors, and 650 foreign companies from 35 European and non-European countries will be represented, including Canada, the USA and Japan. The exhibition area will exceed 60,000 sq.m. and will be sub-divided into six main product groups: electrotechnical, electronics, generator units, small household appliances, machinery and equipment, and lighting.

A major increase in the number of visitors, especially from overseas, is foreseen for INTEL 91. Over 80,000 operators are expected to visit the next exhibition.

Lighting Communique '90 Video

Lighting Communique '90, a presentation given at the CIBSE National Lighting Conference at Robinson College, Cambridge in April, is now available as a 65 minute VHS video tape.

The presentation reviews the progress in lamps, lighting equipment and installations during the two years preceding the conference.

The Communique is introduced by Robin Aldworth for the Lighting Industry Federation. The speakers are Brian Morgan of Luxonic Lighting, Barbara Trigg, associate editor of Lighting Equipment News and Iain Mclean, special projects manager of Thorn Lighting Limited.

The video is available at a cost of £20, (including VAT and postage and packing) from: CIBSE, Delta House, 222 Balham High Road, London SW12 9BS. A cheque, made payable to CIBSE, must accompany the order. The video comes with a list of manufacturers whose products are illustrated.

Relocation for Lighting & Sound Division



Pictured above are Roger Dix (right) with Brian Croft.

In a major investment programme to consolidate its successful lighting business, three Samuelson Group plc companies came together at new, purpose-built premises in September.

The 60,000 sq.ft. offices, warehousing and showrooms, based in Greenford, West London, will become the headquarters of a new division - Samuelson Lighting & Sound, which will incorporate the following companies: Vari-Lite Europe Ltd, Samuelson Concert Productions Ltd and Theatre Projects Services Ltd ('Lighting Operations', and 'Sound & Vision Operations').

A number of re-appointments have been made from within the three companies to form a new management team while maintaining service continuity. Brian Croft, an expert in production for the concert touring industry who has held senior management posts in other Samuelson companies, becomes general manager of Vari-Lite Europe, and also a divisional director, deputy to Roger Dix the new Group managing director.

Alan Thomson is appointed to general manager lighting operations with responsibility for Samuelson Concert Productions and Theatre Projects Lighting.

All three companies have been operating from the new headquarters since the first week in September. While each company will continue to service its own market sector, the Greenford base will provide extensive new facilities to enhance services to all clients.

Sound & Light Asia

Sound & Light Asia '91, Asia's only trade exhibition designed specifically for the lighting and sound professionals, will make its debut in the Singapore World Trade Centre from July 10-12, 1991.

In recent years, countries in the Asian region have been enjoying the world's highest growth rates, and across the region, the leisure and entertainment sector is booming owing to the rising demands of the newly affluent and the massive inflow of tourists.

Among the products to be displayed are audio special effects equipment, auto-cross-fade units, surround sound equipment, audio and lighting consoles/mixers, floodlights, lasers, lighting effects and video systems.

Running alongside Sound & Light Asia '91 will be Pro Audio Asia '91, the specialised forum for professionals in the recording, public address, sound reinforcement, installation/contracting, sound-for-vision, broadcast and duplication industries in Asia. Held in Singapore, the two shows are bound to attract much exhibitor and visitor interest. For details contact the organiser, Business & Industrial Trade Fairs Ltd, 28/F Harbour Centre, 25 Harbour Road, Wanchai, Hong Kong. Tel: 575 6333.

Project Orion

Opus Amplification of Burnley were called in when local Ford main dealer Skippers wanted a spectacular launch for the new Ford Escort and Orion. The special projects division of Opus went into planning straight away. The event was to be outdoor and to attract at least 4,000 people.

The site chosen was local stately home Towneley Park. Opus called in Birmingham-based Laser Hire Limited, to provide stunning laser effects. Lee Lighting of Manchester provided all the lighting and mobile generator set, whilst all sound was provided by Opus.

The site comprised of a main area, a marquee and trade stands. The arena contained a massive 100ft by 15" projection screen for the laser graphics, and the cars were driven through this into the arena to the laser light show and music specially chosen for the launch.

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Cadac announces ENO contract



Clive Green & Co, manufacturer of the leading Cadac theatre consoles, has installed a specially designed desk for the English National Opera (ENO) at the London Coliseum. The Cadac will replace the ENO's existing Midas console and features a patch bay with 520 points and the latest Cadac software.

The desk is designed to provide high quality sound as well as a sophisticated range of facilities. The computerised VCA grouping assists with both the setting up for production, as well as making the task of control considerably easier.

A great deal of attention has been paid to the desk layout itself. The master section is located dead centre of the desk, with mic and tape channels either side.

Le Maitre Explosion

At approximately 2pm on Thursday 6th September, an accident occurred in one of the 'press rooms' at the Le Maitre firework factory in Peterborough. The plant is an 'eggbox' construction which, in the event of an accident, is designed to take the force upwards and outwards; thus protecting the occupants of the adjoining buildings.

The operator in the press room was complying with all procedures and safety regulations when an explosion occurred. Although the building performed in the designated manner, a part of the tool fractured and fatally struck the operator, even though he was outside the building at the time.

A thorough investigation is being conducted by Le Maitre and the Health and Safety Executive which is standard procedure in the case of an accident of any magnitude. The factory will open on completion of this investigation with a full complement of the remaining staff.

New Canadian Distributor For Midas

Audio Concept of Canada has been appointed as distributor for the Midas range of high quality live performance consoles throughout Eastern Canada.

With offices in Montreal and Toronto, Audio Concept has built a strong reputation for the supply of quality products in the sound reinforcement market, as well as broadcast and theatre.

The company has separate sales and hire divisions with a high standard of technical support for both. With the launch of the XL3 monitor/front of house console at the AES in Los Angeles, Audio Concept will be selling this plus the XL2 console and XL88 matrix to end-users, as well as introducing Midas products to the hire side of their operation.

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Ticket to Rimini

PLASA have now received the DTI offer of financial support for SIB/MAGIS, Rimini 1991. The exhibition runs from 24th-27th March and includes equipment for both the discotheque and theatre/cinema markets. This is the first year that the DTI has given sponsorship, and the price is very tempting indeed. Shell scheme £31/m — includes carpet, walls, fascia, spotlights, one socket, and a clothes stand(!). It may also be possible to book space only.

The deadline is 27th November, but all enquiries should be made to Annabel Williams at the PLASA office within the next few weeks in order that sufficient space is reserved.

Playlight Move

As from Monday 17th September 1990 Playlight and P & G moved their Head Office and Manchester operations to new 30,000 sq.ft premises at 67 Ayres Road, Old Trafford, Manchester M16 7QN. Tel: 061-226 5858.

Stirling Audio Distributes BBE

Stirling Audio has secured the sole UK rights to distribute the range of Sonic Maximisers being produced by the California-based company, BBE Sound.

During the past few years, BBE has developed a process that provides the pro user with a viable alternative to regular equalisation of tone controls. The result is clearer definition of both vocals and instruments without the addition of synthetic harmonics and unwanted noise. No encoding or decoding equipment is required for this single-stage process. This amounts to the correction of phase and amplitude distortion inherent in all dynamic loudspeakers.

"The availability of these units enables a unique new form of sound enhancement to be utilised on the British pro audio scene," Stirling Audio's Tim Cuthbertson told L+SI. "The BBE range has already been a tremendous success in the States, and we fully expect retailers and pro audio dealers to experience the same kind of response in the UK."

Soundtracs In Line



Rob Rettberg of Rettberg Music, Ontario.

Soundtracs have announced the purchase of an IL 3632 production console by Rob Rettberg of Rettberg Music Productions in Ontario, Canada.

The company's main activities are the production of commercials and theme music for television, and film soundtracks. The IL 3632 was supplied by Soundtracs' Canadian distributor, Omnimedia Corporation of Quebec.

Electrical Training

Buckinghamshire College of Higher Education is offering a range of electrical installation courses for 1990/91. The two-part '236' Electrical Installation course is offered on a three year day-release basis with students attending one day per week for 36 weeks a year. In line with employers and student requests, the College also runs Part 1 over two evenings per week for 36 weeks.

The college has also introduced a new 8 week intensive course in Practical Installation Work. The course offers a balance of theory and practical lessons.

The new Electrical Installation Competencies distant learning course is particular suitable for those people wishing to further their careers but unable to study at the College. Students learn by working from a series of open-learning modules, together with regular tutor support. This distant learning course is designed to cover Part 1 of the City & Guilds '236' course. For further information on any of these courses, please contact Ian Prior on (0494) 22141 extension 221 or 298.

JBL and the Arts

One of the first leading nightclub venues in Yorkshire and one of the most recent have two things in common — they are both old cinemas and they have both been fitted out with complete new JBL Sound Power systems.

Casanovas in Wakefield, a retired Victorian cinema and now a 1,000 capacity club, is nearly nine years old and is undergoing a complete refurbishment. After Dark in Morley is a brand new club conversion owned by One Lot Leisure.

At After Dark, full use has been made of the original cinema features. The sound system for this club was specified and installed by Andy Blackwell of Dial Sound & Light, based in Bradford, West Yorkshire. Three pairs of Sound Power 4726s for mid and high frequencies have been flown from the lighting rig — four units directed onto the dance floor from either side of the stage, and two directed at the balconies. The sub bass consists of a JBL 4785 and a JBL 4742, both placed under the stage.

The new JBL Sound Power system for Casanovas has a capacity of a powerful 9kW, and was again installed by Dial Sound & Light. There are four 4785 sub bass units, two for each of the two dancefloors, and on top of these are placed four 4756 cabinets for mid and highs. In addition, two 4726s are flown over the centre of each floor as a high energy supplement to the system.

On other fronts the Elgiva Theatre, an arts and entertainment centre in Chesham Buckinghamshire, has recently been fully refurbished with a comprehensive 2kW JBL sound system, together with a portable Dolby stereo cinema system also featuring JBL speakers. The equipment was installed by London-based Marquee Audio.

And finally, the New Silhouette Club, Hull's newest 'alternative' night spot has been fitted with a JBL Sound Power sound system.

Kelco UK, Manchester-based sound installation specialists, were commissioned to provide and install the sound system. Four JBL 4726Ps have been flown around the dance area, to provide mid and top frequencies and the bass beat is put through two JBL 4785 cabinets on the floor. The system is driven through Citronic amps and Citronic EQ, using JBL/UREI crossovers.

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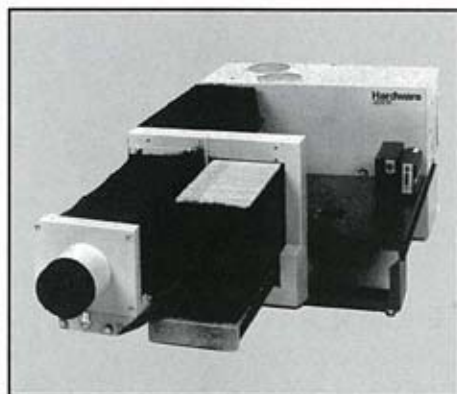
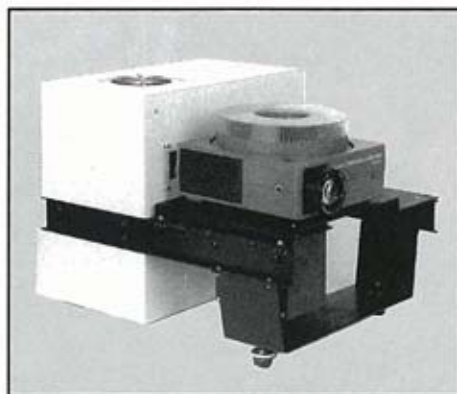
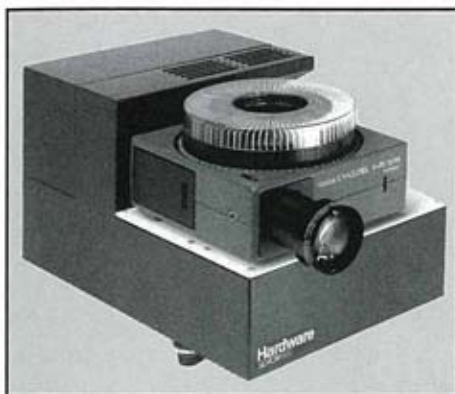
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XENON 600 W - 4 000 Lumens 24 x 36 mm slides

A compact projector that enables ambient light to be maintained for taking notes in a conference room. Image up to 7 metres wide.

XENON 1 000 W - 8 000 Lumens 24 x 36 mm and 60 x 60 mm slides

The 24 x 36 mm model is often used in multi-vision mode for conferences, sales conventions and stands. Image up to 10 metres wide.

XENON 1 600 W - 14 000 Lumens 24 x 36 mm and 60 x 60 mm slides

Same applications as the 1 000 W projector. The 60 x 60 mm model can be used for theatre backdrops, giant posters, and projecting decors for films and television programmes. Image up to 14 metres wide.

XENON 4 500 W - 70 000 Lumens 180 x 185 mm slides

Designed for giant projection in large auditoriums, on to monuments, châteaux, inflatable structures or any medium created for a specific event. Image up to 40 metres wide. The 4 500 W projector is compatible with standard multi-vision systems. The slide changing is microprocessor controlled with a removable 40 slides tray and a rapid search random access.

XENON 7 000 W - 100 000 Lumens 180 x 185 mm slides

Same applications as the 4 500 W projector. Image up to 50 metres wide.



FOLLOW SPOTLIGHTS (1 600 TO 7 000 W)

Hardware for Xenon has developed a new generation of follow spotlights that provide :

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XENON 2 500 W - 27 000 Lumens. Use distance : 15 to 200 metres.

XENON 4 500 W - 60 000 Lumens. Use distance : 15 to 300 metres.

XENON 7 000 W - 85 000 Lumens. Use distance : 15 to 300 metres.

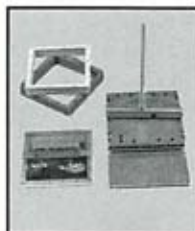
Hardware for Xenon offers a "short model" follow spotlight in 1 600 and 2 500 W versions.



SKYLIGHTS (2 500 TO 7 000 W)

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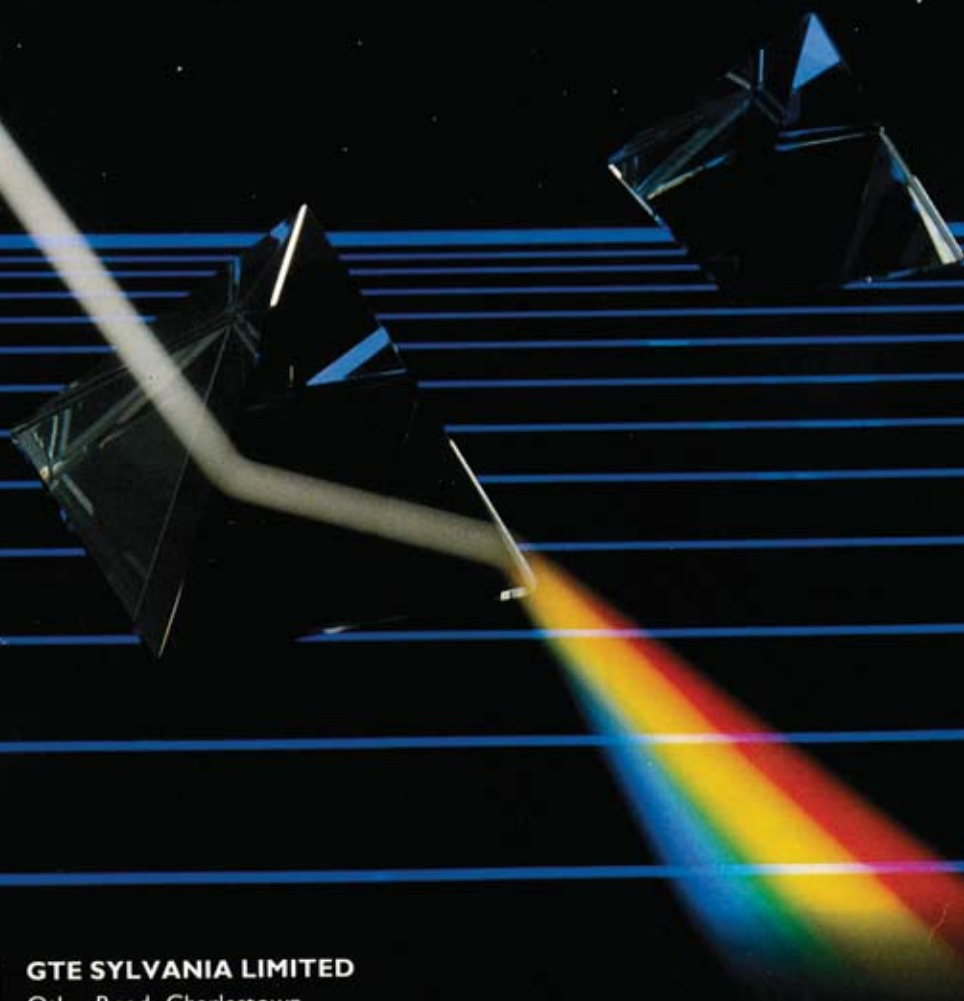
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STRAND'S NEW VISION

John Offord went on a refresher course to the company's Kirkcaldy factory and talked to David Brooks and Neil Gilmour

Strand Lighting's Kirkcaldy factory reception has a new picture window, and it doesn't look out over the nearby Fifeshire hills. It looks in on a production set of the nineties, and the centre-piece is a 10 metre long glassed and glossy chunk of futuristic-looking engineering. For the record, it's an Amistar



Strand's latest: the Amistar 8848 pictured during acceptance trials at Kirkcaldy.

8848 auto axial insertion machine for electronic components which in plain speak means that it robotically plants resistors and numerous other little pieces on to computer processor boards.

Well, obviously that little set-piece is a neat way to impress the visitor, but the sheer size of Strand's Scottish manufacturing base has to be seen to be believed. No words or pictures really do it justice, only to say that it re-emphasised for me the prominence of the company's role in stage lighting world-wide.

I'd been told some time ago that former managing director Oliver Hartree had set the factory on the right path, and for the past two years or so, operations director Neil Gilmour, formerly of Lansing Bagnall, has really set about pumping adrenalin into the place. With non-stop talking, non-stop energy, and the appointment of key management staff he has brought about a radical change to the whole approach and responsiveness of the Kirkcaldy set-up. The impressive rush of new products launched at the PLASA Light & Sound Show last month could now be put into perspective.

Couple this with the huge manufacturing capacity at Strand's Quartzcolor base near Rome (see L+SI May 1990) and the magnitude widens even further. And on top of that the company's operations in North America will report to managing director Chris Waldron in London's Isleworth headquarters as from 1st November.

"The significance of the combining of the Strand operations in Europe, Asia and the

USA is not simply that it brings them into closer co-ordination, but that it allows us to create a true world-wide operation," Chris Waldron told me. "It will enable us to bring the total global resources of Strand Lighting to bear on the increasingly international market."



Chris Waldron.

Getting back to the recent spate of new products, obviously more has been going on behind the scenes than the revitalising of the production sector. I asked marketing director David Brooks for an explanation.

"Product development is a continuous process, and we always have more ideas for new products than we can find time to



Launched at the 1990 PLASA Light+Sound Show: EC90 dimming system (left) and Light Palette 90.



Neil Gilmour and Bill Crawford (production manager) at the Amistor 8848 control centre.

develop. What you see now is the result of a new philosophy. Even when the new products you saw us launch at Bristol three years ago were just entering the market we were already working on others. We have, in fact, brought forward several new products since then. However, those recently launched at PLASA: the EC90 dimmers, MX control series, Quartet luminaires, Premiere architectural control system and Light Palette 90 are the result of intensive activity over the last couple of years."

A notable point about the latest products is that they look good, and have a different 'feel' to Strand products of the past. So what else was going on behind the scenes?

David Brooks again: "Initially product specifications are market driven, and I would like to return to this in a moment. But to summarise our philosophy we have gone for investment in industrial design, investment in in-house R and D, investment in tooling, and investment in manufacture. By using industrial designers, working in conjunction with our own R and D teams, we have been able to analyse the functionality of design right through from the operational needs to an ability to manufacture efficiently."

This philosophy becomes apparent when you look closely at the new Quartet range of

luminaires. It is important to gain easy access to the lamp tray for re-lamping, and this requirement led to the industrial designer hinging the lamp tray outside of the body of the luminaire.

"This is quite radical thinking," continued David Brooks, "but the elegance of the solution lay in integrating the handle at this point, and also bringing in the power cable there. From this developed the distinctive shape of the Quartet and also a new grade of high temperature engineering plastic for the handle itself: a solution that provides both thermal and electrical installation."

During my tour of the factory I witnessed the latest in computer-controlled machinery producing wire-guards and light baffles in new ways, and Strand's designers and engineers have managed to halve the number of components used in Quartet as against the old Minim design it replaces.

"So the value of industrial design is not just making a product look good, but making it functionally well conceived, and efficient to manufacture," said David Brooks. "This has also required us to make a considerable investment in tooling. Quartet is largely structured around three thin-walled pressure die-castings and MX and EC90 both make considerable use of injection moulded

engineering grade plastics. Not only do the resulting products project a quality image, the MX for example would stand ready comparison with any well-designed computer terminal, but the detail which can be achieved using such methods simply cannot be done in any other way. By involving an industrial designer, our engineering and development skills, along with marketing input from the product manager have been brought together as a team approach to interpreting the product specification into a finished item the market will want to buy."

Summing up, Strand have invested in manufacturing, both in terms of equipment and plant. New machinery has ousted the old and processes have been automated. At the same time the company is able to now do things that the old ways could not achieve.

So far so good. But is the lighting market able to support the level of sales necessary to make this investment worthwhile? Worldwide, Strand has a total production space of 248,000 sq.ft. (23,000 sq.metres approx), and you can get an awful lot of goods out of that kind of space, particularly when you're going in for the latest in automated machinery.

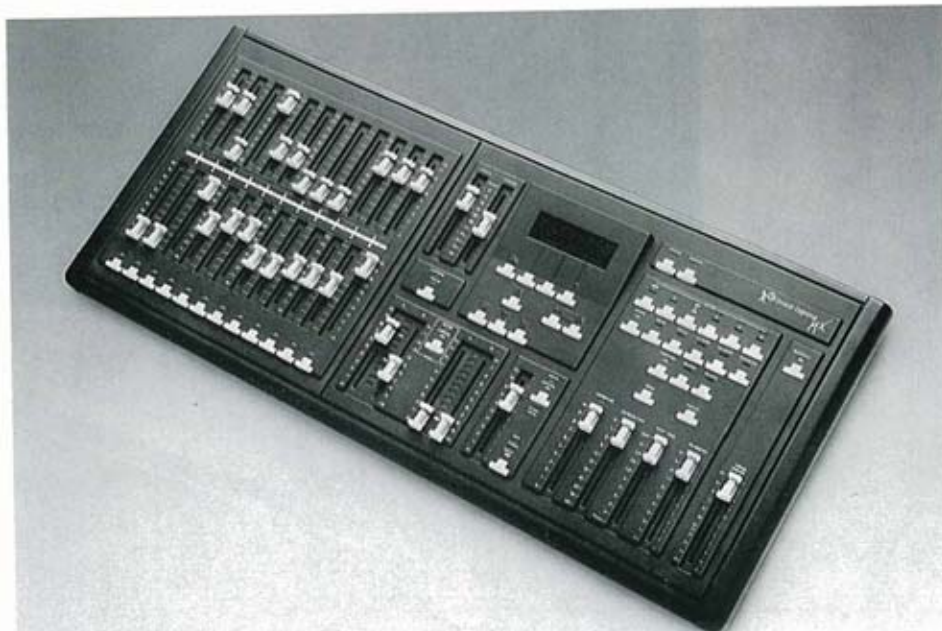
"I mentioned earlier that our design specifications are market driven," said David Brooks. "Firstly, we now look at a global opportunity for each new product. This is important, not only to support the production volumes we need to ensure our tooling volumes are viable, but also because we believe there is an advantage in this. Surely there has to be a benefit to the lighting designer to know that equipment he specifies, say in London, can also be available locally in Hong Kong or Hamburg, and that local Strand people are on hand to support it.

"A good example is the MX control desks which are the result of marketing input from all round the world which enables it to replace 'Mantrix' in the USA and 'Action' elsewhere. And it's the same story for the Premiere architectural control system. It was developed by our R and D team at the Strand Electro Control's facility in Salt Lake City, and will be marketed globally.

"It is more difficult to extend this approach to dimmers as the power aspect of a dimmer rack, and in particular the electrical contracting aspects, are constrained by various and quite different national codes. Nonetheless, EC90 transcends most of these problems as we build it up from a series of dimmer modules, crates and processors to a menu approach. You don't see a stock of finished racks as each is customised to suit each customer, and by following a few simple rules they can be configured to provide exactly the right solution for a particular project.

"You could say that our philosophy is now moving away from simply creating a catalogue of products and inviting customers to make a selection. Instead, we are developing products which can be used to provide lighting solutions, and the products are technically very advanced as a result.

"The EC90 has taken dimming forward to a degree that the introduction of the thyristor did in the past. Its digital dimming is not just in the communication protocol — it goes right to the firing circuit itself. The quality improvement it gives is like moving from old 78 records to compact discs in one go. In fact, Strand have developed an application specific integrated circuit — ASIC for short — for EC90. This has taken us into surface



The new MX control replaces Mantrix in the USA and Action elsewhere.

Factory Facts

Location — Kirkcaldy, Fife, Scotland. Close to new motorway link between Edinburgh and Dundee.

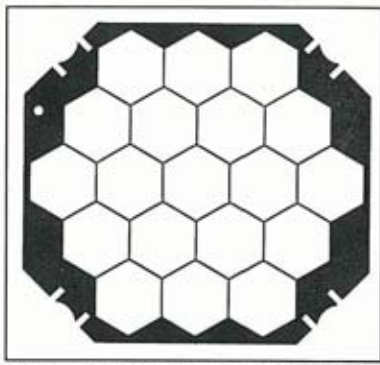
Size — 120,000 sq.ft. of factory space on a site in excess of 50 acres.

Products — Produce 300 main types of Strand luminaires, dimmers and controls with a total of 1007 standard variants.

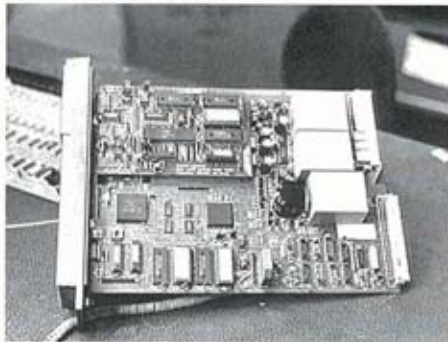
Component Manufacture — Annual production 1.8 million components comprising 1400 different parts.

New Plant at Kirkcaldy —

- Amada CNC Guillotine for cutting sheet metal
- Amada CNC Promecan for multiple ends in sheet metal e.g. light baffle for Quartet
- Amada CNC Pega — 40 ton, 58 turret punching machine e.g. used for making Quartet wireguard.
- Amistar 8848 auto axial insertion machine for electronic component insertion in pcb.
- Infra-red ovens have been installed for silk-screening.
- Latest 3D inspection equipment for surface mount devices.
- Scheduled for January a Mydata PP9 automatic component placement machine for surface mount.



The Amada CNC Pega 40-ton 58 turret punching machine making wireguards for the Quartet with the finished product (above) at approximately 1/3 size.



Assembled PCB for EC90 crate processors.



Royonic assembly station for PCB's used in EC90.

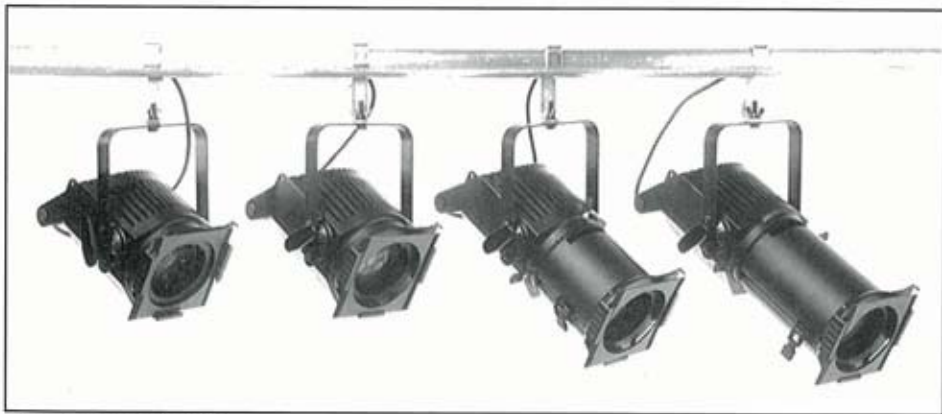
mount technology for electronic components, and you will also see the widespread use of SMT technology on the MX board. In fact, to pack that amount of performance into such a small space rather dictated this approach."

To face the 'global challenge' as Strand put it, they are also restructuring their marketing team to have not only a marketing orientation but also product expertise.

"We have identified three distinct business sectors: stage, architectural and studio lighting," continued David Brooks. "Each has its own set of customers and user needs, often requiring different sales and distribution channels, and looking after all aspects of these businesses are business development managers. They in turn work with Strand's trading companies which are responsible for all sales activities in their particular territories.

"Andy Collier (late Teatro) has returned to the UK and Strand to look after our stage lighting business, Andrea Molinari will take care of studio business, and Ed Pagett is responsible for developing the company's growing architectural business. Although the underlying technology of the products — luminaires, dimmers and controls — is common, the implementation and approach to the markets can be quite different. Hence the need for one person to look after all the diverse requirements of satisfying that market sector and seeking to provide lighting solutions.

"At the top end of the scale we now find a systems approach developing and a two-way communication process between EC90 dimmers and Galaxy 3, for example. We are entering an era of greater product interdependence which can be solved by a single supplier situation. We could, for example, supply a complete lighting service for a TV studio, from luminaires, automation, dimmers and controls to consumables such as filters and architectural and entertainment lighting needs. The benefit to the client is that all the equipment is designed to work together and can be supported by just one company."



The new Quartet range.



Bill Crawford with freshly painted Quartet castings.



Neil Gilmour, Bill Crawford and David Brooks (marketing director) examine the Quartet light baffle.

Strand technology moves further ahead...

Strand's new Precision Automated Lighting System (PALS) represents a major advance in lighting technology.

With computer-controlled luminaires incorporating integral microprocessors and motor/gearbox assemblies, PALS achieves high precision positioning to a resolution of one in a thousand — quietly, smoothly and effortlessly. So with PALS, the lighting designer can create and

record complex lighting sequences, safe in the knowledge that they can be accurately repeated time and time again. This also means the designer needs fewer luminaires and shorter set up times. And the entire system can be controlled by one operator.

PALS is the latest in a long line of Strand innovations. For more than 75 years, Strand Lighting has maintained a continually high level of



Filters



Pollux
Spotlights



Arturo
Softlights



Cantata
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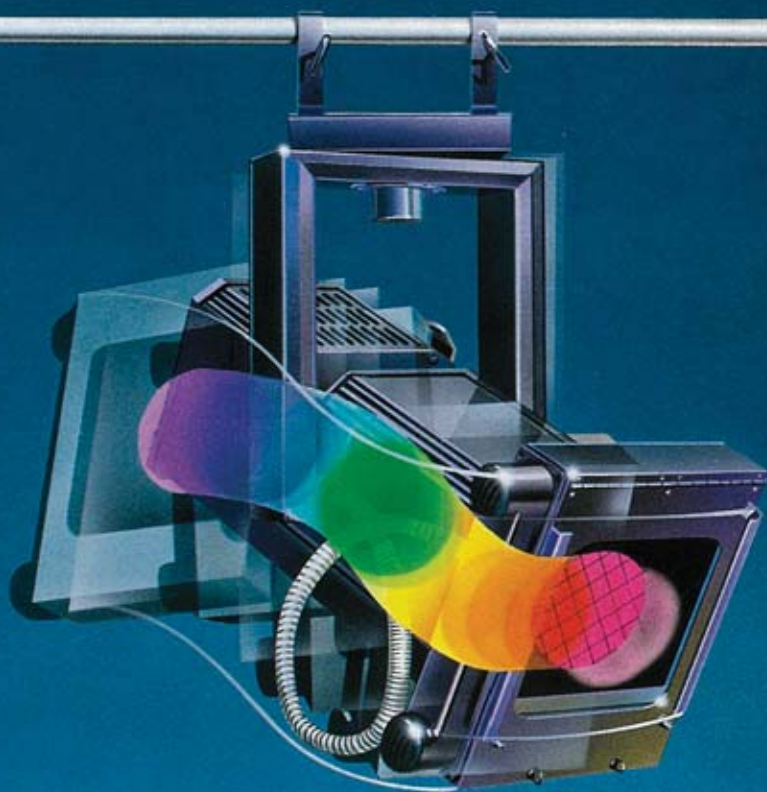
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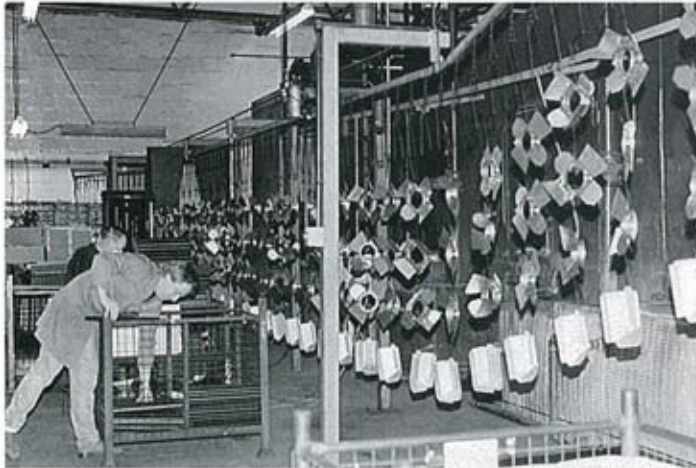
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Surface mount placement for the ASIC's used in EC90 dimmers.



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Final assembly of EC90 dimmer modules.

How has Strand's Kirkcaldy factory organised itself for the 'New Approach'?

Operations director Neil Gilmour provides the answers

How would you sum up the new approach at Kirkcaldy?

Responsiveness. This really sums up the new attitude and air of enthusiasm you can detect these days at Kirkcaldy. Perhaps the point to begin with is distribution, for this is where orders from Strand's world-wide trading companies arrive. Since transferring warehousing and distribution to Scotland less than a year ago, Albert Duthie's team have worked to reduce the backlog of orders to a point where it is only customers' late site readiness or credit position which are holding shipping out orders.

So what changes have been made to the factory to achieve such responsiveness?

There have been a number of factors and we still have some way to go to complete our vision of the future here. Whilst new plant has been brought in, much of what has been achieved has also been due to utilising existing equipment in other ways. We have laid out the manufacturing plant in a cell structure so operators are now taking responsibility for the products they make. They have an 'ownership' of that process.

And how does this work?

You will notice that there is far less work in progress laying around, because once a particular stage in the process is complete that component is passed on to the next stage in the cell and so on.

We can also improve quality this way as any problem can be picked up on quickly whereas



Straight from the line: Neil Gilmour with a Quartet 22/40.

with large batches the problem may not be noticed until they are all built. We are also working towards the concept of components being located at the manufacturing cell and eliminating the administration involved in 'kitting out' a line from central stores. We simply top up components as required. The cells can then quickly switch to building a different product. We also have regular briefings on a cascade basis, so that everyone knows what is going on in the company and are all responding to our customers needs.

But you have obviously invested in new equipment as well — numerically controlled

machines for example?

Yes, there are a number of examples where we are able to use such equipment to make components in a better way. For example the wireguard for Quartet is produced on this machine from sheet steel, eliminating over 20 welds when made from wire and producing a far more robust item. We also are investing in auto insertion for electronic components and developing experience with surface mount technology.

What about tooling for the products themselves?

The new designs to reduce the total number of components and enable us to build more efficiently have required a considerable investment in tooling. The benefits are precisely engineered components that fit together more easily than older methods, as well as giving a more professional look to the product.

Are all these products tooled locally?

I would like to say yes, and in fact for most tooled components it is true, but regretfully we had to go to Italy for the pressure die castings for Quartet, as British suppliers advised that our design (in the way we wanted it) simply could not be made here. In fact our Italian suppliers have worked with our Quartzcolor factory in Rome and supply die castings of superb quality.

What about electronics? Does this part of Scotland with a growing reputation as the 'Silicon Glen' help you?

Yes it does. The community is very much in tune with electronic production, and many multi-national companies have plants in the region. The skills are here and universities are tailoring their courses to support Scottish industry. All this goes towards making this part of Scotland an extremely competitive European manufacturing base.

WILL LIGHTING BECOME THE VICTIM OF ITS OWN TECHNOLOGY?

Can the art keep up with the science or will creativity vanish in a terminal frenzy of flash, flicker, rotate and chase?

Francis Reid questioned lighting's future at a PLASA seminar

My title may be rather wildly over dramatic. But we live in a world of hype where you need an ever increasingly polemic turn of phrase to get an ear . . . or an increasingly exaggerated light to catch an eye. However, even the wildest polemic statements are beginning to fail: extremes of language are becoming as blunted as extremes of light and sound. The window which electronic news gathering has given us on to the more extreme forms of mankind's survival has brutalised our senses . . . so it takes metaphorical sledgehammers to make any impression upon us. To anyone crying doom, doom and thrice doom, the reply is likely to be 'Have a nice day'.

Lights get brighter and brighter and sound gets louder and louder in a search for levels that, in theory, cannot be ignored. But our perception becomes so dulled that we don't notice so much, and we hear less and less.

What is the future for our controlled manipulation of the light that we work, play or perform in? Can the art keep up with the science? Or will creativity vanish in that terminal frenzy of flash, flicker, chase and rotate, upon which I waxed poetical in the title of these musings. It may be a polemic suggestion . . . but most polemics have at least a grain of truth.

I am not knocking the technological development: lighting technology is great stuff and I want more of it. My concern is what we do with it. What agitates my worry beads is that lighting seems to have got locked into hyping itself in order to get noticed. So desperate to get noticed — as if to survive — that it gets bigger, brighter, flashier, faster. An instrument that just gets blunter and blunter. Have we forgotten the dance of the seven veils? You don't drop them all at once. Reveal gently. Tantalise. The last one is often disappointing, but good timing will disguise that.

Has the technological means developed so fast that we might just be getting close to losing our creative use of all the lovely fruits of technology? It is a question that should automatically be on our checklist from time to time — if only to reassure ourselves that our fears are groundless. On the other hand if we sense the possibility of trouble on the horizon, then now is the time to take evasive action.

So I have been looking into my crystal ball. What I see, in the nature of our industry, is inevitably obscured by smoke and dry ice. But I offer a glimpse of my clouded vision of the future as possible food for thought.

What do I see? A lot of healthy growth in the technology — not just in what equipment is supposed to do, but in the reliability with which it does it. This might be disputed by some of my friends who have had unfortunate experiences, but by and large there have been positive improvements in the incidence of such standard syndromes as jammed shutters and amnesia desks. Ergonomics may be variable: there are certainly some machines that offer my fingers



Francis Reid gives his PLASA Show platform performance.

little comfort, but the options are wide enough to provide plenty of different keystrokes for different lightfolks.

As to what we do with it? Well the very best of the lighting in all areas is just great. The best is super, but it is the tip of an iceberg: there is, I believe, considerable cause to ponder about the rest. Why do I sometimes seem to have to strain when I should be able to take visibility for granted? And why, when visibility is not a problem, is the light so often rather bland? On the one hand, a light that is so highly dramatic that it defies anyone to suggest that it might not be art; on the other hand, a light whose contrasts are so gentle and its fill so smooth that it seems to be intended for the camera lens rather than the human eye.

Of one thing you can be reasonably certain: such problems are rarely caused by lack of sufficient equipment. It may not all be hanging in the best place, pointed in the right direction, adjusted properly, coloured appropriately or balanced wisely . . . but there is usually plenty of it. Perhaps too much. I certainly know that the bulk of my own disasters have tended to be when I was over-equipped. One of the first lessons any lighting designer learns is that if there is a visibility hole, the cure is usually not throwing more light at the problem, but a selective checking down of some of the sources already on.

Lighting is all about contrast and balance — a balanced contrast within the picture and a balanced contrast from picture to picture. It is about pace: accelerations and decelerations. Lighting has to be paced towards orgasm. Going at it with a uniform frenzy is a recipe for anticlimax.

This is particularly true of flashing and chasing. Wondrous are the programming possibilities of the machines. The latest spotlights can leap about with choreography so frenetic that it would get St.

Vitus excommunicated for laid-back incompetence. But why do so many of those sequences, which I am assured have been precisely programmed, look random?

It is not that the lighting pictures need to be logical. Art is essentially dependent upon illogical decisions. The problem is that so much of what we are offered as lighting statements just does not make visual sense. Certainly not pleasant, rarely stimulating and quite frequently not even provocative. Just boringly meaningless. Alarmingly like lighting attempting to justify the time and money devoted to it.

I can understand how this happens. When I am lighting (and it hasn't changed in the 36 years since I plotted my first professional cue) my desperation does not come from trying to solve technical problems but from the fear that I will not have an idea that is good and appropriate. A fear, alas, quite frequently justified, although occasionally I am lucky enough to bridge the two major potholes on the great lighting design road — too much too soon, and too little too late.

Like most things in life, lighting is all about balancing the desirable and the possible. For a long time, especially in the age of candles and oil, it was the art of the possible — a battle just to get enough light. And many of the control systems of my youth were certainly the art of the possible — indeed when plotting a show, I often felt I was dealing with the art of the impossible. But lighting has increasingly become the art of the desirable. We just have to say what we want and the digital boys in the backroom make it happen.

But it cannot be a clean choice between possible and desirable. There has to be an interaction. The makers have to tell the users what is possible and the users have to tell the makers what is desirable. If there were some way that we could all get a consensus about priorities, profits might go up, blood

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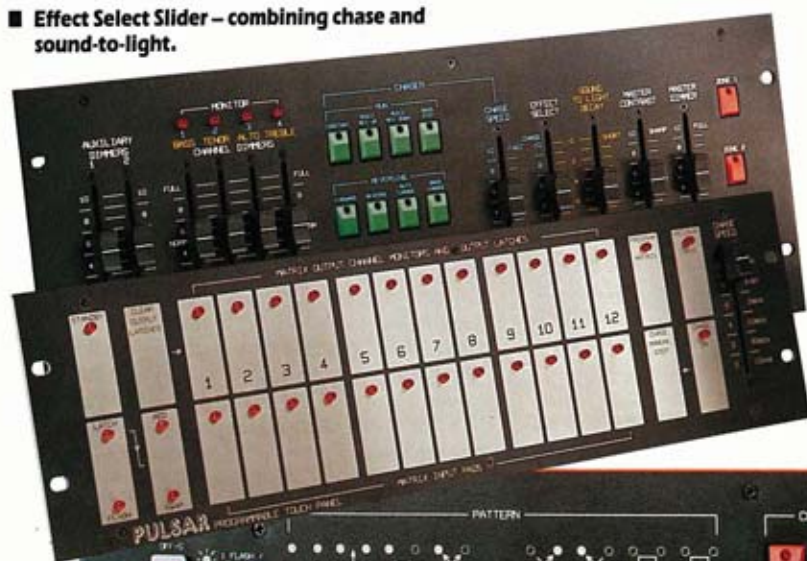
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pressure come down and lighting, especially that in the submerged portion of the iceberg, get better.

That is all part of where I believe the key the future of lighting lies . . . education. Not so much classrooms, exams, qualifications and certificates, although they all certainly have to be part of it to get people started, particularly for the safety of all concerned. I am more concerned about such fundamentals as the need for everyone to have much more understanding of each other's jobs and problems. Entertainment people generally need to know more about lighting. I always find it much easier to work with directors, designers, performers, managers, whatever, when they know something about what I'm trying to do. Lighting should not be some mysterious mumbo jumbo of chanted numbers . . . many people are frightened by lighting because its language sounds like a cross between a countdown in mission control and plainsong in a monastery.

My generation grew up in parallel with the great technological surge of the last 30 years. We started to light with a small amount of simple equipment, gradually learning by on-the-job discovery as rigs grew in size and sophistication. In theatre, the advances in technology were paralleled by a general desire to expand the contribution of light to the stage environment.

Our aspirations had clear goals provided by Appia, Craig and the many others who had been frustrated by the technology and attitudes of their time. With the art and the science becoming closely interactive and feeding each other as we juggled the desirable with the possible, the development pace was very quick. Today's young designers are faced with expectations of a higher

lighting quality and more complex equipment options for achieving it. Although some problems have gone — particularly the limitations of the control boards of 30 years ago — new lighting designers have to take my generation's point of arrival as their point of departure. And so, before starting, they have to assimilate a considerable amount of the know-how that we acquired experimentally over a long period.

It is not just a simple matter of passing on information although that is a large part of it. Essentially it is about discovery — discovery and debate. I have never been satisfied with what anyone has told me. I need to find out for myself. People have different views and so there is healthy debate, and hopefully we move forward.

What about these mysterious people we call lighting designers? What key aptitudes would seem desirable in a potential professional lighting designer? I would suggest the following: A capacity for strongly imaginative visual thinking; an aptitude for absorbing the possibilities and limitations of various technologies, both new and old, for designing and managing lighting's contribution to performance; an ability to relate to, and work with, the other members of creative and interpretive teams. Articulacy in asking, explaining and discussing.

How do we learn about lighting? Working as part of a lighting team will always be a, probably **the**, prime learning situation, particularly observation of cause and effect. But how can we prepare people to benefit from this and provide them with a structured learning experience?

I grow daily more convinced that we need a lighting laboratory — an old theatre, or movie house, or redundant church. A grid,

lots of equipment of all kinds. A place where groups of lighting people can go at various points in their developing careers for periods of intensive experiment in a structured environment. And not just those people we think of as the users. Let's have the makers too.

Over the past few years, I have been taking staff groups of a well known manufacturer into theatres for weekends. Give salesmen a lighting design problem and a crew — put the factory up one boom and R & D up the other. Send an accountant up the tallescope, with service and quality control to push it around. Let marketing cut the colours and put them in the frames (the frames that they wrote the spec for). Let the showroom discover that plotting a board for somebody else is not quite the same as demonstrating it to a customer. Swap them all round from time to time. What comes out of it all? Understanding and tolerance of each other, and of the customer. Product modifications. As an investment it is at least self-financing — ask the finance director with his new perspective of the bottom line from the top of the tallescope. On a raked stage.

Let's have specialist courses for various areas of light. Let's put mixed groups together: rock, Shakespeare, Wagner, disco. Let's get the cross-fertilisation rolling. Our industry needs this laboratory. How about it, Plasa?

Things are looking OK at the moment. But the signs are flickering, flashing — yeah chasing — that lighting may subside into that terminal frenzy of technology which started this little ponder of mine. It need not. It will not. Not if we take evasive action. If we don't, well everything is fine for the moment, but I think I detect some writing on the wall.

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GLASGOW'S SAILING RIG

Bevis Evans-Teush, chief electrician, provides L+SI with the technical background to a fantastic City of Culture event

The Ship is one of two special commissions from Glasgow District Council for the City of Culture celebrations. It has proved to be a major event within Scottish theatre, mainly because of its technical scale as opposed to its theme. The piece handles the tail-end of the height of the Clydeship ship-building industry and its subsequent decline. The play is both set and performed in Govan, which was once the nerve-centre of the industry, certainly in Great Britain, and arguably for the industry world-wide. Bill Bryden and William Dudley, who have collaborated on a number of large-scale projects, perhaps most notably in 'The Mysteries' at the National Theatre, have conceived and created The Ship, both in terms of its design and its content. The lighting is by Mark Henderson.

The site for The Ship, which is a self-contained theatre in itself, is the now disused engine works of Harland and Wolff, which was once one of the major ship building companies, famous for specialising in battleships in the 1930s. The original plan to use Graving Docks or dry docks on the banks of the Clyde had to be re-thought because of safety reasons, and so the Harland and Wolff 'shed' was chosen as a viable alternative.

Three months before the opening night, the building was only a shell, a derelict warehouse which had stood empty for years. In order to create a working ship, and a theatre which could be safely opened to the public, an extremely lengthy 'fit-up' was initiated. Probably the longest fit-up in

Glasgow's history!

The main difference with The Ship was the heavy-duty industrial nature of the work involved. One of the main pieces of equipment used was a 30 ton crane. As it turned out this crane was only just big enough. Amongst other things, the work entailed the removal of six 4 ton beams and the laying of 400 feet of full gauge railway track.

On the LX side, one of the major jobs at the beginning was the upgrading of the electrical supply from 200 amps to 500 amps three phase. As it turned out this is only just enough to cope with what has been installed. At the beginning of the preparation period we (the LX team) had to risk life and limb to acquire a number of coolie hat shades. It meant clambering over deserted dry docks and old pump houses for about a week to get 50. We even had to suffer the wrath of a wild dog at one point. The shades do look good though!

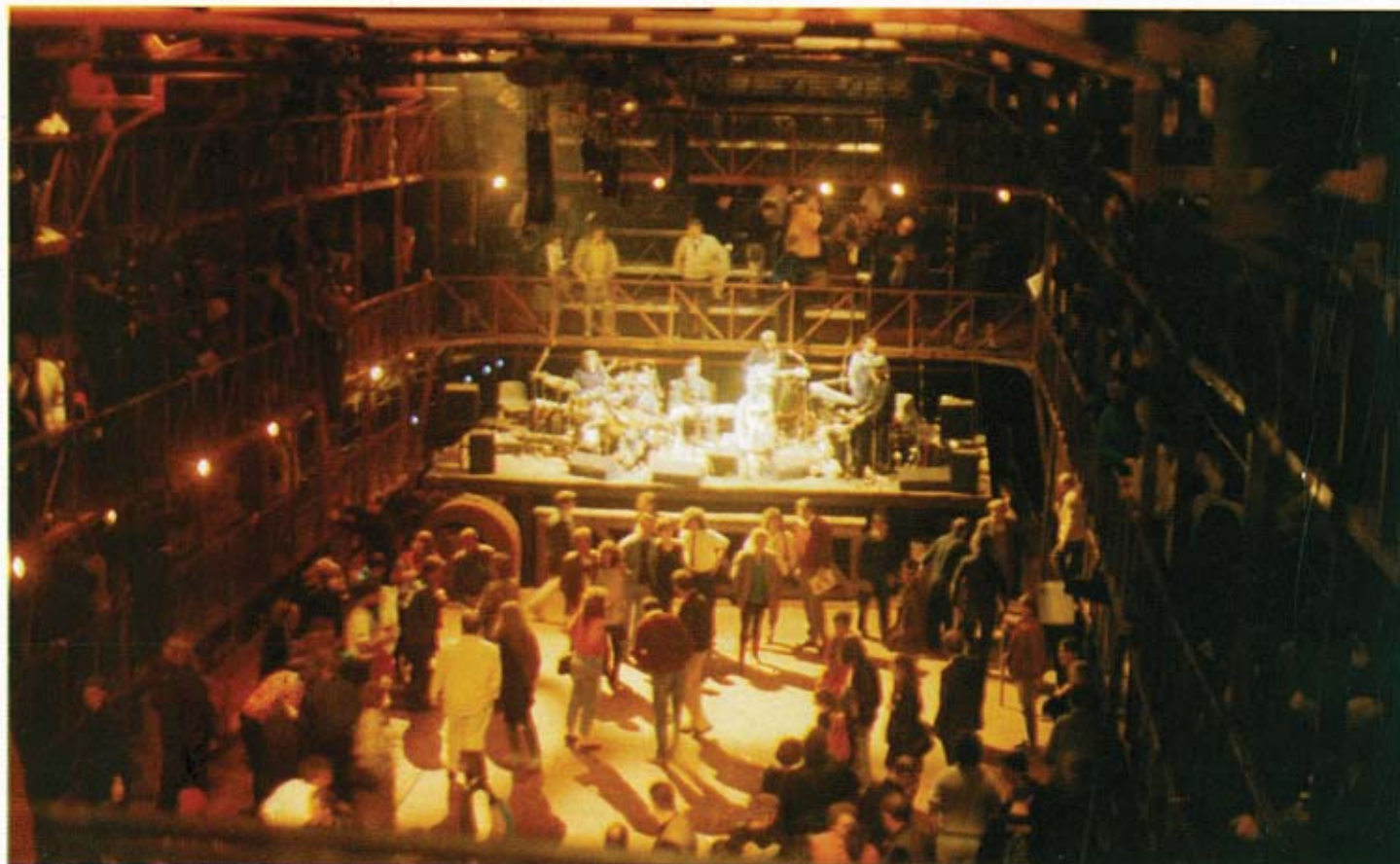
The structure of the ship itself consists of the bare bones or shell of a half completed ship. The audience sit on bridges and in the side walls of the ship on three levels on all sides, the stag or promenade deck being formed by the space that would house the engine room. Some of the audience also stand on the promenade deck. At the bow end there is a large bank of grandstand-type seating.

Near the end of the performance the audience are asked to vacate the main structure of the ship in preparation for the launch. When the audience is clear and all

the entrances have been lifted, the bottle of champagne is smashed and off she goes. The ship (all 30 tons) together with the seating, apart from the grandstand seating at the bow and the promenade deck, is then launched down the slipway. For the remainder of the play people watch from the stair towers and the floor of the shed. In total, this ship/auditorium seats about 1100 people.

The lighting rig is on board, so to avoid the use of scaffolding the rig had to be attached directly to the cross ribs of the ship. Five 1 ton chain hoists are also attached to these ribs. This entailed the use of specially-built brackets for each light. The multicores that feed the lights are attached directly to the ribs of the ship. As chief electrician on this project, having a lighting rig that had to be on board a ship, and be launched down a shipway, did present its problems.

After considering putting the dimmers on the ship, and also the possibility of having long cables that moved with the ship, we finally went for a big unplugging point at the back of the ship. There are about 27 8-way multicores, an induction loop system, headsets, cue lights and colour wheel cable to disconnect. This takes about two minutes to do. Fortunately, this delay does not matter as it takes longer than this to get the audience off the ship. We disconnect the house lights last to retain good visibility for the audience leaving the ship. About ten minutes of the play takes place after the launch, so some of the rig was positioned on the shed itself.



The disused engine works of Harland and Wolff provide an ideal backdrop for The Ship.

To my relief the lighting board was the one thing that did not have to move with the ship, though the follow spots had to! A couple of things we learned along the way are that strobes can do quite a good impression of a welder and that a good Clydeside mist can be created by firing a smoke gun at a cold concrete floor. The mist hangs above the ground beautifully!

The board was a Gemini 2+. This drives 180 ways through an assortment of racks. Most of the lights were standard profiles and fresnels. There are two old wave boxes in the rig at the far end of the shed. They look great when pointed at the grey metal-clad walls.

All equipment was supplied by Northern Light. The standby generator, switchover gear and emergency lighting were supplied and installed by Midnight Sun Management Ltd. Air Winch supplied the 5 ton hydraulic winches and power pack. All the sound on the production side was by Warehouse Sound Services Ltd of Edinburgh. It was a very difficult environment to bring live sound into, so I will let Neil Hutton tell his own story.

"The brief was for the sound design to cover a movable structure in a disused factory of aircraft hangar size and acoustics. The system had to be capable of handling a seven piece 'Roots Rock' band and 21 actors with bodypack radio mics," he explained.

"The sound system was essentially divided into two parts: a band system comprising of Turbosound TSE 118s and 111s, running on a mono send built into the bandstand and seven Turbosound TMW 212 monitors on five sends; a dialogue system of 14 Meyer UPA 1as and seven Bose 101s running from seven sends.



Looking from behind the constructed stage (right) along the length of the warehouse.

"Eight of the UPAs were flown from the centre of the building roof supports to cover the ship itself, the promenade deck infill being provided by four UPAs (two either end). The final two UPAs were situated at the floor level to the side of the structure and were only used after the ship had been launched. The Bose 101s gave localised cover of the grandstand seating area.

"Two Soundcraft mixing desks were used bussed together. A 32 channel fitted with PA input and FX return modules for the band mix and a 24 channel fitted with house input and 8 way matrix output modules for the main desk dealing with the Micron radio mics, sound effects and outputs.

Other equipment included Klark Teknik DN 360 and DN 300 graphic equalisers, BSS

noise gates and compressor limiters, Yamaha SPX 900 and SPX 90 effects units and Roland delay lines. Sound effects were played in from Sonifex cartridge players."

After two months of preparation it really did feel like I had been working in a Clydeside shed all my life so it was a great relief to hear the audience on the first night – it actually felt like a theatre at last.

Credits:

Bevis Evans-Teush: chief electrician
Neil Hutton: Warehouse Sound Services, Edinburgh
Billy Russell: assistant electrician
David Filshie: board operator
The Ship is at the Harland and Wolff Works, Govan, Glasgow until the 27th October.

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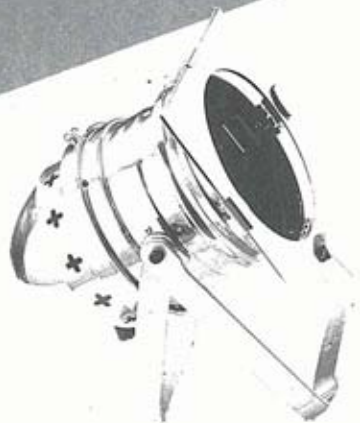
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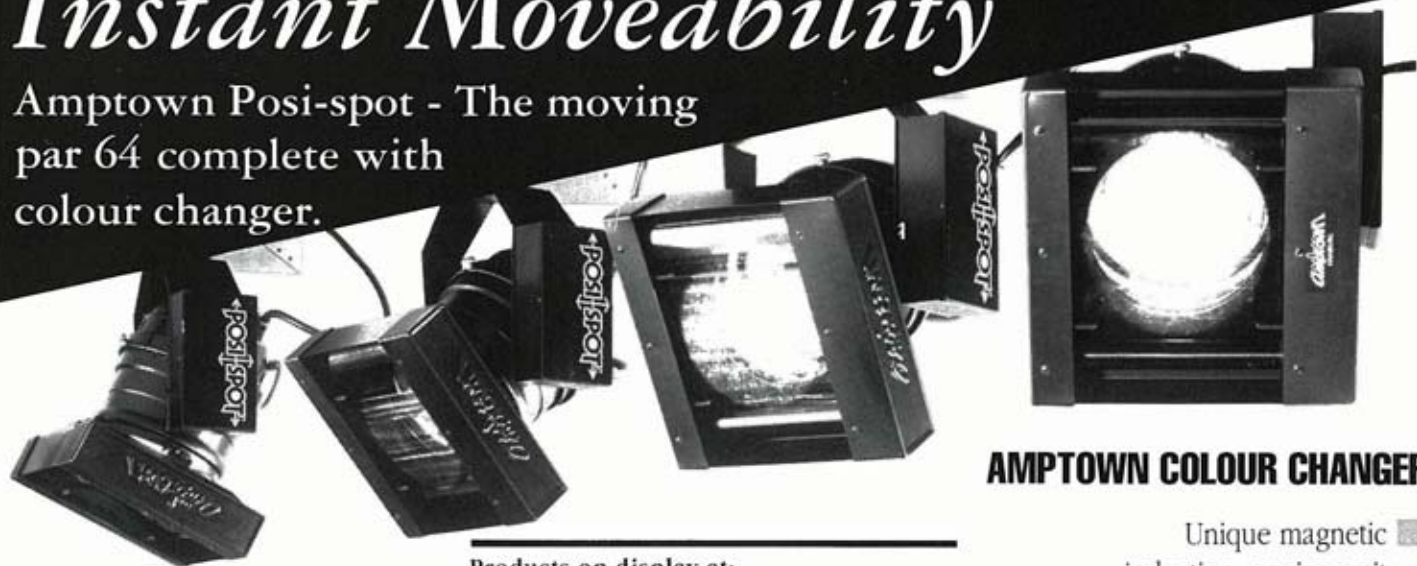


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SHOWBOAT

Tim Frost talks to Rick Clarke on the vagaries of touring musical sound

"There are theatres which have been revamped and are still pigs of places to work in. Although they have tarted the places up, they have made no technical facilities available at all so that there isn't anywhere to hang the speakers properly. Everything looks out of place; as there are no cable routes everything has to be run on the surface.

"They revamp them as museums rather than as workplaces. I wish I could influence the people that do that work, because it could be done in a way that still retains the cosmetic appeal, but enables touring musicals to go in with ease and safety. And in the end they would look a great deal neater than they do now."

Rick Clarke of the Sound Department was preparing to tour 'Showboat'. English Opera North's production came down south for a stint at the Palladium and is now on the road, with all the joys that come with putting in a transparent sound assist system into a wide range of sometimes less than perfect venues.

Rick's jaundiced view of the state of some of our newly improved theatres comes from many years of trying to shoe-horn the perfect system into places where the architect seems to have been completely unaware of the existence of things like loudspeakers.

Of course not everywhere is difficult; there are oases of good planning like the Hippodrome in Bristol.

"The Hippodrome is a good example of a well thought out theatre with a motorised advance bar to hang the speakers on which is always a good idea. Places like the Opera House Manchester are interesting, because it is built a bit like a railway station. It has a vast area, seating over 1000 people in the gallery alone. It has hard surfaces like a railway station with an acoustic like a railway station. But the people are very friendly up there, and because a number of people have been there and all come to the same basic conclusions, they have installed a winch bar that takes speakers in the gallery which makes rigging very fast.

"Things like the ability to fly an advance bar so that you can hang a speaker cluster with ease is important. I prefer not to spend my time persuading our speakers to fit into little ornamental boxes and generally having a tough time getting the system in, and still ending up with a system you can't image properly because the speakers aren't in the right place."

For the Showboat tour Sound Department are using the very new Community RS220s. The system remains much the same size for the majority of the venues but is augmented for the larger places like the Hippodrome, Manchester Palace and the Palladium.

The reinforcement on Showboat is designed to be very much in the background, just aiding the performers. This particular run of the show started life with Opera North in Leeds and played there and at the RSC in Stratford with no sound



Rick Clarke of The Sound Department at the Yamaha desk.

reinforcement, giving the show a more operatic feel. It was only when the plans were put forward to tour it, using a reduced orchestra with a string section down from 32 to 12, that it became clear that some help for the sound was going to be needed.

"I was invited to look at the show because they did have some problems with inaudibility and with Showboat the storyline is very important. It is essential that the people hear the dialogue and the lyrics. I became involved to help it along a bit, and this had to be done very sensitively. All that was required was the absolute minimum to get the words across, and not lose that opera feel," continued Rick Clarke.

"Previously we would have gone in with heavy mic-ing of the band and lifted the whole thing. But with this show, the intention was just to lift the strings and things like the banjo and the guitar. We use ambient sound when available and radio mics only when that was not possible.

"People were complaining that the sound wasn't 'brought' to them but that would be inappropriate for this show.

"By keeping it simple, I am quite pleased with the results and it has also made me think again about how I should mic up orchestras."

The mic set-up for the stage uses five Amcron PCC160 pressure zone mics placed at the front of the stage as float mics, three Neumann rifle mics and a dozen radio mics of which up to nine are operating simultaneously.

The float mics and rifles are carefully controlled throughout the show closely following the action, so that none are left on unnecessarily muddying up the sound. The reason for using five PCC160s is nothing to do with the width of the stage, it is simply that five mics can be easily mixed with one hand — one fader per finger — without the engineer having to look away from the stage to see what he is doing on the mixer.

The sound system is based on central cluster augmented with delay line speaker

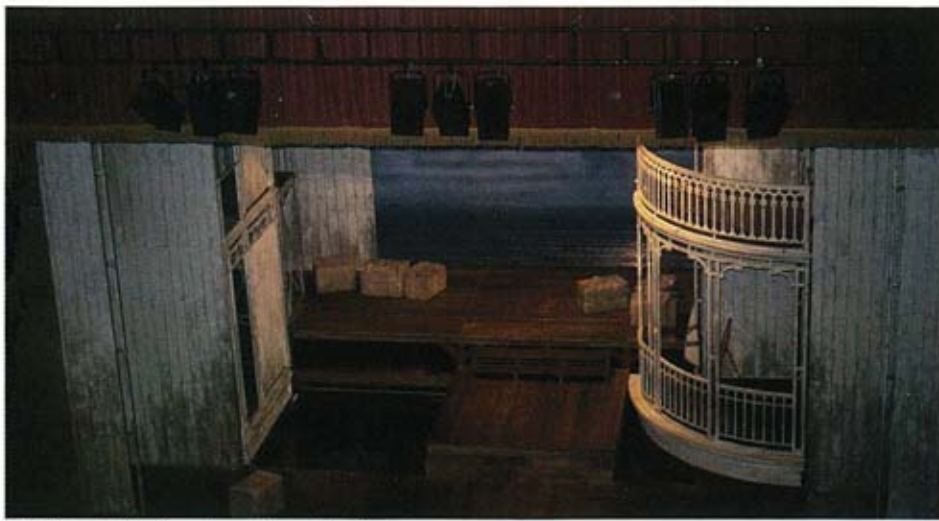
in all the areas shaded from the main cluster, such as the stall seats under the balcony. At the Palladium there was a cluster of nine speakers with 28 delays. The cluster is designed with one vertical group of three covering the central seating areas of the stalls, circle and balconies, and separate groups of three for the left hand and right hand seat areas. These three vertical groups are not clustered tightly together, rather they are spaced apart so that, viewed from the relevant seats, they are in line with the centre of the stage.

In addition to the cluster, are four more full-range speakers and sub-bass on each side of the stage. These serve the purpose of giving the sound width, and locating it much closer to the actors. Rick has been developing this technique over the years and has added some sophistications of his own.

"In order to convince people that there is little or no amplification the image must be absolutely true to the voices, so that the voice appears to be coming from their mouths and not the speakers.



A Community, Rauch and Turner line-up.



The Spaced Cluster above the auditorium.

"What I do is place a speaker upstage centre, and then time align every other box in the room to it so the sound is slightly delayed. There is enough cueing information from an un-amplified voice to establish the direction of the sound, so the amplified sound becomes translated as ambience even though it may be four times louder.

"This is a technique I have been experimenting with for several years, and we are only talking about delays between 1 and 15mS; any more, then you get all sorts of effects that are undesirable."

This will remain the basic set-up for most of the venues, although the cluster will be increased to 12 speakers at the Liverpool Empire, which is a very broad theatre and needs to be split into four sectors rather

than three.

The delays tend to be whatever is favourite at the time. Rick Clarke has used Bose 101s, JBLs and Proacs, and on this show he is taking the Mini Cube made by Wembley Loudspeakers who are just next-door to the Sound Department.

Although Rick believes that it would be impossible to design a permanent theatre system that would meet the needs of every type of show, the idea of permanently installed delays is very attractive to him as a temporary installer.

"I don't think there is such a thing as an all-singing-all-dancing system. But the delays tend to be the same sort of boxes put in the same sort of places and all wired back to the amplifiers. If they are already installed then it is a real benefit, as rigging

the delays is quite a labour-intensive activity taking two people up to 2 days."

Again the Hippodrome comes in for praise on this score as the only venue with delays permanently installed.

It would be churlish to discuss Sound Department's system without mentioning the Community speakers which the company imports into the UK.

Community's RS220s are being used for the first time on the Showboat tour. Rick was able to ship the first production units out of the States, showing perhaps how close their relationship has grown with the American manufacturer.

The speaker is a three way all horn-loaded device and very compact. Being a high Q unit with a bandwidth suited for voice it is an ideal box for this more subtle approach to sound re-inforcement.

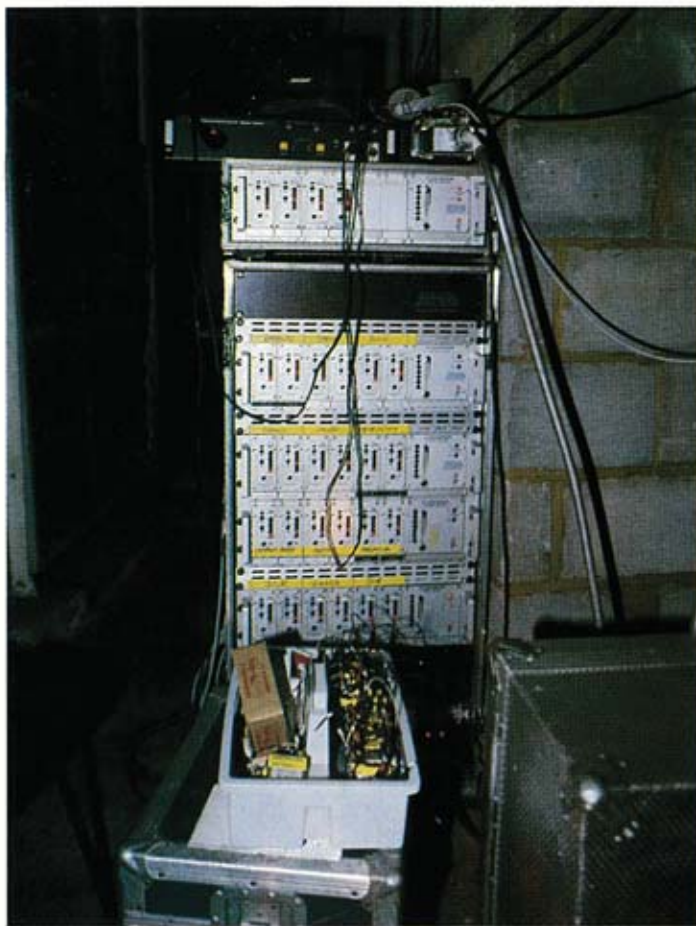
The one non-Community unit that Rick raved about was Yamaha's DDL3.

"We have 5 Yamaha DDL3s to handle various functions. It has delay, EQ and can also be used as a crossover, they are superb. It is cheaper and better than anything else we've tried. It is quiet and it is easy to set up and use. As it is programmable and MIDI driveable, we are looking at ways of changing the timing of the system depending where the performer is on stage, we can do that with the DDL3 since with a single button push, we can re-time, re-EQ and change the effects – all for just one song."

The development of MIDI as a universal control language, talking to mixers, effects and EQ/delay units like the DDL3 is changing the world of the possible. Five



Karla Burns as Queenie, together with the Showboat chorus.



Theatre Projects racks.



Karla Burns as Queenie with Bruce Hubbard as Joe.

years ago, no matter how much you could afford to spend on equipment, the idea of changing EQ and system timing reliably enough for live performances would have been a non-starter. Now the only thing that Clarke needs to develop is a custom MIDI controller, which is something he is working on.

"We are using sequencers at the moment but we are commissioning one that has all the set up screens but very simple operation, just stepping through the cues and a go button."

For the touring side all the electronics are pre-racked. But instead of wiring direct to a multi-way at the back of each rack, everything is wired to a patch-bay first. Although it doesn't happen too often, this gives the engineers the option to re-patch if a core in the multi-way goes down for any reason.

At the Palladium, the desk position was right at the back of the stalls where the only drawback was that the balcony hid the main speakers and the engineer was hearing more of the delays than he would have liked. However, this is better than trying to operate remote from the auditorium, something Clarke avoids at all cost.

"We always mix in the room, it is the only way you can get any fineness on the balance. There have been attempts to mix behind glass – at the Alhambra they have a position behind glass. We put up a soundfield mic on the front of the balcony and used a quad monitor system in the control room. But it just wasn't sensitive enough to balance properly, so we ended up with a very raw sounding show. On the first night the problems were very obvious and everyone agreed that we should

revamp the rig over night, putting the mixing position out front."

Whilst Rick can do nothing about how a theatre has been revamped, he always sticks to his guns when managements try to make life even more difficult.

"There are some theatres who do appreciate that to accommodate a musical you need to accommodate a sound system. There are quite a few who think that the musical has just arrived and you don't need anything front of house; to the extent that they pretend to have sold the mixer position seats which had been reserved for us.

"There have been occasions where we simply just take over the seats that were meant for us originally and then the staff have to cope with a number of people being unseated every performance."

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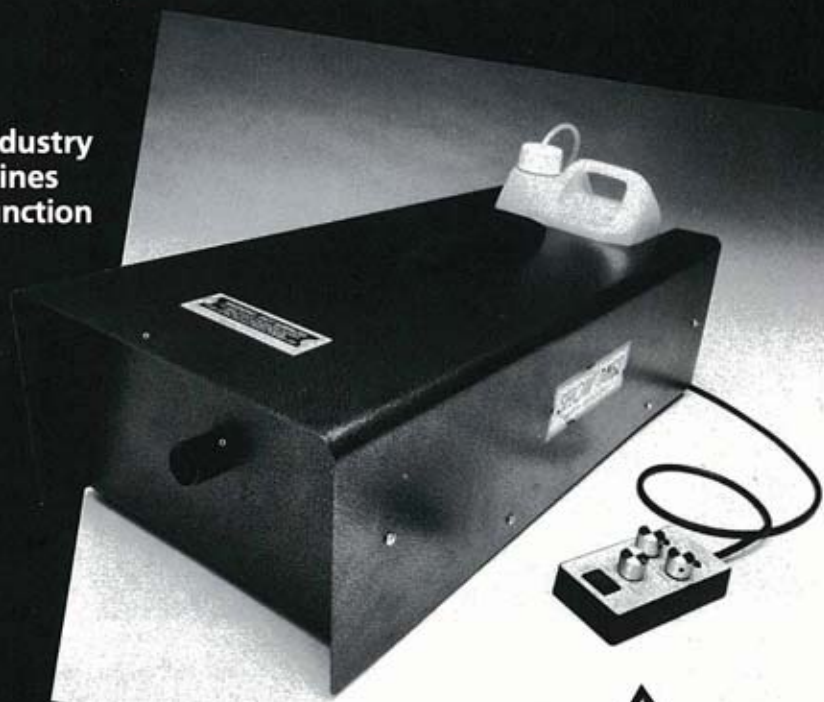
FEATURES:

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- * Individual channel selection with indicators 1-6
- * Effect selection control I-IV
- * Channel test facility
- * Mains power switch
- * Key operated isolation
- * Shrouded fire button
- * Armed indicator
- * Power Indicator

System Monitoring

Fire-switch monitor and pulse integrity status. These added features ensure continued safety and reliability.

Le Maitre
lighting and effects

LIGHTING DANCEDAZE

Annette Peterson discusses Channel Four's new music series with lighting director Derek Watson

Derek Watson is lighting director of Dancedaze, Channel Four's new 10-part weekly music TV series due to be broadcast in early November. The series features a string of 60 pop, dance and soul stars including Double Trouble, Courtney Pine, Candy Flip and Innocence. It was filmed live at London's Academy Theatre in Brixton in September.

Watson was given a £35,000 budget to provide stage and film lights, lasers, projection and crew for the series which mixes live performance with contemporary dance and off-beat chat. "We rolled tape on camera from 10am until 10pm each day," explained Watson, "a battle of strength for both equipment and crew. When you're filming 60 live acts in two days it all has to be planned like a military campaign."

Four major lighting companies tendered working quotes for the series. "Entec emerged with the keenest price," said Watson, who worked with the company on the TV music series Big World Cafe — also filmed at the Brixton Academy.

Dancedaze features a spectacular £20,000 revolving stage set built-to-measure by staging company UpFront. "The revolving stage was the only way to speed up the turn-around between acts," said Watson. "Each shoot was 12 hours of non-stop live performance — with an hour off for lunch!"

The demands of such a schedule meant that the stage lighting had to be flexible. "Shooting for TV, we had to be very careful about skin-tones. We had to programme the lighting to cope with a dozen different tones each day."

To overcome the problem, Watson employed neutral densities, colour corrections and cosmetic gels in the spotlights. "We also used plenty of groundrows to illuminate the artistes' faces."

The lighting is not the only source of heartburn. Star temperament can be an LD's nightmare, as Watson reveals: "During filming for Chaka Khan we hit a problem at the very last minute. She insisted that no followspots were to be used while she was on stage. I was forced to use plenty of side washes and groundrows — and I wasn't at all happy. Generally, we'll take hints and advice from a group's touring LD but they don't get 'hands-on' control during a shoot like Dancedaze. On the day there's just too much happening to change settings to suit one artist."

Derek Watson landed his first job at 17 working for London-based Dateline Displays creating effects lighting for Battersea Fun Fair. He then went on to the Old Vic as a trainee electrician with the National Theatre Company. "On days off I worked as a rock'n'roll sound man for Muscle Music whose directors went on to become directors of Turbosound sales." He has also worked on pop promos for companies such as (the late) MCM and PMI. "The first promo I ever worked on was for The Sweet," he recalled. Watson was 'gaffer' on television programmes The Crystal Maze, Big World Cafe and the



Flexible stage lighting was necessary to give variety to all 60 acts.

Wired music series.

Capturing 12 hours of party music each day took its toll on the series' 21 strong lighting crew. "It was important to convince the crew that they were not taking part in a giant all-day disco. It was a punishing schedule. The crew were stretched to the limit."

The effects lighting used during Dancedaze included four lasers and three giant film screens powered by Xenon 16mm film projectors. "A new company called Halo supplied the projections," explained Watson, "They emerged from the 'Acid House' outdoor 'Rave' scene and have built up a huge indexed library of slides and film effects footage. There may be companies with better hardware, but Halo's effects library is one of the best."

Projectors, strobe flowers and assorted

effects 'toys' used in the series were supplied by The Spot Co. For the main lighting Watson chose VL2Bs and VL24 Vari*Lite's, "These were the most up-to-date moving lights we could get our hands on. Series director Marc Over insisted on a celluloid-style 'look' to the series, and the VL2Bs allowed subtlety in the light patterns.

"They have timing software built into the mixing desk allowing movement at the speed I want. The old-style Vari*Lite's just race around furiously with a mind of their own, turning the stage into a manic-looking disco."

Watson also used 12 Clay Paky Golden Scans to create movement in the auditorium. "The Academy Theatre has the biggest fixed stage in Europe — it means more space to throw beams and ultimately more 'feel'. The grid is about 70' high but the lighting rig was flown between 22 feet and 35 feet. It started



The Dancedaze rig extended 20 feet into the auditorium.

Photo by Justin Thomas

at the back of the stage and reached 20 feet out into the auditorium."

Additional lighting and projection screens were hung in the auditorium together with a series of inflatables onto which images could be projected. The lighting rig took two days to erect and Derek Watson spent a further 18 hours programming the Vari*Lite patterns. "We couldn't get all the groups for rehearsal before the show so I had to programme enough states, sets of states and chases that I could call up instantly during each group's performance. I programmed enough to give variety to each act, then worked washes and laser effects over the top." Lasers were supplied by Laser Magic, "They're a new

company that actually seem to care about what they do," reported Watson.

On stage he employed 240 Parcans with 60 VL2Bs and VL4s. "We also needed plenty of film lighting for cutaways and interviews shot backstage in the studio set, corridors and dressing rooms."

On shoot days he had two film lighting 'sparks' on hand along with a truck-load of assorted film lights and equipment. "We needed lights to cover all situations as filming took place on the Academy roof, in corridors, on the vision truck, outside in the dark — as well as on stage."

Creating a stage lightshow is one thing, but making the same lights look good for TV is

another matter. Months before the stars stepped on stage and the cameras began to roll Watson drew up lighting storyboards detailing enough varied beam patterns to highlight the series' 60 headlining artistes.

"I usually start with 20 basic Vari*Lite beam patterns," explained Watson, "then build up a mixture of colours between the standard patterns. Then it's a matter of adding enough patterns and colours to make each act on stage look different."

The 240 stage Parcans were set to provide back beam patterns and washes to boost the effect of the Vari*Lites. "It's vital to have a clear idea of the shapes you plan to create on stage," said Watson. "The TV director, for one, has to know in advance what he's filming so he can order his cameramen into the best position to capture the shot. There's a world of difference between lighting a stage to please the crowd, and lighting the stage to please a TV director."

Watson's foremost task was to illuminate the artistes on stage. He employed eight followspots: four stage front and four behind. "Using a lot of followspots can kill the back light. The beam patterns just don't cut. We got around it by keying the subject at the lowest possible light level. This forces the camera lens to open right out and capture the back light. The beam patterns in the monitor are much brighter as a result."

Watson used cracked oil smoke machines to highlight beam patterns. "Singers usually object to smoke because it dries out their throats during a performance. With cracked oil you hardly see the smoke. It provides a very light haze unnoticeable until you shine a light through it.

"Cracked oil smoke is perfect for TV



Artistes performed on a built-to-measure revolving stage.



Working Week formed part of the line-up for the programme.

Photo by Justin Thomas

because it enhances the beams without coming between the artiste and the camera."

Watson believes it's lucky the Dancedaze series was filmed in August as much of the equipment he needed for the show just wasn't available in the early summer. "At one stage it appeared Tina Turner, The Rolling Stones et al had booked just about every lamp and cable in London. Everybody on earth seemed to be out with a monster-sized stage show."

Derek Watson is not about to pack his bags to join the likes of The Stones and Tina Turner on the road. "Touring lights is a cut-throat industry," he told me. "Hire companies are

all fighting for the same work and this can only reflect in crew wages. I doubt lighting crews earn any more now than they did five years ago when I last toured."

Since completing work on Dancedaze, Watson has been hired by Entec as 'gaffer' for the next series of TV's The Crystal Maze which begins filming in October.

Equipment List

- 240 x Par 64 units
- 16 x StrobeFlowers c/w control
- 8 x strobe rays
- 16 x 4 cell groundrows
- 8 x Pani follow spots



Dancedaze artistes, Candy Flip.

- 1 x Celco Gold 90
- 2 x 72 way Avo racks
- 1 x mains distributor
- 1 x triple remote
- 200ft A-Type truss
- 120ft ladder beam
- 10 x 1 ton chain hoists
- 4 x truss spot mounts
- 8 x strobes c/w control
- 1 x 12 way intercom system
- 4 x 2kW Xenon Supertrouper
- 48 x V2LB spot luminaires
- 18 x VL4 wash luminaires
- 4 x 16mm 350w Xenon projectors
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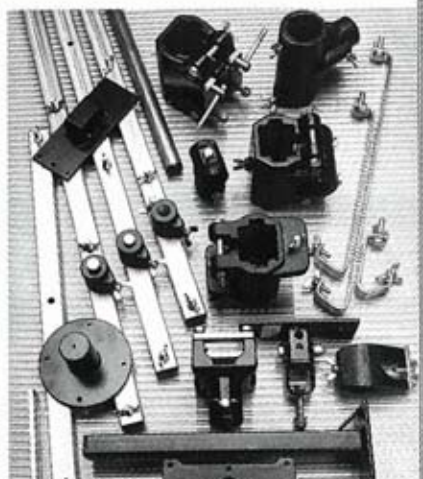
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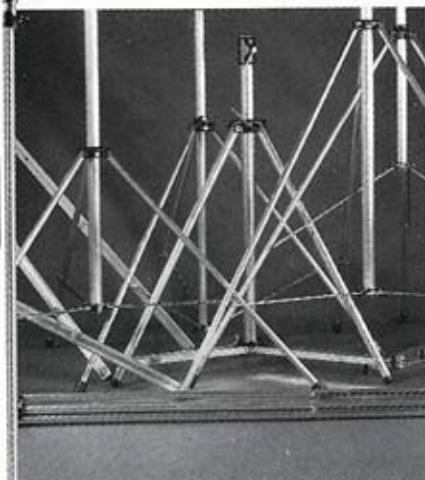


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PLASA 1990 LIGHT+SOUND SHOW

Tony Gottelier, Ben Duncan and Phil Roper report from London's Olympia 2 and the Professional Lighting and Sound Association's biggest and most comprehensive show yet

If the annual Light and Sound show were of sufficient earth shattering significance outside our industry for its history to be recorded for posterity, (other than in the annual mutterings of this miserable recorder in the pages of your esteemed journal), this year would represent a substantial milestone.

For 1990 was the year that leading 'lights' from the theatre end of the business abandoned the ABTT show and braved the noise, smoke and general hubbub of, what was originally, let's face it, a disco exhibition. These days, occupying four levels of Olympia, it would probably be best described as an exhibition of entertainment technology. In that context it is absolutely valid to expect that representatives of all four specialisations in performance lighting should be present, although whether television will ever join the other three is quite another question.

These days the crossover between club, rock and theatre is just too great to be ignored. Business must follow the bucks and buck the nostalgia. So this year those nice 'quiet' people from Strand, CCT, TSL and Colortran crossed the threshold and wedded themselves to commerce, alongside numerous representatives of the rock and touring brigade, such as Celco and Avolites who had themselves previously made the trip successfully.

I notice, in the last issue, that an ABTT spokesperson has hotly denied both the existence, and cast doubt on the value, of any discussions with PLASA over the matter of co-operation. I must say, as an outside observer, that if I were a member of ABTT I would be wanting to know why they're not talking. After all with no permanent home for

their show in future, and a reducing exhibitors' rosta, the time to talk must be now. In the words of the popular song, 'Tomorrow may be too late.'

Aside from all of this I counted over 60 new exhibitors at this year's show, a healthy sign to say the least.

The other issue under intense discussion at the show was the gloomy prospect for the UK discotheque lighting contingent of a year end shaping to be the worst for business since the winter of our disco-content of '79-80.

With the purchasing power in so few hands these days, the same hands which are geared to the hilt on past acquisitions and with interest rates at alarming levels, to say nothing of the price of oil, the prospects for a shake-out of even more leisure operators seems great. With the City having lost faith in Mecca over-night, the shock waves continue to impact themselves on the sector and other companies with leisure interests, such as Brent Walker and Polly Peck (though in the latter case for reasons possibly totally unconnected), are now feeling the heat.

I talked to Adam Page, bloodied but not bowed, following the loss of his battle to hang onto Midsummer (now being swiftly absorbed into European Leisure), at the Lightfactor party at The Planetarium. He told me, among other things, that in his view the industry was in for more shocks, and within weeks rather than months. He didn't look like a man talking out of pique, but I could be wrong. On the other hand, why is a man who has stashed away millions made out of the discotheque business so desperate to get back in, if things are really as bad as he says? Is it pure pride and prejudice, or just that he can't resist the

temptation of possible bargains in the only business he knows well?

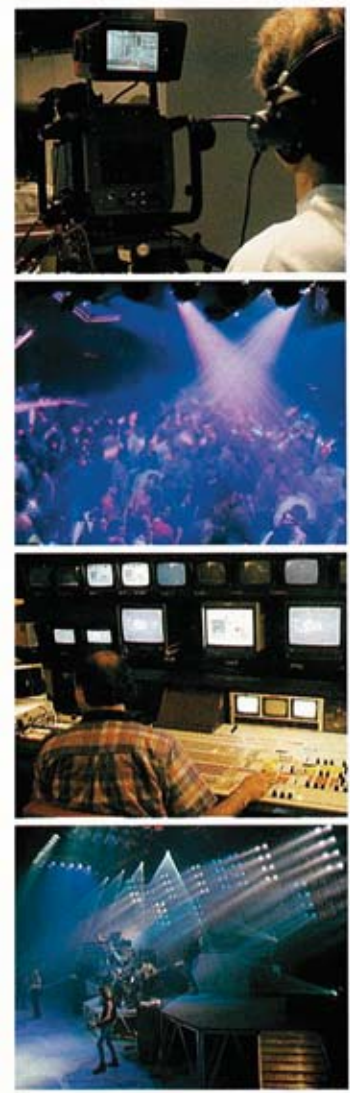
Anyway, we didn't have long to wait before the first rumours surfaced. The following night at The Hippodrome annual awards junket, Whitegate became the subject of intense gossip among the pundits. It seems that the most likely outcome of all the speculation, some of which was wildly off the mark in the event, is that Whitegate are a prime takeover target, with shares under-priced to asset value. First Leisure, Michael Guthrie and even Page have all been mentioned in this connection.

Whether any of this has any significance to the suppliers and installers worrying about their winter through-put is a moot point, beyond the fact that the funds are controlled by an ever decreasing number of financial groupings. That's the nub of it, for if they

MORE FOLLOWS

It's impossible to cover it all in one — so many products launched at the 1990 Light and Sound Show will be included in more detail in future issues of L+S! in our Equipment News pages.

Super Scan: here is the show!



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Strand Lighting used the Show to launch a parade of new products, with Alan Luxford, David Brooks and Ian Haddon on stand.



NJD Electronics introduced no less than 12 new products. Keith Greenwood and Kevin Hopcroft show off the range.



Anytronics launched a host of new products including Mosfet power amps and a 6 channel mini desk. Bob Hall (left) explains their virtues to Israel Simchi of Ness Imports, New Jersey.



Mode's display included their wall-mounting 16 channel digital pack, available in both dimming and non-dimming versions.

batten down the hatches where will the work come from?

Nevertheless, most suppliers who survived the last debacle ten years ago, while they may see familiar smoke signals, are far better prepared to weather the storm this time, if it comes. And at least nobody has said, 'disco is dead' this time. Export, of course, will be the key and on this front everyone was very bullish at the show. Indeed this is where an exhibition of international standing, as the Light and Sound show has become, makes its major contribution. All the signs are that this year, despite a high pound, the show will have generated considerable export orders.

So returning to the fringe activities, I must convey my congratulations to all involved in the Hippodrome production for a splendid occasion which, with the exception of one gaffe, totally belied what had previously become almost the traditional annual farce.

George Hendry and Mick Parker of European should themselves have received an award for the sparkling condition of their flagship venue, I have never seen it looking so immaculate. Jerry Gilbert and Jay Green

can take plaudits for the production, ably handled by John Sanderson, with in-house production by Stuart Claus. As ever Mick Martin, Oska originator, turned on a brilliant light show with two Coherent Purelight lasers by Grafix, Clay Paky Golden Scans and Super-scans, loaned by Pulsar for the purpose, which also ably demonstrated the benefits of Mick's new Q-box, que combining interface, launched during the show.

On the subject of technical difficulties which seem to plague these activities, there were troubles at both the PLASA dinner and the Lightfactor event this year. Why is it that we, of all people, with the notable exception of the Hippo this year, consistently get this wrong? Is it just sod's law, or what is it? In any event it creates a pretty poor image to those we most want to impress.

Laser Media's brave attempts to demonstrate a 3-D laser, as part of The Planetarium, shindig fell somewhat short of the mark, due to local difficulties according to Harvey Plotnik, however the polaroid glasses which were provided for the purpose, proved especially useful when it came to protecting one's

eyes from the worst excesses of full frontal strobes at full pelt.

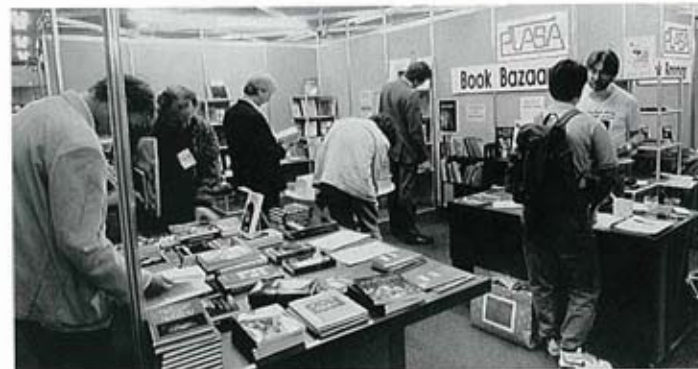
No, there wasn't a great deal of levity at the show this year, unless you count the visit of the phantom of the surgery, the nurse who last year had attended Avitec's Tony Kingsley in his hour of need. Anyway, she reappeared during the set-up this year and it was apparently some time before the hapless lad realised that he was facing a nurse-a-strip-ogram, wished on him by his Avitec colleagues.

As usual the cry went up about lack of new product. And as usual it was based on the unfair premise that there was nothing so totally revolutionary as to cause a total change in direction. John Offord was sent over 130 'new' products by exhibitors for his slide review, and while not all of them will justify the description, many will indeed be novel and represent many hundreds of hours of manufacturer's development time. This is not undertaken lightly, nor without somebody perceiving a need which new product X will fill.

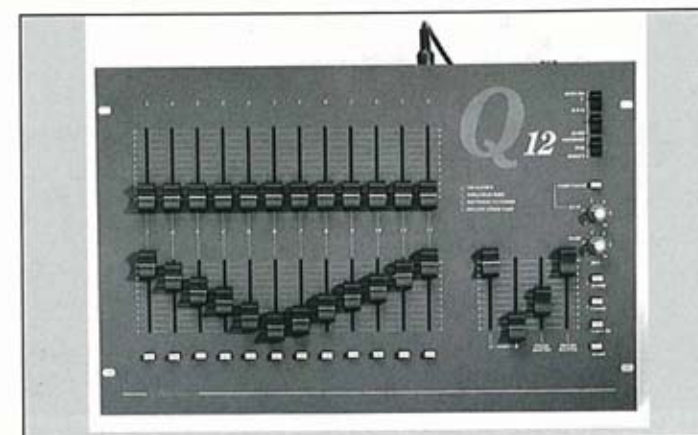
So although I shall maintain the format



Lining up on the AC Lighting stand from left to right are Paul Mulholland of Jands, Bob Gordon of Wybron, Tommy Stephenson of TMB Associates, Ken Whitright from Wybron and AC Lighting's David Leggett. Featured for the first time by AC were Vision, a new range of professional luminaires, and the Scroller family of colour changers by Wybron.



Now a regular feature of the PLASA stand, the Book Bazaar scored high in the interest stakes with its comprehensive range of titles covering all sections of the industry.



The Q12, a new 12 channel desk from Light Processor.



Thomas Dietrich, managing director of ETR (Switzerland), with their DP1200 dimmer pack.

instigated at SIB and confine most of the product information to picture captions for ease of scanning, let's take a look at a summary of the items which I found personally most interesting this year. (I am doing this under product group headings so that you can run down the list and pick out those items of current interest).

Luminaires: Strand launched a new range of pressure die cast luminaires, with the classic looks of a Strand perennial (bring back the Patt 23 say I), based on a 650W lamp and called Quartet, giving profile, fresnel and PC spot options. While CCT introduced Silhouette 90, a range of zoom profiles, a 650W discharge follow with CSI, MSR and HMI choices and a 2.5K optical effects projector called Starlette.

Luminaire add-ons: providing a similar range of effects, the White Light effects attachment with direct drive will fit Patt 252, Cadenza EP and Starlette. Eurolight's Whisper colour scroller has a number of clever features, the colour is tensioned through two processor controlled motors, it gets over blue burn-out, which must be a major headache with scrollers, by using twice the length of the other colours and keeping it moving imperceptibly when blue is in use and, of course, as the name implies it really is quiet.

However, my prize for potentially the most interesting newcomer is Image Pro which is to be distributed in Europe by Optikinetics. This front of lens attachment, displayed on Parcans because of their ubiquity, although surely more effective on a profile, incorporates a dichroic hot mirror and a polycarbonate fresnel lens, to enable projection of colour transparencies from simple instruments. I await an image changer.

In memory desks: Lee Colortran wheeled out their Prestige Plus, Celco gave a UK debut to their Panorama and Strand proffered a new version of their Light Palette 90, so successful in the US market. Meanwhile, Lightpower of Germany appointed Cerebrum as their distributor, which must have sent a chill down Celco's mutual spines. But it was in the battle of the smaller lighting boards that things were really hotting up. Zero 88 introduced an enhanced Sirius 24 with 90 add-on memories, sound to light and memory card data storage, added a DMX512 option to Sirius 24 and 48, and further expanded their new range of Level 2 preset desks which now runs up to 24 channels. Meanwhile, the mighty Strand acknowledged the shock delivered by Zero's Sirius and entered the market with a budget range of 12, 24 and 48 channel 2 scene preset boards with numerous bells and whistles and every output protocol known to man (described in full elsewhere).

The prospect of a battle of the Brookses, Peter and David, is eagerly awaited.

Pulsar launched their Masterpiece, a 108 channel, eighteen by six page all singing, all dancing model, described by them as a hybrid of their touch panel, modulator and small desk technology (described in full elsewhere); this follows Multiform's earlier decision to follow this unusual 18 channel layout with their Aquarius 18 board. **Light Processor's** Q12, 12 channel, 2-preset, 120 scene memory panel, was also seen for the first time and Lee Colortran unveiled their new Status 24/48.

Dimmers: the accent, as expected, was on digital dimming with the prospect of saving



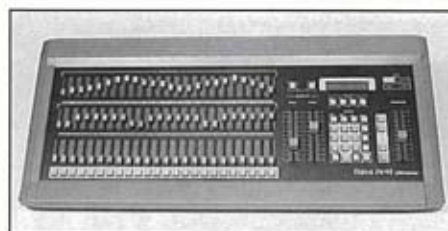
Weather or not – White Light's effect attachment for standard luminaires.



The new Image Pro front-of-lens attachment which can turn standard luminaires into transparency projectors.



One of Celco's new Compact dimmer racks.



The Status 24/48 from Lee Colortran.



CCT's recently introduced Silhouette 90 zoom profile.



Coral Cooper demonstrates the MA LCD 120 channel console on the Cerebrum stand.



Paul Marden of Pulsar with his Masterpiece, all singing, all dancing board.



Richard Thornton Brown (right) demos the new Zero 88 Level 2 board to Glyn O'Donoghue of Lancelyn Lighting.



Impressive as ever, the Pulsar/Clay Paky lightshow is an annual event in its own right.



A low smoke welcome to the Le Maitre emporium.



Andrew Stone, John Coe and Nick Mobsby pause for a breather before pitching back into the sales battle on the Eurolight Group stand.



Avolites' Shahid Anwar (left) and Catherine Harrower with the QM 500-TD.



NJD had one of the busiest stands. Centre-piece here is their new Nightstar effect.



According to WB Lighting/Coemar 1990 is the year of the projector, and their popular lightshow certainly reinforced the theory.



Citiconic's Mike Gerrish (left) provides technical information on the company's range of Pro Audio, installation and discotheque products.



Heading the list on the Turbosound and First Audio stand was the new TMS-5 full range enclosure. The activity was in their 'tent', by the way.

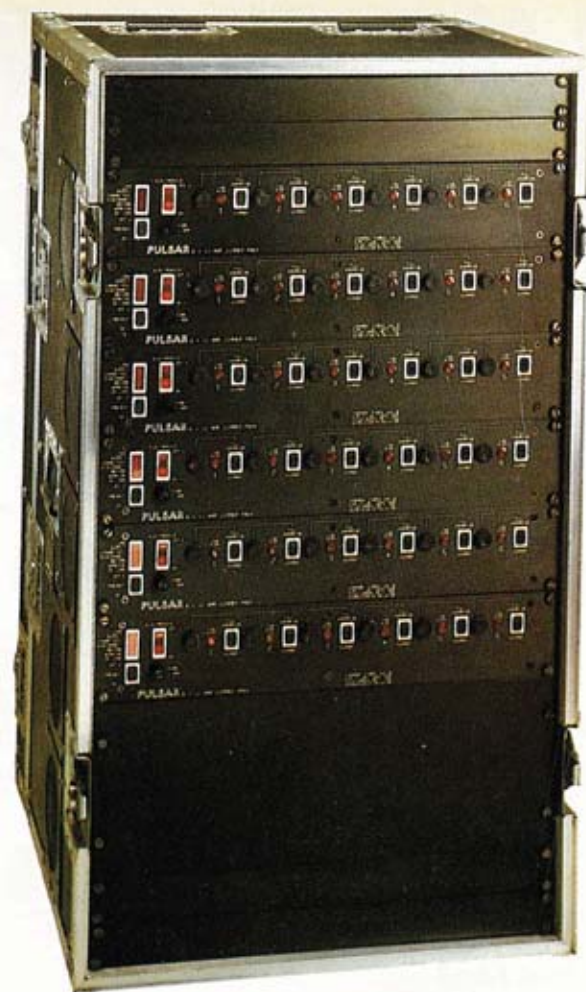
THE NEW PORTAPAK 3

ON THE ROAD RELIABILITY

The new Portapak 3 touring dimmer system is designed for life on the road. With all the capability you need, the reliability you need, the reliability you demand and the quality you'd expect from Pulsar, the dimmer professionals. When your reputation depends on it — the Portapak 3 won't let you down.

Specification

- 36 Channels — 10 amps per channel. Each channel fitted with fuse, fuse-blown indicator and manual test switch.
- Fan fitted for every 6 channels to eliminate overheating worries.
- Mains patching — either serial for 110 volt lamps or parallel for 240V lamps. Makes it possible to pair any two lamps together onto any dimmer channel. Standard Socapex outlets.
- Signal patching — from standard 30 channel Socapex signal input or twin BICC sockets, via a banana plug patch to DIN outlets for each dimmer module.
- Camlok 3 phase mains inlets.
- Compatible with Celco and Avolites lighting boards.
- Wired, tested and ready for use.



AND THE PERFORMANCE YOU'D EXPECT FROM PULSAR

A professional touring system from Pulsar, one of Europe's largest dimmer manufacturers.

PULSAR
Lighting for Effect.

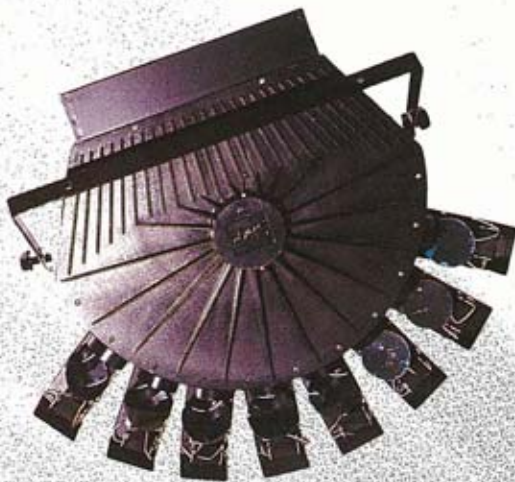
Pulsar France Sarl,
10 Avenue du Fresne,
14760 Bretteville sur Odon, France.
Tel: 31 741001 Telex 171237

Pulsar Light of Cambridge Ltd.,
Henley Road, Cambridge CB1 3EA.
Tel: 0223 66798 Telex 81697 PULSARG

Pulsar GmbH,
AM Vorort 23,
D-4630 Bochum 7, West Germany.
Tel: 0234 28171 Telex 825593

LITEBEAM BUNNY

This interesting device utilises a centrally mounted high power MSR400 lamp projecting through lenses on to eight x/y scanning mirrors. Each lens has a fixed dichroic colour filter, and the mirrors have eight pre-programmed patterns, each with 60 steps, to produce a clutch of coloured, swirling beams. These patterns can be speed controlled or stepped to music, via the dedicated controller, which allows direct access to each mirror scanning servo to enable further programming and pattern creation. A giant of an effect, with beam power to match!



LED DUET

Two lenses and two lamps combine to create a veritable duet in light. Each lamp and lens produces a conical spray of coloured beams which are rotated in sound activated synchrony to pass through each other creating tunnels and wave like effects.



AVI

the Autumn

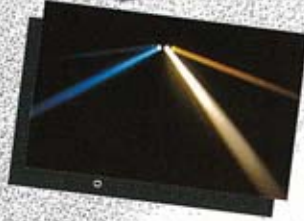
METEOR XYLON

New to the UK, this unit uses two centrally mounted A1/239 lamps and an arc of optically efficient lenses to pack quite a punch. Exceptionally bright beams twist around and through each other. The Xylon has its own dedicated controller, which provides sound activation or continuous movement and individual switching and flashing of the lamps, which can also be remotely enabled. A multiplex link between controller and head makes installation easy and further heads can be synchronised via 'daisy chained' cable links. Colour filters are easily fitted.



**FAL ITALY -
COLOURED SCORPION**

Eight lenses, a powerful lamp and dichroic colour filters make this unit incredibly effective. Richly coloured spikes of light dart out from the lenses only to disappear and be replaced by other equally pure colours, all driven from internal sound activation circuitry for ease of installation. Also available - Static Scorpion, with white beams.



FAL ITALY - COLOURSTAR

An extremely versatile and economic alternative to fully intelligent lighting. Although not individually addressable, the heads feature five pure dichroic colours plus white and four gobos any of which can be selected manually, sequenced automatically or to music. A blackout shutter is also provided. The mirror is automatically sound activated in both planes ensuring a wide coverage by the remarkably bright beams. Non-programmable so no programming headaches!



Just a sample of the vast range of lighting and sound products featured in "The Catalogue" 1990-91, available free on request.

SYSTEM FREESTYLE SPACELIGHTER

Twin ENH 120v 250w lamps produce astonishing power, with a choice of five rich dichroic colours to create a wide angled wash of light, suitable for many applications, from stage to disco. The unit has a quick and easy lamp change facility, and is fan cooled - the fan circuit has a separate feed to allow continuous operation, giving extended lamp life. The fan cooling permits usage in applications where continuous illumination is required. Fitted with barn doors to control beam size.



TEC

THE ATMOSPHERE CREATORS

Collection



Show talk: Plasa's Annabel Williams with Matthew Griffiths of Theatre Sound & Lighting.



PLASA chairman Kevin Hopcroft gets the entertainment under way at the Association's Annual Dinner at the Royal Garden Hotel in Kensington. Photo: Frank Seifert.



The big and small of Rainbow scrollers on the M&M Lighting stand.



Framed by white Deltaline, Batmink showed an extensive line up of new products both from their own stable, and from Italian companies Griven and Lampo.



The 1990 Dinner Dance in progress.

BATTLE OF THE NEW BOARDS: THE FACTS

Zero 88's Level Series

LEVEL 6

6 Channel - Single Preset

LEVEL 12, LEVEL 18, LEVEL 24

12, 18 and 24 Channel - 2 Preset Independent Preset Masters

Timed Crossfade with Flash Override

Power On Indicator

Analogue Control Output

Light Processor's Q12

12 Channels MX

2 Sub Masters

Analogue & DMX Outputs

120 Scene Memories

Dipless Crossfade

12 Level Chase Memories

Multiple Chase Run

Multiple Scene Mix

Blind Programming

Desk Blackout D.B.O.

Internal Audio Mic

Strand's MX Lighting System

12, 24 or 48 channels of two scene preset

Electronic patching for up to 512 dimmers

Flash buttons operate in solo, pile-on, or inhibitive modes, and at selected levels

Split crossfader with LED display

Rapid recording of up to 192 memories

Split time fader for timed crossfades

Live or Blind memory option

Unique 'Hold' feature

24 real time programmable effects

MIDI interface

Menu driven display

Outputs: SMX, DMX512, D54, AMX192

Optional Memory Card

English, French and German language software included as standard

Pulsar's Masterpiece

108 Channels

216 Scenes of the 108 channel levels with fade in and out times.

54 Scene Chases

48 Environments of Scenes and Scene Chases

6 Environment Chases

Fully automatic crossfades or manual crossfades. Fade In and Fade Out time sliders. Individual control of the 108 channels always available.

Black Out.

INPUTS: Audio for Sound to Light and Chases. RS232 and MIDI

OUTPUTS: Channels 1-36 available as 0-10v analogue, channels 1-108 transmitted in both RS232 and DMX formats.

Internal memory non-volatile. RAM card for backup.

SOUND TO LIGHT: Pulsar Modulator's Sound to Light circuits built in, 3 zones of 4 channels, each patchable.

Latch/Flash/Swap/Solo keyboard modes, Sound to Light monitor, Joy stick with position/velocity.

Chase: Manual step fwd/rev.

Speed, Slope, Bass/treble, One-shot/repeat, scene fade times,

Copy chase.

on cabling and improving dimming efficiency in new installations. The delay in the majors moving to produce digital packs (I know of one London venue which has had custom units for six years at least) has left the way open for smaller companies to fill the gap. One of these is **MDR Interfaces**, one of this year's new exhibitors, who introduced their innovative New Concept dimmer. Designed for truss mounting, this unit has an unusual feature which enables remote off-desk control of each three channel pack while rigging, which could save at least one pair of hands. The MDR system makes use of the bi-directionality of RS485, the buss used by DMX512, to return diagnostic information to the desk. It should be said that this last technique was considered somewhat risky by some experts at the DMX seminar.

Another newcomer, **Andera**, introduced the Australian-made Bytesize digi dimmer with on-board memory. Generally packaged in 12 channel by 15A, or six channel by 25A configurations, these dimmers not only provide diagnostic feedback, but the Preset version also offers 99 on-board memories and recorded times programmable from the front panel. This could be useful in a number of situations and particularly as a secure back-up in the event of catastrophic board failure. Like MDR, they also have a riggers control option called Felix, theirs is phantom powered, and have twigged the fact that there may be a market for reversing the normal demux process, once digital dimming and other peripheral DMX512 devices take hold. Sage is an interface which enables the use of existing non-digital desks chucking out analog D54 and AMX192 by converting it to DMX512, or Avab protocols. As well as these innovative items, Andera also offer add-on memory expansion cards to Galaxy 3 users and a more typical D to A demultiplexer.

Zero 88 now also have a conventional digital-in 48 channel demux, as a spin off from their new work on the Sirius series.

Mode also had two versions of their wall mounting 16 channel digital pack, which I missed at Rimini in my enthusiasm for their solid state transformer (mea culpa). **Avolites** revealed their 48-25 system, based on twelve 25 amp channel packs, four to a rack and Strand, of course, were showing off their new baby, the EC90 ably reviewed by Francis Reid in August.



Cross talk — talking point of Starlight Design's astral firmament, a dynamic lighting device called the Cross.

Discotheque lighting controllers: With the accent now firmly focused on medium-sized multi-channel systems, such as the Enigma Micro, now to be handled by Cerebrum, and Pulsar's Masterpiece, there is much reduced activity in the development of small control panels. After all, there are only so many things one can do with a four to 16 channel format.

Nevertheless, **Multiform** came up with a new 16 channel programmable touch control, called Maestro, with eight programmable presets and chases. Pulsar, in their more traditional brown box mode, gave us a new 12 channel programmable Touch Panel II, with 24 programmable presets and four chases. Swiss newcomer **ETR** impressed with a range of controls and packs which seem to be aimed at the small band market, but which could equally be at home with a mobile disco. This included one panel with an optional foot control, which could be very handy for one-man DJ operations where the lights are often sadly neglected.

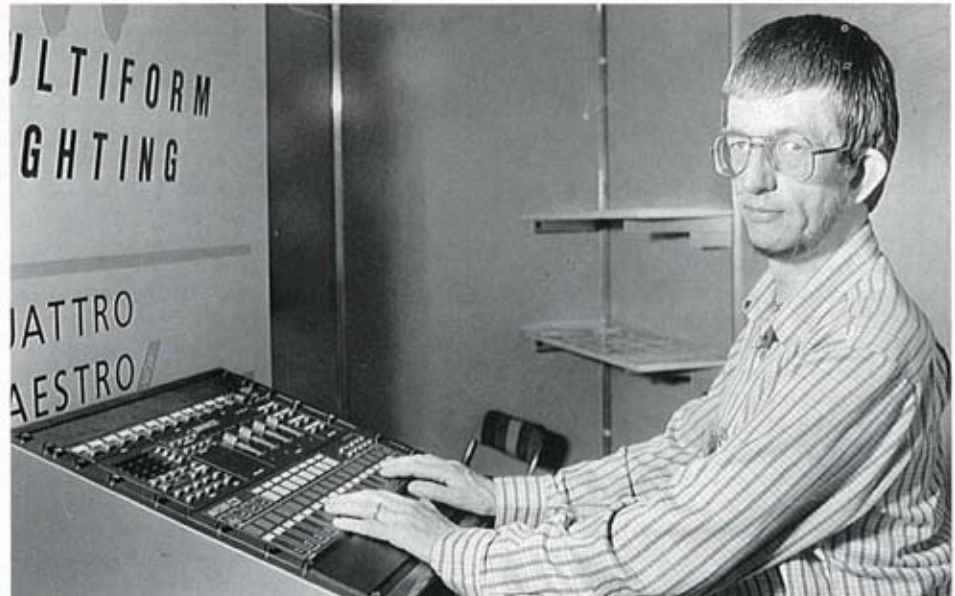
Discotheque lighting effects: The new product, which drew the biggest crowd by far, (surprising because I thought everyone was

bored to the back teeth with articulating projectors) was Computek's new Varyscan II. It features 400MSR lamp, 12 dichroic colours with intermediate states, five gobos and options for mechanical dimmer, iris, shutter, autofocus and on-board memory. This latter allows storage of pre-programmed movements which, in combination with computer control which monitors the position of the mirrors, should greatly simplify plotting.

The company claim that the output of this unit is considerably up on the competition (3800 lux @ 10M x 2M dia.) due to the use of computer designed optics. Because of peoples' fears about the reliability of servos, although Varyscan's are claimed to be aircraft type, not model aircraft ones as once used in one notorious progenitor from elsewhere, the UK representative promises to replace faulty parts within 48 hours, or provide a complete new unit. There's confidence for you! It does have to be kept in mind that, with this kind of visually appealing kit, what you see isn't always what you get, although I feel sure that it isn't the case here — made in Germany and all that. However this kind of warranty (my spelling) recognises people's sensitivities to that situation.



Peter Willis and Martin Benson of Andera look on as Howard Eaton gets to grips with the Felix remote control to operate the Bytesize digital dimmer behind.



Play it again Maestro. Ian Price-Smith with Multiform's new light control panel.



Laser Systems' Geoff Jones with Lobo laser graphics in the background.



Richard Stewart, Andrew Morris and Othmar Dehri from Mode Electronics with new lighting effect, The Thing.



Award winning video system. Tim Davies and Vincent Rice of Xylo with the Turbine controller, central to their interactive free structured video effects package.



Heaven sent opportunity to see the Xylo video system in a real application at London's Heaven nightclub.

(It occurs to me, incidentally, that the size of the crowd may also have had something to do with the combined performance of Laser Grafix' seven colour Purelight laser on the same stand, my old mate Keith Hardy's new sound systems called, dare I say it, DARE, and the infamous hospitality of Astralloy's Adrian Brooks.) Concurrently, Astralloy launched Winchlite, a self climbing vertical truss column which enables you to build rigs at waist height and then raise them to 5.6 metres with a SWL of 250kg.

Other new articulates are the Varybeam from Studio Due of Italy, distributed here by Lightfactor, not a wagging mirror — the whole projector is driven, and, although around a while, Avitec have recently taken on the distribution for ACR's Spectron III from which, they say, the bugs have finally been expelled.

Is Mode's 'The Thing' the first admission that everybody is running out of names for these gizmos? Described as a laser simulator, the product emits three parallel beams sourced from an unspecified 300W discharge source. These beams are deflected via three independent scanning mirrors and an internal dichroic colour changer in order to create cones, scans and geometrics in a choice of seven colours. Clearly inspired by Laser Media's Color Ray, The Thing attempts to exploit the price barrier of other such devices by its three-in-one capability. But it's still expensive, at £6,500 plus control, and is it bright enough?

I was especially pleased to see Starlight Design making an effort to revive the lower cost dynamic effect, or what used to be called centre pieces before things got out of hand. Out of four brand new devices in this category I especially liked the Cross, which is

similar to two of the erstwhile UFOs set at 90° to each other in the one fitting and rotating on two axes.

It was also good to see Griven's products, which were the stars of this year's SIB, finding themselves at home in the UK with Batmink, who are fast becoming Italian specialists.

Lasers: With the dramatic improvement in the spectrum of colours achievable with the latest generation of mixed gas tubes, such as Coherent's Purelight, the emphasis seems very much to have shifted to control in the search for better and better graphics. Aside from Grafix' Prisma, which deservedly won this year's 'best' award, there were numerous new panels from Laser Magic, i-Laser, Universal, Laser Technics and others.

Meanwhile, for those with deeper pockets, Laser Systems, perhaps acknowledging that straying from their original specialisation may have left them somewhat vulnerable, celebrated their new association with Lobo with a demonstration of superb flicker free colour graphics generated by the Italian company's control product and yet another Purelight tube.

Video: Without doubt the most interesting new development was the Turbine's interactive video control system from newcomers Xylo. At last we have a coherent panel which goes a long way towards solving the problem as to who does what in the control booth as far as video is concerned.

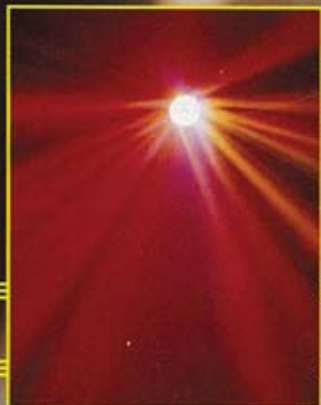
Turbine generates dynamic effects by ignoring the problem of manipulating the video image, which involves expensive and bulky frame stores, and instead sequentially switches the images across up to 256 monitors.

The result can be riveting, if you can get the mental straight jacket of the video wall format out of your mind. The monitors can be placed anywhere in any configuration and up to four images can fly around the space simultaneously. Add to this a scratching facility, and the Fairlight CVI which Xylo are relaunching, and you have a go-anywhere-do anything video effect system as flexible as multiplexed lighting. This was most ably demonstrated during an after hours visit to the Heaven nightclub — see picture. I see great potential both inside and outside the discotheque market, designers of theme park attractions, adventure games and AV presentations should take a look at this one.

Odds and Sods: My prize for the most impressive way to demonstrate product goes to Hardware for Xenon of France, for their giant screen slide projector which produced an impressive image on the far wall from right across the whole length of the void in Olympia from balcony to balcony. It can't be often that an exhibition organiser is actually asked to sell what, to anyone else, would have been dead space. For Hardware, about whom J-M-Jarre should be delighted, it was the perfect place to be.

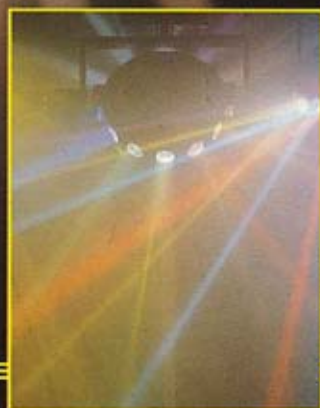
It is also interesting how, like Xylo, it is sometimes the simplest solutions which make things feasible such as their solution for the effective use of colour film with 700W of Xenon. For aside from optical design, the thing which makes it all work so well is a combination of direct cooling in the gate and a slide mount made from high temperature plastic. There is no glass to keep the film from buckling, which causes its own obvious problems, instead the transparency is retained between two rows of pins in the mount and

OUR LATEST STARLIGHT STUNNERS



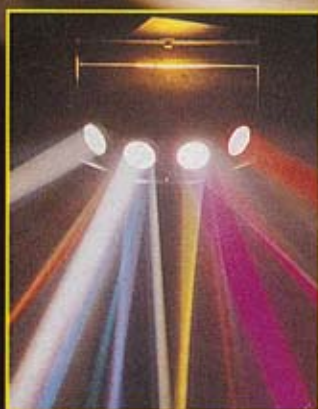
DICHROFLOWER

The Dichroflower will shower beams through the air via four dichroic filters and move the filters in sync with the bass beat, changing the colour from red to yellow, green or blue. The unit comes complete with M33 250W 24V lamp and is ideal for installation or mobile use.



STARSHIP 400

This new centrepiece is a dazzling effect. Dichroic filters shoot bright, constantly changing, tumbling beams of light through a UFO-type lens disc. The whole piece then rotates to produce a stunning effect for any club. This unit uses a 36V 400W lamp.



RAINBOW GOLD

A brighter version of the popular Rainbow, Rainbow Gold is a delightfully different beam effect with colours changing constantly through the entire spectrum. The beautiful colours are produced through dichroic filters which pulse to the beat of the music via the inbuilt mic.

Stunning centrepieces and beautiful dichroic 'showers and flowers' of light form the basis of our new range of high-quality fittings, to keep your club right in the vanguard of style. Here are four 'stars' from the new collection

THE CROSS

SEE MAIN PICTURE
Another stunning centrepiece. Lenses mounted in a cross format shoot beams of coloured light in a tumbling, twisting effect, with 30rpm side and top rotation. A 36V, 400W lamp produces a bright effect which is ideal for clubs large or small.



Starlight Design (Light and Sound) Ltd

Unit 6-7 Hardwick Road Industrial Park - Great Gransden - Sandy - Beds - SG19 3BJ - England
Tel. (07677) 7715 (4 lines) - Fax. (07677) 7730 - Telex. 827547 CG BUS G Attn Starlight

DISTRIBUTORS

Club Entertainments - 22/23 Victoria Road - Swindon - Wilts - SN1 3AW - Tel. 0793 644181

Dial Light & Sound - Unit 4G - Wharfedale Road - Euroway Trading Estate - Bradford - West Yorkshire - Tel. 0274 651600

Leisuretec - Unit 15 - Portland Industrial Units - Kingsway - Luton - LU4 8HA - Tel. 0582 23300

MSL Pro Light & Sound Ltd - 125 Blackstock Road - London - N4 2JW - Tel. 071 354 2254

Night Flight Sound & Lighting - Torwood - Bowling - Glasgow - G60 5AB - Tel. 0389 79261

NJD Electronics Ltd - 10 Ascot Industrial Estate - Lenton Street - Sandiacre - Nottingham - NG10 5DJ - Tel. 0602 394122

Northern Lights - 89 Scottforth Road - Lancaster - LA1 4SD - Tel. 0524 62634



Paul Raymond of Par Opti with his fibre optic sporan.



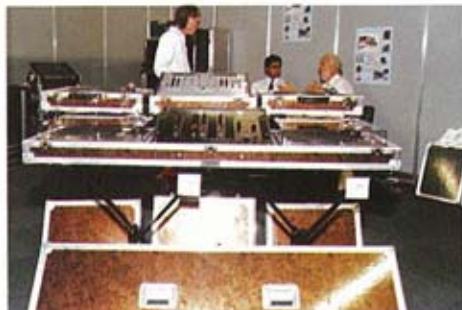
First floor corner: The stands of Marquee Audio, Laser Technics and Eminence Audio.



Zoning in on Eric and Linda Matthews of Electronic Lighting & Music.



Speakers corner on the LMC stand.



Five Star Cases present their line-up.



Jon Vogel and Sian Albury graphic PLASA's name on the i-Laser stand.



The world of Anytronics.



JEM's Nigel Morris with the award winning Heavy Fog 6500.



Control know-how on the Laser Magic stand.



A colour collection from Lighting Technology.



Protek launched two new speaker ranges at the show.



Specialist Lamp Distributors had a successful 'first time' at the PLASA Show.



Joanna Butler paints the scene for Rosco.



Stuart Gibbons and Gale Dobson took care of the Le Mark stand.



Celco's stand featured new products and integration of control in live performance.



All discotheque needs catered for: Squire Sound and Light.



A heavyweight pulley and hoist line-up from Tirfor.



Impulse (SDTI) unveiled their Rack-On-Tour lighting control system.

as it gets hot the slide retracts and the film is tensioned, avoiding any need for refocusing. All we wait for now is the remote slide changer for their big scenic projectors, as has already been achieved for Pani by Production Arts of New York and shown by **DHA Lighting**.

As well as Xenon boosted versions of the Kodak SAV 2050 and the Hasselblad PCP 80, Hardware also offer high powered Xenon followspots and searchlights from their new UK address in Hayes.

Which is a cue for a plug from home grown **Light Works**, whose excellent daylight conversions to the aforementioned, but based on the MSR400 and with electronically controlled mechanical fade dissolve, so well supported the speakers at this year's seminars.

There are sometimes interesting results when needs must and the devil drives. Which is exactly what happened to Nic Bourne of **LiveWire** when he faced up to the possibility that there might not be a big enough market for his infra-red interactive performance system, at least not in his target sector.

However, with all the work that he and his team at Dartington Hall had done on protocol interpreters, he realised that he was sitting on a ready-made centralised control system which he calls the Now universal system.

With the ability to communicate with anything from Vari-Lite's Artisan console through to simple relay contacts, via a series of modules and with MIDI and SMPTE options, Live Wire really look as if they now have something to offer the AV market. Anyway, there was certainly a lot of serious interest in the system as an existing solution to desk-to-desk communication.

Axon Digital is treading a similar path with its Q-Box add-on for the Oska controller, which enables combined cueing of laser controllers, it performed with the Prisma at the Hippodrome, PC based rig nad scenery controls, professional moving light control systems and Av equipment. It is a self-contained cue interpreter which converts DMX channel levels into formatted, asynchronous, non-handshake data for transmission via a serial buss, and is configured in firmware to interface with any of the above systems. Q-box will be available from Pulsar and Oska now stars weekly on Top of the Pops courtesy of Richard Martin.

Kelsey Acoustics, whose name really ought to be changed to Time Savers, try them some time when you need made-up cables in a hurry, had some tasty little items on their booth. Who ever heard of equipment racks made up and delivered within 48 hours? And

interlocking cable crossovers from unbreakable moulded high density polyurethane with polyethylene treads; a lot more expensive than gaffers tape, but essential for the summer festival circuit. And they withstand the weight of an artic. Electricians, riggers and lighting men of all sorts will find the Dymo electronic instant labelling system the answer to a maiden's prayer. In fact, I am amazed that I wasn't prevailed upon by a certain partner of mine to buy one from Kelsey on the spot!

It was intriguing to see a first use of electroluminescence in a stair tread from **Malham**, which may ring a knell for Tivoli, if it staisifies 'Means of escape officers'. For a similar application **GTE Sylvania** special products group in Belgium have come up with some new pencil slim miniature flourescents, only 7mm diameter and from 100 up to 500mm long. Available as hot or cold cathode, the cold has a rated life of 20,000 hours, both are rapid start and may be dimmed without special ballasts. Great for underlighting bar aprons.

Command Lighting launched their infra-red controlled lighting system which, via their own large scale silicon IC, enables wireless switching, fades and chases of banks of lights fitted with their adaptor.

Tony Gottelier



LiveWire's Nic Bourne with NOW Universal, their centralised control system, causing a lot of serious interest.



Pole position for long throw specialists, Hardware for Xenon.



Enigma and Astralloy get it together.



James Gledhill, Sarah Alberici and Dennis Eynon front up the Malham stand.



Lights, Action!, on command. Infra-red control from Command Lighting.



Alongside the company's old favourites, James Thomas Engineering exhibited their new range of folding truss.



New exhibitor White Light promoted the AutoLight from Modelbox, together with software products, dimmer racks, and moving optical effects.



As usual JEM had a busy parade of equipment including the new Habana smoke system for theatres, which will be handled by their newly-formed Jem Theatrical Supplies division.



Jivelight, on the Le Maitre group stand, had several new lighting effects including the Sapro Colour Scan and Cannon Ray projector. Seen above are Ian Levine (left) of Icelectrics and Dave Winfield of Jivelight.



DC Lighting offered a comprehensive stock of lamps from the major manufacturers, as well as Chris James' gels and a full range of tapes.



New exhibitors Northern Light showed their new Colormod facilities panel designed originally for the National Gallery.



Middlesex-based Arri gave a first PLASA showing of their successful Impuls lightboard, alongside a full range of professional dimmers.



New exhibitors Abstract, in conjunction with Le Tech, launched their Syncro-Scat control system at the show.



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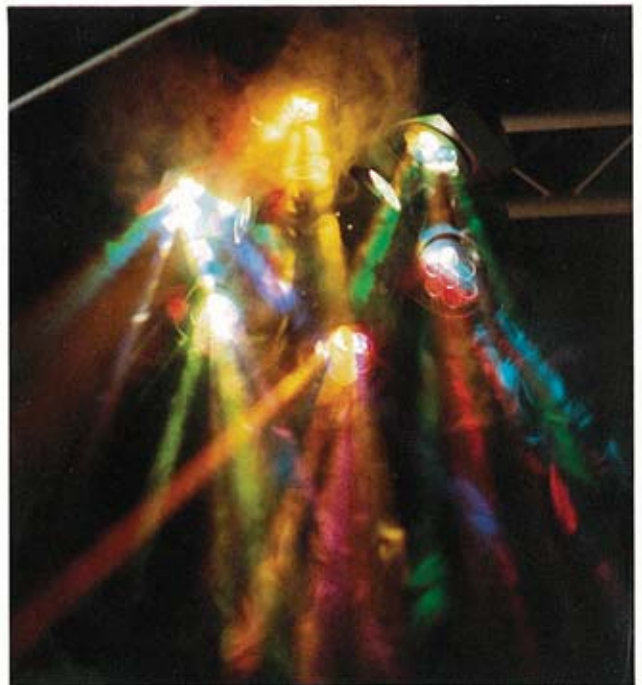
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Apiad members Litebeam previewed The Bunny 700W discharge powered effect and the Lite Scan laser simulator.



Tecnitron Elettronica had the new 250W Multi Eyes sound to light effect.



New from Mode, the M100B studio power amplifier.



Stacking up the Mosfet range of power amps on the Ohm Industries stand.

Within two hours of landing at Gatwick Airport on BA154 from Cairo, I was at the PLASA Light & Sound Show. Pen and paper in hand I went looking for new products.

The first port of call was **Ohm Industries**. On display, for the first time in the UK, was their latest speakers in the PS series. The PS500 is a full range 50Hz-20kHz system, comprising a built-in amplifier, 15" bass unit and 12" driver with concentric horn tweeter. It was first shown in Frankfurt with its big brother, the PS1000, which builds on the concept of the PS500. It is an active tri-amp system contained within the 2 x 15" bass cabinets, linked to the twin dual concentric mid/high cabinet.

Alongside the PS models Ohm were exhibiting three new amplifiers. The 1u 200, 2u 300, 2u 600 and 2u 1000; allowing 100W, 150W, 300W and 500W into 4 ohms respectively.

Onward to **DNH Loudspeakers**, a first time exhibitor at the Light and Sound Show. The company began 43 years ago in Norway and have operated in the UK for seven years. Previously specialising in commercial PA, such as London Underground and the Channel Tunnel, the company now have a range of 15 different speakers aimed at the leisure industry. The Dantax range are available in black or white wall speakers, ceiling mounted, satellites or tube speakers (quite apt

for a company that installs audio in London's underground).

On the subject of tube speakers, **Mode Electronics** were displaying two new audio products (audio? you ask). The Turbax, which I will come back to, and the Mode M100B studio power amplifier. The M100B is the first audio product for Mode, designed with the co-operation of the BBC and following three months fine tuning by Nic Poulson. The mono block 100 watt amplifier is manufactured to broadcasting specification and is aimed at professional recording studios etc.

David Tappenden, managing director of Mode Electronics, informed me that the BBC have already ordered and are using a number of the amplifiers. Only 1 unit high and 85" wide, a 19" rack mounting kit enables them to be installed in pairs.

So, back to the Turbax. This is a complete speaker and amplifier system comprising one sub-woofer (bass tube), two satellites (mid/high tubular cabinets), one 400 watt sub-woofer amplifier and two 200 watt satellite amplifiers. Everything is controlled by the 'black box', a variable crossover/processor with in-built amplification for the tweeters.

I saw a train set, fair enough at a Light and Sound show, but bananas? Yes, very large bananas. As guests of Shuttlesound, the **Pinzan Needle Company** (very witty) were representing dutch operation Tonar with their

new range of cartridges and stylii. Alan Jones from Pinzan Needle explained the two new cartridges were called the Banana and the Baktrak (I didn't see many five foot baktraks!).

The Banana cartridge is designed to fit straight into all SME type arms, whereas the Baktrak is intended for headshell mounting. Both stylii have a 0.7mm spherical diamond with strengthened cantilever and track between three and five grammes. Coloured bright yellow to ease cueing in low light the cartridges were attracting a lot of interest.

Away from the Bananas, **Peavey**, in their 25th anniversary year, have launched the UDH range. Prototypes are in circulation but the finished product is expected in January. Equipped with their well-known Black Widow drivers, the top/mid cabinets consist of two 12" drive units with Kevlar cones and a 2" throat horn. Band pass sub-bass cabinets have four 15" drive units in separate chambers. More details will be available later in the year.

I moved on to **Harman Audio** who were displaying two new speakers from the JBL Control range. The Control 1+ has a new woofer with a usable frequency down to 60Hz, titanium tweeters and 160 watts power handling. They are shipped as mirror image pairs for superior stereo monitoring.

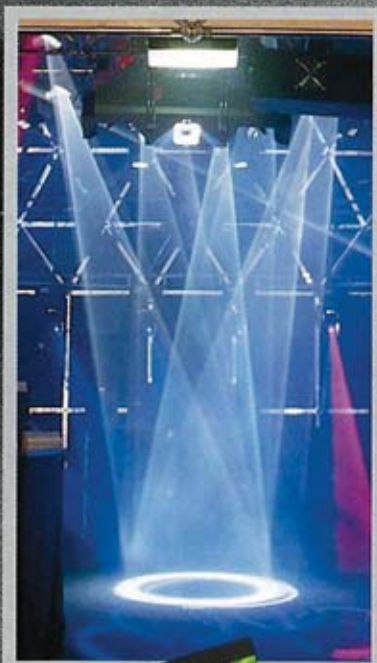
Arriving hot from the states on Tuesday morning, the Control Micro is a full range

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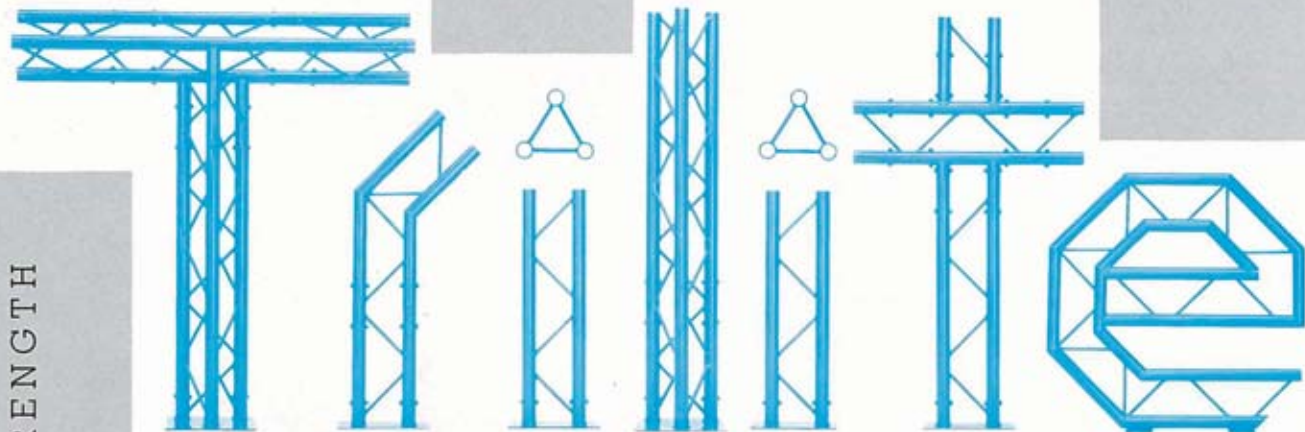
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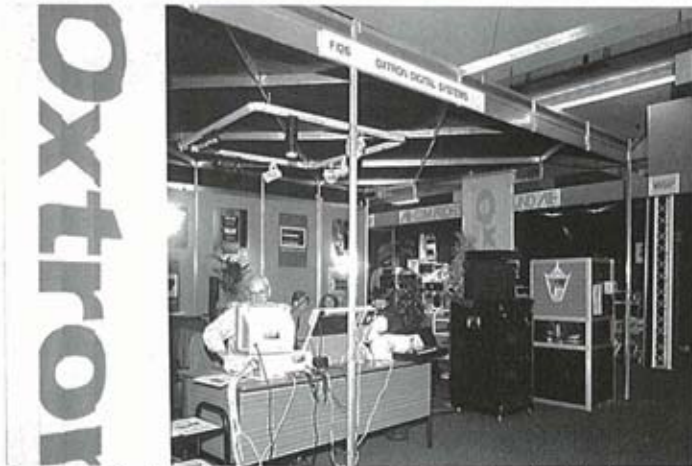
The Vestax stand had a crowd puller in the form of DJ Trix who demonstrated sampling and scratching techniques.



Peter Clarke of Databeat with their computer-based digital music system.



Clive Cartey of Dawn Trader (part of the Odeum Group) offered a range of control and dimming equipment, including a new 6 x 10amp dimmer pack.



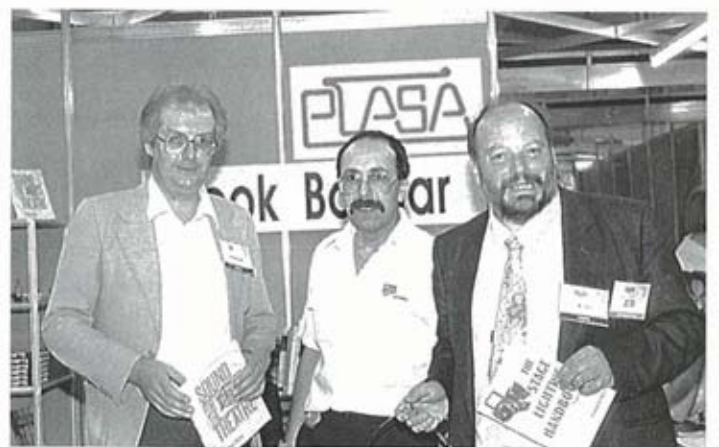
Shown previously only in prototype form, Oxtron launched their new 16 channel Light-Conductor desk at PLASA.



Sony used the PLASA Show to introduce their new Sound Tec series including speakers, effects units and AV mixers.



Sylvania GTE had on show its latest range of lamps for discotheque and theatre applications.



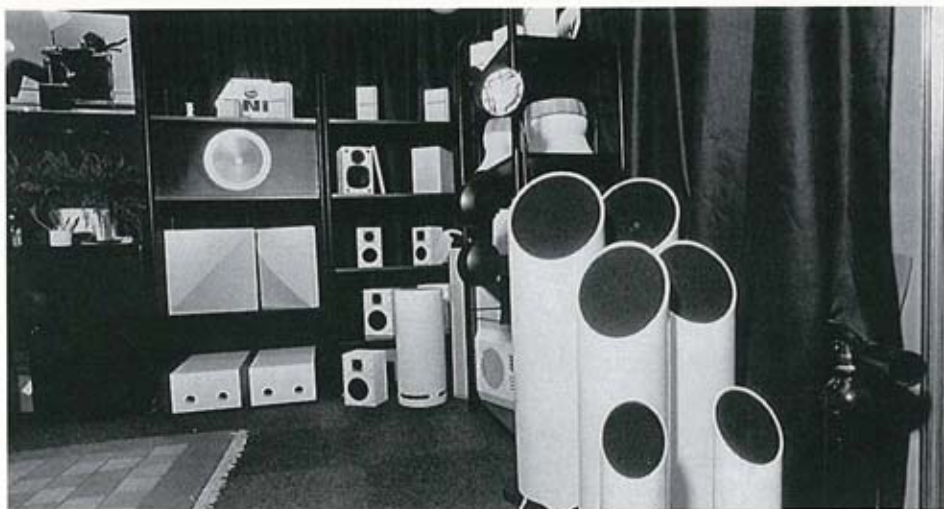
A special feature of the PLASA Book Bazaar was a signing session by authors Graham Walne (left) and Francis Reid (right) seen here with PLASA chairman Kevin Hopcroft.



From Lee Colortran came the new Status range of desks with the options of manual or memory control, together with their range of Windsor luminaires.



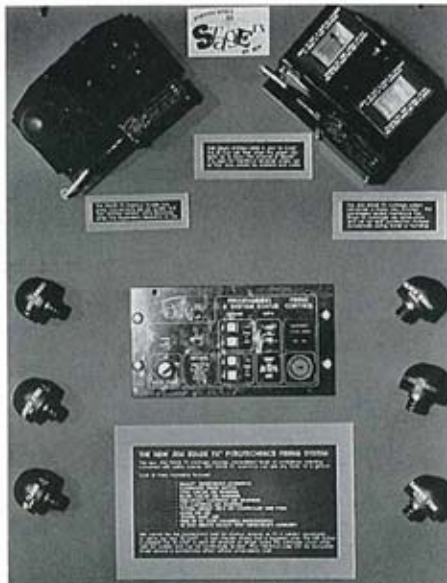
Tony Gottelier (right) chaired the seminar session 'DMX and All That', assisted by (l-r) Simon Temple, Francis Reid, David Bertenshaw, Charles Woods and Steve Terry.



First time exhibitors DNH introduced the Dantax range of loudspeakers.



PLASA members Peavey Electronics had the first European showing of their UDH-2 speaker systems.



The 'Stage FX' pyrotechnical system from the recently-formed Jem Theatrical Supplies.



Alan Jones of Pinzan Needle went for the novel approach of a banana and an ex-page three girl to promote a range of styli and cartridges.

100Hz to 18kHz acoustically damped polymer enclosure. Measuring only 62" by 6" by 55" it has its own complementary wall bracket. Capable of handling 60 watts, it will be available from November in black or white.

Another first time exhibitor at the show were **Acoustech**, with their brand new X-series and FZ series speaker systems. The X-series is a range of professional, high power, sound reinforcement enclosures aimed at the installer. All are equipped with Precision Devices bass units and JBL high frequency drivers. The FZ series is designed with the working performer, who requires a compact

and rugged sound system, in mind.

An interesting new product on the Acoustech stand was the Acous-Trip. This unit continually monitors the power to the high frequency and will temporarily disconnect the crossover network and the driver should it exceed a preset threshold. The driver remains disconnected until system power is reduced to a safe level.

JEM Theatrical Supplies, a division of the JEM group of companies, was recently formed to market the brand new 'Stage FX' pyrotechnics system, which was having its first public showing at the Light and Sound Show. Laurie

(Crombie!) Taylor Duncan, sales and marketing director, informed me that all of the range will be available from January 1991 through a dealer network.

The Stage FX system controller is the heart of the product, with 4 channel firing capabilities (professional extension modules will become available up to 24 channels). The controller has a quality keyswitch and illuminated fire button. Its checking circuit informs the user of short or open circuit in cable/pod, and good or bad cartridge in pod. With dual circuit warning LEDs for 'system armed', it guarantees totally reliable firing. The angled two pod flashbox has integral circuitry that interfaces with the error-checking control circuitry of the controller. As with the system controller, the dual circuit 'system armed' LEDs warn, in this case musicians and stage crew, that the pod is armed. Connection between controller and pods is via a four pin XLR.

The cartridges have a patented twist action which keeps them captive in the pod, and are both leak and damp-proof. Following use the spent cartridge can be removed with one simple twist action. There are over 30 different pyrotechnic effects in the initial range, with plans to increase during 1991.

On show for the first time in the UK from **S.G.M.** (distributed by Light Engineering) were four new products. The Linea 4P, a low cost 4 x 1000 watt light controller; the Varismoke controller able to operate 10 smoke machines; Regia 64 Plus, a 64 channel programmable light mixer; and the STB 66, a 6 channel stroke controller allowing six strokes per channel.

Meanwhile, **ProgramSistem** (distributed by UKD) displayed no less than five new effects. The Viking, is an HMI 575 watt powered light effect reflecting a series of varying colours onto four ever changing circular mirrors. Crystal produces a group of eight audio rotating dichroic blades of light. The Joker has two sets of light beams that contra-rotate inside each other to the music.

Also on display was the Genius intelligent light fitting (another one!). Equipped with HMI 575W, lamp it has four gobos and eight colours with blackout. The controller can operate eight heads with a roller-ball variable beam positioner among its features.

The one product that really caught my attention on this stand was the Neon Light Emotion (who thinks of these names?). This patented product allows a spectrum analyser-type effect along the length of a neon tube, with a maximum of ten tubes of 15mm width and 3mm long. The controller divides the music into ten frequency ranges and 'pumps' the neon light up or down the tubes — I think we shall see more of the Neon Light Emotion.

Onto **Spotlight** (represented in the UK by



Pride of place on the Harman stand went to the new Control Micro.



The latest additions to the Sintesi range fronted Spotlight Milano's stand, together with other lighting effects from the Quadro series.



Light Engineering unveiled their own Autoscan lighting unit alongside a range of lighting effects from Italian company SGM.



Artick had their new modular amplifier series AD300 on show.



Four new ProgramSistem products were exhibited on the UKD stand including the eight colour beam Cobra and 1000 beam Viking.

AC Lighting). Three new lanterns have been added to their already extensive range. The Area 25 is a high powered fresnel allowing both spot and flood setting. Vario 25 (also available in a motorised version from any 0-10V controller) is a high powered spot with pebble convex lens for mid or long throws. Finally the Figura 25 high profile spot with interchangeable optics and completely enclosed gobo holder (to avoid light spillage) completes the new product additions.

Moving along to **Tecnitron Elettronica** and the newly designed Multi Eyes. Equipped with a 250 watt discharge lamp, six mirrors rotate colour changing beams of light, along two axes from an internal controller, to the beat of the music. The company's products are to be distributed by Squire Sound and Light.

Amongst **Litebeam's** new products (distributed by Avitec) joining the latest 700 watt Bunny, was the Lite Scan laser simulator.

Fitted with an MSR 400 watt lamp, it has four colours and three stepper motors. It is available either sound animated with 100 scenes, or with an external robot processor controller allowing 32 separate heads to be operated.

Quite apt for launching this year is the Hurricane, a unit equipped with an MSR 400 watt lamp that creates a horizontal bar of light — above which sit 6 mirrors with stepper motors. The mirrors are animated with six different colours from a fully automatic internal microphone and controller.

New on the **Griven** stand was a 1000 watt spot lamp with four colours and a two directional rotating flat mirror — the Griven 1000 (logically named). Also present was Flashdance, an eight faceted mirror effect with four colours and a 400 watt lamp. The centre of the mirror moves in and out to adjust the light beams.

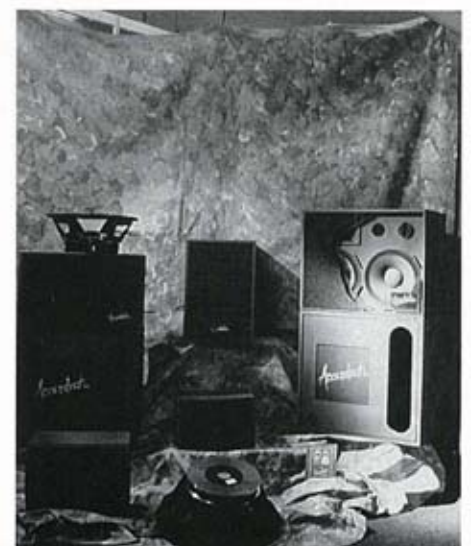
From **Fly** (distributed by Nu-Light) came two new products never before exhibited. The Hydra is a rotating effect with 10 fibre optic arms which open by centrifugal force as the unit gains speed. Operating from an internal controller it changes colour, strobes and varies the speed. Midas projects light beams through a variety of gobos and filters, and again is controlled internally. Both units have built-in microphones and can be linked together with XLR connectors and cable — thus, allowing many installed to operate synchronised.

Having spent four days at the show taking notes and brochures — I feel sorry for the mirror. In the old days it was stuck to a ball and rotated slowly, now it gets thrown about all over the place at high speeds. Could be seven years bad luck! Waggle on!

Phil Roper



Amongst their many other product ranges, Avitec played host to the Litebeam line-up.



Acoustech put in a first time appearance at the show with their newly-launched 'X' and 'FZ' series speaker systems.

Avitec were demo'ing RAMSA's new WS-A500 speaker system. It uses the same resin (plastic) cabinet as the existing and successful WS-A200, along with newly developed drive units and crossover. Still, the A500 costs more, and some onlookers felt the midrange sonic quality wasn't commensurate. Tony Kingsley and crew were performing via the Audiocontrol Varispeed CD system. Using a modified Philips CD player with an outboard control panel, it provides +7% speed variations along with an LED numeric readout, back and forwards 'bump' push buttons for beat synchronisation, and an autocue facility for a precise, instant start. It's not a brand new product, but compared to Japanese alternatives, it's cheaper and having installed several in the past year, Avitec have found it 100% reliable. Avitec's colourful 1990/91 catalogue also includes the Aims Minim IV 'entertainment noise controller'. It shuts down the PA if the sound level exceeds the threshold which can be set between 87 and 99dB SPL in 3dB steps. The system includes a 'traffic light' warning display. When the red light is triggered the DJ has to react quickly to avoid being cut off for between 1 and 25 seconds.

Anytronics were previewing two power amplifiers due to replace their existing SA300 and SA500 models towards the end of the year. The Series 192 units will have tamper-proof gain controls and the protection circuitry will disconnect the outputs if a fault persists. Two versions are planned: one with basic LED indication of power on and clip (overload); the other with high contrast VFD (Vacuum Fluorescent Display) bargraph signal meters.

AKG were displaying dB Technologies range of Italian budget PA mixers and speakers, some of them featuring integral power amplifiers.

Bose's acoustic design software has been updated and expanded. Their Modeler design program claims to accurately predict the speech intelligibility provided by any sound system — not just their own. Results can be shown in units of STI, %Slan, %Alcons, or as a friendly qualitative description like good, moderate or poor. The software can only be used on MAC computers, but colour printouts are supported. Bose's Speaker CAD graphics program is designed so installers can quickly produce a picture of a planned installation. The speakers can be viewed from any angle so sightlines and aesthetics can be evaluated. Rackmaker does the same thing when it comes to planning equipment racks. It can also generate an equipment list which can be exported to a spread-sheet or word processor



David Lyth of Volt Loudspeakers (left) and Paul MacCallum of Wembley Loudspeakers share a stand to promote their range of audio equipment.

program, for costing and documentation.

Celestion had guitarist Robbie Gladwell and Paul Airey performing live with their SR series controller-based PA system.

Citronic launched a pair of new 'pro-standard' disco mixers, SM550 and 650, both suffixed 'MKII'. The SM550 includes a momentary mute button on each music channel; it's called a 'transformer' in DJ'ese. Additional features include an input gain control on every channel and headphone pan control to mix the input cue with the output — to assist pre-fade beat syncing. Outputs include a sub-bass option and output levels can be set to 0, +4 or +8dBu. Oddly, there's no mention of a -10dBu setting, handy for curtailing maximum drive as well as for interfacing via some Japanese processors. The SM650 builds on these features: each input has three band EQ. Cut and lift can be defeated on installation, and separate insert points are provided on the mic and music mix busses for room tuning or correction using suitable outboard graphic or parametric equalisers.

Cloud's new CXM is a good looking universal club mixing console. Judging by its facilities and low cost, it's set to compete with the strongest sellers in the market. First, it's modular, with a choice of two stereo modules, switchable between either mono line/mic (CMI) or stereo line/disc (CSI). Three different mainframes can accommodate up to 8, 12 or 16 input modules in any combination. Second, there are extensive tamper-proof options that can be configured by the installer.

Crest and Turbosound distributors **First Audio** were demo'ing Turbosound's recently launched TMS-5 enclosure, specially designed for club systems with input from leading UK installers. First Audio's Mike Novak reports that Crest amplifier sales have shown a large upturn in the past year, with another



Mark Fiddaman, production manager of Labtek, with part of the TEK range of loudspeakers.

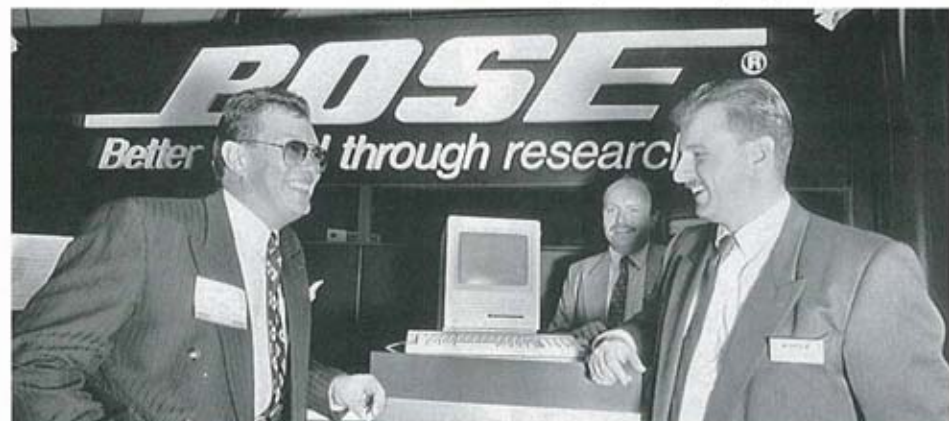
USA maker allegedly losing out.

Meanwhile, Crest are working on NexSys, a powerful PC-based interface which can be used to monitor and test large arrays of Crest's own amplifiers. The software is due to be released at the AES show (in the USA) at the end of September. It will enable installers and users to monitor and/or verify peak and VU levels, amplifier polarity, warning LEDs, heat-sink temperature and thermal headroom, gain and other control settings. Settings can be 'snapshotted' and even macro'ed for recall later. Moreover, amplifiers can be extensively controlled or adjusted. Gain can be varied over 80dB in 1dB steps and polarity can be flipped. Amplifiers can be muted individually or in groups and emergency announcements can be enabled.

Most thought provoking is the diagnostic capability. Using a modem link, the installer should be able to test the amplifiers and the associated speakers from any location. Remote speaker testing is feasible once Crest's sensing option is deployed. The amplifier's load impedance can then be included in the measurements, so rubbing voice coils, blown or misaligned components should show up. What's more, this equipment can even generate statistical reports so the installer can see how well the system is being utilised or whether it's being abused, e.g. by reporting 'amplifier No.15 in clip 5% of the time' or 'average thermal headroom 65%'.

The basic NexSys system will comprise a retro-fitted PCB to each amplifier, an interface box (one per 24 channels), up to 4000 feet(!) of interconnection to the host server which interfaces with the computer. Alternatively, the Enunciator is a control panel that enables the 'host' computer to be dispensed with once the set-up is completed.

Formula Sound introduced a new 'environmental noise control' system. Two years ago they launched Guardian CX which



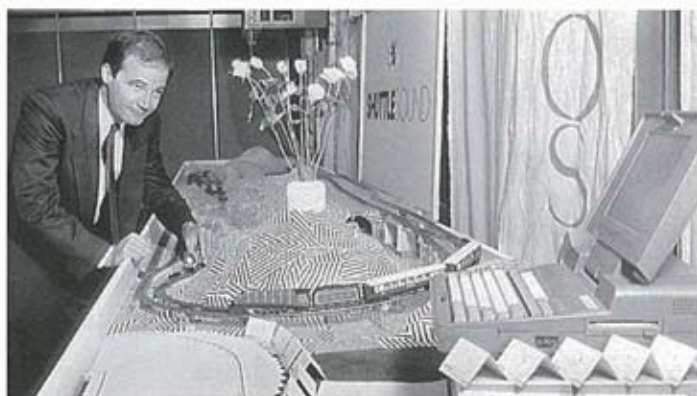
Bose's Andy Barnby (centre) and John Dodson (right) demonstrate the computer edit design programme to Mike Olivier of Middlesex Sound and Lighting.



Andy Simmons of LMC takes an overview of EAW's KF range of loudspeakers.



London Acoustical Developments' Mel 90 disco turntable, which together with their EL 80 is the latest in the line-up from LAD.



Mark Burgin plays Casey Jones with Suttlesound's model railway controlled by the Intelix psychologist.



Cloud's new CXM mixer becomes a talking point for Roy Millington of Cloud Electronics (left) and Ian Thorpe of W&T Ultrasonics.



Ian Oakland and Lionel Harnden of AKG frame the MicroMic lightweight condenser mic range.

excessive SPLs and also provides a fire alarm interface. The new Sentry system is less expensive at just under £400. It features a large bargraph VU display on the front; the whole unit is intended for wall mounting, high up so it's easily seen but out of harm's way. If the sound levels are high enough to light the maximum '+3dB' LED lamp for more than 20 seconds, the sound (or other) system power will be disconnected via external, normally-open contactors. Which means the system can't be hi-jacked by cutting the Sentry's own power lead. Power has to be manually restored. The button to do this is presumably preferably sited in the manager's office. The Sentry has obvious applications in industry, being used to signal 'Action level one' at which point employees are supposed to don their ear muffs.

After a spate of mysterious fires and burglaries, Harrison have re-formed as **Harrison Electronic**. The previous product range encompassing disco mixers, Mosfet power amplifiers and processors has been retained. Meanwhile, their new Computek power amplifiers raised some eyebrows, with the largest model claiming 10,000 watts in

bridged mono mode. On the down side, speaker impedance needs to be 1.3 ohms to draw this kind of power, and the survivability that comes from the normal multi amp'd set-up is lost.

This amplifier could conceivably power a whole 10kW system but if it fails, the ensuing silence will be complete. While no single loudspeaker needs this kind of headroom and few, if any, PA speakers approach 1.3 ohms, a single Computek 10,000 would presumably suit an array of ten 15 ohm Sota drive units rated at 600 to 800W each, as well as servo-driven (motorised) bass bins. The potential for some serious drive-unit damage (if not fire risk in cables!) is lessened by a hybrid integrated circuit used to prevent output clipping.

An externally accessible plug-in module is planned, to interface with CCS, which is an associated Computer Control Program. It promises similar remote setting, monitoring and diagnostic facilities to those offered by Crest's NexSys and Crown's IQ. The amplifiers can also be daisy-chained via their control ports, to provide sequential powering up. It's a sensible feature when the biggest model is bound to draw rms (let alone inrush) currents

in excess of 15kW each . . . The company were also showing their K-Series. These have more earthly power ratings around 150 to 600watts/ch, are lighter and smaller than the earlier Harrison designs while including some of the Computek's innovations.

Kelsey Acoustics were showing Bill Kelsey's Rocktorch range of processors, covered in our APRS '90 show report. Mainly aimed at rock'n'roll PA, there's a $\frac{1}{2}$ octave spectrum analyser, a 4 band parametric EQ and a 6 band notch EQ, for tuning out howlround. The GR series are quality graphics ranging from 2 x 15 to 2 x 30 bands. Judging by the list of high quality design techniques employed, there's no corner cutting and sonic quality should be above the norm.

LMC are about to receive stocks of BSS Audio's DPR-901, a completely new concept in equalisation. By combining a 4-band parametric with an advanced compressor/expander, the 901 can boost or cut selected frequencies above or even below the four independent threshold settings. Using BSS's proprietary subtractive signal processing, sound quality is higher than many conventional equalisers. Overall, the 901 is set to



New exhibitor's Matamp launched the Genesis modular mixer to complement their range of power amps and disco mix units. Pictured above from left to right are Peter Mathias, John Dean, Henry Levy, Richard Mathias, Peter Brown and Robert Oldridge..



Richard Harris, Ted Rook and Ed Jones of Allen & Heath decided to exhibit for the first time at the show to promote their moves into the PA mixing consoles market.



Tannoy's Mark Dodd, one of the members of the large design team that produced the Contractor series of loudspeakers.



Dave Martin of Martin Audio with the new CT series and F1 loudspeaker systems.

lead the way into a new range of creative effects as well as making corrective or ameliorative EQ more precise, powerful and subtle. LMC have just been appointed distributors for EAW. So they took the opportunity to invite PA companies and installers to a private demo of EAW's KF300 and -600 cabinets at their quarters, down the Uxbridge road. Attendees included EAW's chief designer and co-founder Kenton Forsythe and the men from Concert Sound, who already have a system working alongside their existing Martin F2 stock. The KF600 and -300 were both clean at deafening SPLs and exhibited remarkably smooth coverage across the large-ish (30' x 35') listening room. They're expensive, but so are Rollers.

High on the list for stylish looks were **Icelectrics** DPA series of Mosfet power amplifiers which are basic yet evidently well made. Prices begin at £260 for the 150W/ch model, up to £779 for the 450W/ch model. **Martin Audio**, recently strengthened by new products and then by its new association with the TGI group of companies, was one of the quietest exhibitors (wild applause). Dave



Richard Vickers squares up to the XIXIN range of racks, which Kelsey Acoustics claim are much cheaper than other standard manufactured racks.

Martin's team had built an ultra-serious sound booth weighing over 7 tons, comprising walls of Martin cabs topped by a sand filled ceiling — and floor. Between demonstrations, it provided a welcome protection from the general hubbub!

The new PM3 showed Martin's commitment to pushing forward the design of wedge monitors — something only a handful of PA speaker makers take responsibility for. The CT2 and CTX trapezoidal and sub-bass enclosures respectively, were also on show — having been launched at Martin's high-tech demo room in August. MX2 is a matching two channel system controller, combining EQ, protection and limiting.

Mode Electronics are best known for lighting controllers but they were also showing a compact (1U) mono power amplifier with half rack width, previously known as the OTIS Power Station. Whenever rack space is at a premium it would form a useful accompaniment to other half rack units, like RAMSA's SP2A active crossover.

Sony's 'Tek' range (do they realise Tek is also the name of a UK speaker maker?) is

concerned with A-V presentations. It comprises mini speakers, specialised AV mixers and microphones. It was surprising to see a company of Sony's stature showing audio products that looked as if they had been styled in the early 60s, not to mention presenting press packs with soft-focus photographs. **The Sound Department** were giving open-air demo's of Community's new RS220, a miniature 3-way horn-loaded cabinet. Presented as the ideal 'box' for theatre, 13 cabs are presently doing Showboat in the West End, and a further 13 are out with The King & I, in conjunction with the matching RS210 subwoofer. The matching VBS210 system controller includes power sense circuitry to reduce excessive power input to the speakers in two stages.

The Sound Department were also demo'ing MST Rauch's new P-series amplifiers. Models P-120, -400 and -600 replace the DVT-50, -250 and -300s respectively. The new range is more extensive than before, with the P-800 and P-1000 weighing in at 800 and 1000W/channel. Using an original power conversion technique pioneered in the DVT-300s in 1988, the P-series are ultra light-weight, compact and cost significantly less than the old DVT series, first introduced in 1984. They use less electricity and don't suffer the wideband RF emissions and impaired sound quality that has hitherto kept high-power amplifiers solidly in the Victorian age when it comes to portability.

Shuttlesound's stand had as many new products as ever. The casual onlooker might have been fooled into thinking that they'd taken on distribution of Triang-Hornby model railway components. In reality, Thomas (a well-known engine) had been invited to demonstrate the capabilities of Intelix, the multi-faceted, logical control system described in the APRS '90 show report in the July issue. LFE 115H is one of Shuttlesound's own products; it is a low cost 'sub-scoop' bass bin containing an EV 15" 'Proline' driver, onto which EV's S200 or Shuttlesound's own Motivator 2R cabs can be pole-mounted.

Greystone's Terminator was the most sophisticated sound level control product to appear at the show, as it operates transparently (no abrupt silence if the DJ coughs) and triples as a universal speaker protector-cum-limiter, fire alarm interface and priority announcement switcher, all for a modest £525.

Sampson's new VLP radio mic system offers fine performance on a tight budget while the Super TD system is a revamp of the old Concert system. It now supports active aerials, which are less fussy about positioning. Range is at least 30% greater, sensitivity is double and dynamic headroom has been raised four fold. Shuttlesound's David Fisher reports it's so sensitive that users have occasionally found it carries on working when the aerials are detached! The new model also has a power supply that can be adjusted down to 115v for international touring. They were also showing recent additions to EV's Manifold series of large scale PA enclosures. MTL-2 and MTH2-94 are low-bass and mid bass/high cabs respectively.

Tannoy have been busy. At the APRS show in June, they were showing a completely revamped range of studio monitors, redesigned, in depth, by Mark Dodd and team. In turn, Tannoy's PA cabinets have gone through the same metamorphosis in time for the PLASA show. The new models include

trapezoidal cabs CPA 12 and -15, a wedge monitor and CPA 15.2, a sub-woofer. All are based on Tannoy's historic dual-concentric driver, updated with state-of-the-art manufacturing materials and techniques. The CPA 15FM floor monitor is cleverly shaped as a plain rectangular box, using a screw-in pole to angle the cabinet. The angle can be changed to suit the performer by inverting the enclosure, and compared to the traditional wedge-shaped cabinet, it will save valuable trucking (or storage) space.

Toa demonstrated clean sounding bass that exceeded the pain threshold. The UK subsidiary is planning to manufacture cabinets in the UK, enabling prices to be reduced. They'll also be able to customise the woodwork to suit installer's requirements. Also on the stand was CX1, a compact 6 channel rack-mount installation mixer that's not exactly new, but hasn't hitherto been available in the UK.

Cheshire-based **TEK** were demo'ing four new speaker systems. Bass 400 and -500 are 1 x 15" enclosures. 200 FR is a compact full-range direct radiator cab with a curved front. The 350 CF is an unusual full-range enclosure; the 12" bass/mid driver has a carbon

fibre cone to improve midrange clarity.

Wharfedale's Gary Orrell reports that their recently introduced 2130 compact sub-woofer has sold strongly overseas. **Yamaha** was displaying some new products for sound reinforcement. S450S is a 2-way enclosure for small PA and AV presentation. It employs 'active servo technology' to reproduce deep bass in spite of the cabinet's small dimensions. P2700 and P2350 are new, lightweight (but otherwise unexceptional) power amplifiers. DDL-3 is more apposite: it's a multitap delay line combined with a digital processor which can perform parametric EQ and frequency division. Memorised settings can be remote controlled via a MIDI link.

Thoughts on the show? Well, a number of exhibitors were irritated by their neighbours' music. There's nothing unusual in this at PLASA. However, the new health and safety legislation increases the possibilities of litigation by employees, especially women, who are much more sensitive to incoherent sound. It would be especially embarrassing if the PLASA show was visited by 'the men from the council'. Out of sheer loyalty, many employees would say they don't mind — but I wonder how many companies had (the now statutory) ear-muffs available?

Meanwhile, a modest reorganisation of the show's stand allocations should be able to lessen the tension without losing the show's endearing 'fairground' qualities, possibly designating the upper floor(s) for quiet stands, including sound booths with an SPL 'emission' below the ambient 'buzz' of some 80dB SPL (most of it coming from down below).

Thirdly, taking a leaf from Frankfurt, why isn't there a theatre or auditorium where PA systems can be heard in concert, with three or four competing rigs being demonstrated daily?

Finally, a thought on booths. It's worrying that the ones with air conditioning cool the air, the speaker cone and its suspension. As if you were listening to the speaker in a refrigerator. Considering all the acoustic and mechanical factors, there's bound to be differences in sonic quality compared to the much hotter and more humid atmosphere of a public place. At PLASA, suitably warm, humid, smoky, slightly perfumed air is available free from the surroundings. For a realistic demonstration it would seem better to simply filter all the hot air and keep it circulating... (pun intended).

Ben Duncan



Kept under wraps until the show, the Sentry noise control system was finally unveiled by Sandra Cockell of Formula Sound.



Simon Orme of Yamaha with the DDL3 digital delay line.



Electronic AC control units were just a small part of the comprehensive Toa range at the show.



Mike Harrison gets to grips with the Computek 10,000W power amplifier.

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CLIFF RICHARD ON TOUR AT OLYMPIA 2



Cliff Richard officially opens the ninth PLASA Light and Sound Show.



PLASA Chairman Kevin Hopcroft and treasurer Marion Smith hand over a cheque for £1,000 to the Cliff Richard Charity Trust.



Cliff and manager learn about Hardware Xenon's 5000W projector.



Tony Akers of Citronic talks sound business.



Linton Smeeton (left) and Harry Greenaway welcome Cliff to the Toa stand.



Sean Beech of Disco Neon describes the company's signage and entertainment lighting.



John Simpson of White Light talks projected effects.



Getting the low down on lighting trickery from Philip Norfolk of the Lighting Technology Group.



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HW International displayed a comprehensive selection of Shure microphones, Carver amplifiers and Koss headphones.



Harman Audio means JBL and on the stand were Sound Power and Control sub-woofers with Control 1 and 5 enclosures.



New exhibitor Penn Fabrications opted to display their lighting products only, although they are also known for their range of flight case hardware.



There was no shortage of new products this year on The Sound Department stand. Steve Smith (foreground) indulges in a Community, Rauch and IRP dialogue.



Oxford-based Elliot Bros marked their first time at the show by representing the Beyer Dynamic range of audio products.



PA Installations celebrated their second decade of trading whilst at the show, and had on display examples of their projects.



Steeldeck on the left demonstrated the versatility of their staging, whilst alongside Playlight P & G exhibited a range of curtains and drapes, together with lighting control products.

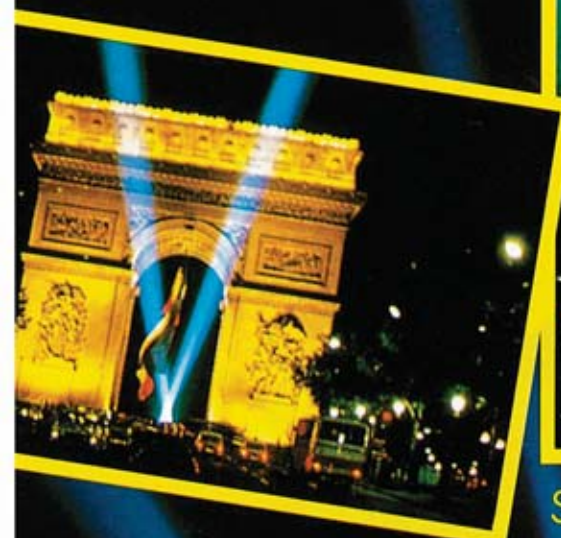
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ON TOUR

Catrina Forcer

The last of the big Wembley Stadium shows this summer was Fleetwood Mac on September 1st. The lighting designer was the ever-busy Allen Branton who worked alongside the curiously named Curry Grant and director Jay Gibson.

The theme for the current tour, which began last March and is planned to finish by Christmas, is one of a giant treasure chest.

Deacon Blue are out on tour again, be it only a short one, and Derek McVay of Frontline has produced a simple, stylish light show to complement the band. I also managed to catch the Soul II Soul show at Wembley Arena. The lighting designer was Peter Ainsley who created a modern, 'acid-inspired' light show with plenty of strobes turning the arena into one big dance floor.

Deacon Blue Wembley Arena LD: Derek McVay

Deacon Blue are currently on a short European tour to promote their recent album which is a collection of B-sides. The venues are large ones ranging from the NEC and Wembley Arena to football stadiums in Spain. As usual, their lighting designer is Derek McVay of Frontline.

"The main part of the design consists of a 100ft curved rig," explained Derek. "I've chosen Slick pre-rigged trussing because it's easy to put up and it comes down quickly. I used a curve on the last tour and I liked it because it's a simple rig, not overkill, and it gives the people at the side a good view. It's the first time that I've used Vari*Lites on a tour, although I used them on the Big Day, and I quite like them. If you get a good operator you can do things that you just can't with anything else, unless you have thousands of Par cans, and more. They are much easier to use now, and the new VL2Bs are more reliable. I'm trying to involve the audience by using lots of Molefays and colour changers. Tonight, there was a middle section which was quite down key but is normally split up to different places in the set. I ended up with four or five songs programmed to be rather pinky, and I was

getting a bit pissed off with the lack of change!

"I'm used to the unexpected. Tonight Deacon Blue did four songs which we've never programmed. None of it was planned, it was all ad lib. You can see Rikki, the lead singer, doing hand signals to us throughout the show. I've been working with them for three and a half years now, which is quite a long time. The problem is knowing them so well and yet trying to interpret their music in a different way. It's difficult to stand back and say 'maybe it'll look better this way'. You end up with a style which you know will be all right for a song, so you use it again. It's hard to get out of that and try a different feel, yet it is irritating because you think 'why don't I use the one I used before which worked'. They're starting on a new album soon and the new material will be a fresh start.

"I'm using the LSD ColourMags which I find a little slow compared to the Rainbows which I would normally use. All of mine are out on a job with the BBC at the moment so I sub-hired the ColourMags from Samuelsons. There's no comparison, especially if you're using a Celco board. You go for a cue but you've always got a slight delay because it takes longer. You change your colour, then you change your cue.

"Because Rainbows are digital they're straight in your desk so you change your cue and the colour changes automatically. It can do this under a second, 12 colours end to end. All the projections are Rikki's idea and I've used three Pani BP4s which have been fine. They're hard work to set up, especially as you can't project easily at Wembley Arena, or at the NEC. I did want to back project it all but I've ended up putting two on stage and one at the back."

Last summer Frontline were responsible for lighting one of the biggest concerts ever staged – The Big Day in Glasgow, which attracted an audience of 250,000. The artistes appearing were predominantly Scottish and included people like Sheena Easton, Wet Wet Wet and Big Country. Frontline did all the stages and Derek McVay was responsible for the main stage. Extra equipment was hired in from Meteorlites as well as 92 Vari*Lites.

The programme was broadcast on television and, as a result, it looks like McVay will be

working much more in this area. One possible project will be broadcasting jam sessions between the musicians in a studio – just the sort of job he thrives on. A chance to do something strange especially as he'll be jamming the show too.

Frontline tend to have a bit of a monopoly on the Scottish bands and I asked McVay if the Scottish music scene was still thriving. "There are still bands coming out of Scotland but I think it will be another year or two before any big bands emerge. We've had Deacon Blue, Wet Wet Wet and Simple Minds establish themselves and continue to be successful. There are some acts coming on the scene which have potential and are doing really well, especially some club acts. We don't look for them as we normally know most people in the bands. Sometimes we'll do a rig for a showcase and we'll go right over the top for them because it secures us the band. That's something the London companies won't have a clue about and they get a bit pissed off with us hogging the Scottish acts – but we don't go after any English acts.

"I don't encourage people in the business or other LDs to come to one of my gigs because it gets on my nerves to have them standing behind me. I'm there to enjoy it, and I don't care if other LDs like it or not, because it's there for the punters, and that's the whole thing. If the punters enjoy it then I'm a happy man.

"The crew and I took the opportunity to visit the PLASA show while we were in London. We went to see what was new, and basically to meet people. It's important to be seen and remembered, which most people do with us. They say 'Oh God, here they come again, what problems are they going to complain about now?'"

Deacon Blue Crew

Derek McVay – LD
Sean Nugent – Vari*Lites
Steve Marr – dimmers/crew boss
Billy Castley – spots/rigging
Mark Swanson – projectors
Mark Whittaker – ColourChangers
Greg Horn – ColourChangers
John Millar – everything



Derek McVay's lighting design for Deacon Blue, his first use of Vari*Lites on tour.



Fleetwood Mac in performance at Wembley Stadium with above right, lighting designer Jay Gibson.

Photos: Steve Woodcock

Fleetwood Mac Wembley Stadium LD: Jay Gibson

Jay Gibson started his career in lighting when he was touring with a repertory theatre company as a carpenter. Most people on the tour did more than one job, and so Jay branched out into lighting. Since that time, he has had a great deal of experience in all areas of lighting and has designed a few 'theatrical' and 'variety' type shows.

Allen Branton designed the rig and system for the Fleetwood Mac 'Behind the Mask' world tour whilst Curry Grant organised most of the cueing for the show, and integrated the generic lighting with the Vari*Lites. The scenic designer was Jeremy Railton.

"The basic idea of the design is that it's a treasure chest lid so the whole rig kind of comes down from an intermission type look," explained Jay Gibson. "As it lowers there are four African mask panels that are stretched out across four sections of the truss. It comes down during the intermission, and the set change is carried out underneath it. The band comes through as the house lights go out and the Vari*Lites underneath it sweep the stage. It's like a theatrical reveal reflecting the 'Behind the Mask' theme. When the lights are on the

front side of the scrims you can't see through them.

"When you fade that out to bring up the light underneath, you can see the images of the band through the mask panels. As the music starts the roof is raised, like the treasure lid chest opening, to reveal the band. It's a nice effect for the opening of the show. The whole is just one rig with a 90 degree apex shape.

"We have pretty basic Par can lighting and 30 Vari*Lites — a combination of 2Bs and 4s. Across the back of the rig is netting which we use Vari*Lites to light, either from the front or behind, depending on which way you want to see through it. There are four truss spots and four front of house spots.

"A feature of the set is the net columns that come down inbetween the panels. They also have Vari*Lites inside in order that we can change their colour. They're very effective, they really show the light off well. There's also a backdrop of planets which are translucent so that when they are backlit, they really stand out. There are some lights that fold up into the roof. They rotate downwards, and at the end of each column there's a 1000 watt projector lamp. The height of the lights is varied across the stage, and they are lowered during the song in which the planets are involved. You just kind of 'glow' them and they come up like little stars. It gives the show a third dimension.

"There were a lot of ideas in the original

design concept which attempted to use the different dimensions as often as possible in such a short amount of space. In this particular tour there was not a lot of scenic stuff to deal with because pretty much all we have are risers and a scrim which closes, so you don't see the drop. The net columns are on pulleys so they're not always up. The show is pretty basic with very few gimmicks.

"It would be hard to achieve this look any other way. To get the whole movement of the lighting truss is a pretty powerful effect if you're going to use only one effect during the show. We don't have a lot of moving stuff during the show that distracts from what the band is doing. The only problem is that as it's such a big rig it always has to be put together in one piece. You can't put a section of it together, fly it and then another. It takes the whole stage to put together. Consequently, it's usually a long process but, like I said, there's no other way to get the effect of a large system unless it's large.

"We have Gel Jet colour changers spread throughout the system and the follow spots are HTI 1200s. The control is a Celco Gold which is a very convenient board to programme, to modify and to edit with. I'm very surprised that you can't find 4 cell MR16 ministrips here. In the USA we have eight feet ministrips with four circuits but over here you only have six feet with three circuits so if you have a fourth colour you have to bring your own."



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STX Sky-Light searchlights cut the sky for Chris De Burgh's 1990 'You Can't Spend Fun' Tour.



Photos: Jan Chlebik.

Chris De Burgh 1990 'You Can't Spend Fun' Tour

This show was designed for a series of five outdoor concerts in the summer of 1990. Unlike most tours there was no rehearsal or pre-production time and so the staging was simulated and modelled on computer and programmed in less than 24 hours. The STX moves and focii were simulated on computer and then programmed in the Bercy, again in less than 24 hours. Full credit to the operators, Mike Owen (Vari-Lite), Brigitte Feradou-Lacoste and Phillippe Giblin (STX) for achieving this feat. The show was to be performed back-to-back so all flown lighting was to be of a basic nature, hired locally. For this reason a special effects package evolved consisting of Vari*Lites, PA scrim equipment, HMIs and effects which could be transported between venues, and erected and focused during the day of the event.

The foremost consideration was the scale of the event, the design had to incorporate elements that could be appreciated 400 yards or 4 feet from the stage. Having previously used STX Sky-Light searchlights on the Stone Roses Spike Island show, it was decided that these were the ideal tools for the job and hence they formed the backbone of the design. STX were used in carefully choreographed, co-ordinated moves and looks

rather than the 'Hollywood' style effects normally associated with searchlights. Vari*Lites were used to add punctuation to the structure, both of the stage set and the PA scrims. Large scale cyc lighting was employed to accentuate the size of the staging. Basic stage wash was covered using 2.5k HMI with colour changers leaving a par rig for 'specials' and effects lighting. 6 Molefay colour changers provided audience cover and 6 Par changers were used to outline the staging structure.

The stage design not only incorporated the stage set, but also the overall look of the stage structure. Two 10m trapezoid PA scrims were painted with the CDB logo to dress the sides of stage. The set was modified from a previous design to carry a total of 16 VL2bs. The finish of the set was changed to mirrored gold and steel panelling to reflect the change from an indoor to an outdoor environment. The entire design was modelled and animated in Super 3D to ensure optimum location and interaction of equipment, personnel and artistes.

The stage wash lighting was achieved using eight HMI 2.5k fresnels complete with colour changer and dimmer shutter. These units were chosen for their reliability and consistency in preference to large numbers of Pars. A 48' by 32' box truss carried a rig of 300 Pars used as specials, 12 off 2kW Cadenzas, six Molefay colour changers, four truss spots and 12 Iris 4 cyc units. The cyc units lit a 60' by 30' grey Rosco B.P. screen flown independently in case of inclement weather. The PA scrims were lit

using six 4-cell groundrow units and six VL4 flown either side of stage. 16 VL2bs were mounted in the stage set.

The cyc lighting was controlled through a Vari-Lite dimmer interface, all other conventional lighting being run through a 90 way Avo QM-500. Six wind machines and six smoke machines were also controlled through the QM. Four cracked oil machines provided background atmosphere. 10 followspots were used, two top mounted and two underhung in the truss, two 1/2 spots in the staging and four FOH Xenon Supertroupers.

The conventional lighting system was provided by Meteorolites. Paul Turner directed operations.

Nigel Holsborough: crew chief and flares.

Nathan Matthews: technology and first aid.

Tony Leighton: dimmers.

Toby Short: rigger

Vari*Lites from Vari-Lite Europe Ltd

Mike 'Oz' Owen: Vari*Lite operation

STX Sky-Light searchlights provided by Skylight — Paris.

Brigitte Feradou-Lacoste: STX operator

The Beastie Boys — Ludo Seitz and Patrick

Celette: STX technicians

Set manufactured by Brilliant Constructions

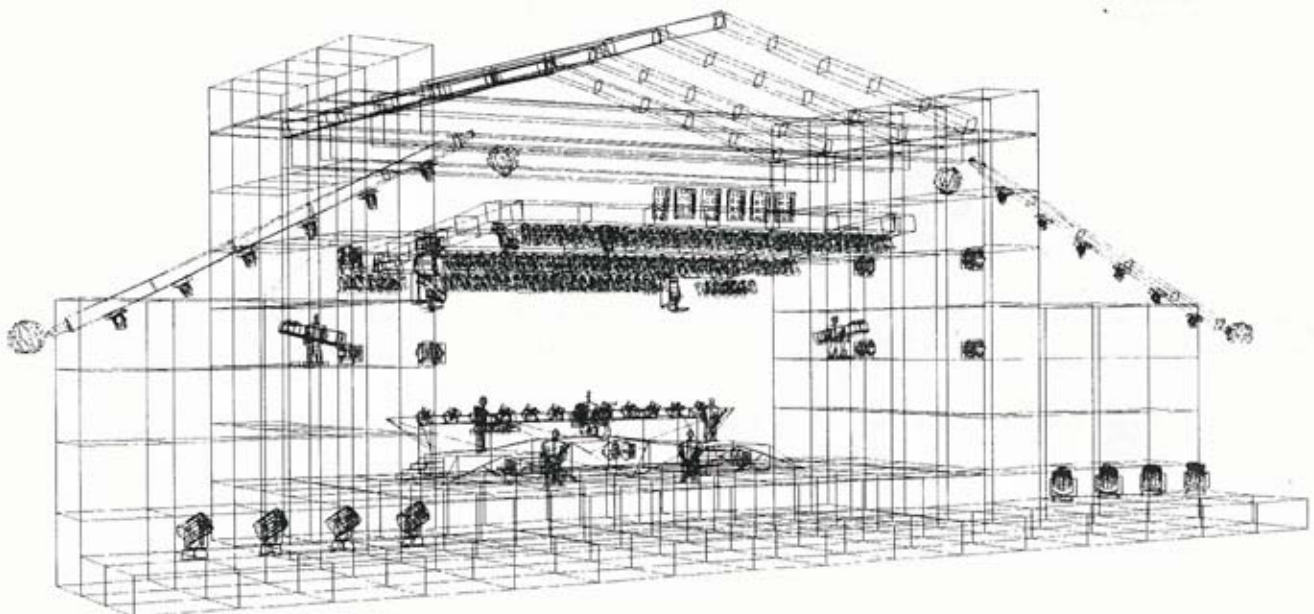
Scrim painted by Hangman Backdrops

Set carpenter — Tom Boyle

Staging provided by Star Hire (Roger Barrett)

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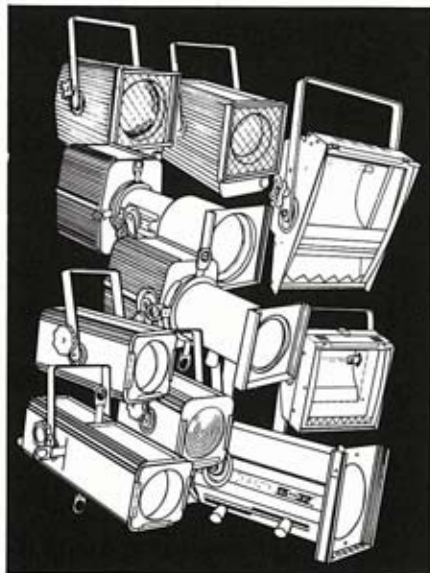
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VIEWPOINT

Jim Cousins says

New Regulations May Force New Thinking

The Noise at Work Regulations 1989 that came into force in the UK back in January this year could make life difficult for the managers and owners of less imaginative entertainment venues. If the Health & Safety Executive decide to crack down on employees' 'over-exposure' to high sound pressure levels, club owners and managers may find that many of their staff fall within the various 'action levels' detailed in the legislation.

An employer has to start getting noise assessments made (by a 'competent person') when any of his employees is likely to be exposed to a daily personal noise exposure of 85dB(A). This is not very loud by club standards.

A daily personal noise exposure of 90dB(A) can easily be exceeded by staff working in bars near dancefloors. According to the regulations, these employees should be provided with 'suitable personal ear protectors'. Imagine the confusion as thirsty customers try to order drinks from apparently deaf bar staff. One way of avoiding the problem is to swap staff between quiet and noisy areas throughout the evening to reduce their total noise exposure. Unfortunately, this could prove impractical in clubs where the number of noisy bars far exceeds the number of quiet ones, or where the whole club is in one large open-plan area.

Another solution is to design the dancefloor sound system to avoid high level leakage into the staffed areas. This calls for carefully designed directional loudspeaker systems facing into the floor area. Acoustically large systems should be used to keep the system directional down to a fairly low frequency; small, flown loudspeakers do not work well in this application. Care must be taken to ensure that no midrange sections are aiming across the floor area directly at a bar opposite.

Because the regulations specify A-weighted measurements, low frequency leakage is less of a problem and a fair amount of low frequency power and lower mid-range clout can be used to enhance excitement. Clubs in residential areas should watch their leakage to the outside world though. Complying with Noise at Work Regulations does not license you to disturb your neighbours.

A more drastic solution is to reduce staff exposure by limiting the sound pressure level. There are many ways of doing this; some systems simply cut the sound when a particular exposure level is reached while others reduce the level until a more favourable exposure is obtained. Many of these systems can spoil the atmosphere of fun and excitement beloved by disco-goers, if set up or used unsympathetically.

Do such high sound pressure levels need to be sustained? The general answer would appear to be yes. It is argued that the high sound pressures stimulate a level of excitement and enjoyment unobtainable at significantly lower sound levels, even with loudness enhancement.

One answer to the problem of exposure may be to partially isolate the dancefloor from the off-floor areas for certain periods during the evening. Imagine a dancefloor completely surrounded by moveable, acoustically isolating, high definition video screens — not just one or two of the large screens already in existence, but a completely enveloping system. Such a system could greatly enhance today's sound and lighting systems.

Different moods could be created easily and the liberal use of video effects systems coupled to audio sampling and effects units could turn dancefloors into a total audio-visual experience. Cynics may suggest that this would turn a discotheque into a kind of theme park, but I feel that it could be used subtly and help develop a whole new area of the video artform. You never know, we could even witness some more imaginative uses of lasers — a few holograms for instance.

My impression of the recent PLASA exhibition was that there were too many 'me-too' products. Although club architecture varies, what is presented in that architecture is often too predictable. A more advanced use of video techniques would enable a club to offer exciting new surround-video and surround-sound effects unavailable from any other media. I can see customers queueing round the block to experience the latest offerings — and added perceived value is rarely bad for business.

Perhaps the new sound regulations provide an opportunity to review old formulae and

come up with some ideas that protect employees from over-exposure and move club systems nearer to the 21st century.



Jim Cousins' career began with Smiths Industries Aviation Design where he studied electronic engineering and gained a grounding in electronic design, vibration analysis and engineering management. It was this involvement in vibration analysis which intensified a life-long interest in electro-acoustics.

In the early seventies he joined Electronic and X-ray Applications Ltd where he worked on nuclear and ultrasonic diagnostic systems. This experience of the medical world and his interest in electro-acoustics secured him a position developing auditory test equipment as part of a five year research project into auditory perception funded by the Medical Research Council.

In the late seventies he rejoined the commercial world, becoming technical manager of Midas Audio Systems Ltd where he was responsible for the design of manual and semi-automated mixing consoles for the live sound broadcast and recording markets. In 1982 he decided to go freelance to make more use of his electro-acoustics knowledge.

Since setting up JV Cousins Design, he has been busy undertaking original product design, product assessment, system design, electro-acoustic analysis and technical writing for manufacturers and suppliers in the live sound, broadcast, recording and leisure sections of the audio industry.

He is a Member of the Audio Engineering Society and has written and presented papers, in the UK and abroad, on subjects such as audio system safety, acoustic design, measuring systems and sound system design.

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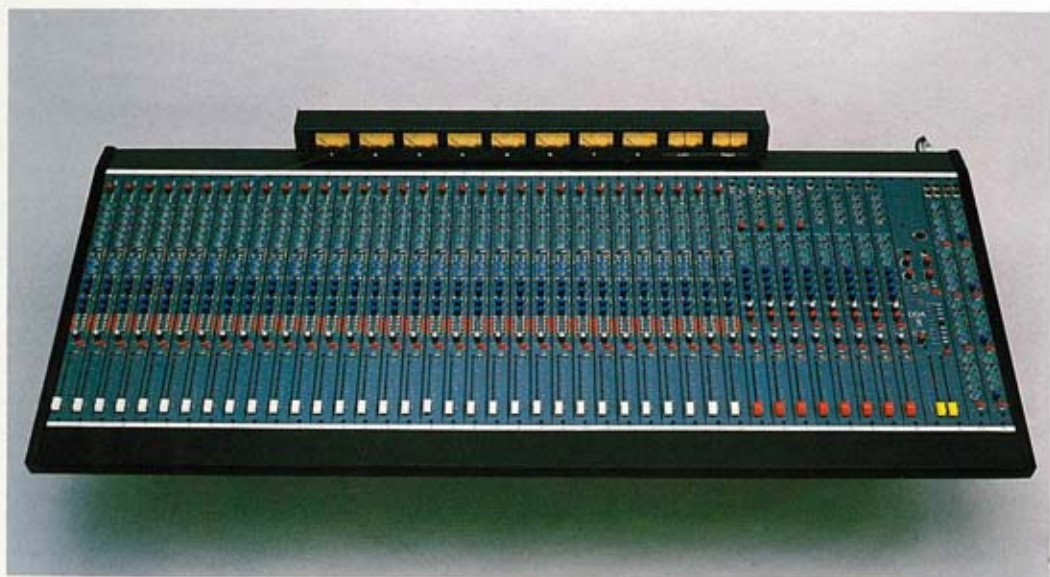
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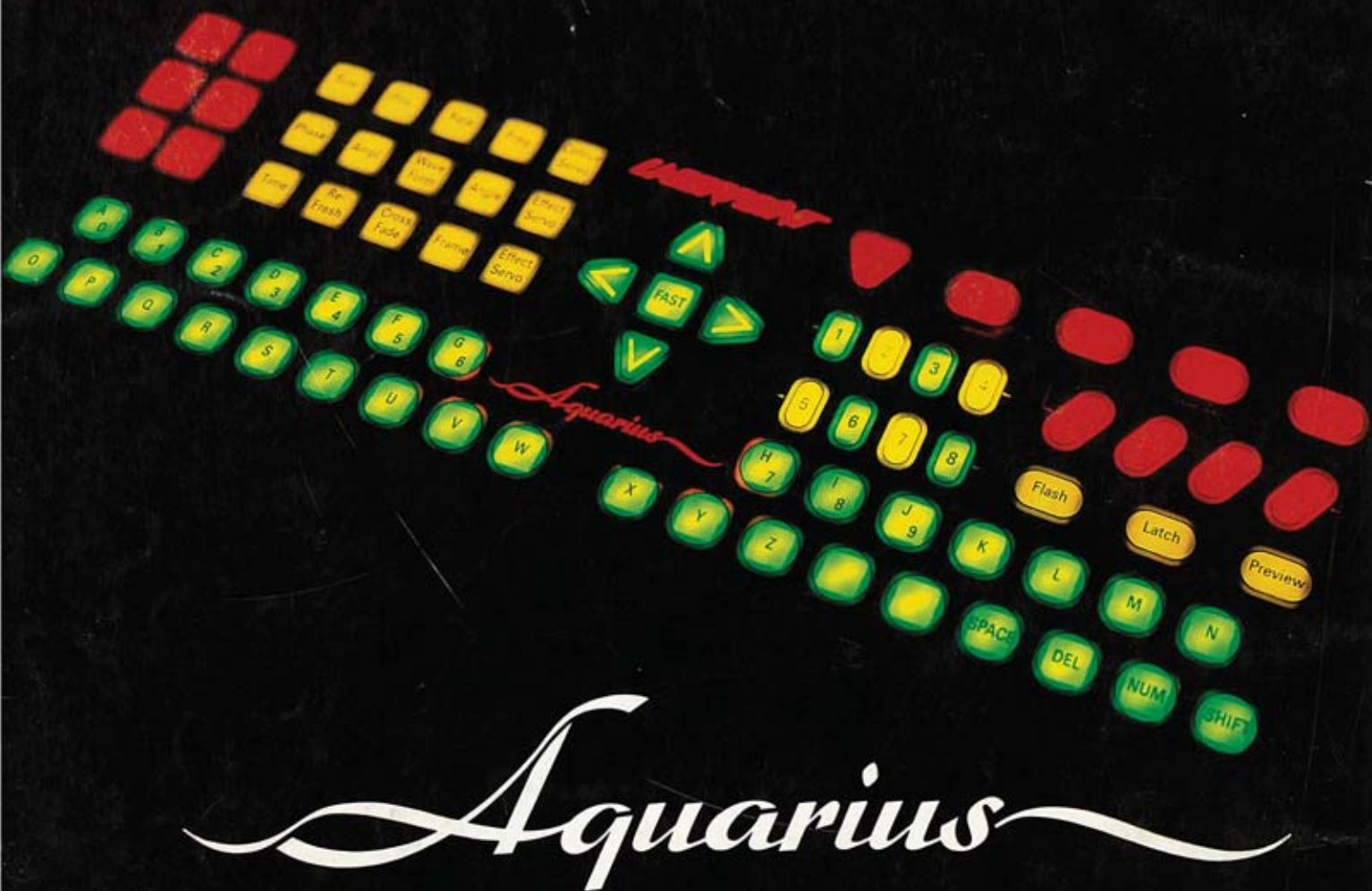
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