

# LIGHTING+SOUND

AUGUST 1989

*International*

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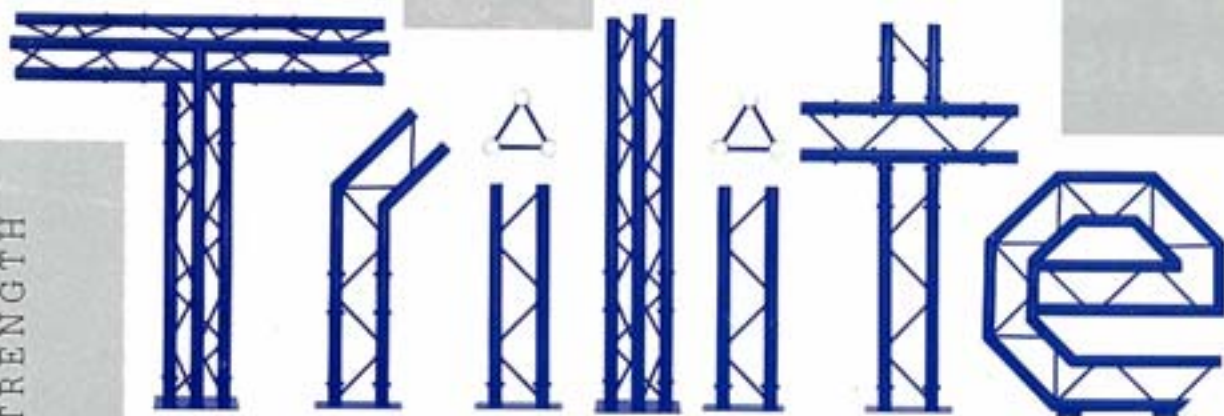


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(SEE FEATURE PAGES 31-33)

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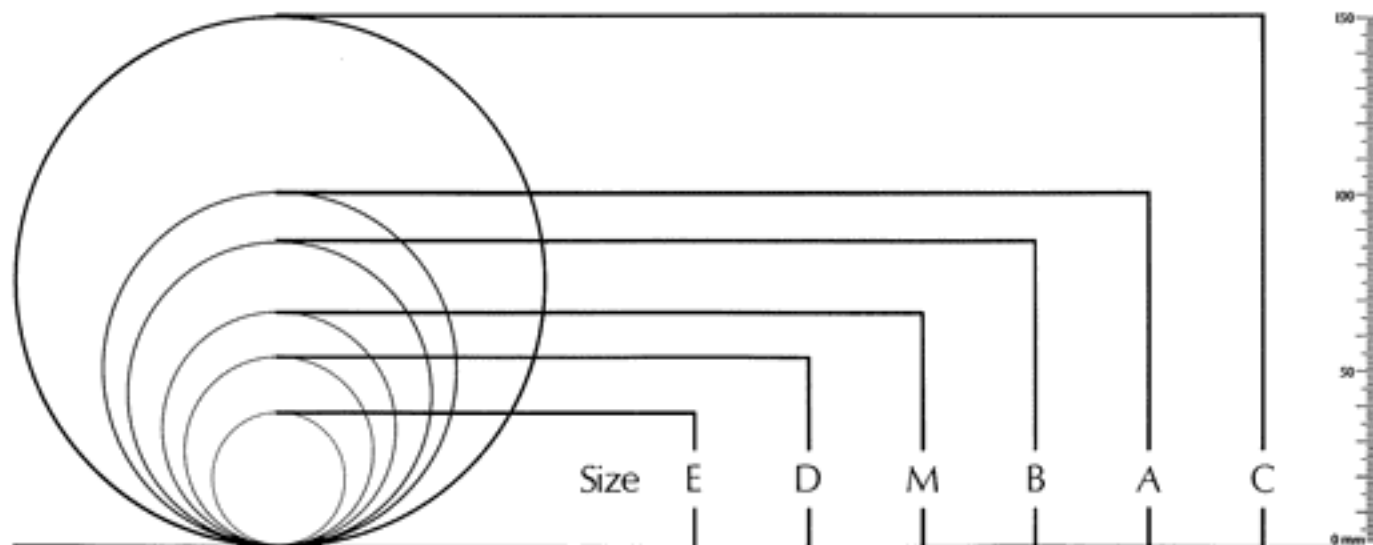


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Celco products are manufactured and distributed by: Celco Ltd, 1/3 Bellingham Road, London SE6 2PN, England tel: 01-698 1027 tlx: 927624 (CELCO G) fax: 01-461 2017 and Celco Inc, 30B Banfi Plaza North, Farmingdale, New York 11735, USA tel: (516) 249 3662 fax: (516) 420 1863.

*Celco. Enough said.*

# LIGHTING+SOUND *International*

## AUGUST 1989

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### Saturn Balls for Special Effect

Distributed in the UK by Laser Grafix, Saturn plasma balls are available in three sizes, and can be virtually any colour dependent on the gas used. Electricity released within the glass plasma ball flows through the gas inside giving off shimmering bolts of coloured light. The light is attracted to hands placed on the ball as the electricity always runs to earth. The Saturn will also produce varying light effects when the current is altered, and the black base unit can be painted any colour to match the environment.

## LIGHTING+SOUND *International*

published monthly by the Professional Lighting and Sound Association

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The magazine is available on annual subscription:  
UK: £25.00; Europe and rest of world surface rate £30.00; Airmail £45.00.

## Royal Tournament Laser Effects

As part of the 1989 Royal Tournament, Laser Creations has supplied 4 high powered lasers, situated in each corner of the venue to produce beam structures, sheets, cones, tunnels and spatial effects. Custom-made giant 3m diameter mirror balls are also being used to create diffused laser effects around the arena. A high-power Argon and Krypton combination system is being used to project multi-coloured 3 dimensional graphics and animations onto a suspended gauze.

The company were also involved in the Bastille celebrations where two large laser-fed high power video projectors were used to project 50' wide video images onto the walls of the Palais de Chaillot opposite the Eiffel Tower. This was staged as part of the Son et Lumiere presentation 'colours' the story of the origin of the French flag. The show was accompanied by a spectacular fireworks display. A simultaneous laser beam and graphics display was also emitted from the laser video projector.

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## NJD Challenge Shield



On Sunday July 9th, whilst Becker and Edberg were slogging it out on the centre court at Wimbledon, four hopeful teams were battling it out at Kimberley Leisure Centre, Nottingham for the first-ever NJD challenge shield for five-a-side football. The tournament was to be decided on a league basis where the teams involved - NJD, Leech, Leamington Sight & Sound and Cloud Electronics - played each other once, the team with the most points taking the shield.

The first game featured Cloud versus Leech, and proved to be a close game with Leech just winning 10-1. Cloud put in a similarly valiant effort against Leamington, losing 10-3, but with the consolation that they had come second! NJD versus Leamington proved to be a much closer game with the host side winning 5-1, the tightest game of the tournament followed with NJD taking on Leech, Leech triumphed 4-0 over a tired (according to NJD's md Kevin Hopcroft) NJD side. If the host team were to win the shield, they needed Leamington to beat Leech; unfortunately for NJD, Leamington were crushed 11-0 by another impressive Leech display, along with some assistance from the referee (according to Kevin Hopcroft).

Finally, with the tournament already decided, NJD and Cloud played out the last game, which saw NJD coast home to a 10-0 victory. The shield was later presented by Kevin Hopcroft to the victorious Leech side. Because the tournament was so enjoyable and played in good spirit, it is proposed that the event will take place annually. Any other teams connected with the disco industry are invited to participate in Leech's defence of the shield next year. If interested, please contact Richard Ranby at NJD, telephone (0602) 394122.

## New Dealerships for Shuttlesound

French signal processing equipment manufacturer SCV Audio has appointed Shuttlesound to handle UK distribution of its entire product line. Units from SCV, such as the AT422 dynamics output processor have been designed with the broadcast industry in mind, while products like the PSD sound reinforcement source director and UB280 series rack mounting modular card-cage systems are targeted towards the professional sound contractor market.

The company has also become UK distributor for US loudspeaker manufacturers Gauss, who virtually hand-build their speaker components in order to achieve higher tolerances for improved performance. Shuttlesound's Tony Oates told L+S that he will be offering a condensed range of Gauss products to give greater definition to the line.

## Metropolis installs JBL

Metropolis, Scotland's newest nightclub, has taken delivery of a comprehensive JBL sound system. The Saltcoats club is the latest in a series of prestigious nightspots to select JBL for its sound, say the company. A total of six Sound Power clusters cover the dancefloor area comprising JBL 4751 mid/HF and JBL 4785 sub-bass enclosures. 14 JBL Control 5 loudspeakers, four Control 1 monitors and two JBL 4406 studio monitors provide the extensive peripheral system. Amplification, equalisation and limiting is also provided by JBL.

## UKD + ProgramSistem

United Kingdom Distributors (UKD) have been appointed sole UK distributors for ProgramSistem in a deal that was arranged at SIB/Magis in Rimini, Italy, earlier in the year. UKD have received their first shipment of lighting equipment and completed the first round of exhibitions with a purpose-built demonstration rig. The rig is available to any dealer who would like to organise an open day.

The rig comprises of two Powerdrive easy hoists cut down to 16 feet spanned by 18 feet of UKD trussing, upon which is suspended almost the entire ProgramSistem range of products, in a fully operational condition, brought back to flight cased ProgramSistem control gear and NJD controllers. Further details of the system and the size of display venue required can be obtained from UKD telephone (0926) 314878.

## STAGE LIGHTING

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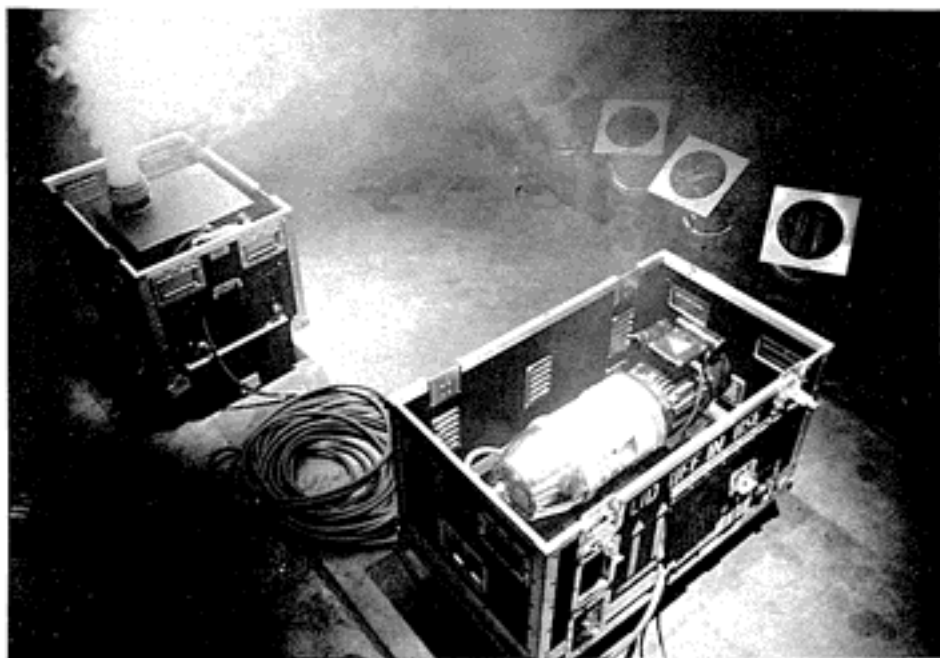


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Spotlight



The Cirrus cracked oil 'smoke' machine from Samuelson Concert Productions.

## UK Equipment for Rocky Horror Tour

The Rocky Horror Tour of Europe started its three year tour in Hannover, West Germany at the end of June. The tour is being staged by Panda Productions GmbH from Dusseldorf in West Germany. As the tour runs for such a long time, the production company asked a number of Europe's leading hire and supply companies to submit a quotation for the supply of sound, lighting and scenery for the tour. After extensive analysis, they decided to buy all the equipment and scenery from UK-based suppliers. The business analysis for this showed that the cost of buying everything equalled the cost of only 11 months hire.

The UK companies involved with the tour are Scena Ltd from Peckham who manufactured and supplied the set, Capital Entertainments from London who supplied all of the sound equipment, Laserpoint who supplied all the lasers and Eurolight who provided all the lighting equipment and trussing.

Due to the late decision to proceed, Eurolight had only seven weeks to provide everything, however, with considerable support from Slick Systems, CCT Theatre Lighting, AC Lighting, Rosco, Theatre Sound and Lighting, Action Lighting and numerous others, they managed to meet the deadline.

The tour marks the debut of Eurolight's flight cased Datarak dimmers that feature digital DMX control techniques and high density packaging. The tour is controlled from a Eurolight Applause control desk with a Smart controller as back-up. For the West German production company to

select UK suppliers for all the tour equipment and sets, once again confirms the UK's strong position in the touring market.

## 48-Channel from Jands

Jands, who have had a huge success story all over Europe with their 24 and 36 channel E.S.P. lighting consoles have added a 48 channel version to the range. The consoles are now available in a black finish as well as the standard grey. Jands will be exhibiting the E.S.P. alongside their highly-acclaimed Instinct range at this year's PLASA Light and Sound Show (Sep 10-13), Olympia 2, London.

## Getting Cirrus Again

The Cirrus cracked oil 'smoke' machine from Samuelson Concert Productions produces a fine even mist, which remains airborne for longer than smoke produced from conventional machines. It is ideal for use in stadiums or arenas where a beam enhancing mist is required. They are particularly effective when lasers, Vari-Lites or Telescans are used. If audience lights are required on the production, using the Cirrus will ensure that the beams are visible from the source to the lit area. This type of smoke machine has been used in the film and video industry in the states for a number of years, because of the exceptional hanging quality of the mist, and the fact that the required density can be obtained with ease.

The Cirrus has been approved by the London Fire and Civil Defence Authority. It was tested by London Scientific Services, and the machine is now on their approved list to use in places of public entertainment. The machine uses a highly refined mineral oil conforming to the requirements of the British and American Pharmacopoeias. It uses a sliding Vane Compressor, which is a very energy efficient design, say Samuelson Concert Productions, (a 1.5hp unit produces 5.2cfm which is equivalent to the performance of a 2hp piston compressor). The noise level is a very low 60dba at 1 metre, and the tank which produces the smoke is operated by a simple on/off tap. Solenoid or Mains switching control is available on request. For a demonstration of the machine, contact Samuelson Concert Productions on 01-450 8955.

It has been pointed out to us that our piece entitled 'Cracked It' which appeared in the April 89 issue of Lighting and Sound International may be misleading. John Coppen of Samuelson Concert Productions wrote to us after receiving a letter from Hollywood-based REEL EFX saying that it could be construed that the photograph of their machine might be confused with the Cirrus. John Coppen also explained that Pink Floyd use North American-based Arc Fogger to supply their cracked-oil machines for world tour.

So now we know!

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*Light & Sound Design*

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weighing relatively  
little.

**LIGHT** *n.* the medium of  
illumination that  
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possible.

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## Repeat Formula



Cheshire-based Formula Sound recently shipped out 12 QUE-8 headphone foldback units to Masterfonic Studio in Nashville, Tennessee, the third studio in Nashville to be equipped with these units. 18 months ago Emerald Sound Studios purchased 16 QUE-8 units and five power supplies and a month later Sound Stage Studios repeated the order. Another six QUE-8 units were also sold closer to home. The company received an order from the Cliff Richard office with a 10 day delivery deadline. These were used during the Cliff Richard 30th anniversary concert with the Shadows at Wembley in June.

Over the last year, the QUE-4/8 headphone units have been sold to various countries including America, Norway and Germany. The units are used in musical productions such as Les Miserables, Starlight Express, Cats etc and each time a show opens in another country, Formula Sound receive another repeat order.

## Databeat Worldwide

John Leefe, inventor and managing director of Databeat, has just completed a successful world tour establishing main importers/distributors in New York, Sydney, Hong Kong, Tokyo and Singapore. Databeat, which is a fully automatic programmable CD music system capable of holding 120 CDs, is beginning to receive very widespread interest at the top of the foreground/background music market. In the UK the unit is already installed in Bass, Grand Metropolitan, Scottish and Newcastle and Hilton venues amongst others. These major chains like the system, John Leefe told L+SI, for its ability to automatically play the right style, speed and era of music (as though a skilled DJ) were in charge) at the right time to their target customers, thus creating the right atmosphere without staff having to lift a finger.

Databeat Digital Music Systems Ltd now have distributors appointed in Austria and Scandinavia as well as those countries mentioned above. However, the company is keen to find suitable distribution outlets in France, Germany, Italy, Spain and Switzerland. Companies interested in acting as distributors should contact John Leefe at Databeat on (0635) 578992.

## More and More Soundcraft



John Entwistle with his Soundcraft Series 600.

Using a number of Soundcraft consoles, The Who have just embarked on the start of their 25th anniversary tour, with a three month stint in the US before returning to Europe for a number of concerts in the autumn. Preparing new material for the tour, bass player John Entwistle installed a Soundcraft Series 600 recording console in his Gloucestershire home studio, before rehearsals began at Nomis Studios in May.

Both Roger Daltrey and Pete Townsend have returned to the line-up with top session drummer Simon Philips joining them for the tour. Simon will be using a Soundcraft Series 200 SR for the drum mix, with Clair Brothers providing their recently purchased Series 200 B's as additional stage mixers. The UK dates are scheduled for September.

Two more Series 6000 consoles have gone on the road this month: one 32-16 frame sold to Powercord PA in Leeds by KGM Studio Specialists, and a second 32-16 sold by IMC to Rocyn PA in Wales.

Farrah's have just completed the installation of a new sound system for the Sunderland Empire, a package which included a 40 channel Series 500 console. The new London Arena stadium has taken delivery of a 16 channel Series 200 B, as part of a portable PA facility installed by Philips.

Other Series 200 B and 200 SR installations being used for in-house conferencing include an 8 channel 200 B to William Hill Leisure in Leeds, 200 SR's to Scottish Amicable Insurance, Compaq Computers and the Ministry of Defence as well as two further SR's to the CBI headquarters in London.

For general PA use, a 16 channel Series 200 B has been installed in the English Riviera Centre in Torquay, with a 24 channel 200 B due to be installed in the Plymouth Pavilion in the autumn. For Soundcraft's video post-production console, the Series 200 BVE, recent orders included a 16 channel frame to TV2 Communications in Northampton, and an 8 channel console to the Inland Revenue in-house video production unit.

The company has also announced a new distributorship for their products in Denmark.



Graham Threader receives the Soundcraft Series 200 Dealer of the Year Award on behalf of Gradav Theatre Services from Sue Webb of Soundcraft.

From August 1st, the professional division of Audionord will become exclusive distributors for Soundcraft, in place of SLT Studie & Lydteknik.

And finally, Gradav Theatre Services Ltd has been chosen as the winner of the Soundcraft series 200 Dealer of the Year Award. The award goes to the London-based company for the largest volume of Series 200 B's and 200 SR's sold in the UK over the year.

## Hollywood Gets Smart

Hollywood Cafe Bar in Newport, Gwent have contracted SMART Acoustics to design and commission the sound system in its new nightclub and bar. Competition in Newport amongst the nightclubs is fierce which is why owners, Allan Hopkins and Mark Symonds decided to go for the best sound quality available in the form of a Renkus-Heinz 'Smart' system. "We intend to let our customers hear what a nightclub should sound like," Mark Symonds told L+SI, "but we also require lower levels during lunchtime and early evenings. The Renkus-Heinz systems give an incredibly dynamic sound level which is clear and of a high quality from the quietest to the loudest levels, and yet so small and compact. The Hollywood Cafe Bar is due to open at the beginning of August.

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## Film, Video and Sound '89

Scenes from the 11th British Kinematograph Sound and Television Society (BKSTS) International Conference and Exhibition which took place on the 17 - 21st July at Olympia 2, Hammersmith, drawing together companies from all fields of the film and television supplies industry.



Arri showed a host of new products including the Arriflex 765, the Arriscope range of lenses and the latest Studio range of tungsten fresnels.



Lee Colortran showed their new 16kW Super Daylight fresnel, a motorised 12kW Super and Dual Source, plus lighting, dimming and control products.



Playlight Film and TV Lighting shared a stand with P&G Draperies, to demonstrate their TV and film-orientated products.



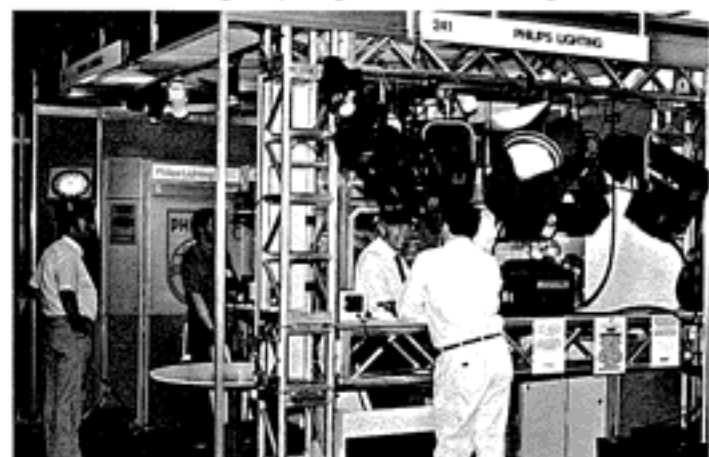
The full range of film and broadcast equipment from leading suppliers was on the Samuelson Sales stand.



Roscolab showed Cinegel correction and diffusion filters, and introduced the 1300 basic and 4500 high-output fog machines to their range.



E. Gemmi (left) of Gemmi srl with Alan Luxford of Strand Lighting flanking Andrea Molinari of Quartzcolor.

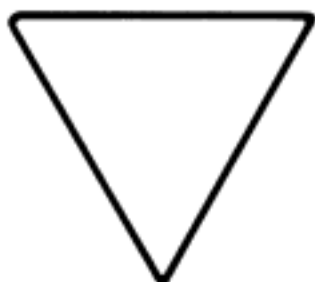


The new MSR lamps from Philips received their debut in the UK at BKSTS.



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# The All-British Dieppe Show

Britons have always been present in Normandy, and much more so nowadays with low property prices for country hideaways attracting an ever-increasing number of newly-converted Francophiles.

But on a recent Sunday in Dieppe, L+S's editor, camera on shoulder, came across a take-over of a different sort. The Scottish Chamber Orchestra performed in concert, aided almost exclusively by British sound equipment, and dramatically supported by an all-British firework display from Le Maitre of Croydon.

The town's wide grassy promenade was packed for the occasion, with additional effects provided by many a Frenchman reverting back to childhood and throwing bangers around ad lib, to the annoyance of some, but to the delight of many.

The official sound was excellently provided by Yves Leroy of Yvetot (using Martin Audio speakers) and master of ceremonies for Le Maitre was none other than Wilf Scott (ar-

tificer de la Société Internationale 'Le Maitre', a conçu et réalisé le feu d'artifice de ce concert. Nous lui devons le célèbre feu d'artifice de l'Edimburgh Glenlivet Concert'. C'est lui aussi qui embrase la plupart des grands groupes rock: Genesis, Tina Turner, Pink Floyd . . . ) as the programme said.

## Sound Equipment

### PA Stack (x 2)

14 Martin Audio 115 bass horns  
8 Martin 'Phalshaver' mids  
8 Martin HF2 horns  
4 HF horns with compression horns and 2 ring radiators

### Delay Stack (x 2)

2 Martin 115 bass horns  
1 Martin S215 bass horns  
2 Martin 'Phalshaver' mids  
2 Martin 1152M horns

### Front of House equipment

DDA mixer  
For effects: Yamaha, Roland, BSS, Lexicon, Klark Teknik graphic, BSS FDS360 crossover; 2 Klark Teknik DN716 delays and 1 dual 31 band graphic (for delay towers); Amcron amps.



Awaiting nightfall on the promenade, Sunday July 8th.



Le Maitre fireworks high above Dieppe cliffs.



One of the two delay stacks.



The seaward side PA stack with Dieppe castle in the rear.



Saturday set-up. The DDA mixer and sound gear.

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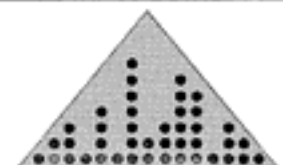
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**STLD Awards Ceremony**

The first annual STLD awards for excellence in lighting for television were presented at the recent summer meeting of the Society of Television Lighting Directors (STLD) at Great Fosters, Egham, Surrey. Nominated were Clive Tickner for 'Inspector Morse', Duncan Brown for 'Allo Allo', Brian Pearce for 'Live from the Palladium', with Chris Townshend and John Mason being voted winners for their work on 'The Chronicles of Narnia'. The award winning programme was selected by a panel of judges comprising of leading practising lighting directors. The awards were presented by Bill Cotton and the ceremony was presided over by STLD chairman Eric Wallis.



Pictured here with Bill Cotton are the four nominees for the STLD awards. From top left (clockwise) Brian Pearce, Duncan Brown, Clive Tickner, and the eventual winners John Mason (left) and Chris Townshend (second from right) with STLD chairman Eric Wallis looking on.



**Growth of LDI Show**

Lighting Dimensions International 89 has announced that over 80% of available exhibit space has been booked as of June 26th, 1989. 108 lighting, sound and special effects companies from around the world are already gearing up for the show to be held November 17-19, 1989 at the Nashville Convention Centre, in Nashville, Tennessee.

"Four months before the exhibit floor opens, LDI89 is already 40% larger than last year," Jacqueline Tien, vice-president of Events Production Group, the show's organisers, told L+S. She continued: "we're anticipating 5,000 visitors from around the world to come to Nashville. That's a 60% increase in attendance over 88."

LDI is lining up three days of hands-on professional workshops moderated by experts in the lighting, sound and special effects fields. These sessions are designed to update the professional on new products, new applications and productions. The 30 panels for this year's show include: MIDI Mania, Laser Design Portfolio; Fog-Machine Shoot-Out; Planning that New Club; New Dimmer Technology and Concert Tour Sound. Included in the workshop line-up is a Designer Business Day - a full day of workshops devoted to answering the designer's business problems.

Two major direct mail promotions are scheduled. In August, over 100,000 potential visitors from 17 countries will receive a six-page LDI89 colour brochure and registration packet. In September, an additional 50,000 industry professionals in Tennessee and surrounding states will be invited to the show. Exhibit booth prices remain the same as last year with the floor being divided into 'quiet' and 'noisy' zones. For more information on exhibiting or attending LDI89, contact Jacqueline Tien or Paula Harris at Lighting Dimensions International, 135 Fifth Avenue, New York, NY 10010 USA. Telephone 212 353-1951.



Pictured above is David Hersey (centre) with staff and guests at the opening of DHA Lighting's new offices in Jonathan Street, South London. The move to the larger premises, which incorporate a 1,000sq.ft demonstration studio and darkroom facilities, provides the company with the opportunity to diversify into a number of fields including that of Cibachrome film processing.

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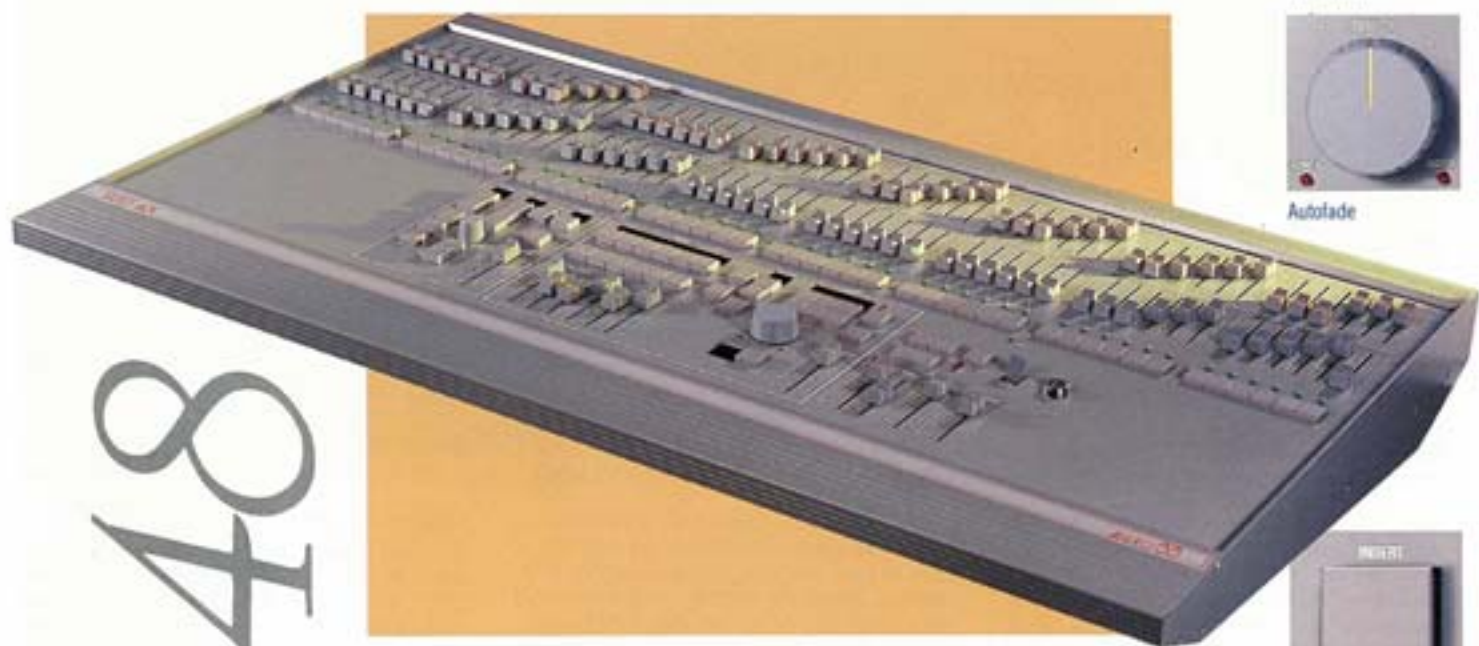


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# Into the Heart of the Machine

Ben Duncan visits Pink Floyd's PA, resident at the new London Arena for five days in July



The main FOH PA (overhead) with in-fill cabinets behind black screens, stage left and right. Note height of stage (12') and circular projection screen (centre back).

As the finishing touches are put to this article, Pink Floyd and their crew are performing in Marseilles, on the last night of a two year world tour in front of over four million fans. It kicked-off with rehearsals in August '87. In the first year, the tour began in Canada, going on to encompass Europe, then Australia and Japan. One of the high points was performing on the **Place d'Armes**, outside the **Chateau de Versailles** with a backdrop of fireworks!

The tour closed in the USA in September '88. The band had then planned to get down to working on an album, and producing a new show. Then they had second thoughts: They decided they wanted to play in some places they hadn't visited before, notably Moscow, Athens and Venice, so a three month 'tour extension' was set in motion. Rehearsals were held in the brand new London Arena in April before the team reconvened in Werchter, Belgium. The itinerary included five nights (but six shows) in Moscow's Olympic Hall with bemused Red Army conscripts helping with the load-in.

## Production: A UK-US partnership

Over the past two years, the people behind the show have remained virtually unchanged. Ten years ago, Britannia Row was Floyd's own hire company, and one of their best investments. Today, Pink Floyd are no

longer corporately connected with Britannia Row Productions (hereafter referred to as BRP). In turn, the tour was a departure from tradition, being the first time that Pink Floyd have made use of an 'off the shelf system'. For this time, the PA was co-orchestrated and crewed in conjunction with MSI - Maryland Sound Industries. MSI are a Maryland (USA) based PA rentals company that have been working in partnership with BRP since 1986. MSI have their own enclosure designs, which saw action throughout the system.

The production was designed to suit large US venues. The staging imperative didn't go to one of the dynamic staging companies that abound around London, especially in sight of Docklands. Instead FM Productions from California were given the task, being able to offer a state-of-the-art integrated staging system which combined strength and levity with ease and speed of load-in/load-out. BRP director Robbie Williams explained: "Because of the complexity of what goes on underneath the stage, through it, around it and over it, there's no way we could have dealt with it as a standard arena stage. . . the performing area actually folds down to just seven dollies and it takes us 40 minutes to set up. . . the whole stage fits into one truck - with extra risers, say one and a half. It's a seriously happening piece of machinery."

## Outfront Sound

For 'The Wall' concerts, over 100 channels were in use. This time the main desk, a PM 3000, had just 40. This desk had been fitted with MSI's own-developed VCAs (Voltage Controlled Amplifiers) and microphone pre-amps, making it considerably quieter than the standard Yamaha product. All of MSI's and BRP's PM 3000s are currently undergoing this retrofit. On FOH engineer **Burford Jones'** left side, a second (unmodified) PM 3000, the 'C' model, was configured 32 into 8 for the main FX returns. It replaced a Midas Pro 40, used on the first year of the tour.

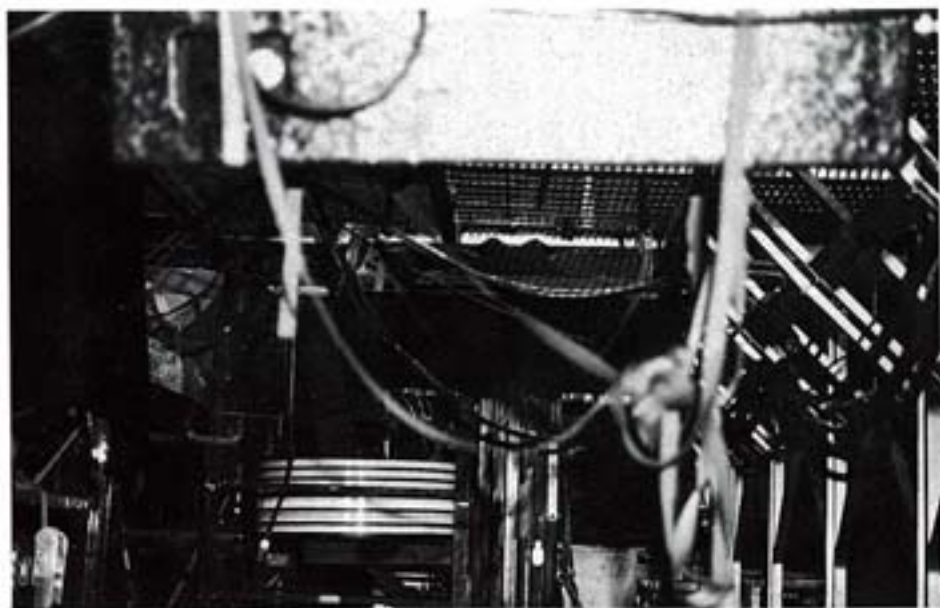
Nearby sat Pink Floyd's famous custom-built quad(ro)phonic mixer, not the original '69 version, but the replica hastily built by Midas in July 1980, after the fire in 'Ally Pally'; and subsequently upgraded for the present tour by Andy Liddiard and Les Matthews at BRP. In use, the mixer provides some of the quad material. It combines a mono subgroup off the main mixer, together with the output from two 4-channel tape machine and a lexicon digital reverb. A third PM 3000 drives a quadrophonic mixer which is fed to the custom Midas quadrophonic mixer and contains the various quadrophonic effects from the two 4-channel tape machines and various digital effects. A fourth mixer, a more down to earth Yamaha M-1516, was pressed



One of the Turbosound TMS-3 mini-clusters, part of the Quad system, with a follow spot station immediately below.



Side views of the FOH mix position. On left, engineers are attending to the quad tape machine, used to replay the 4-channel FX. Floyd's quad mixer is visible on the right, in front of the author, with Micky Sturgeon (with beard) immediately on the left. The follow-spot position immediately below the centre left quad cluster is also visible (top left).



Inside the catacombs: a view under FM Productions' hi-tech stage. Note under-slung monitor cab (centre top) pointing upwards through the gridding. Photos: John Hurd

into use for effects returns for the drums.

The contents of the ranks of seven FX racks were numerous enough to rule out a blow-by-blow account, excepting the more unusual processors. One such, being evaluated on the FOH outputs was a 'Phase Coupled Activator Digital Restoration System - with subsonic filter', effectively a sub-harmonic generating 'boom box'. For certain drum sections and drum effects, a Wendel cartridge machine (familiar to fans of Donald Fagan) was feeding recordings by top session players of kick and snare drums into the mix, from an ROM-pack. Timing is externally triggered, and the resulting drum sounds were available, if need be, to tighten up the live sound. The lavish equipment available to enhance the drum sound extended to a pair of Tube Tech equalisers for the overhead mics. For readers outside the recording business and in fashions, the Tube

Tech is a revamp of a classic 1950's valve (vacuum tube) equaliser, a tall, sparse panel with 2" bakelite knobs to match. The EQ settings revealed nothing exotic: just a broad, low Q cut at 100Hz and a boost at 10kHz, the classic ingredients of kick and hi-hat EQ.

#### The Main PA

125kW of amplification centred on a row of MSI's aluminium-cased 'Stadium Racks', tall enough (at six feet!) to be mistaken in the distance for a collection of Texan refrigerators. These racks housed SAE P500 and P250 amplifiers on bass and mid respectively, while the high frequencies were entrusted to Ramsa WP-9220 amplifiers. Each rack drives 2 LF, 4 mid and 4 HF cabinets. Which explains why the bass amplification included a collection of Crest 8001s stuffed into more ordinary-sized racks.

Owing to their US origins, MSI's Stadium

racks are normally run off a fully isolated 3 phase, 115 v transformer. Such an approach makes a mockery of the size and weight reductions achieved by power amplifier designers, but on the bright side, it must help to filter lighting 'hash' off the supply. Because the USA's phase-to-phase voltage is so low (about 210v, compared to our 415v), the 3-phase secondaries are evenly distributed in a rotating manner between the three frequency bands to give an extra tier of isolation - a ruse that wouldn't normally be contemplated with 240/415v mains, for obvious reasons of safety. On this occasion, the whole system was run off a 115v, three-phase gennie in a truck parked outside. Many of the effects racks contain Firmin 'PL Plus' power conditioners used mainly for their lighting capability and extra AC output as opposed to their filtering capability. These provide an LED readout of the supply voltage. But MSI crew member **Micky Sturgeon** declared that they weren't very accurate, preferring to use his trusty Fluke. It's probably because the designers weren't aware that **true rms** sensing is **de rigueur** for accurately reading today's highly polluted juice. So the PL Plus units ended up being used mainly for the downlighting they provided!

Looking at the photos, the main flying FOH PA comprised (on each side) clustered MSI cabinets, arranged three high by eight wide. The front rows were covered by extra 'Groundfill' cabinets placed at floor level in the wings. These were MSI's standard 3 way sidefill cabs, each containing twin 15" and 12" JBL drivers on bass and mid, with a single 2445 compression driver on HF. For the Quad effects, three Turbosound TMS-3 clusters flying centre left, right and at the rear were brought into play. At the London Arena, six of MSI's 2 x 18" subwoofers lay hidden under each side of the stage, ready to generate the intense low bass that's long been an attractive feature of live Floyd. For the outdoor gigs, the number, in spite of scare stories in the press, is barely increased



Pink Floyd in concert: Two scenes from their '89 World Tour.

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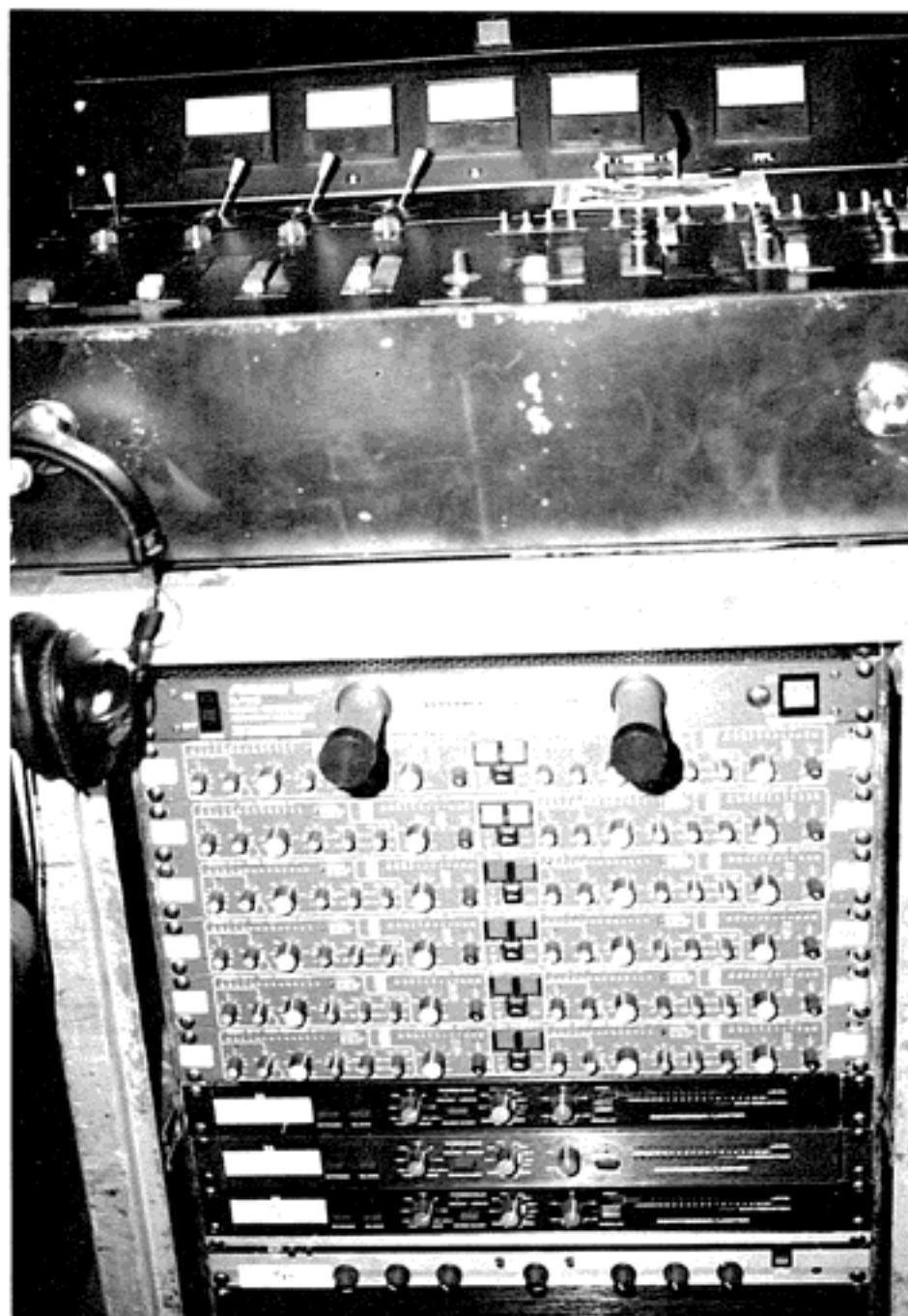
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Floyd's Quad Mixer was mainly used for Gilmour's guitar, an SPX-90 having been found more precise for the live panning. Below, a Furman PL Plus illuminates a rack of BSS, dbx and Aphex compressor/limiters.

- to eight in all.

#### Monitors

The monitor feeds were taken off 96 channels of BSS mic splitters. There were 19 mixes on stage, boiled down from 40 selected channels for monitoring. Mixing was by Seth Goldman. Micky Sturgeon, now an ex-patriate Brit, working principally for MSI and living (when he's not on tour) in the USA, was in charge of setting and tuning the monitoring. For the tour extension, a Ramsa WR-5840 40/18 monitor console (as reviewed in L+SI, Feb '89) replaced the Midas Pro-40 used hitherto.

Processors included TC Electronics' 1128 equaliser found to be invaluable for seeking out and attenuating feedback frequencies. Dbx 900 series gates, limiters and parametric modules were in use because they could handle a lot of routine tasks in a small space. Four SPX-90 multi-processors were in use purely for their reverb capabilities, being patched up for the girl vocalists (Rachel Fury from the UK and sisters, Durga and Lorelli McBroom from the US), and for Scott Page's sax. Lead vocals were EQ'd with a pair of TC

Electronics' 2240 parametrics.

Desk outputs were assigned at the amplifier racks via MSI's own design digital routing boxes. Illuminated LED readouts confirm which channel is going where. Each switcher also contains a full-range compressor/limiter, used, not so much for protection, but for specific treatment, eg. strengthening weak vocals. For the most part, the wedge monitors were MSI 2 x 15"s and 2 x 12"s together with some Meyer UM-1s. All the wedges were placed **under** the stage, aligned with some difficulty, so that they pointed through the open gridding with the minimum amount of HF diffraction. As a testament to the integration of FM Productions' staging concept, the wedges had become part of the stage, to the extent that when the stage was packed up, they were simply left in-situ for transit to the next show.

Amplification comprised Crest 7001s for the low-ends of the wedges, and model 3501 for the HF. Gary Wallace's percussion rig was covered by an MSI 'lo-pack' (ie. dedicated bass cab) and a TAD 4001 in a standard MSI horn enclosure. A further Crest 3501 had an easy job driving 11 pairs of

(Beyer DT-101) headsets for the performers' click tracks. Finally, the percussion player had use of a radio headset.

#### Showtime at the new London Arena

For those who've yet to visit London's first major venue to open since time immemorial (well, almost) its auditorium format is reminiscent of Wembley Arena, but considerably bigger (almost double), and with considerably better acoustics. (Rumour has it that Wembley Arena's bad sound stems in part from the remains of a swimming pool under the floor). According to Micky Sturgeon, the crew liked the truck access, and the acoustics were generally regarded as above average, for London. Still, he felt they were no match for **The Globe** in Stockholm or **Omnisport** in Paris.

Outside, on July 5th, temperatures and humidity were running high. Inside the Arena it was cooler - until the doors opened. In the 90 minutes it took for the audience of 11,000 to seat themselves, the humidity and temperature became higher than outdoors (where, of course, it was cooling off). And that was with the 48 extractor fans running full belt.

Because they let in light, these had to be shut down when the lights dimmed. I began to wonder whether many people would suffer heartstroke. But no: after reaching tropical levels, and thanks to the cooler evening air outside, the temperature and humidity steadied. One effect of the high humidity was to reduce HF attenuation with distance - so the high treble carried better and further. Despite 'No Smoking' signs, there was a good deal of aromatic residue swirling overhead. The chaotic patterns did great things for the laser show.

Overall sound balance was impressive; after many consecutive dates, it should be. High points in the mix were Gilmour's guitar and Page's sax. But the girl vocals were hardly audible in the first set, which focused on numbers from **A Momentary Lapse of Reason**. The second set comprised old favourites. One of these, **Money**, featured extemporised keyboard chords which were doubtless unattainable when the song was composed on a VCS-3, the original portable synth.

Sound levels were high, as measured at the mixing position, averaging 110dB rms or 120dB peak. For some of the shows overseas, where SPL limits were in force, average levels were a little lower, at between 100 to 105dB rms. A lot of this was concentrated below 100Hz. Overall sonic quality was a little compressed, the compression being introduced on a channel by channel basis without the PA being driven to its limits, but it was never unpleasant. In fact, the effects of the compression making the music seem louder, was very satisfying. Moreover, I didn't experience any threshold shift after the show.

#### Pink Floyd '89 World Tour: Sound Crew

FOH mix	Buford Jones, freelance
Monitors	Seth Goldman, freelance
FOH mix no.2	Larry Wallace, freelance
FOH mix no.3	Dave Lohr, MSI
FOH chief system tech	Steve Guest, MSI
Monitors technician	Micky Sturgeon, BRP
Quad	Steve Spencer, BRP
Quad	Ian Wilson, BRP
System Tech	Paul Giansante, MSI
System Tech	Geoff Scornavaca, MSI
System Tech	Jon Jewitt, MSI

# WHEN THE FIZZ WENT OUT OF FLASH

Lighting designer Tony Gottelier accompanied a party from British wholesalers Lighting Technology on a tour of GTE Sylvania's lamp making plant in Tienen, Belgium. Here he describes how a factory, originally intended to make flash cubes in what became a declining market, solved the problem by going for innovation with almost crusading zeal.

Karel Segers, the general manager of Sylvania's lamp manufacturing plant in Belgium, is a pragmatic man. He is also a man with a continual hunger for new ideas; indeed one gets the impression that a business lunch with him would be less than satisfying if it didn't yield at least half a dozen potential pearls. And if he couldn't find a napkin to note them on, he'd probably use his shirt cuffs to record the latest trawl.

Just the kind of man you need around when the frites are down, or as in this case, when it dawns on you that the market, which the factory was intended to serve, is slowly evaporating away. And this is precisely what happened in 1986, some 18 years after the plant first started production of photoflash lamps. Having made some 7,500 million of them, they found themselves with a product whose market was shrinking alarmingly at a rate of 15% each year.

Segers remembers well the moment when he knew that salvation was at hand, when he literally 'saw the light'. He was standing in one of those famous streets, like the Rue Faubourg St. Honore in Paris, or in the Koenigstrasse in Dusseldorf, or even Bond Street (though maybe not), looking in shop windows. He saw what some of the new boutiques were doing with the, then, new generation of miniature low voltage lamps. He immediately saw it for what it was, not just a technical innovation and a potential energy saver, but more than that, an item of fashion, a decor feature. "When I saw how many of these lamps the designers were using just to create an interior effect I knew instinctively that I was looking at the long sought-after successor to the Par 38, the most successful display spot of all time, and that our troubles were over."

All that remained was to spread the gospel and convert his colleagues, many of whom were sceptical, to say the least. And not such an easy task when your role is but a small cog in a vast machine, for Sylvania NV is a subsidiary of the American GTE Corporation, a multinational conglomerate employing 160,000 people worldwide, each of whom represents \$100,000 in annual turnover. In the UK they own a plant in Shipley, West Yorkshire and a few years ago acquired our leading manufacturer of display lighting fittings, Concord. This latter company fits neatly into this story as the progenitor of the Par 38 as a fashion lamp, at least in the UK, through their range of designer fittings which really set the bench mark for others to aspire from the early 70s.

The battle won, 1988 saw the first low-voltage halogen dichroics, or as Sylvania dubbed them Tru-Aim Professionals, rolling off the line, initially made almost entirely by hand. Sylvania NV operate a wise policy of minimising investment in capital plant until the product has proved itself in the market place, by the time I arrived on the scene, on the shirt tails of the guided tour for Lighting Technology, over 15 million dollars had been invested in an automatic production line.

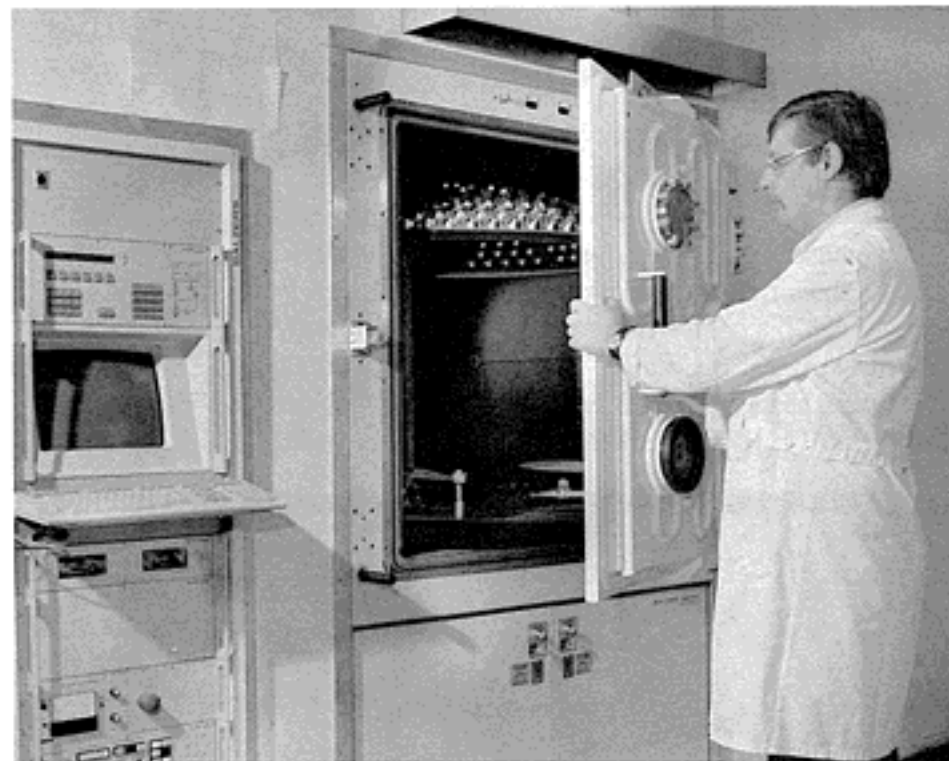
In simple terms, this process involves the exact placing of a tungsten filament onto the contact wire, which has previously been bent up by a precision manipulating machine, then the whole assembly is hermetically sealed into its glass envelope by regulated gas burners. After cooling, the capsule is placed in an automatic pump machine which inserts the halogen gas before sealing off the glass and drastically reducing the temperature with liquid nitrogen. Following an automatic test, the lamp is fitted to its glass reflector, which has already received its dichroic coatings in a Balzer's high vacuum processing system. Finally, an alignment test is carried out and minute adjustments made by hand.

The whole production line is under the watchful eye of Louis Hoeber, process and

patch or 'black hole'.

To solve these problems, GTE's designers conceived a lamp with a single coil filament mounted axially in a new dichroic reflector. Additionally they made a borosilicate front lens which serves a four-fold purpose. Its lenticles determine the beam width with a high degree of repeatability as to the accuracy, whether narrow spot, spot, medium flood or flood, in combination with the axial filament it ensures even light distribution, durability is improved due to the protection of the dichroic coating and there can be no risk to the public should a lamp shatter.

The net result is a range of lamps, both 50 and 35mm diameter, which require no special handling precautions, are accurately focused within the reflector, and whose beam distribution is very symmetrical with



The Balzers high vacuum chamber where the dichroic coatings are applied to the glass reflectors.

production manager, who so proudly showed us round his domain.

Indeed, one of the things which was so impressive about this whole visit was the immense and obvious pride which all these people take in their work and in the products they produce. Such care shows in the design of the Tru-Aim lamps themselves and in the attention to detail which has enabled them to build their own USP into the product.

It was observed, for example, that some other dichroic lamps suffered from a number of drawbacks. Firstly they are generally open at the front, which has implications for durability and safety - halogen lamps can explode. Secondly, as we have all seen with the Par 36, a symmetrical beam is desirable and preferably one without a central dark

no black holes. Also four dichroic colours are offered, obviating the need for added filters unless saturated colours are required.

I feel sure that Karel Segers would say, although his company is part of a US conglomerate, that this successful design has resulted, at least to some measure, not from the influence of the States, but from the Japanese style of management which he has imported into the plant. This system, which is designed to keep lines of communication as short as possible, sees designers, production engineers and product managers sharing offices in project teams, so that everyone on a particular product team knows what the other is up to. "They hear each others' telephone conversations," is the way Segers puts it.

It would be wrong to give the impression

# The Diffusion Solution

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Lee 216 (Full White) and Lee 251 (Quarter White) are the most popular diffusion filters. They enable subtle differences in light to be achieved, making a difference to the atmosphere

The soft light effect



## The Key

The key to Lee Filters is the company's swatchbook, redesigned to make it easier to use. Divided into three sections, the new swatchbook not only contains samples covering the entire scope of the Lee output, but also gives key technical information on each filter's performance characteristics. This enables the lighting director to make his choice based on accurate spectral analysis. The three sections of the book cover the HT polycarbonate

diffusion products. The diffusion selection offers two sets of products: regular grades, and diffusers manufactured to be flame retardant in accordance with BS3944. Polyester and polycarbonate

and rosy ambers lead on to magentas, salmons and pinks. Designed to enable lighting directors to select exactly the product they need, the new Lee swatchbook really is the pocket-sized key which unlocks the door to the world of filters.

Our boss, Eddie Ruffell, said: "They won't want to read all that - just show 'em a nice picture. It's worth a thousand words, you know." So we said: "What about this nice one of Eddie on holiday? It's got everything we need. Travel, glamour, sophistication."

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that it is a one product-line factory, as this would be far from the truth, for they have made standard incandescent lamps here since 1978 and at an average rate of 50 million each year. Furthermore, their innovative new lines go well beyond the halogen dichroics already described.

They recognised that there is a vast retrofit market for Par 38s with tens of thousands of ES display fittings out there. Some had tried to satisfy this market with screw-in transformer and lamp holder to accept the 12V dichroics. Perhaps a logical step for Sylvania too, after all they have a big investment in that new technology. But they saw this as a weak strategy and instead designed a Par 38, with a mains voltage halogen 75 or 100W capsule inside. And they are doing the same thing for the ISL spot by making a range of Par 30s, on a similar principle, which will clearly out perform, and directly replace the old RO80, for example.

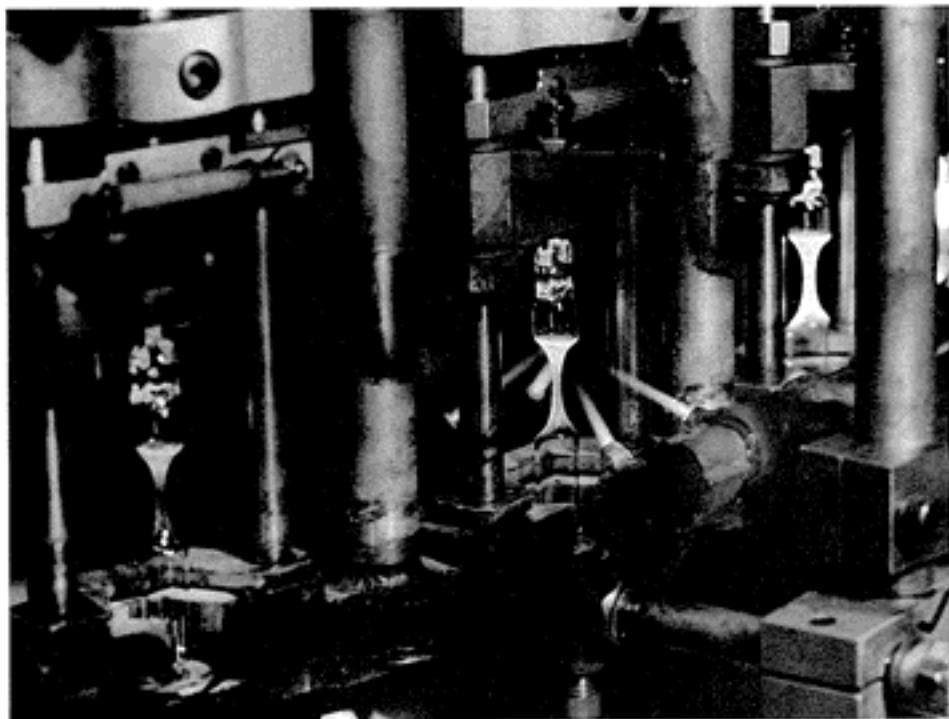
Sylvania NV also make a range of 12V 20 and 50W miniature spots with metal reflectors and a number of specials, including a lamp dedicated to museum use, having a dichroic UV filter in the place of the front lens, which has been thoroughly tested and accepted by the British Museum. Concurrently a major effort is aimed at the flood lighting market for high-intensity discharge lamps, including metal halide, mercury vapour and high-pressure sodium all of which require highly sophisticated production techniques.

I would hazard a guess that much of this innovation has come about because of a special products marketing team which Sylvania have set up and which works directly out of the factory. This arrangement is unique in my experience where, certainly for lighting designers, lamp manufacturers have proved impossible to communicate with at a sensible level, if at all. But these guys are not part of the regular sales force, they are a special task force who interface between the lamp designers and the lighting manufacturers who are the ultimate customers. Clearly, however, this is a two-way street and as much information is flowing back to the factory as is coming out of it. As a result, a close relationship exists between the special products marketing team and the factory management which I simply don't see elsewhere.

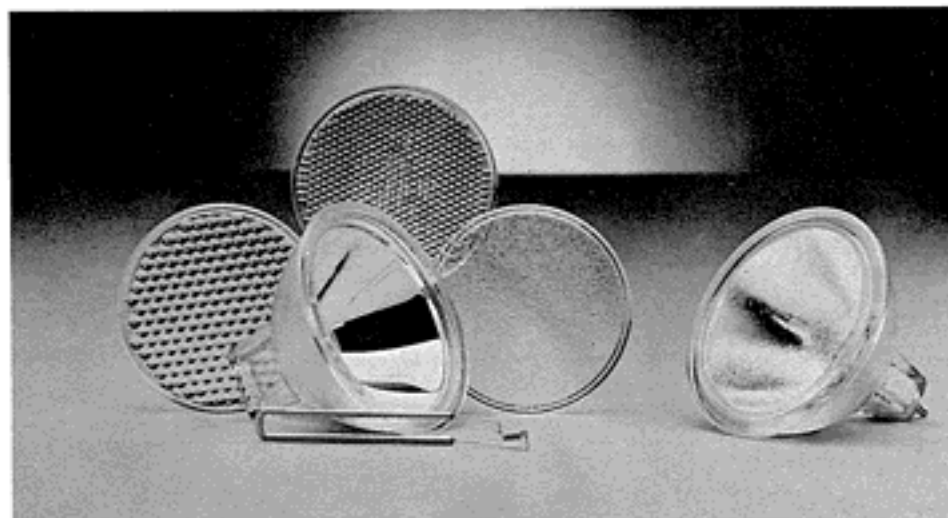
I hope other lamp manufacturers will take note of this set-up and, perhaps, implement similar arrangements. They should recognise the people in the front line of new development for a change, rather than just the people who buy and stock large quantities of lamps, for they are not the real customers. I, for one, will welcome the day when lamp manufacturers beat a path to my door, rather than the other way round.

One very definite result of this close relationship between sales and manufacturing is the digital electronic transformer which has been developed at Tienen and is now being offered by the special products team for OEM embodiment. This is a hare that everyone has been chasing for a long time, but Sylvania seem at last to have produced one that will actually do the business.

It has been recognised for some time that a major inhibition to the growth of the low voltage lighting market is the necessity for bulky and expensive wirewound transformers. Indeed, I can remember looking into this problem over 10 years ago, and since then things have moved forward considerably, especially with the development of new electronic components. However, a



Assembling the filament within the glass capsule.



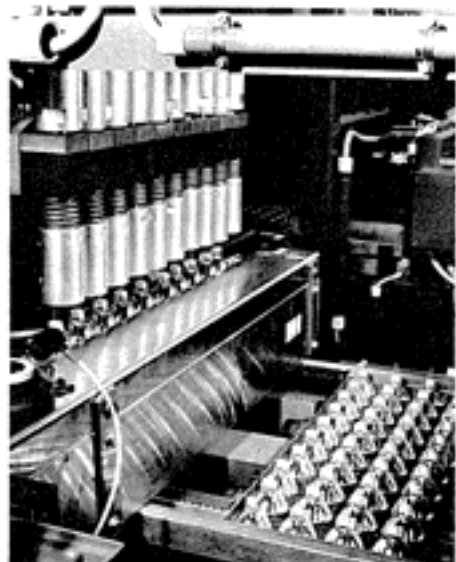
The Tru-Aim Professional lamp, with axial filament, dichroic reflector and front lenses alongside.



Precision alignment in progress.



Class of '89. David Morgan, Bev Bigham and Gary Nelson from Lighting Technology, along with Karel Segers, Louis Hoeben, Rocyn Williams, Guy Birchall and assorted others outside Sylvania's staff centre.



Lamps and reflectors bonded together.

measure of the difficulties encountered, is that while some electronic transformers have started to appear in the last three years or so, they have quickly acquired a poor performance record and none have emanated from the major lamp manufacturers, who really have the knowledge and resources to crack the problem.

Until now that is. Sylvania NV have developed what they claim is a fully reliable unit with an average life expectancy of 25,000 hours with less than 5% failure, provided certain reasonable heat conditions are met. This top secret device, only available for OEM encapsulation at present, enjoys a number of safety features including thermal protection and, potted in flame retardant

plastic, measures only 82x27x36mm, weighing in at 250g. Capable of dimming by VARIAC type devices, the transformer can control lamps of up to 65W.

This is the future now, and will no doubt be making an appearance at your neighbourhood Concord showroom soon.

Although the days of outmoded practices and traditional management techniques may long since be over in Tienen, old fashioned courtesy and hospitality are still in evidence in plenty, as Lighting Technology's senior staff with wives and girlfriends discovered during their visit. Added to a large helping of innovation and cutting-edge technology, it all made for a most absorbing and worthwhile visit.

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# FANTASY ISLAND?

Graham Walne calls on the Industry to wake up to the implications of having non-qualified staff in 1992.

It is 1992, and Hans Schmidt, a theatre electrician from Frankfurt, arrives at the Bruddersford Empire. He is there to be interviewed for the position of chief electrician, and as he waits for his turn, he chats to John Ramsbottom who also wants the job. John is confident, after all he is English, but Hans comes from a country where English is the second language, so he has no difficulties in communicating, and he has something John doesn't have - a qualification recognised and accepted in the UK now that the open market exists. The Board at Bruddersford give the job to Hans who has even used his qualification to push for a higher pay scale under a newly-negotiated agreement. Sadly, because John doesn't speak German, or French, or Spanish, he is reluctant to take advantage of the open market and try his luck abroad; he doesn't know that without a qualification, he is unlikely to obtain work anyway, and his future doesn't look good.

This little fantasy wasn't created by me; it was suggested by an experienced theatre professional. And I don't think it is fantasy. After all, British theatre has a reputation as the best in the world, so I can imagine many people wanting to work here. But what do you think? To help you decide, let me lay some facts before you (in each case the quotation is taken from an official document, so please see the end of the article for appropriate references).

In 1985, the heads of all the EEC governments signed the agreement which states 'Professional qualifications obtained in one EEC country will be acceptable in all other countries' (ref. 1). Even though the UK general election is drawing closer, we can reasonably assume that, since all the major UK parties are committed to Europe, the agreement will stay in place after the election. Furthermore, it has been stated that 'there is a body now sitting in the EEC to assess the links between our qualification structure and those in the rest of the EEC with the specific purpose of making them interchangeable' (ref. 2). So the rest of Europe is going ahead anyway.

Unfortunately, in this new Europe our industry starts way behind. For example in an NOP survey of theatre technicians carried out in 1984, over 50% had no qualifications at all (ref. 3), and the position generally does not seem to be improving. In a more recent poll of school leavers, nearly 50% had no qualifications although a survey of pupils in

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**Francis Reid** is normally a cheerful man, but when I asked him for his views on training he became gloomy and depressed. "In Britain all we seem to do is talk about it and cut the resources - anyone seriously wishing to study technical theatre should consider applying either to the Hong Kong Academy of Performing Arts or to the Canadian National Theatre School in Montreal."

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17 countries showed that British children were rated on their IQ's 'second only to Japanese students' (ref. 4).

But why do we need qualifications at all? Why can't we just carry on as we are? After all in theatre, an intensely practical occupation, the final test is whether the curtain went up. If it did, then all those involved in the process are deemed to have been able to do their jobs. But I can take you to major theatres where the chief electrician cannot work the lighting control, where other electricians cannot read plans, recognise colours or basic luminaires, where stage staff cannot run flats, throw cleat lines or find the OP side. Sadly these cases are not the exception as I found when I surveyed my own files after having lit shows in over 100 theatres around the UK. In 60% of the theatres I visited, the standard of the electrical staff was such that, in order to take the curtain up on time, I was obliged to simplify rigs or focusing and cut or simplify cues. More recently I have spoken to several lighting hire companies who tell me that more and more electricians are ordering mains supplies without any knowledge of phasing. (For those sceptics who have only wonderful crews, you've been lucky, so far).

Obviously matters such as phasing and loading are fundamental, and it is self-evident that all technicians should know at least the basic requirements of their job in order to do it safely. This is, after all, their own legal responsibility - each member of staff is specifically required 'to take reasonable care... of himself, and of other persons who may be affected by his acts or omissions'. It is also the responsibility of the employer who must provide by law 'training... to ensure... the health and safety at work of his employees.' (ref. 5). As readers will know, such training is almost non-existent, partially because inevitably the curtain goes up without it, and partially because no-one has ever laid down what constitutes basic safe working practices.

So I think we can accept that there is a need for some kind of system which can identify and provide for basic skills. Unfortunately, despite the fact that over 250 different bodies make some kind of award, we have no unified qualification structure in the UK. So to help us compete with those being established in Europe, the government has set up a scheme 'to achieve a coherent national framework for vocational qualifications (this is called National Vocational Qualification or NVQ), and it is expected (to) be in place and operating by 1991.' (ref. 6).

The promise (threat?) of such coordination tends to depress those who have always thought of the theatre more as a hobby than

as a career, and inevitably they will ask why do we have to go the government's NVQ route? If we don't like the NVQ idea, why don't we do something else or even wait until after the next election? But NVQ will not go away. Firstly the government has stated that 'all industries will be part of the NVQ scheme by 1992'. . . (ref. 7). So far there are no exceptions and we don't know what pressures Whitehall will bring to bear on recalcitrant industries. Some suspect an imposition of a structure dreamt up by a civil servant; I suspect a starving of funds. There may also be little point in waiting until after the election anyway, because the UK has a shortage of skilled labour and vocational training is one way of reducing unemployment, a policy to which all parties are committed. Significantly the NVQ scheme also has the support of the TUC (ref. 8).

But what is wrong with existing training? Let us return to the fantasy and re-write the script assuming that John knows all about the NVQ and the open market. If he wants to acquire a qualification, where does he go? There are over 50 courses in the arts and entertainment sector awarding diplomas, Btec and City and Guilds certificates, John could also have achieved a diploma in stage management from a drama school (some of which offer specialisms in electrics, carpentry or props etc); he could have obtained an electrician's City and Guilds certificate or a Btec diploma in lighting and production management, and similar courses cover sound recording and editing. His choice of course would have been influenced by the link between the qualification and its ability to attract a grant. Btec courses, for example, bring mandatory grants, most ordinary diploma courses don't. But he might have been lucky to have been offered a place at all; some stage management courses interview over 100 people for a handful of places. And if he had been applying for the position of head flyman at Bruddersford instead of electrician, he couldn't have found any training at all.

So existing training is not comprehensive and not uniformly recognised by the authorities. It covers largely pre-entry training and leaves the bulk of working technicians untouched - so what kind of training are they to have? The 1984 NOP survey identified that most people preferred 'on the job training backed up by specialised courses on new developments' (ref. 9). NVQ promises to meet this demand, because all NVQ training must be done and assessed in the

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Following a significant meeting in Bristol earlier this year the Association of Lighting Designers is now assembling a package of all training courses and their education officer **Nigel Morgan** clarified that this would apply "where lighting design occurs as an assessed component". This will form a useful database for the many enquiries organisations receive on 'where can I train to be a lighting designer?' The ALD will eventually make guidelines available to all courses on how it feels such training should proceed. The Association's overall aim, is to achieve 'a more defined career structure'.

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**ABTT** chairman **John Faulkner** said: "The ABTT's position on training hasn't really changed since you spoke to Richard York about this in 1987. We have been continuing Richard's excellent work on restructuring the Association, but we are not yet in a position to do more than occasional courses such as 'Management of Technicians' which we hope to repeat at the Arts Council's 'Arts Sans Frontiers' Conference in Glasgow. We are as concerned as ever about training but we no longer have the resources that we did. We do however welcome other training initiatives. In particular the advent of NVQ should be a stimulus to theatre managements to take their proper part in training."

**Tony Kingsley**, vice chairman of **PLASA**, confirmed that PLASA was "interested in sponsoring seminars for its member companies and other interested parties" . . . the organisation has of course already run a successful legal seminar (to be repeated this autumn) and is now planning business related sessions and investigating sound training. He continued: "PLASA sees NVQ as being of benefit . . . (so that) the users of equipment supplied will be trained to operate the equipment professionally and safely . . . PLASA will support any proposed training body set up for the users of equipment . . . but would not enter into any financial commitment in this area . . . having the view that (this) should be funded from other sources . . . perhaps partly from the wealthier companies." However: "PLASA does not see the 1992 open market as having any vast impact on its members, many of whom are dealing relatively freely in Europe as it is. But . . . non-restrictive tendering will both increase opportunities and competition, and the implications of banning sole agencies in the EEC will affect many members."

workplace, hence it must be very practical, ideal for theatre. This suggests that heads of department will become much involved, again a requirement identified in the NOP survey which targetted major touring companies, repertoire houses and large regional theatres as ideal centres of learning. Interestingly, all of these fall in my own survey's 40% 'good' category.

There will thus be much growth in the training industry and with this in mind, leading organisations working with the NVQ Council will soon begin to identify what training provision currently exists, which, of course, will provide a clear indication of where the gaps lie. These leading organisations will then invite colleges, theatres, individuals and organisations to fill in the gaps. (I predict a big growth in training videos, a successful method adopted by many other industries).

Despite the fact that NVQ is concerned mostly with re-training rather than pre-entry training, NVQ will cover these courses too, because it is vital that people coming into the profession meet the desired standards, therefore existing pre-entry courses need to take note of NVQ. In fact, the government has stated that the NVQ Council 'is responsible for facilitating progression from school to vocational education' (ref. 10). Indeed, it is in the interest of existing courses to take note of NVQ because it is expected that vocational courses will carry mandatory grants, not currently a feature of many diploma courses.

The first step towards NVQ is for each industry to establish a leading organisation which can speak for it in the specific matter of training and qualifications. This organisation then coordinates the responses of people actually working in the industry in an identification of the basic requirements needed to carry out the different jobs involved.

These leading organisations (called Industry Lead Bodies - see references for their addresses) are merely conduits through which the industry can feed whatever basic requirements it wishes. It is the ordinary people in the industry that identify what they need, not the official body. That is there merely to ensure that the basic requirements can be taught and assessed. Most likely, the basic requirements will be taught in units so that people can take options and add extra qualifications as time goes by. For example, most flymen would probably opt for units in both counterweight and hemp but exclude powered which could be the subject of extra training and earn a separate qualification.

Similarly, for electricians, there might be training in board operating, rigging and maintenance with extra training in scheduling and lighting leading to levels of deputy and chief. Whatever happens it is up to the industry itself to decide what basic requirements it wants at different levels. Here and there local variations might apply - technicians at the National Theatre for example need to be able to operate fork-lift trucks!

NVQ will initially operate at four levels (further levels relating to degree courses are planned) with level 1 relating to broad and basic skills rising to level 4, which involves complex and problem-solving tasks often associated with heads of department (see reference 11). Another feature is that each unit can take a long or a short time to learn, hence much can be achieved in short courses - a particularly useful feature both for the many pro-am people on whom much of the industry depends, and for those seeking re-training. Indeed, existing pre-entry colleges might be wise to develop further basic short courses because in the 1984 NOP survey, over 50% of those technicians interviewed felt that 'basic technical skills should be learned before arriving at the theatre.' Unlike traditional education NVQ places no time requirements on its processes, and assessment is simple. Can the person do the job or not?

Such fundamental appraisals can only be beneficial, but NVQ might bring other benefits in its wake. Theatre people are among the worst paid in the whole country with average wages way below the national basic skilled wage. Unions and managements have been having discussions for some time about creating higher pay scales for qualified people. But here we go back to square one again. Until there are qualifications, how can higher pay scales be created?

Despite the considerable promises of NVQ, the process has already attracted its critics even before it has been given a chance to prove itself. Some people want action, not talk, they want training, not committees. Others say education is preferable to training and that the whole basis of the scheme is therefore flawed. Other critics suggest that the whole scheme will flounder because grants will not be forthcoming. Still others suggest that once identified the basic requirements will be all that staff desire to attain.

I will take each of these points in turn. Firstly, the existence of NVQ does not prevent anyone from starting or extending their own courses, but if we are to train people to a standard that we all understand, we first need to discuss what that standard is to be, otherwise anarchy will prevail. The majority of people interviewed in the 1984 NOP survey specifically called for 'some form of national training initiative. . . and some standardisation of skills.'

With respect to the training versus education argument, I think that with so little training or education in the industry any attempt to improve either must be welcome. In the end we are talking, not of labels, but simply of imparting knowledge and skill so that people can see themselves being better off as they learn more, be more efficient in their work and obtain more job satisfaction. Sadly, some people, who have not been able to enjoy higher education, appear bent on denying the experience to others who come after them. This view appears to be identified with the older generation: in the 1984 NOP

## LEADING ORGANISATIONS

Readers will be aware that some leading organisations already exist, and the first to be created in this industry is called the Arts and Entertainment Technical Training Initiative (AETTI for short). It is about to begin the process of identifying the basic requirements. The AETTI is specifically responsible for this research in the technical sector of the live entertainment industry, including discos, nightclubs and trade shows, as well as traditional theatre. There is another organisation concerned with professional sound, the Training Initiative for Professional Sound (called TIPS), and another body is being set up for independent video production. Each organisation is currently identifying its precise area of responsibility and some overlap is essential. The organisations will therefore be meeting soon to identify where these occur and for further information please contact:

survey, the majority of 25-34 year olds were 'interested in national standards. . . not scared of exams (and considering) acquiring fuller qualifications.' Significantly, unlike traditional educational progression NVQ training does not 'specify a particular programme of learning or period of time as prerequisites to attainment.' (ref. 12). Hence, NVQ training is open to all, unlike most higher education establishments which require a qualification before accepting students.

The funding question misses the point of NVQ because the process is designed not to depend totally on government support, but on sharing with the industry itself, and if the industry is not prepared to support its own training why should anyone else? But there is hope. Back to the NOP survey again, we find 55% of managements thought the theatre itself should pay for any course fees incurred by its staff (65% of the staff thought so too). Furthermore, the NVQ council has stated that 'appropriate resources should be allocated to achievement of (NVQ) objectives and the steps taken to implement them.' (ref. 13).

Finally, the question arises as to how basic the basic requirements are to be. Well, that is up to the industry to decide. Hopefully it will set minimum levels way above the current average standards of skill; it must surely be the minimum for electricians to be able to read plans and operate lighting controls. I am hoping that if we can achieve at least that, then at some point in the future a new survey of those 100 theatres of mine will produce far better results - and with that improvement maybe so can I. Or is that just fantasy?

## Contacts:

### AETTI

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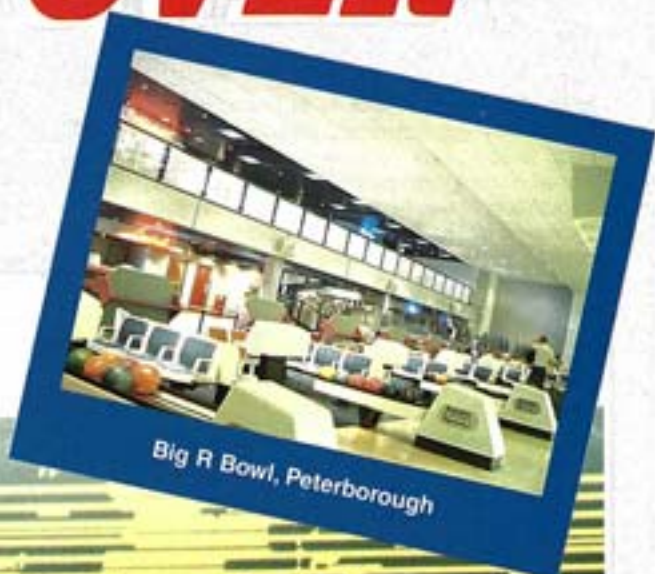
### TIPS

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Wednesbury, Sandwell WS10 0PE.

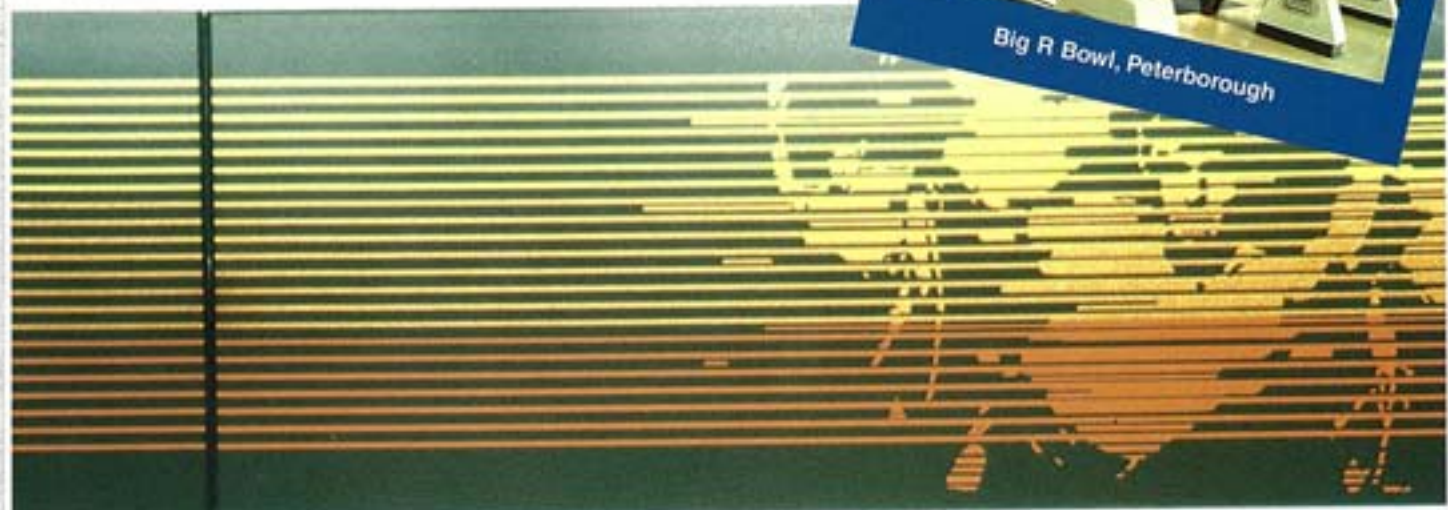
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13. see 3.

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# LOW VOLTAGE BEAMS

Francis Reid considers their Past, Present and Future

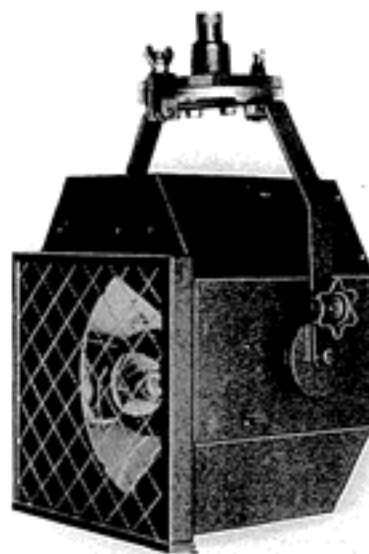
In my 75th birthday tribute to Strand in last month's L+S, I welcomed their decision to take Britain into low voltage beamlight manufacturing. However, the promotional information about beamlights which has just appeared in *The Strandbook* suggests to me that there may be need for some clarification about the use of this type of light. To anyone unfamiliar with low voltage beamlights (marketed by Strand as Beamlites) and seeking guidance as to why they should buy them, *Strandbook* offers the following advice:

**The new Beamlites with their integral transformers mounted axially to the lamp, make neat, compact units, producing a 5 degree beam spread of very high intensity to create dramatic lighting effects over very long throws. Low voltage Beamlights are widely used in continental Europe for general lighting, and are now finding increasing favour with UK lighting designers.**

Now there is nothing actually false in this statement but its selectivity could possibly mislead newcomers to this type of equipment. The economy of words necessary in writing catalogue copy requires care in choice of priorities and it is questionable whether long throw performance is the prime selling point of these lights. This is particularly so if a 5 degree cone is the nearest that pricing constraints will allow us to approach a truly parallel beam.

A beamlight is distinguished from all types of lens spotlight in that the light beam from a parabolic reflector is parallel rather than conical. A perfect beamlight would have zero beam angle and would therefore light the same area irrespective of throw. This is what has long endeared it to central European theatres as a discreet follow spot. The beam from a standard sized reflector is just about the right diameter for head to waist, with just the right softening off towards the edges. It maintains this size as the throw changes useful for all the following, but particularly so for following from backstage positions when the throw can double during an actor's diagonal walk. Absence of lenses makes for an easily balanced unit, particularly if the transformer is mounted externally. Absence of lenses also helps to maintain light output from a low voltage lamp.

Since a narrow beam is produced without the light losses inherent in a complex lens system, the beamlight becomes an attractive proposition for long throws. Therefore in huge theatres, beamlights can find themselves used as substitutes for more con-



**Typical Central European Parabolspiegel Scheinwerfer (240v, 500w Beamlight with integral transformer) as used for more than 40 years.**

ventional instruments for backlighting, side lighting and even frontal bash.

However, most of the excitement of beamlights comes from uses not specifically associated with long throws. My own love affair with low voltage beams dates from seeing them in action in German opera houses in the 1950s and using them extensively myself at Glyndebourne throughout most of the 1960s.

The bright incisive concentrated beam made the beamlight a prominent feature of post-war central European stage lighting, particularly in the east. It is an instrument which lends itself to a style based on high contrast directional lighting of the scenery from a relatively small number of sources, with the actors being separately covered by follow spots from a series of appropriate angles, both front of house and on stage.

With sensitive operators, such a lighting style can be, not only visually dramatic, but also appropriate in lighting management terms for a daily changing repertoire so large that extended gaps between performances can lead to singers being less than precise in taking up their stage positions.

Parallel beams do not easily lend themselves to the precisely defined lighting of acting areas. However, a series of beams can be butt joined to light an area with a sweep that can have more visual credibility than a single cone. Parallel beams, especially intense ones, tend to pick up any particles in

the air and this helps to give the light a bite.

For most of the 1960s, I had 24V beamlights in my standard Glyndebourne rig: 500 watts from side auditorium slots close to the stage and 250 watts from the downstage booms. These were Reich & Vogel with a silvered lamp screwed through the centre of the parabolic reflector and no spillings. Their transformer weight made them uncomfortable to rig, but once in position they were finely balanced for an easy twice daily focus. And beamlight focus is fast because, apart from pan and tilt, the only adjustment is a lamp centring knob to remove any central black hole. As a repertoire unit they could produce intense directional white swathes when working with the Germans, or the gentler, more colourful, although still highly directional light favoured by the Italians. Checked well down and colour corrected, they could even supply a bit of fill in the occasional production that just called for soft discretion.



**Strand Lighting's newly introduced Beamlite 500 (24v, 500w with integral toroidal transformer).**

Although an ideal beamlight would emit a pure parallel beam, design and manufacturing problems (particularly the production of a perfect parabolic reflector at a price that we would be prepared to afford) usually mean that the beam will emerge with some conical tendency. There will therefore, be a certain amount of beam spread, but as this is but a few degrees, it only becomes significant on really long throws. Alas it is beam quality which tends to suffer and the extent is unlikely to be acceptable unless the desired effect is that of a splodge gobo.

In general I personally would rarely wish to use a beamlight (with the possible exception of a precision model purposely made for follow spotting) on any throw much longer than that on which I would use a parcan. Indeed, parcans are a member of the beamlight family and when they first appeared, I immediately embraced them as downmarket beamlights. So with low voltage beamlights now available in Britain as an indigenous species rather than just an import, perhaps newcomers to this source might find it useful to think of them as up-market parcans with a more biting, incisive, smoother and symmetrical oomph.

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# SOUND AMONGST THE SKITTLES

Ben Duncan visits Big R Bowl in Peterborough, an up-market Bowling Alley. It's a Big R Leisure production, with sound installation by Avitec.



Big R Bowl: The view from the bowling lanes of the asymmetric lighting reflectors designed by Big R's project manager Richard Dixon.

In April this year, **Big R Leisure's** Richard Dixon offered **Avitec** the opportunity to quote for a sound system for an upmarket bowling alley, to be built next door to **Rollers** (another creation by Big R - see L+SI January 1989) in Peterborough. Avitec had previously supplied the massive lighting rig for **Rollers**, but this would be their first sound installation for Big R. The bowling alley was scheduled to open in July, and was to have 20 lanes and four sound zones. These were to cover 'back stage' (for the man minding the pin setters), the bowling area, the under-balcony 'circulating' area, and the restaurant and bar upstairs.

When Richard Dixon explained that he wanted an individually assignable mic-override as well as preset music SLPs on each of the four zones, Avitec's Tony Kingsley didn't know whether to run or not - as no such unit was commercially available for stereo operation. Moreover, the time scale and budget ruled out custom construction.

After consulting Tony Cockell at Formula Sound, Tony Kingsley discovered he could use their **Guardian CX4**. This unit is principally designed to clamp excessive sound levels, while offering override facilities to aid the emergency evacuation of pubs 'n' nightclubs. The system's mixer output was duly routed out to four CX4s in parallel, to feed each zone. A direct output was then taken from the mixer's mic amp to feed on the CX4s. En route, the announcement zones were split

out from a 'custom zoning' switch panel at the control desk. Music is derived from a Teac PD-500M 6 disc 'random play' CD autochanger, and a cassette deck, sourced by Big R from another venue. The video in the club bar is also routed through the sound system.

Each zone's stereo music output is sent through  $\frac{1}{2}$  octave graphic EQ before reaching 2 (or 3) **C-Audio RA 1000s** all driven full range. The RA 1000 is from C-Audio's new, low profile series, producing 160W/ohm into 8 ohms. The Pinset Area is the sole exception. Since the operator wanted announcements rather than quality music reproduction, **Dynacord** 100V line public address horns were specified. Even so, music is available in this zone. This zone didn't need a graphic EQ either. With an Ivie (SPL meter) sat between the pin setters, I recorded 'C' weighted SPLs averaging 100dB, or around 106dB peak. It was interesting to see how quickly the thudding din of over a hundred skittles rolls off(!) above 4kHz. The sound of the wood is mostly lodged in the 500Hz to 2kHz region, with the machinery contributing a little noise higher up. In an effort to contain the noise and lessen reverberation, the wall behind the pin setters has been sprayed with a sound absorbing material, and there's a layer of fibreglass in the false ceiling. Overall, announcements were intelligible, in spite of an ambient racket that's reminiscent of Kings Cross at its busiest.

**Big R Bowl's** interior design reflects Big R Leisure's penchant for detail. They were determined to give the venue the warmth and glitz of a nightclub, to balance the clinical feel of the necessarily ultra bright and even, diffuse lighting needed for the bowling area. The high efficiency lighting was designed by Richard Dixon, Big R's project manager. His pragmatic approach was to specify asymmetric mirror reflectors set behind a continuous span of 20 six feet fluorescent tubes. The reflectors, designed with the aid of a PC, are positioned to project the majority of the light forwards; glare is anathema to bowlers.

There's a row of tubes behind each 'sawtooth' (successive step-downs in the ceiling as it slopes towards the pin setters), each projecting around 80% of their light forwards, resulting in a gentle gradation in light from 400 lux (at the bowling position) up to about 600 lux at the pinsetters, as the ceiling becomes lower. Looking towards these from the bowling position, the 'luminosity' seems almost constant.

Proud of his design, Richard pointed out that the diffuse light in most bowling alleys hitherto has been achieved by bouncing light off the ceiling. But ceilings go brown and grey with time, and most aren't so easy to clean, especially with those delicate bowling surfaces below! With his scheme, the maintenance of high quality illumination rested mainly on the reflector's cleanliness,

## Interior Style at Big R Bowl





with the white ceiling only playing a secondary role. Richard was well primed for my devil's advocacy, namely 'How good will this lighting be in a year or two?': he'd already planned a regular cleaning programme! Lighting in the remainder of the venue follows Big R's nightclub pattern. In the circulating area, diffuse downlights give a 'department store' feel in the daytime. At night, low energy spots with dichroic filters create a colourful atmosphere, picking out the fluorescent yarn in the carpet. Upstairs, above the Magna-Grid, HQI downlights and fluorescent tubes give good ambient lighting in the daytime. At night, these are succeeded by UV tubes to 'lift the carpet'.

#### Secrets of Speakeasy

The 22 Ramsa WS-A70E speakers selected for the venue were spotted and auditioned by Big R's project manager Richard Dixon in Avitec's showroom. Ten cover the bowling area from the balcony, seven are upstairs in the restaurant and bar, and five in the downstairs circulating area. To a great extent, they account for the highly acceptable sonic quality, despite the system's cheerful simplicity. They warrant a more in-depth look at the technology employed. Casting an eye over the data sheet, they contain an 8" LF driver and a 'TB' constant-directivity horn. 'TB' stands for 'Twin Bessel'. Sounds like hype? Well, Bessel is a mathematical function, most commonly encountered in active crossovers, where a Bessel slope gives a slightly 'soggier' response than the usual Butterworth or Linkwitz-Riley, but also much lower group delay, or 'rate-of-change of phase shift'. In this instance though, 'Twin Bessel' is a description of the horn flare, a curvature researched by Ramsa to bring about equal dispersion in both planes.

Ramsa have developed the horn's constant directivity characteristic so it works fairly equally in both planes, eg. h and v. This should mean that dispersion is predictable over a wide range of frequencies irrespective of the mounting plane. Peering at Ramsa's finely sculpted polar plots (a magnifying glass helps), the levels at the measurement frequencies certainly begin flat within +/-2dB or so for both planes at 30°, and all but two (unspecified) frequencies maintain this performance up to 70°. Impressive.

Moving on to the voice coils, everyday US and UK ones are rated at around 210°C to 240°C. Somehow Ramsa have managed to push the rating of the voice coils used in both the LF and the HF sections of the A70s up to 300°C. The outcome is an unexpectedly high power handling: the A70s are rated at 160W programme and up to 400W assuming an uncompressed signal eg. CD. But let's not forget that while added 'survivability' undoubtedly results, programme at these levels will be highly compressed, since the laws of physics dictate that high temperatures increase the voice coil's resistance. Furthermore, the enclosure contains passive protection. In Tony Kingsley's experience, it's the only cabinet in its class where the protection is truly effective.

The WS-A70Es most unusual feature is passive loudness compensation. Possibly inspired by Greystone's *Inflexor* (a UK design), the compensation provided is much more basic. It amounts to -3dB reduction in output centred on 7kHz for drive levels over 100 watts. The treble cut reduces with decreasing power input, with the response returning to normal below 1 watt. Simple, but effective, the dynamic equalisation seems to account for the relative ease of



A close-up of a Ramsa cluster.



Richard Dixon (left) with Gerald Krawczyk (general manager) and Jane Hall (duty manager) at Big R Bowl.



The sound rack (left) and the custom-zoning switch panel and microphone in the control areas at Big R.



conversing in the venue when the music was cranked up to 95dB(C) SPL.

Total cost of the project was around £2 million, with Avitec's portion of the budget taking up a paltry £15K. Richard Dixon considers this to be an exceptional price considering the uniformly high standard of fitment.

Avitec Electronics (UK) Ltd. 80/81 Walsworth Road, Hitchin, Herts SG4 9SX.  
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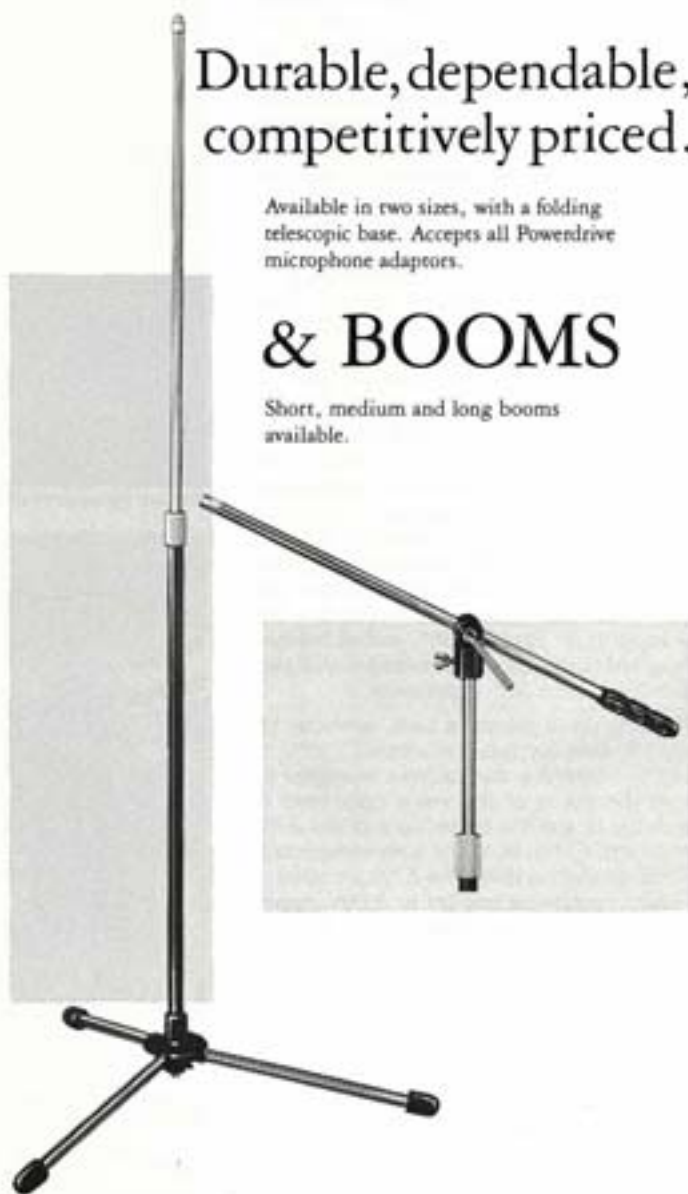
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# DMX 512 for Automated Lighting?

Alan McGregor, Vari-Lite programmer and lighting designer discusses the use of USITT DMX 512 as a communications protocol for automated lighting systems

Over the past few months, there has been considerable debate at various trade shows and in the industry media over the use of USITT DMX 512 as a communications protocol for controlling automated lighting systems. The debate seems to have centred around how to arrange the data fields within the DMX format, although there seems to be some question as to whether DMX is at all suited to the task in the first place.

## Design of USITT DMX 512

USITT DMX 512 digital communications protocol consists of a series of frames made up of a reset code, an 8 bit start code followed by up to 512 8 bit dimmer levels. The data transmission rate is 250 kBits per second giving a worst case refresh rate of approximately 44Hz.

## Complexity of Automated Lighting Systems

Over the last two years, we have seen the complexity of automated lighting systems advance in leaps and bounds. We can now expect to see something in the region of 360 degrees of pan, 270 degrees of tilt, up to 'infinite' colours, a dozen gobos, continuously variable intensity and beam size, often with shutters and edge controls as well. This may seem a bit optimistic, but Vari-Lites already do it and no doubt others will soon follow.

## Standardisation of Control

There appears to be a move towards a standardisation of communications protocol for such automated lighting systems. This would, in theory, allow any lighting system to be used with any control system.

## Information Fields

Before proceeding any further we must first look at how the necessary information required for an automated lighting system can be tailored to fit within the DMX 512 standard.

## Required Information

Let us take a look at the information required for a typical top of the line automated lighting system.

Field	Resolution Required	Bits	Bytes	Notes
Pan	720	10	2	1/2 deg. is 2" over 20' - necessary for smooth tracking
Tilt	720	10	2	
Colour	4096	12	2	required for 'continuously variable' colour
Intensity	256	8	1	
Beam Size	256	8	1	
Gobo	16	4	1	
Edge	256	8	1	or a diffuser or . . .
Total			10	bytes per instrument

The number of bits required has to be rounded up to a whole number of 8-bit bytes otherwise a given control channel will control more than one function, and a function could start to be controlled at the top of one channel and 'overlap' onto the bottom of another. This is obviously completely impractical.

This means that a total of 10 bytes is required for each instrument. Therefore, a single DMX 512 line could control up to 51 instruments. Clearly, this is nowhere near sufficient for a communications protocol. The protocol should be able to handle at least 200 instruments, as many trade shows and tours use more than 50 instruments, with a significant number using more than 100.

## Refresh rates and Multiple frames and lines

One solution to the problem of being able to con-

trol enough instruments would be to use several start codes and send multiple frames of DMX 512 information. This would require  $200 \times 10 = 2000$  bytes, or nearly four full frames of information. The worst case refresh rate would therefore be cut from approximately 44Hz to around 11Hz. Obviously, this is completely unacceptable as it is considerably less than the flash rate detectable by the naked eye, never mind the time taken for the desk to process a change and for the instruments to respond to the new information. Basically, the single frame refresh rate is already about as slow as one would wish to get.

A possible alternative solution would be to use four parallel DMX 512 lines. This would work quite well, although synchronisation between the lines would have to be religiously maintained. It should also be pointed out at this stage, that we are now talking about a desk with 2,000 control channels if we assume we want to use a conventional style lighting desk to control the system.

## Data Compression

Alternatively, a data compression technique could be used. If an additional byte is added to the instruments information, this could be used as an instrument address. Thus, only the instruments that have had their parameters changed would have any new information sent. This however, leads to another set of problems. The worst case scenario has actually got worse, as we now have an extra 200 bytes to send. Also, a conventional lighting desk could not be used unless an external piece of electronics was added to detect which instruments had had their parameters changed and which had not. When one looks at the communications between the desk and this 'black box' it becomes apparent that we are back to square one!

## Error Detection

DMX 512 has no error protection built into it. If a dimmer level is corrupted in one frame, the delay caused by the dimmer response time and the heat up time of the bulb, regardless of the eye response, will mean that this is not noticeable. However, with an automated light this could cause stroboscopic effects with a shutter or serious mechanical wear and tear if it causes a pan or tilt motor to 'jitter'. It is also worth noting that the user is trusting his/her whole lighting system to one flimsy bit of cable. A system should have two independent sets of isolated line drivers, cable runs and isolated line receivers, preferably with an auto-detecting system on the receivers.

## Desk Design

The adoption of a single communications protocol for both conventional lighting desks and automated lighting desks will lead the user to expect to be able to use any desk with any lighting system. We should look quite carefully to see if this is conceptually sound and, even, if it is practical.

## Design of a conventional desk

A conventional lighting desk is designed to control a large number of dimmer levels, and to allow the user to change either smoothly or rapidly between one fixed scene and another. To allow easier programming and the ability to 'bump' a show, a lighting desk usually allows the user an easy way to directly affect a given dimmer level, and to build scenes from building blocks made up of sub-cues.

## Design of an automated lighting desk

An automated lighting desk should be designed to control all the facilities of a large number of automated lights, and to allow the user to change smoothly or rapidly between one fixed scene or

sequence and another as regards the continuously variable facilities, and to bump between the other facilities. To allow easier programming and the ability to 'bump' a show, a desk should offer the user an easy way to select a number of instruments and then alter a given facility.

This alteration should be incremental for continuous facilities (eg. pan all the back truss instruments through 5 degrees from the current position) and to discrete levels for discrete facilities (eg. and bump them all to gobo 6 whatever gobo they were in before). There should also exist the facility to specify or manually control the rate of change between two scenes for continuous facilities while discrete facilities bump directly (eg. bumping from cue 1 to cue 2 would cause a four second movement from A to B and a bump from gobo 1 to gobo 2).

## The differences

The major difference between operating a conventional lighting desk and an automated lighting desk is that the user is working to another level. On a conventional desk the user selects a group of dimmers to alter, but on an automated lighting desk the user selects a group of instruments to alter, and then the facility to be altered. This is analogous to selecting lights on a theatre board and then deciding whether to alter the timing or the level. It should, however, be noted that the timing facilities are also required on an automated lighting desk.

It is very difficult to compare an automated lighting desk to a conventional desk because some features have no comparable concept on the other. For example, if the user is performing a manual movement cross-fade he/she has to be able to hit a button at some time to tell the instruments when to bump between different discreet facilities, assuming the two cues have different discrete facilities as well as the movement changes.

## Other Protocols

There has also been some discussion regarding adopting some other communications protocol to use with automated lighting systems. We should therefore take a look at some other protocols.

## Series 100 Vari-Lite

This protocol was designed specifically to fit the facilities of the Mark 1 Vari-Lite. It therefore does not carry enough information fields at sufficient resolution for the newer systems, and is also limited in the number of instruments it can handle.

## Series 200 Vari-Lite

This protocol has been designed the way a protocol should be designed. It is very fast, bi-directional, and has serious error detection. There are, however, two major problems if this is to be adopted as a standard. Firstly, it only carries mastering information as far as cues are concerned. The actual cue data is stored in the instruments themselves. Secondly, I doubt Vari-Lite would be too happy about making it public knowledge anyway.

## MIDI

This offers some interesting possibilities and is already used by some laser systems and I believe by Color-Rays. It opens up the prospect of direct MIDI triggering and using keyboards as lighting desks. However, MIDI is not my speciality, so I cannot pass judgement.

## Summary

There are actually two questions we are trying to answer here. Firstly, is DMX 512 a practical com-

continued on page 48



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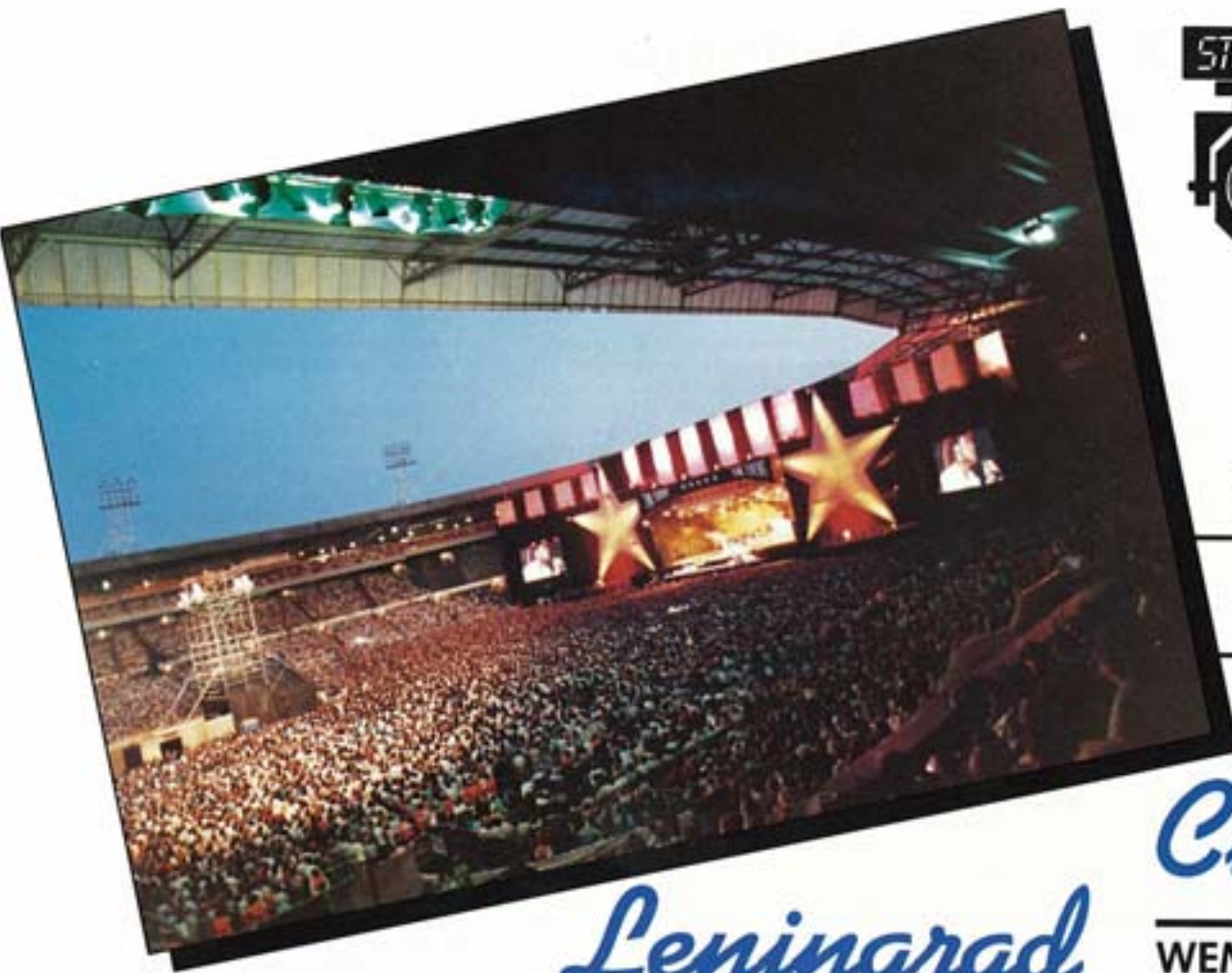
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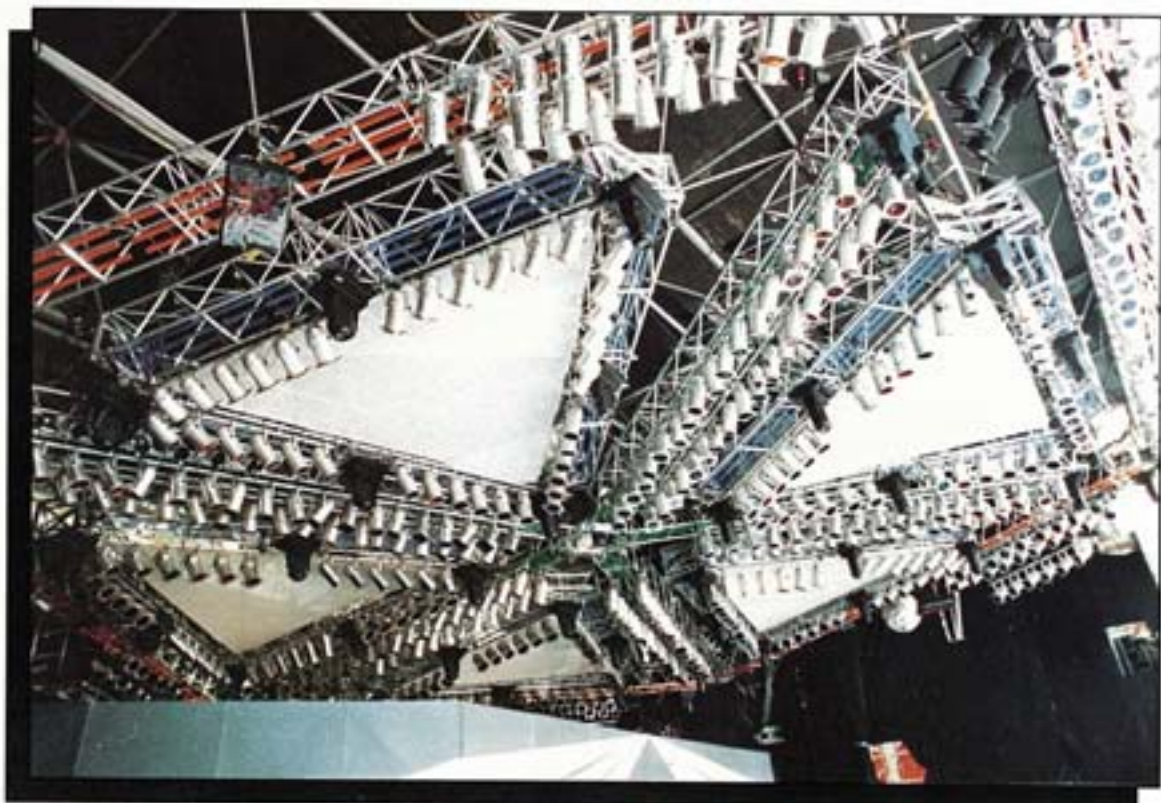
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# BOOKS

## The Strandbook

Published by Strand Lighting  
Price £3.50

Collect your copy of The Strandbook from Stand F133 at the PLASA Light & Sound Show, Olympia 2. London Sept 10-13.

One of my treasured possessions is an edition of Strand Electric's 'Lighting for Entertainment', a compilation catalogue of all that was best in 1963/64, when the CD control was still king and the 263 was the latest lantern (somehow a much more appropriate word for it than 'luminaire'). Over the years the company has made many changes, not least of which to its name (now happily back as Strand which is what we've always called it anyway), and many of these changes have been catalogued in the company's other compilations over the years.

Today none of the people who steered Strand through its early growth years are still connected with the company, indeed I doubt that more than a handful of people responsible for the products of 63/64 are still Strand employees. Interesting then that the company has retained a sense of continuity with a totally new team and totally new products. 'The Strandbook - 75 Years of Brilliance' is not only a catalogue of these products, but also a celebration of the company's successes worldwide. There are lavish colour photographs of key installations both past and present. Curiously, however, Strand's version of their history does not quite line up with the view expressed by Francis Reid in his article entitled 'Strand at 75' which appeared in the July issue of *Lighting and Sound International*. Naughty, naughty Strand - the IDMMSR was not the world's first memory lighting control! Elsewhere in this issue, Mr Reid expands on Strand's description of low voltage



Beamlights: 'widely used in continental Europe for general lighting' on 5 degrees beam spread?

For most of its life Strand has served many markets in addition to the theatre, and until recently each market enjoyed its own brochure. However, a few years ago, the company began combining information on its film, television, architectural and theatre lighting onto single spreadsheets and The Strandbook is a 96 page comprehensive and detailed version of those spreadsheets, so that all markets are now served by this single volume catalogue.

I think this format prompts a few questions. Firstly, the fact that this edition is expensive to produce presumably means that it will not be updated until next year; so what happens about new product? Is that only to be launch-

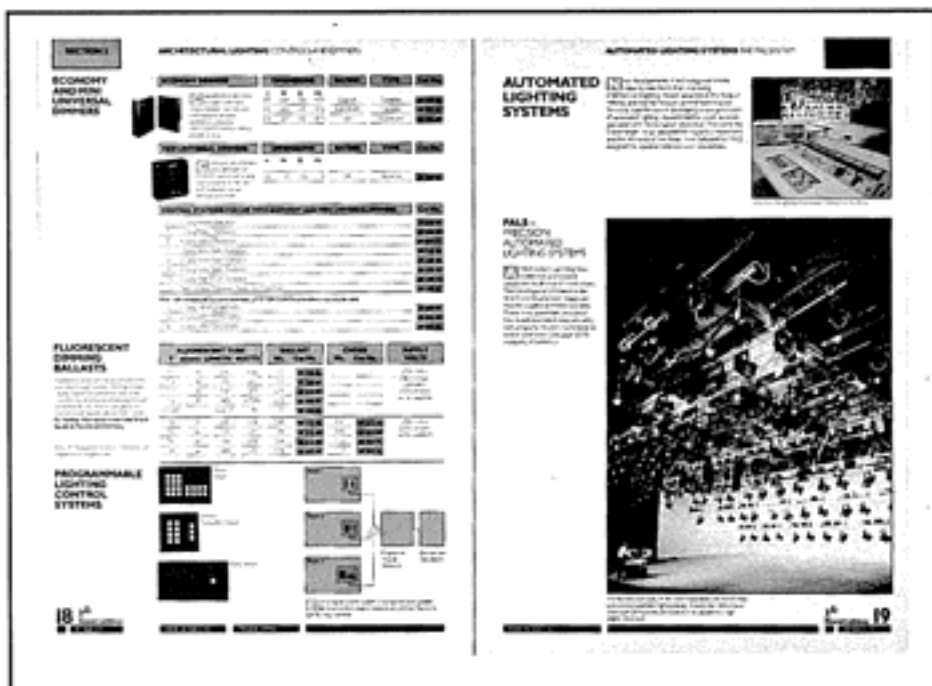
ed in conjunction with a new Strandbook? If not, then special edition leaflets will be necessary. Curiously too, data sheets are still available for many of the products although I would have thought that they add little to the extensive information included here.

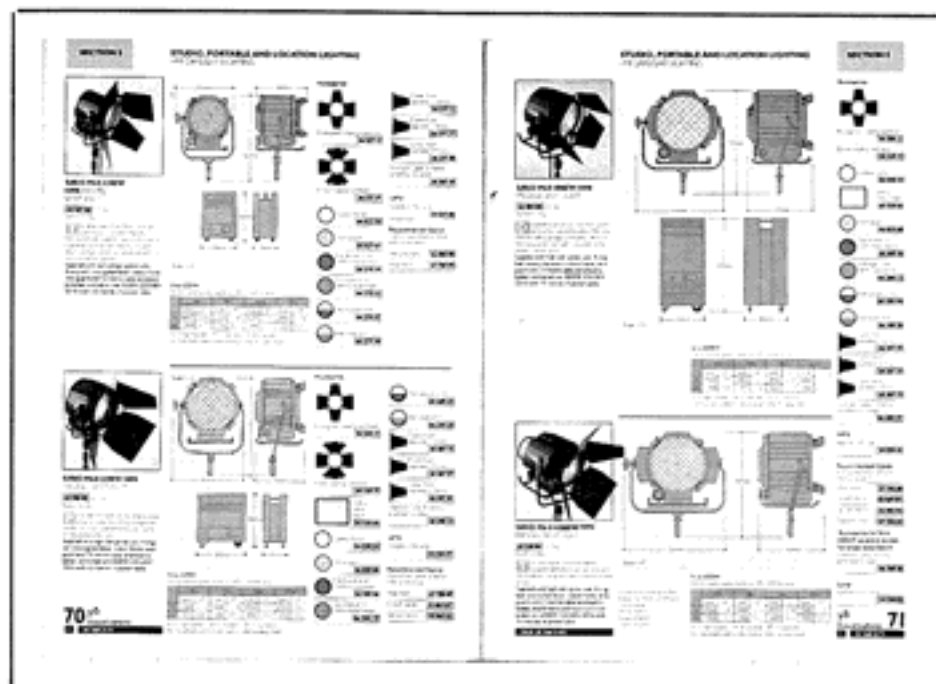
The Strandbook does contain useful guides to lighting the smaller production, to lighting for television and to picking colours (mostly these guides are reproduced from earlier Strand/Tabs publications), but I wonder what the experienced film and TV people will make of the inclusion of advice on theatre lighting, and vice-versa. Is this information therefore wasted on many recipients of this book? On the other hand, film and TV lighting is becoming more sensitive so perhaps theatre equipment is useful to them; conversely theatre lighting is concentrating on fewer but brighter instruments, so the inclusion of data on SKs and the like will be useful. It is also true that the small video production unit is a major growth area and The Strandbook will serve this market especially well.

I find the book is curiously laid out. It begins with theatre memory control, then television, dimmers and architectural lighting, automated lighting systems, and Pals. The lighting guide to the smaller production introduces theatre luminaires which is followed by the television lighting guide. TV and film lighting is followed by lamps, accessories, rigging and colour. Many theatre people will therefore be irritated by having to wade through television to get to lamps, accessories, rigging and colour. The sections are colour-coded and so are the edges of the pages, but why on the top and not at the side? So I am tempted to suggest that a ring binder format would not only have permitted people to lay the book out in the order which suits them best, but it would also have been easier to include additional leaflets issued during the year for new product. Key clients (or those paying extra to the current £3.50) could perhaps have received their Strandbook in the new desktop filofax binder, a format now adopted by several other lighting companies.

I suspect that readers will have another format problem with the new price list. For the first time this is arranged not in the usual categories of product, but in 'numerical item number order'. This might be easier for Strand, but I'm sorry, I've grown rather fond of referring to a hook clamp by its old-fashioned name and I feel uncomfortable calling it a 26 483 07.

I'll get one final gripe out of the way and then we can concentrate on the good bits - at long last Strand have learned to call Lekos by their US description (6x16 etc) in addition to the beam angle number (Leko 18 - a useful piece of data often missing in the US where different manufacturers manage to produce different beam angles apparently from the same focal length lens), and whilst you are about it Strand, please can we have a 6x22. However, I suspect that Strand still have a lot to learn about Lekos judging from a very unexciting description of this excellent instrument, largely unchanged for many years.



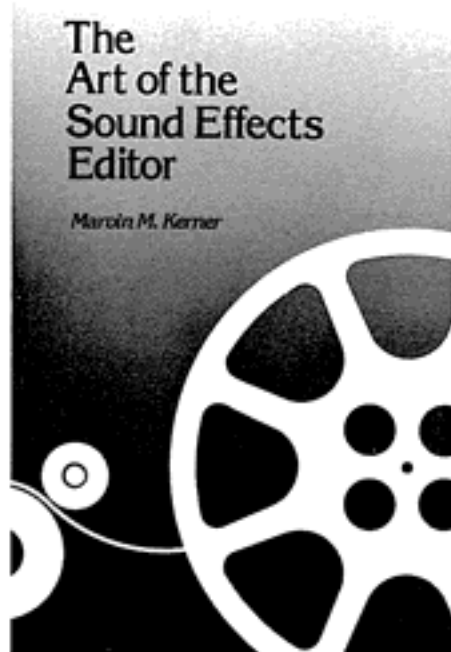


The good points include the wealth of illustration (every single product it seems) and the comprehensive data about performance, size and weight. Multiplex is explained (a diagram of a sample system would have helped) as is the Pals system, and there is also a useful section on light output versus life (next time please don't hide the data about dimmer levels and light levels in the text of the television guide). I like the lamp recognition drawings, and the fact that all the connectors are now illustrated, and it's useful that theatre, TV and film rigging is all together in one section. The catalogue in-

cludes some new items: a follow spot based on the Cantata 11/26 range, a 1200W HMI/CID Par and some new compact 'flicker free' ballasts for HMI units. It's also the first time I've noticed control systems offering 'dimmer fault reporting'.

Overall, The Strandbook is a very useful manual and a record of an impressive range. However, I'm bound to say that someone with 75 years experience could have done a little better. But it's a compliment to the company and the people involved that we always expect more.

Graham Walne



**The Art of the Sound Effects Editor**  
Marvin M. Kerner

Published by Focal Press  
Price £10.95 ISBN 0-240-80008-7

In the Art of the Sound Effects Editor, Marvin M. Kerner outlines his personal approach to sound editing, the basis of which, comes from his many years of experience in the industry. He began his career as an apprentice

sound editor at MGM Studios, his film work including Ben Hur and Dr Zhivago, and he was sound editor for two seasons on the popular television series 'The Man from U.N.C.L.E.'

In 1973, Kerner started his own sound editing company in Hollywood and is at present a member of the Motion Picture Academy. From this broad base of activities his book focuses on the techniques of sound editing in television series, television movies and feature films. After two brief chapters on the history of sound effects and their purpose, Kerner takes the reader through the necessary editing steps - spotting the film with the producer, preparing effects, preparing a dialogue track for dubbing and re-recording original dialogue.

The book then moves on to a discussion and appraisal of the selection of sound effects, and stresses the importance of utilising all available sources of sound. Chapter nine deals with the art of cutting effects onto film and the succeeding chapters cover building effects into tracks for the dubbing mixer, working on a Foley stage and finally, dubbing - the last step.

The book also deals with other issues important to the sound effects editor, such as the proper organisation of an effects library, responsibilities of the editor's assistant and the preparation of films for foreign distribution. The book is directed towards film students, those just beginning in the film industry and apprentice sound editors for which its anecdotal easy-to-read style will prove invaluable.



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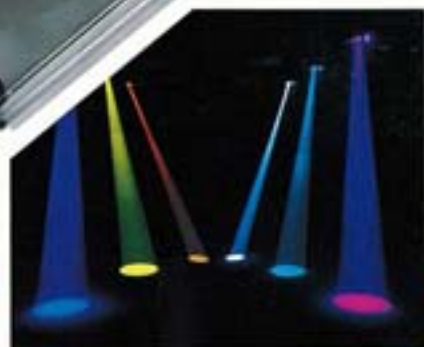
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# YO - LIGHTING TECHNOLOGY IN HOUSE IN FULL EFFECT

Recently lamp specialists Lighting Technology, more famous for their Phantom candles and the blue Loyds floodlights, were drawn into providing the entire lighting and sound equipment, including lasers, for a discotheque in Belgium. L+SI send itinerant writer, and occasional lighting designer, Tony Gotteller along to see how they got on.

Knokke (pronounced knocker, no jokes please) is a sleepy little seaside resort on the short Belgian channel coast, in what used to be called Flanders and, for all I know, probably still is by the locals.

The thing is that while it may be very well a backwater out of season, when it comes out of hibernation it becomes a heaving, sweating summer thing, its population swollen with the annual migration from the industrial towns and cities to the East. Descriptions of it as the Belgian Riviera are perhaps a touch exaggerated, a bit like describing Brighton as the UK's answer to San Tropez. But, never mind, when you suffer from similar weather to ours you are entitled to a little hyperbole, how else to persuade the spending punters to stay away from the Costa Packet and to fold up their money and bring their wellies to the seaside?

So you've got the picture: Kiss me kwik in Knokke and loads-a-money. What better place to get them to unload unwanted dosh than a disco? Or so ran the theory according to the three partners in MDs - a butcher, a baker and a candlestick maker? Well almost.



Above and above right, the neonised Trilite rig featuring beam zaps from the Laser System's 360°, 100mW Argon Laser.



Key men Mike Kinsella (left) and LTs Gary Nelson.

In fact an architect, a builder and a bar owner - perhaps the ideal combination of partners for such an enterprise!

Next step, find a site. Interestingly enough, the partners plumped for a very similar set-up to that of Fallows in Liverpool, reviewed in L+SI in November last year, by chasing a light industrial unit on the edge of town. This has numerous advantages, in particular the shed-like construction makes for easy conversion, the public are impressed by the contrast, parking is easy and noise is no problem, as all the other units have long since gone home when you open. Will this be a trend for the future? Probably.

So by now they are getting organised and, with their combined skills, have no problems in appointing contractors to get on with the interior. But where to obtain the sound and light to match their aspirations for the building? Perhaps logically they asked their local lamp distributor if he could offer them a solution. "Not exactly," came the reply, and in the words of the AA television commercial, "But I know a man who could".

This man turned out to be Gary Nelson, commercial director of Lighting Technology, whose company had developed a close relationship with their local chap on the ground. Mind you, Gary had problems too, this was not exactly LTs bag either. But, not a man to look a bank note, let alone several, in the watermark, Gary determined to put together a team to tackle the job.

Possibly because their name is a derivative of LTs, Gary immediately thought of Light Tech, a company who make and supply halogen lamps to replace Par 36s with detachable reflectors, so that the bubble itself is the only degradable part. They also, as Gary knew, did quite a bit of direct discotheque work along the South Coast where they are based, designing, fitting and installing light and sound rigs. So Richard Maunder was called in to design a system and, once approved by the client, he and partner Nigel Webb were engaged to manage the installation on site. Lighting Technology retained the role of main contractor.

The rig which Richard put together is based on four squares of Trilite trussing, arranged in a cross to form a fifth in the middle in which the 360° Laser System's argon laser sits, with two long side trusses down either side. This provided an ideal framework for

the parallel banks of pinspots, 128 in all, which line the extensions of the main cruciform truss.

Other main features were the 16 Lightwave Research ColorPros doing a fine job providing rich hues and colour wash and, what I thought was, particularly intelligent use of Thomas Par 56 cans which were backfaced against the general direction of the rest of the lighting. Par 56 scanners, F70s, four Robots and four Sundancers also made an impression, and a liberal sprinkling of neon in many colours and control channels provided the icing. Control was provided by a Zero 88 Orion, two Touchlight 12s and a Programme Sensor.

A brave attempt was made to do something interesting with a JEM Heavy Fog machine by installing it in the laser tank loft above the DJ box. While this turned out to be spectacular in an entirely unexpected fashion, it unfortunately did not live up to expectations due to its inability to compete with the air conditioning. However, nothing ventured, nothing gained - it was certainly worth the try.

As for sound, the new JBL 47 series speakers and crossovers were selected, coupled with HH VX amps, and, although I am a self-confessed JBL fan, I have to say they sounded pretty good to me.

So having got all the technical chat out of the way, let's see how it all performed on the opening night.

Dire warnings had been issued about the

expected numbers at the opening, as apparently 4,000 invitations had been sent out for a club with a capacity of 700! However, since the crew had been through the usual string of sleepless nights in the run up to the opening, it was decided to risk the early evening to the local operators and head for the nearest hostelry to recharge flagging spirits. Here I was to renew my brief acquaintance with Mike Kinsella of Laser Hire, Birmingham, who made up the third leg of the triumvirate on site, having been dragooned into commissioning the laser. Mike is famous on the college circuit for his mobile light and laser show and tells me that, these days, he is also in great demand for product launches and presentations. Fresh from the annual May balls, he was returning the following day for another uni gig followed by a series of shows in the West Country.

Full of pasta, for which there had been an interminable wait, we arrived back at the venue rather too late for comfort. Firstly, everyone of the 4,000 invitees contrived to arrive good and early and, since each of them seemed to have brought along a pet plant (it seems that it is traditional to shower your host with potted plants in Belgium, and most were of the large man-eating variety), the majority were forced to remain outside. Or so we thought.

A closer inspection revealed that there might also be another problem. Judging by the plumes of smoke billowing out of the extracts on the roof and the evidence of those



Way in (and way out, man) at MDs.

emerging coughing and spluttering from within, reminiscent of the aftermath of a CS gas attack, something was up. Having fought our way through the entrance, the smoke filled room revealed itself, still jammed with vast numbers of completely undeterred punters sardined from wall-to-wall. God knows what would have happened if it had been a real fire! Never mind, it was only the result of some over enthusiastic operator trying out the Heavy Fog without first finding out how to switch it off!

A severe test for both fog machine and air conditioning although, as I pointed out earlier, the weight of the fog was no match for the efficiency of the extraction, which in the circumstances just described, was probably as well. It would seem that to get this effect to work in the way intended, that is with the fog staying at floor level, it is necessary, unlike dry ice, to inject it at low level. Waterfall effects from a height may not be feasible, possibly because the vapour is nowhere near as cold on emergence as dry ice fumes, and warms faster in the atmosphere as the result.

Through the vanishing gloom, we could now begin to see a light show emerging as Richard and Mike had finally managed to fight their way to the controls. Indeed it was a tight and impressive performance, much appreciated by the local audience, especially with Kinsella strutting his stuff on the laser. His two set pieces, one to the 1812 and the other to Sky's famous version of Bach's Toccato, brought the place to a standstill amid roars of applause. (Mind you, my one little criticism was the central placing of the laser in this particular space. I think a conventional forward firing laser aimed towards the dance floor, from one end of the room, would have

been more effective in this case. But then the client was probably sold on the central effect as a marketing concept at which point aesthetic considerations tend to take a back seat.)

During the evening occasional messages are beamed by laser onto a facing wall, many too risqué to mention, especially the one about where to stuff a sausage! However, our headline for this piece is drawn from one of Kinsella's less purple pieces of prose, which caused quite a stir on first transmission as LT had obviously become quite famous locally during their time on site.

By now, all is tramping along famously and the intrepid Knokkers (Hmmm) have long since forgiven the smoke incident, when disaster number two strikes. The main earth leakage breaker, protecting both sound and lighting controls, trips. Silence. And nobody except the local electrical contractor, who has probably gone, or is drunk, or both, has any idea where it is. Panic.

Once again we are all amazed at the resilience of the punters who are obviously having such a good time that they are determined to stick it out. I don't think a single person left, nor were there any jeers or cat-calls.

So no harm done and eventually, after a few minutes, which must have seemed like hours to those involved in the operation, we are back on air again. I should emphasise that this problem was completely outside the sphere of Lighting Technology's ambit, as the problem was caused by some errant transformer in the decor lights for which they were not responsible. Nevertheless, they were the first into the breach to find a solution.

It is Murphy's law that such things will occur on opening nights, and generally very little harm is done to future business, other than the bruising of a few involved egos, but it shows the importance of having competent crew on hand on such occasions.

So things are quickly back into action, jumping again, without further interruption and on into the early hours.

On departing myself with the intrepid Bev Bigham, who was to provide my transport to the airport the following day, a melancholy feeling of déjà vu came over both of us as we faced the moonlight, struggling to be seen through a pall of early morning mist. Had the long hand of Nigel Morris of JEM touched us again?

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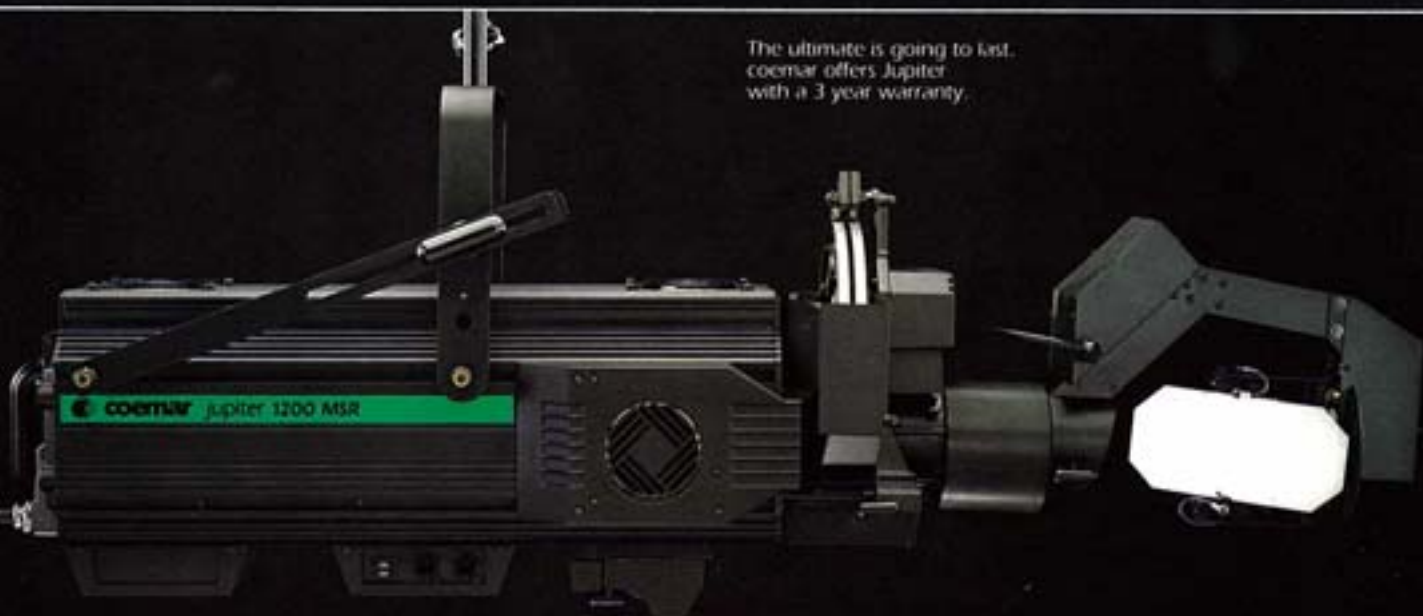
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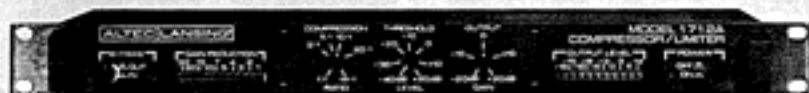
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Altec Lansing's new compressor/limiter.



The 1750A equalizer from Altec Lansing.

## New from Altec Lansing

The 1U high rack mounting Altec Lansing 1712A compressor/limiter has been designed specifically to restrict sound system output to a predetermined level and provide overdrive protection. Compensation circuitry minimises colouration and audible side effects for virtually unmatched sonic qualities. Utilising an RMS calibrated linear integration detector, the 1712A's logarithmic output closely matches the characteristics of the human ear and corrects overmeasurement of low frequency energy.

The 1750A equaliser from Altec Lansing features 28 constant Q active band-rejection filters at the preferred one third octave ISO centre frequencies, from 31.5Hz to 16kHz. Each section provides up to 15dB of attenuation at its centre frequency whilst a 20dB gain control restores equalisation losses. Both variable high pass and low pass filters have a slope of 18dB per octave with the former operating from 20Hz to 160Hz and the latter from 5kHz to 20kHz. Inputs and outputs are electronically balanced. The output is capable of driving a load, above 600 ohms.

Output power apart, the Altec Lansing 1407A 75 watt and 1415A 150 watt monaural power amplifiers share identical specifications. Both units offer a 15k ohm input bridging transformer, a 300Hz high pass filter and 15dB input pad - both switchable, plus a choice of four types of input connections. Pre and post fade auxiliary unbalanced outputs, master output level control, and a built-in output transformer offering a series of balanced outputs are provided. Master level control is located at the rear of both units. Each amplifier offers protection from potential problems such as short circuiting, excessive temperatures, circuit overload, subsonic signals, DC and transient peaks that occur during switch on and switch off. The output relay of Altec Lans-

ing's 1407A and 1415A power amplifiers automatically disconnects the load simultaneously illuminating the protect indicator on the front-panel when a problem is detected.

The heavy duty injection moulded Altec Lansing MR944A Mantaray horn is a mid/high frequency unit capable of delivering low frequency loading down to 500Hz, and directivity control of the full frequency range to 20Hz. With this in mind, the manufacturer recommends the Mantaray in conjunction with its own compression drivers, namely the 909-8A or the 909-16A. Both compression drivers are designed for professional use where a wide frequency range and substantial power levels are specified. As part of a small or medium full range system, these units are recommended for the reproduction of speech and music in auditoriums, cinemas, churches, hotels and other applications.

For further information on all the above products contact UK Sound at Unit 15, Osiers Estate, Osiers Road, London SW18 1EL. Telephone 01-874-2050.

## Martin Starlight

Going into full production just in time for the Light and Sound Show 89 is a computer-controlled lighting system from Martin in Denmark with a price tag that will cause one or two industry heads to turn, if not roll, claim the company. The heart of the system is a self-contained processor unit capable of storing 99 programs each up to 99 steps long in a battery packed internal memory. Intelligent software means that the individual heads, which pan and tilt through 170° and feature three dichroic filters, plus white, are self-calibrating, thus eliminating long set-up times.

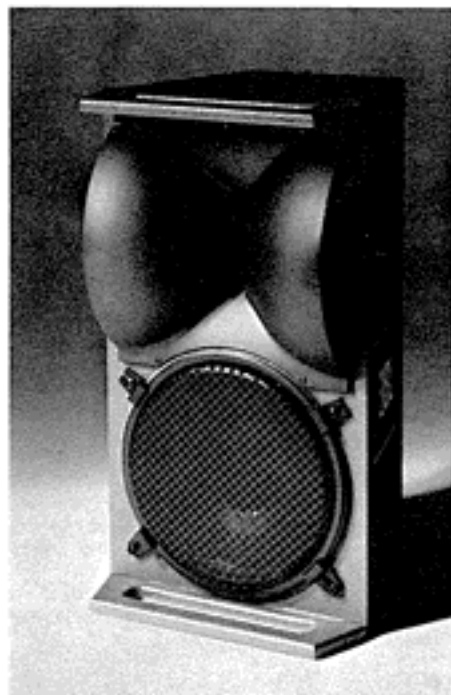
The system will synchronise to the beat of the music or can be over ridden. Additionally, when auto and music triggers are selected, the Starlight's internal clock can take over the beat in breaks in the music. For further information, contact UK distributors Lamba on (0727) 40527.

## Toa Fashion



With eyes fixed on the design-conscious leisure market, Toa Electronics Ltd have launched their F-5 Fashion Speaker. Designed for wall mounting and housed in an acoustically efficient and attractive polypropylene enclosure, the Toa F-5 is a bass reflex speaker that provides full range music reproduction. It has 10 watts of band limited pink noise handling capacity and features a 4 inch loudspeaker. It also features standard high impedance operation with option of low impedance by change of connections inside. Linked to a background music system, Toa say the F-5 is ideal for any installation where quality sound is as important as good looks.

## Sound Power



JBL have added extra versatility to their Sound Power series by introducing a 'passive' version of the 4726 Bi-Radial system and 4728 Bi-Radial Stage Monitor. The 4726P/4728P are equipped with internal crossovers making them ideal where bi-amping is either impractical or unrealistic financially. A full range of flying brackets, cables and other accessories is available to simplify installation, and whether used singly, in pairs or clusters, Sound Power components provide the building blocks to efficiently answer most sound reinforcement challenges, say JBL.

For further information contact Harman UK on (0753) 76911.

## Energy Saving Lamp

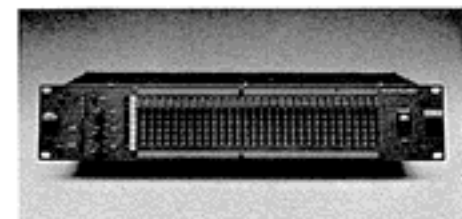


Harrow-based Economy Lighting have announced their new ELRO-80H display lamp for commercial and domestic applications. Designed to directly replace an existing RO-80 lamp without the need for any special fittings, the new ELRO-80H is said to consume 66% less electricity than the lamp it has replaced and, the company claim, it will last twice as long.

Manufactured from high temperature plastics, the ELRO-80H incorporates a unique toroidal transformer, which powers a replaceable, low-cost 20W, 12v tungsten halogen light source with a life of over 2000 hours. As the lamp is designed to pass heat back through both the dichroic reflector of the light source and through the body of the unit itself, it also emits at least 20% less heat than conventional RO-80 lamps.

Like any conventional RO-80, the ELRO-80H can be fitted as a spotlight or arranged in groups on a track fitting, and it is available in a range of different beam angles. For more information contact Economy Lighting Ltd., Unit 6, Barrat Way, Tudor Road, Harrow, Middlesex. Telephone 01-863 0943.

## AL Room Equaliser



The Audio Logic SC 131 single channel Room Equaliser is a professional signal processor offering 31 bands of cut only room equalization at -10dB or -20dB. A passive bypass removes the equaliser from the signal path when the power is switched out and an active bypass allows comparison of the equalised signal with the original signal while retaining the gain amplifier in the signal path.

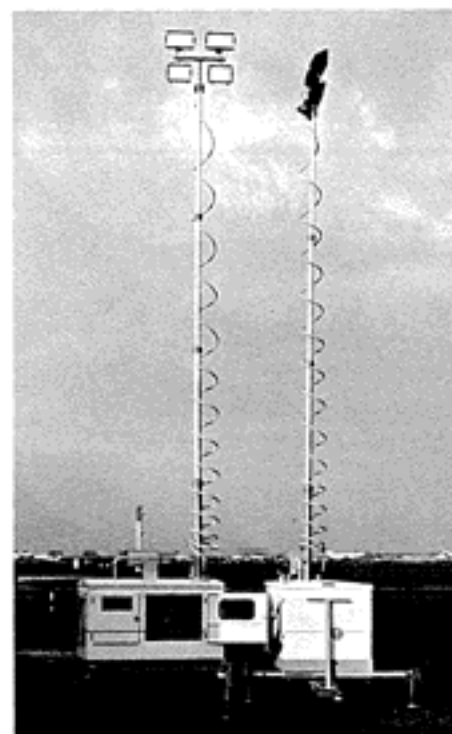
1/2 octave resolution, accurate frequency centres, selectable attenuation ranges, variable frequency high pass and low pass filters with in/out switch and input level control are all features of the SC 131. Connectors are XLR, barrier strip and 1/4" phone jacks.

UK distributor is John Hornby Skewes, Salem House, Garforth, Leeds LS25 1PX. Telephone (0532) 865381.

## MR-1 Micro Receiver

Both professional and semi-professional video production markets are major target audiences for the new MR-1 Micro Receiver from Samson which features a compact belt pack receiver with wireless microphone. Other features include flexible antenna, headphone output for monitoring, a balanced audio output and a dual purpose LED indication. The MR-1 mounts directly onto video cameras and can be operated from a 9 volt battery, allowing it to be used as a portable wireless system. For further details contact Samson's UK distributor, Shuttlesound on 01-871 0966.

## High Power



Brimotor Ltd has recently launched their TS3/13KTRO range of trailer mounted telescopic power/floodlighting sets. Each set develops 12000 watts and incorporates a 6 metre telescopic mast carrying a 5000 watt tungsten halogen floodlight array. Ancillary sockets provide additional power where equipment is required. The 4-wheel trailers are fitted with front axle turntable and have weatherproof canopies.

For further details contact: Brimotor, Clarence Works, 30a Church Road, Tunbridge Wells, Kent TN11 1JP. Telephone (0892) 37588.

## Classic Exponential Horn

A classical design, straight exponential horn for public address systems at sports meetings and outdoor events is available from sound reproduction specialist Vitavox. The EH190 is an all aluminium 42" horn with a 190Hz cut-off frequency and nominal 60° dispersion pattern. It is suitable for permanent installation, but its two-part lightweight construction means it can easily

## Raak Orbit



The new Crompton Raak 'Orbit' range is a multi-functional low voltage lighting system, and its introduction follows the recent appointment of Crompton Lighting as sole UK agent for Raak Licht BV products. The 'Orbit' range provides low voltage spotlighting from ceiling mounted, suspended and track models. Ceiling mounted versions include the 'Planeta', a luminaire suitable for surface diameter ceiling plate, which is easily positioned without the risk of straining the internal wiring. The 'Tronic' surface mounted luminaire can also be used as a free standing lighting unit. Again, a rotatable base plate provides added mobility and a built-in, stepless dimmer allows the brightness to be controlled from zero to full power. In addition, for areas which require suspended spotlights, the Crompton Raak Orbit range has a choice of three models.

Obtainable in black or white finish, the Orbit range is available with a selection of accessories including coolbeam mirror reflectors, coloured filters, 'barndoors' and diffuser glass with mounting clips.

Details of the complete Crompton Raak range of lighting products are available from Crompton Lighting's sales and marketing headquarters at Northampton on (0604) 30201.

be dismantled for convenient stacking or transportation.

Mounting lugs are provided at three gravitational points for bracket mounting or line/chain suspension. The throat section can also accommodate a standard scaffold clamp at a convenient point of balance. The horn is terminated with an international standard 1 3/8" threaded coupling. This is suitable, say the company, for virtually any general purpose or weatherproof pressure driver. For further details contact Vitavox on 01-952 5566.

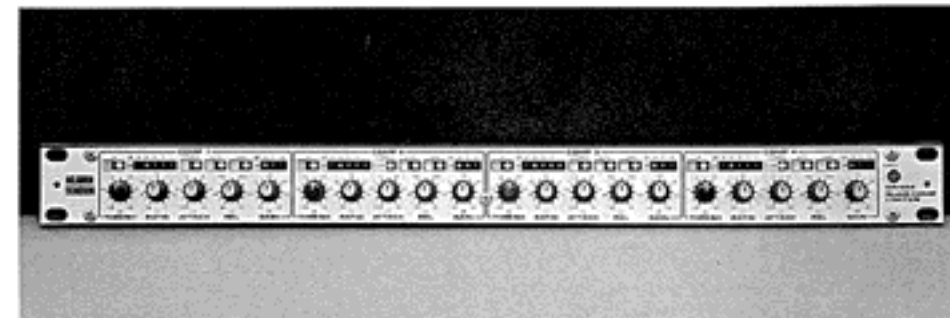
## KT Four Channel Compressor/Limiter

Klark-Teknik has introduced the DN504 Quad Compressor/Limiter to its range of professional audio products, and unlike other products on the market which can take up to 2U of rack space, the four channel compressor/limiter fits into a single rack space format, while still offering such features as variable controls on each channel for threshold, ratio, attack and release as well as output level.

Another feature incorporated into the DN504 is a switchable hard/soft knee compressor. This

allows a change in the compression function so that its 'roll over' point is virtually instantaneous in the 'hard knee' mode, or more gradual in the 'soft knee' mode. An auto/manual switch allows either quick 'foolproof' setup (in auto mode) or full manual control of the system for more specific, exacting requirements (in the manual setting). Another key feature is a stereo switch which allows operation of the unit as two stereo pairs. Moreover, LED metering of gain reduction as well as output level is also included on each channel.

For further information contact Klark-Teknik Research Ltd., Klark Industrial Park, Walter Nash Road, Kidderminster, Worcs DY11 7HJ. Telephone (0562) 741515.





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## **SEMINAR BOOKING FORM IN THIS ISSUE**

Light & Sound Show

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10-13 September

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Olympia 2 London

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PLASA's Light & Sound Show, London, has established itself during the past 12 years as one of Europe's key events focusing on the professional lighting and sound contracting industry. Over 150 companies will exhibit at this year's show being held at Olympia 2 in London for the second year.

From its original concentration on products for the night club industry, it has evolved into a much broader based event. And this year the show will play host to a series of wide-ranging seminars covering many topics of major interest to anyone involved with lighting and sound in the entertainment and leisure industries.

The seminars are grouped under the following headings and timings:

- |                                      |   |
|--------------------------------------|---|
| <b>Sunday 10 September, 15.00</b>    | — <b>The DJ Debate</b>                            |
| <b>Monday 11 September, 11.30</b>    | — <b>Moving &amp; Intelligent Light</b>           |
| <b>Monday 11 September, 15.30</b>    | — <b>Visual Presentation Techniques</b>           |
| <b>Tuesday 12 September, 11.30</b>   | — <b>Live &amp; Touring Production Technology</b> |
| <b>Tuesday 12 September, 15.30</b>   | — <b>Sound Dimensions</b>                         |
| <b>Wednesday 13 September, 11.30</b> | — <b>Installation &amp; Interior Design</b>       |

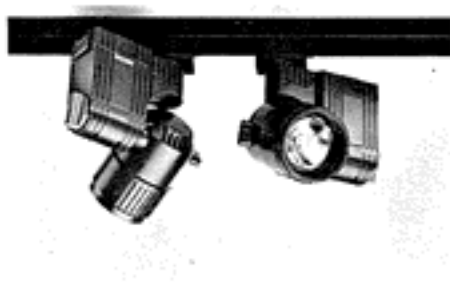
Under each heading there will be a number of short presentations by industry professionals on specific topics. Speakers will then form a panel to discuss and debate points raised and to provide an interactive forum for the audience. Although these subjects appear at first quite disparate, they are in fact linked by a common factor - presentation. The presentation of an image - whether sound, light, visual or aesthetic - is central to all topics and provides the foundation to the series and the show. Each session will last approximately 2 hours.

## The Old and the New



The 'Poe' from Candell designed by Giorgio Giugiaro and part of the Luci Collection.

Candell Lighting has new collections of contemporary and traditional lighting for contract interiors from the pens of Europe's award-winning designers, including Jorge Pensi of Spain and Giorgio Giugiaro of Italy. The company has also launched Radian, a high-design commercial collection manufactured in France.

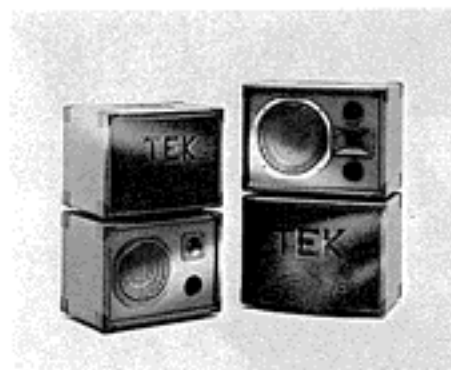


The Oscar-winning Strass 20/42/50W by Radian. A low-voltage halogen spotlight.

Established in 1983, Radian is headed by Gerard de Longchamp - formerly in charge of the Philips Lita range. Radian consists of immaculately designed and manufactured compact spotlights. Fully versatile, the various designs can be used with 20-100W as well as metal halide, sodium and tungsten halogen lamps.

Candell Lighting can be contacted on 01-523 3225.

## New from Labtek



A brand new range of loudspeakers, designed primarily for disco and installation purposes, has just been launched by Labtek. These very high specification units incorporate the kind of build quality and components found only on high-end gear. The drivers make good use of edge-wound coils, cast chassis, titanium dome diaphragms etc.

The manufacturers claim that the performance of the speaker systems is on par with the very best currently available. Pictured above are the two smallest units in the range, rated at 80 watts rms and 150 watts rms. The complete range, which will be unveiled at PLASA in September, extends to 2kW systems. For further details, call Labtek on (0606) 40447.

## Dalton ED2200

Dalton R&D have recently developed a completely new kind of dimmer. The essential feature of this new unit is its constant checking of the connected load. With its nominal power of up to 2200 watts, the ED2200 allows control of any kind of load, resistive as well as inductive. It also features a soft-start which can detect short-circuits and maintain the start-up current of halogen lamps and toroidal transformers between the nominal limits. This, say Light Technology (worldwide distributors), enables the lamps to last twice as long. The three stages noise suppression filter meets the requirements of the VDE 0871-877 norm.

The construction is somewhat unique and Light Technology feel it will surprise every installation engineer: heavy connectors of 25A, fixed at a 45° angle for an easy cable insertion, completely separated for a cable of maximum 4mm, which avoids connection problems with earth and line. The triac is fixed on the rear side of the frame and replaceable without soldering. Cable feed-throughs are on the rear and upper side to enable a built-in or left-alone installation. For full specifications contact Light Technology (Belgium) on 32 91 856831 or drop in on stand S 189 at the PLASA Light and Sound Show.

## Low-Cost Floodlights

An entirely new range of floodlights for security or amenity use has been introduced by Liteway Limited, of Cornwall. Called Liteflood, the range comprises three enclosed units which give total dispersion from double-ended tungsten halogen lamps rated at 300/500w, 750/1000w and 1500w respectively.

Having a cast aluminium body with a black hammer anti-corrosion finish and toughened glass fronts, they feature a special connector box on the back for easy access, and are waterproofed to the international IP55. Suitable for either wall mounting or stand mounting, each unit is adjustable through 170° in the vertical plane. For further details, contact Liteway on (0637) 880015.

## Studio Lighting



A new range of Studio tungsten luminaires, ideal for larger studio use, has been introduced by Lee Colortran International. The range incorporates improved design for focus and switching mechanisms, and gives more efficient performance (lumens/watt) and improved spot/flood ratios, say the company.

Available in 1kW/1.25kW, 1.25kW/2.5kW, 2kW/2.5kW, 2.5kW/5kW and 5kW manual and pole-operated versions, Lee's Studio range conforms to most European electrical and technical standards, most notably BS4533, and is intended to comply with DIN 5560. Each luminaire is designed with steel main body and a bottom tray which is detachable for easy maintenance. The inner skin, top vent, cowling and lens door are in aluminium to combine lightness with strength. Full technical details are available from Lee Colortran International on (0204) 73373.

## Acoustic Tiling

Good recording conditions require accurate control over the acoustic environment, and the most effective way to eliminate unwanted reflections or standing waves is to fit acoustic tiles, according to Music Lab. The company is now distributing Ilbruck's range of tiling. These high-performance tiles are suitable for acoustic conditioning in recording, audio/visual and broadcast studios, practice rooms and theatres. They are made by Ilbruck International, a German company who specialise in acoustic and noise control products.

The peaks and valleys of the tile greatly increase its surface area, and are designed to trap sound approaching from any angle. The sound pressure waves enter the absorbent open cellular structure of the tiles, where it is converted into tiny amounts of heat energy. For full details contact Music Lab on 01-388 5392.

## PM65-100 Monitor

Carlsbro Electronics has introduced the PM65-100 self-powered monitor. Aimed at small recording facilities, keyboard players, the semi-pro and all general purpose users, the PM65-100 combines a 100 watt power amplifier, six band graphic equalization, and volume and input gain controls with a single 12" dual cone, high frequency range performance loudspeaker, to deliver 65 watts rms. With the addition of a Carlsbro EM70 monitor, that power is increased to a full 100 watts. The EM70 contains one 12" 70 watt dual cone speaker and offers a separate volume control for fine tuning the balance between both monitors. For further information contact Carlsbro Electronics on (0623) 753902.

## DMX 512

continued from page 35

munications protocol for automated lighting systems? Secondly, is interchangeability of desks a practical concept?

### DMX 512 as a standard for automated lights

There seems little question that DMX 512 is not a practical communications protocol to adopt for automated lighting systems. The information rate is too slow, the dimmer level byte structure is too rigid and there is no error detection. We are trying to make DMX do something it was never designed to do.

Personally, I am not convinced that it is possible to design a communications protocol for all automated lighting systems unless it is very loose and has a sophisticated series of start-up codes that tell the receiver the format of the data to follow.

### Desk interchangeability

Desk interchangeability is fundamentally flawed as a concept. A conventional lighting desk is simply not designed to control sophisticated automated lighting systems. Interchangeability of automated lighting desks is a slightly more valid concept, but what happens when one system has continuous colour and another has discrete colours. Both systems would have to be able to cope with both colour mechanisms in a practical manner, both in terms of directly calling up colours and dealing with how the colour change is handled moving from one cue to another. Generally speaking, the range of automated lighting systems that are appearing on the market is so diverse that it would be virtually impossible to design a console that could control all the different systems in a practical manner. To make matters worse, it really should be able to handle more than one type of automated lighting system at a time.

### Conclusion

DMX 512 is not a practical communications protocol for automated lighting systems. Its information communications rate is too slow, its structure is too rigid and it has no error detection. The adoption of any standard communications protocol for automated lighting systems is an impractical suggestion since there is no way to make interchangeable desks or one overall master automated lighting console.



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# LIGHT INDUSTRY

Graham Walne takes a closer look at the different facets of West London based White Light.

Theatre lighting hire is an interesting business, even though there is a predictable pattern in most cases. A new hire company usually starts because its creators identify a gap in the market, and this helps it to grow. It then often becomes too big to watch all the market and a gap is created again.

Although the gap can be the absence of certain products, it is more likely to be the absence of quality services, and this was certainly what motivated John Simpson, Arthur Philips and Rory Dempster in 1971 (all then working at the Royal Court Theatre) to start a new lighting hire company called White Light. The trio appreciated that at first they couldn't compete on quantity, but felt that they **could** improve the quality of the business by gearing it to the needs of the lighting designer.

They must have been right because now, 18 years on, White Light employs 36 staff and enjoys a turnover of over £2 million. That kind of figure takes some kind of building when your typical unit cost is about £5.00 per week, but White Light has remembered why they started and their service is still a by-word for quality. Richard Broadhurst joined the company in 1978 and his live television background has since proved invaluable in maintaining attention to detail: for example, every item is rigorously tested electrically, optically and mechanically before it goes out.

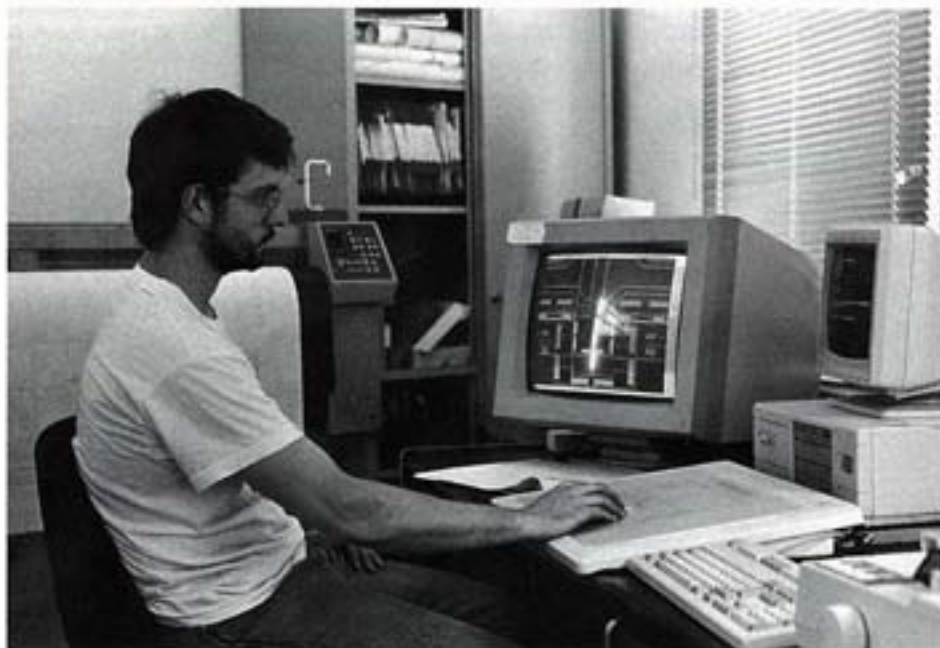
I was delighted to hear that both Richard and John regard the person who takes the phone calls as the most important point of contact with the customer, and at White Light the telephone operators really do seem



Set-up for a White Light designed Cadbury product launch at Pinewood Studios nears completion - February 1989. Producer was Pete Brady.



John Simpson.



Ian Teague and Bruce Kirk (above), White Light's production manager, look after Modelbox.



One of the tightly packed storage and workshop areas at Filmer Road.



Neat and tidy - White Light's general office.



ABTT Trade Show 1989 - Modelbox was a central feature.



Part of White Light's Fulham premises. An additional 5000 sq.ft. storage and production area is based at Wandsworth.



Bryan Raven - White Light's hire manager.

to know what the customer is talking about. Indeed, everyone in the company goes through the whole hire process so that they know everyone else's needs and problems. "It's a collective experience working here" John Simpson explained. "We have found our niche and we're good at it - of course, we are also rather hoist with our own petard because we do aim to get people out of trouble, and as a result people know they can call us at the last minute because we'll do all we can to help."

White Light's help is now nationwide, and together with the northern office, the company can cover any regional theatre. Indeed, the Halifax branch is no mere outpost. It possesses 10,000 square feet more storage space than the London head office whose hire stores are an Aladdin's cave of old and new. The new comes in the shape of the computer advice note system which holds all the inventory (and for which White Light had to develop their own software) and the old in the shape of the redoubtable 252 op-

tical effects range which has been acquired from TSL (the range also fits the Cadenza Fx and the CCT 2.5kW projector). Moves are afoot to upgrade the effects range by replacing the potter's wheel drive with a variable control, shortening delivery times and holding prices.

But all this is the mere tip of the White Light iceberg because the company also has interests in an agency, a production company, a computer drafting system, and in training. John Simpson told me: "Our policy is that we can't sit in splendid isolation; we must put something back into the industry." Hence their association with Lamda and the Central School and the design course of the legendary 'Percy' Harris at the Almeida Theatre. "At White Light we want to encourage designers in the importance of light."

The lighting theme continues at Simpson Fox, an agency for lighting and set designers, choreographers, and some personalities (but not actors). "We specifically want to help people who have been continuously in

work, but whose career has reached a plateau. A good agent can help such people move beyond that plateau as well as undertaking the day to day role of establishing decent working conditions, avoiding confrontations, and negotiating higher fees." expanded Richard Broadhurst.

By improving training and the lot of the lighting designer, White Light are not only investing in their own future, but that of the whole industry too. Investment is also White Light's role in Independent Theatrical Productions (who have contributed to the recent successes 'Single Spies' and 'Common Pursuits') and in United Theatrical Management, a company specialising in building management (they will run the new centre in Woking). The two companies are to merge into a single production, consultancy and management unit called the Turnstyle Group. Clearly John and Richard miss the flavour of putting on a production because the company also has a share in Flickers, a film production company mostly, but not exclusively, known for documentary TV work.

The most recent development for White Light has been the acquisition of Modelbox, the computer-aided design service. Modelbox now has up-to-date hardware and software installed in the Filmer Road premises, and although it operates mostly as a service, the hardware and software can be acquired. Over 100 theatres are now in the system and a recent tour which customised all its set and lighting plans has claimed considerable savings in fit-up time which has more than paid Modelbox's bill. As the first lighting designer to use the service, I can testify to the impression a well drawn plan has on crews - especially if it is drawn into their own theatre and not issued as a general



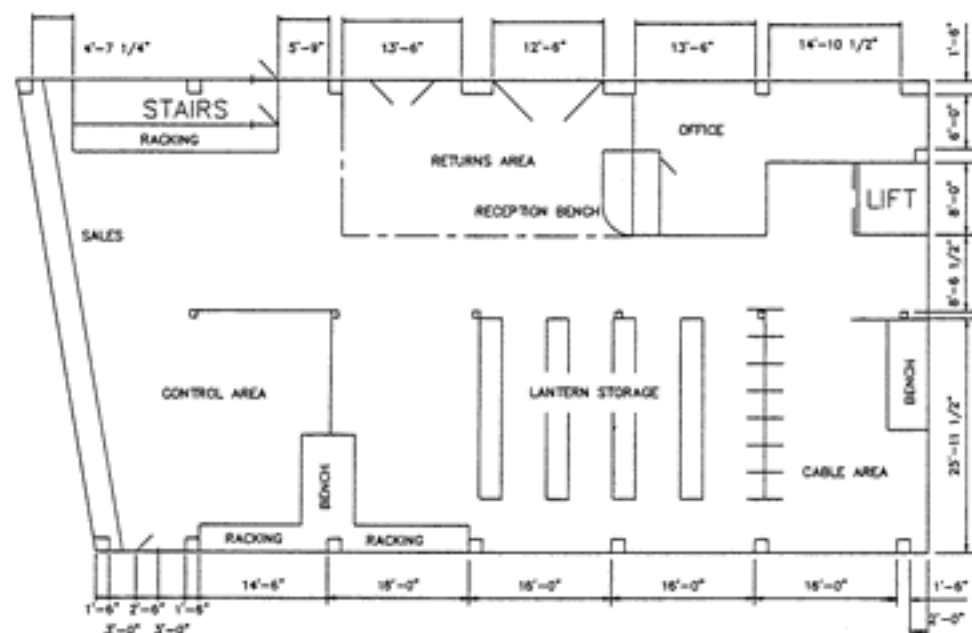
Michael Burke prepares orders at White Light's sales counter.


guide to the tour.

The overall feeling that I took away with me from White Light was that their dedication and experience were clearly on hand to lift a load off the shoulders of any production manager or lighting designer that cared to consult them. They aren't just interested in renting lights - they're renting confidence. And what is also interesting is that the company's diversification has not been allowed to dilute the mainstream purpose to serve the needs of the lighting designer. So, as a lighting designer, may I say here's to the next 18 years!

**Light & Sound Show**  
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 <b>WHITE LIGHT</b>	
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White Light's northern branch is now fully operational in a new 10,000 sq.ft. facility at Sowerby Bridge near Halifax. The planning was achieved with the help of the Modelbox system.



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# BINGO

## IS IT FOR THE 90's OR JUST THE OVER 60's ?

David Neale discovers a full house combination of the latest sound and lighting techniques and an age-old pastime.

Bingo is like Scuba-Diving, Crown Green Bowls or Wife Swapping..... unless you're actually involved with it, you'd hardly know it was going on. But despite keeping such a low profile (restrictions on advertising can't help) the game regularly attracts more than eight million payers and players, and there is a hi-tech nationally-networked game, 'Big Time Bingo' played every night of the year during the early evening (rumour has it that a staff member of L+SI is a closet bingo fan). So it's still going places, and as an important part of the Leisure Industry can hold its head as high as the most glamorous sectors when it comes to operational and technological sophistication, especially in terms of Sound and Communication equipment.

This might surprise not only the casual observer, but also the press of post-menopausal faithful as they stab their pencils at their cards and push their buttons, responding with lightning reflexes to strangely coded messages, like Memory Lane...69 Not Yet...15, literally waiting for their numbers to come up. Even as they stream homeward in fleets of Ladas like the Kremlin late-shift they remain blissfully unaware of the hi-tech behind this taste of the high life, and that's because this is not a technology to

flaunt.

From an installer's viewpoint though, there's enough to daunt, from microwave and satellite links, multi-centre and networked games, split function, zoned P.A for various individual voices and for music, which must all be reduced to push-button operational simplicity. Bringing intelligible messages and pleasing sound to the (often) hard of hearing is not a task for the hard of learning. One of the few professional sound design and installation companies prepared to grapple with complexities like these, even to the point of making it a House speciality (sorry), is Audio Visual Systems of Halifax, headed by Richard Lockyer and a team prepared to cover the country installing and servicing sound equipment.

To show me what he meant, and with kind co-operation of Coral Social Clubs Ltd., part of the leisure arm of giant Bass, we took a trip to one of their venues.

My host for the trip to the South West was Walter Mirauer who now acts as consultant to A.V.S, and our destination Torquay, a town which has always had a classy Riviera image and serves as an ideal environment for today's kind of Social Club. On one of the hottest days of the summer we arrived at

the entrance to the Social Club around 2.30 in the afternoon. Upon entering the club one was immediately aware of the cool air-conditioning, a quiet business-like environment and a decor that would grace the best designs of today's upmarket nightclub.

The comparison with a nightclub is reinforced when one learns that cabaret is part of the overall entertainment plan.

Coral Social Clubs are in the process of refurbishing a number of their clubs some of which were acquired for Zettlers in 1988.

The idea behind today's Social Clubs is one of creating a friendly atmosphere where people come to meet friends as much as to take part in the game of bingo.

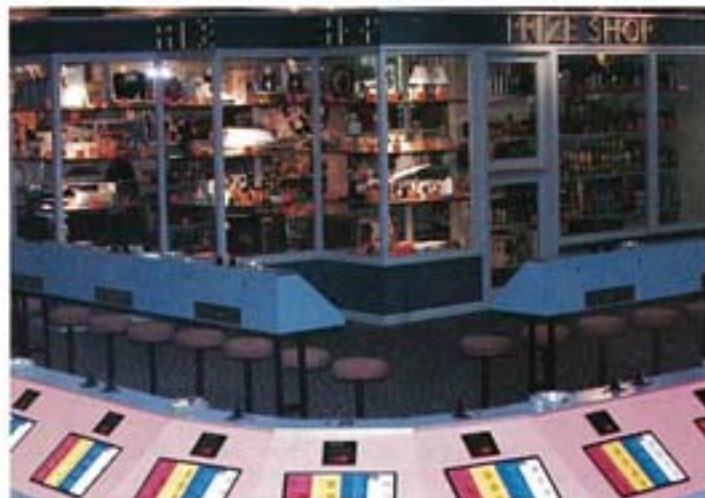
So where is all the technology? Walter talked us through the system. "This is the main seated area used for all the big games. Coverage, level and intelligibility are most important here. That's why we often use Bose 402's as we have this time." We moved on. "This area is mainly for Prize Bingo, but some people here want to play the main game as well, so they need to have both callers, both options easily switchable into this zone." Then came the restaurant, lounge, amusement and toilet areas, all to be covered for the 'master' microphone



Early evening preparations before the Kremlin late-shift arrive in their fleet of Ladas for the start of the Big Game.



Full House: The Coral Social Club, Torquay where modern lighting and sound technology has reformed a favourite British Institution.



position, and all to be piped for background music.

As well as reaching across space, it is often appropriate to deliver sound on a very local basis via large numbers of small, low power speakers set into or very close to seating.

Most of the major national Bingo operator 'brand-leaders' have now caught on to this concept of 'dedicated sound' and Audio Visual Systems have become the automatic choice for sound systems of this degree of

complexity and versatility, with their intimate experience of the slightly differing operational needs of the various competing Bingo operators.

By the time we reached the equipment rack and system control centre, I was expecting to find a lot of equipment. What appeared was surprisingly neat and compact, and A.V.S reckon to get most equipment specs into between 24 and 36U of Schroff minirack. Back to Walter; "As well as opera-

tional simplicity, which we can take care of with careful system design and some custom built switching, reliability, robustness and ease of access for servicing are major concerns. Nobody wants the system to go down during the Big Game.

Millbank's new PAC system modules fill the bill perfectly, and there are plenty of variants for us to match the needs of all the different venues and environments. In fact", he added, "the whole system's so versatile it ought to be called Roy Castle."

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- 1 x Toa MB 12 rackmount kit
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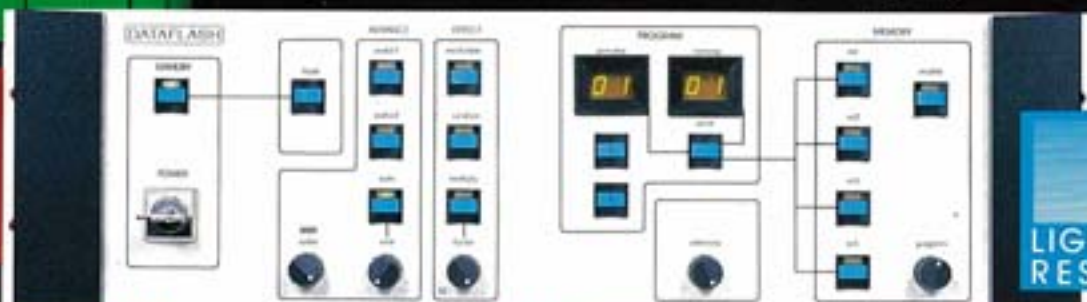
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# PLASA News

## The PLASA AGM

The seventh annual AGM of the Professional Lighting and Sound Association took place on Wednesday, 5th July, 1989 at the Novotel, Hammersmith. With the minutes of the previous meeting approved, Peter Brooks commenced his chairman's report. He began by detailing the continuing growth of the membership, which now stands at 142, thus reflecting, he felt, the Association's broad recruitment policy. He then went on to raise various matters relating to PLASA's own exhibition, DTI sponsored missions and attendance at worldwide exhibitions. He concluded with a brief survey of a successful year for the industry, with the first series of legal seminars, the first industry survey, the success of the exhibition and the growth of Lighting and Sound International.

Kevin Hopcroft, as treasurer, reported a turnaround in the Association's accounts with last year's deficit being translated to profit. He attributed this, in part, to the increased generation of income from both the Light and Sound Show and Lighting and Sound International.

It was Tony Kingsley, as chairman of the PR sub-committee, who introduced the subject of the circular recently sent by Paul Adams and Geoff Jones to members. The content of the circular, which urged PLASA to broaden its horizons on all fronts, formed the basis of a lengthy debate.

Tony Akers, who has recently handed over the mantle of vice-chairman to Tony Kingsley, spoke about the difficulties created by a lack of standards specifically relating to the industry. He mentioned the regulatory document now in draft by the Health and Safety Executive and warned members to be aware of the recent introduction by Spain of EEC directive 73/23. The matter was then raised of the possibility of employing a standards officer (part-time) in an advisory capacity to the Association. It was suggested that it might be helpful for PLASA to set its own standard, the terms of which could be lodged with the Eastbourne office, however, such a move would make PLASA liable if the standard was at fault.

A motion was proposed and passed authorising the transfer of PLASA from an Association to a limited company owned by the members.

The afternoon session was given over to a debate on the system of stand allocation for the Light and Sound Show. Colin Whittaker of Celco had raised the issue of stand allocation in a circular sent to all members prior to the meeting, and requested that it be discussed at the AGM. The focal point of the debate centred on the fact that those already in good stand positions were unlikely to relinquish their prime sites, thus preventing other companies from obtaining the premier positions. Whilst it was agreed by all that the system is far from perfect, an alternative viable system was not forthcoming, and a vote was taken on the issue, with the conclusion that, for the time being, the system of stand allocation must remain in its present form.



The seventh PLASA AGM in progress at the Novotel.

## PLASA Dinner Dance

Places are now being booked for the second PLASA Dinner Dance which will be held at the Royal Garden Hotel, Kensington on the first evening of the PLASA Light and Sound Show, Sunday September 10th. Over 150 places have already been reserved, leaving only 200 remaining. Entertainment for the evening will be provided by The Barron Knights, and a disco will follow the meal. Tickets are £30.00 per person plus VAT. PLASA members have priority booking until August 19th.

## Musik Messe - Frankfurt

PLASA member companies will also be exhibiting at the Musik Messe in Frankfurt (21-26 March, 1990). Eighteen companies in all will occupy 404 sq.m, along with a PLASA information stand. The attendance at the exhibition has received joint venture support from the Department of Trade and Industry.

## LDI 89 - Nashville

At least eight companies are planning to exhibit at Lighting Dimensions International 89 in Nashville, with DTI backing, and the total area reserved amounts to over 1000 sq.ft. Both PLASA and Lighting and Sound International will have an information stand at the show.

## New Members

**Kenneth Burr Associates Ltd**  
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Fax: (0732) 740891  
Contact: Kenneth Burr

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Fax: (0462) 817352  
Contact: Christopher Anderson

## The Second ANNUAL DINNER of the Association

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## Light & Sound Show

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If you are involved with equipment used in discotheques, clubs, theatres, leisure complexes, opera houses, symphonic halls or presentation areas then you can't afford to miss the Light & Sound Show '89.

# ON TOUR

Carltona Forcer



Lots of pelvic thrusts this month courtesy of Supermick! First of all, from the form of the gyrating and ever wonderful Tom Jones, who has just completed a successful world tour. The night on which I was fortunate to see him was the night they did a video shoot, so, as a consequence, the photographs are not as representative as they might be. Nevertheless designer Neil Montavon put together a very good show.

The second interview this month is with Edward Brantley who, together with his two associates, runs Nice Lights based in Los Angeles. He is one of the few successful black lighting designers around today and is at present in the fourteenth week of the highly popular Bobby Brown tour, who is also, coincidentally, pretty nifty in the groin area!

## Tom Jones Hammersmith Odeon LD: NEIL MONTAVON

### How did you become a lighting designer?

When I was a teenager at school I used to be in a band, and when it broke up I decided that it would be easier to get into production rather than set up another band. I started running an old theatre at the University in Boulder, Colorado and I also took some courses in theatrical lighting. I



Tom Jones in concert at the Hammersmith Odeon, June 18. Lighting designer Neil Montavon.

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- Master Dimmer Controller – to set the overall lighting level.
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soon recognised that there was a need for lighting services and lighting equipment in the Colorado area, so two of us started a lighting company. When you actually own the lighting gear and you have to put it up every day for somebody different, you really learn the business.

The company folded in 1984 and I was then offered a job as a theatre manager in Texas - but due to the fact that both my wife and I had business matters and property in Colorado, I turned it down. I said that I was more interested in road work and after a while they offered me the job of road manager on the Tom Jones tour. I think that part of the reason why they were interested in me stems from my lighting experience. To begin with there was another fellow working as Tom's lighting designer, but after a while he became Tom's personal manager and subsequently I became lighting designer, as well as road manager, at the beginning of 1987.

#### What sort of touring arrangements do you have?

This is the tour that never ends! We do 250 shows a year, primarily in America particularly Las Vegas. It's certainly not as difficult as one might think as you put the back lights up once, focus once and it stays like that for a couple of weeks. Every year we start in January with rehearsals and then we gig from February through to June. This year is a little different as it's the 18th of June and we are still on the road. Normally we take the whole of June off and then start touring again in July through to November.

I'm on salary and I get the same cheque every week of the year. It's wonderful and Tom Jones is the greatest gig anyone could ask for. I couldn't ask to be in a better position. This tour has been amazingly successful. We've sold out almost everywhere. Some gigs had tickets on sale six months in advance and they sold out within four or five hours. The audiences have been amazing, and sometimes when I'm sitting at the desk watching the show I get chills because it's so impressive. Tom is always very kind to little children and in Frankfurt a couple of kids got on stage to try to shake his hands. What we didn't realise was that they were gypsy children and they were actually trying to steal the diamond rings from his fingers!

Since Tom had a big hit with 'Kiss' he has attracted a younger audience. The show had always been structured for a Vegas type audience, but this year there are major changes. We've changed the spacing on the stage and set, and for the first

time the band is allowed to dress individually. There's been more investment in sound and stage gear so that we can do the techno-pop type material. There are younger fellows in the band which is a really screaming rock 'n' roll orchestra.

#### Can you describe your lighting systems?

Tonight's system is a bit different because we're filming the show. The rig that we normally carry is a box rig which is five sections wide and two sections deep. There's another five sections of Thomas that we use as a down stage truss. In addition to that rig, we've put up a dozen 6 bars and another dozen Vari\*Lite on the side. The normal rig includes 15 Vari\*Lite. The extra Vari\*Lite give some more colour to the background of the shots of the band and they also add to the light level of the show. We've had to eliminate the use of colour in any of the follow spots. I have to keep some white light on the orchestra members all the time or the camera doesn't see them all.

Unfortunately, this means that I'm not able to do the dynamics of a very bright stage to a very dimly-lit stage tonight. I've had this show programmed in this desk for 10 weeks and I was told two days ago that they were doing this. To try to reprogramme this entire desk on the day before the tour ends and re-do the whole show for the video is next to impossible. So we've brought in extra gear instead and the lighting designer for the video shoot will have control over some of the lights eg. the additional crowd lights. He's got a TV monitor and he can add to what I'm doing on stage.

#### Have your experiences in all aspects of this business helped you as a lighting designer?

Yes, I believe that whatever you choose to do in the business, the more rounded your experiences, the better you are. If you want to become a lighting designer and you've worked as a stage manager or you've mixed in a club, all the better. I've been very fortunate in having had a diverse career - I've built stages, loaded trucks, driven trucks, owned a company.

#### Are there any bands that you would like to work with?

I've worked for a lot of different people and I tend to be over critical of bands. Having been a musician myself, I find them all a little silly from time to time. Although, regardless of who you work for, they always grow on you. I don't care much for the disco bump-bump kind of stuff. I'm more into the older, more mature music like Mike and The

Mechanics.

When I return I'm going to be lighting director for the Telluride Blue Grass Festival way up in the mountains. It's certainly a departure from this show. Last year's headliner was Little Feat and lighting them was a treat. They are one of my all time favourite bands and I would love the opportunity to light them again.

#### What is your definition of good lighting design?

I think that lighting should accentuate what's going on with the music in the show and when lighting is distracting it is wrong. I try to shift the focus of the audience to where the activity is occurring on the stage. I don't have stuff flying about on the stage just to make it exciting like disco type acts.

I recently saw Bob Dylan's show and, in my view, it wasn't good, even though the lighting designer is highly regarded. The show ran for less than an hour and there were no follow spots. A box truss was used that cantilevered out over the front of the stage so that the front light was from fixed instruments in the truss. In a word, I would characterise it as 'dark', but perhaps that was what Bob Dylan wanted, and the designer was merely following instructions. It was way into asymmetry and I don't mind an element of that, but when you have three lights turned on over the floor and one on Bob Dylan, you begin to wonder what's going on. Dylan wore a sweatshirt with a hood that he never took off. You never saw his face and it could have been my kid sister in there for all I know. It really was a very disappointing show from many aspects.

One thing that does annoy me in this business is when you see a guy working with a big band, making a lot of money, when he obviously isn't qualified. There are still bands today that hire their friends to do the lighting. It's irritating because I know many talented people who are looking for work. Bands would never hire a guy to mix their sound who didn't know anything about sound.

#### Lighting Equipment

(courtesy Supermick Lights)

Tom Jones

19 Thomas pre-rigged truss sections  
2 Avolites 72 way dimmer racks  
1 QM 180 lighting console  
2 on truss HTI Lycian followspots  
2 out-front HTI Lycian followspots  
16 Vari\*Lite VL1  
4-ton Tomcat ground support system  
8-point rigging system

## Bobby Brown Wembley Arena LD: EDWARD BRANTLEY

"My motivation to become a lighting designer came through seeing a lot of shows that were not expressing the music. I used to listen to a lot of jazz bands like Weather Report who had pretty fair budgets, but gave all their emphasis to the music rather than the production. Although some of the systems were fairly limited, I felt that I could have used them much more fully.

"Because of my particular style and market target, most of my acts are black rhythm and blues artistes. There has been very little crossover during the years so, subsequently, it hasn't been a market that I have directly solicited. My best work so far has been for Atlantic Star, although I have designed for many other people including Maze, Shalamar, Philip Bailey, Jennifer Holliday, Sister Sledge, Alexander O'Neal and a lot of jazz bands that you probably wouldn't recognise.

"I've been touring for 12 years, in business for six, and in that time I've done 45 acts which were all either platinum or gold artistes. I'd like to do more acts that are primarily white home-based, but cross over into the black market. I'd like to do more of the English black acts like Five Star, and I've just been asked to consult for Lavine Hudson.

"My style is much busier than any of my other black rhythm and blues contemporaries. It is a lot more rhythmic and there is a great deal of story telling. I paint pictures which you never see depicted twice. I'm more than a button pusher



making black music look like disco - which it is not. In the initial stages of the Bobby Brown production, I was the first lighting designer to be considered, but because of budget restrictions they settled on another designer. He didn't quite cut it in terms of his style and direction, so they called for me again. I completely redesigned the system. Between the Vari\*Lite artist and myself, we were pretty much left to build the show as we chose during the first weeks. Bobby Brown had some

ideas, but for the most part it was left to us.

The system is basically a wall of lights straight across the stage with a floating V mid section truss with two down pods. There is no front lighting because I've become bored with the front-rear look. The two down-stage pods are positioned a little askew to simulate front lighting. It functions very well because it puts the emphasis on the star as it should be. This is helped by four truss spots and six front house spots. There are also 24



Vari\*Lites for animation.

"I admire the work of Richard Ocean who does a lot of television including American Bandstand. I also like Allen Branton's work and, without sounding facetious, I like the work of my associate Rocky Bell, formerly of Kool and the Gang. His style has really grown up over the years and, without sounding egotistical, there is a lot of me in him. At the top of my list I would put Robert Raoff of Atlanta, who designed the Jacksons Victory tour and who has worked for Whitesnake.

"I hate to see expressive music treated like disco with a lot of emphasis on bumps and flashes and less on the subtleties of movement. I also hate to see a show that has a limited amount of gimmicks to use, which then plays them all just to prove that they have a gimmick to play, without using them necessarily when they should be.

"For control I favour the QM500 and if I could fit one in my pocket I would carry it around with me for ever and ever. In fact, I'd like to be buried in a QM case. I'm very fond of Vari\*Lites Mark 2. I've had the opportunity to explore other systems, but for me, even with its few limitations, the VL2's are the best brushes for my kind of canvas.

"I'm somewhat unique as I am one of only eight black lighting designers out of 3,500 worldwide. For years I was treated as a novelty and I still am. Most of my accounts are black because that is basically where my home is. I feel I am in a very special position, being one of the first black lighting designers to reach a leading position in the industry."

#### Lighting Equipment

(courtesy Supermick Lights)

##### Bobby Brown

- 200' Tomcat trussing
- 180 Raylights
- 144 Pars
- 100 ACLs
- 16 Vari\*Lite VL1
- 3 x 72 way Avolites dimming racks
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- 4 HTI Lycian followspots on truss



Bobby Brown - lighting designer Edward Brantley.

photo: E. Grivas

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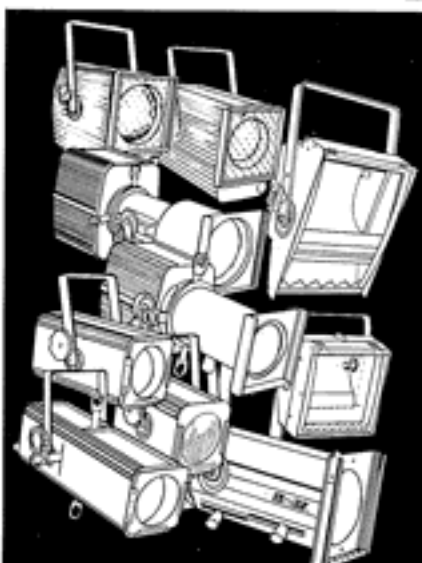
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# VIEWPOINT

Tony Kingsley

## Looking to the Future

Under constant pressure from L+SI's Ruth Rossington, I have been persuaded, as PLASA's new vice-chairman, that this Viewpoint on PLASA needed writing!

First of all, I think it's important to dispel one myth. There's still a feeling amongst the membership that the executive committee act as a closed shop, without thought of, or reference to, the members. I don't believe that this has ever been true, and certainly there's been no cartel in the years I've served on the committee. We are approachable and we will listen - try us!

Perhaps we need to address this erroneous perception with a reassurance of PLASA's commitment to its members. Without doubt, there is a need for the lines of communication to remain open and, more importantly, to be widened. Witness the recent questionnaire/survey 'Is PLASA doing enough?' conducted by Geoff Jones and Paul Adams. This survey, aside from raising issues that were both timely and pertinent, highlighted a matter even more important to PLASA: that of its approachability.

Geoff Jones was pleasantly surprised when I telephoned him after receiving the questionnaire and applauded both him and Paul for the initiative shown. The rest of the committee felt the same - are you surprised? But how much more could have been achieved if the questionnaire had been produced in conjunction with the PLASA committee and secretary.

The recent letter circulated to the PLASA membership from Celco's Colin Whittaker, requesting support against what he believes to be an unfair method of stand allocation at the Light and Sound Show, further highlighted the communication problem. Whilst I can understand Colin's frustration at what he thought was PLASA's stand against change, the reality was our difficulty in finding an alternative allocation system which would please the majority. Rather than acting independently, Colin could have asked us to circulate his point of view to the members. We would certainly have been prepared to mail this out, together with our own points of reply explaining our difficulties in pursuing the allocation system he was seeking, and asking for membership response.

If the majority subsequently wanted change, this would have been acted upon.



Tony Kingsley cut his teeth in the industry with the Roger Squire Organisation, acting as sales manager of the pro-audio division in the mid 70s, and ending his time there as the successful export and mail order manager. He left Roger Squires to found Avitec UK, a success story known to most of the industry. A familiar figure to many, he has served on the PLASA committee for approaching four years, being the chairman of both the sound and PR sub-committees, and has recently accepted the post of vice-chairman.

Better, I feel, for all concerned than the difficult and convoluted debate after the A.G.M., with considerable time and effort spent in research by Peter Brooks and David Street. As it was, the situation was resolved amicably by a vote, retaining the status quo for the time being. One bonus was that David Street was able to show clearly that committee members were not receiving favoured allocation, thus refuting a charge that was levied more than once during the debate.

We welcome this sort of input - the membership are awake, praise the Lord - but let's do it together. Don't forget, the committee members experience both sides of the equation. Let's hope too that Geoff, Paul and Colin offer themselves for committee selection at the next election.

Let's throw some questions at you, the members, for thought, and, by the way, if you're not a member, why not?

● Can PLASA, in its present form, accommodate the ever-increasing demands of a relatively young industry moving towards maturity?

● Should PLASA be informing its members of current government initiatives and proposals, and in particular those from the DTI relating to our industry?

● Should PLASA attempt to pool knowledge and information from the diverse segments of the industry which operate in varying fields of lighting and sound, from which the members can draw and move forward together in co-ordinated strength? Can this cross-fertilisation of ideas ever be attained considering the competitive nature of the industry?

● How can PLASA achieve more than it already does with its present staffing and funding levels?

Lighting and Sound International could be an important forum for members. Colin Whittaker, for instance, could have made his points in the magazine and asked for a response, and PLASA could have had the right of reply. A debating arena open to all readers - what do you think? If you agree, let's make it happen.

PLASA has achieved a tremendous amount in the time since it changed its name from BADEM, with even now only two full-time members of staff. The unpaid executive committee give their time and services mostly without thanks, but with the aim of consolidating on the foundations already laid in order that the industry can move forward to a more secure future.

To succeed we need your input. What's your contribution to the future of the industry?

### VIEWPOINT

If you have a view to offer on any aspect of the lighting and sound industry, why not air it in this column?

Send your Viewpoint to:

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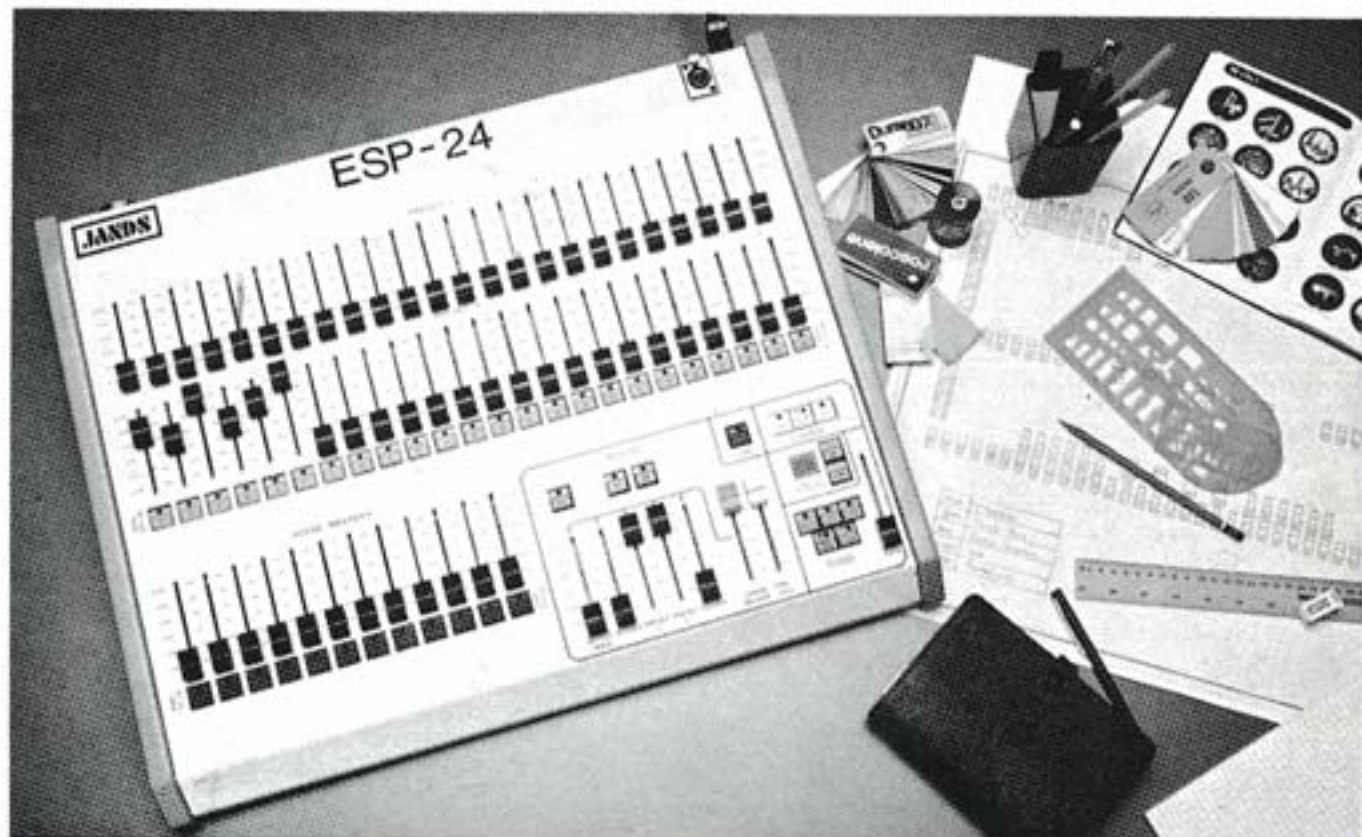
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