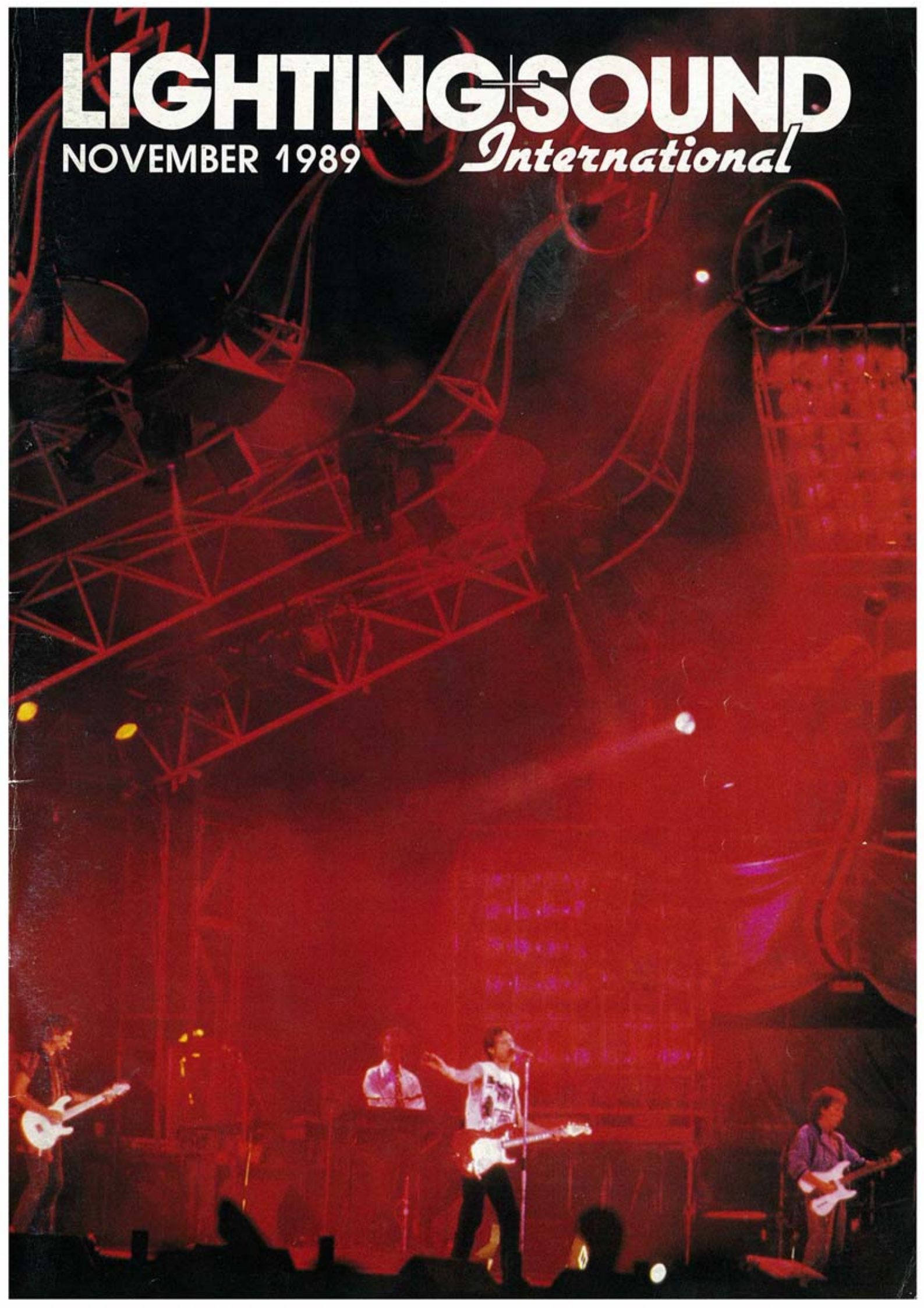


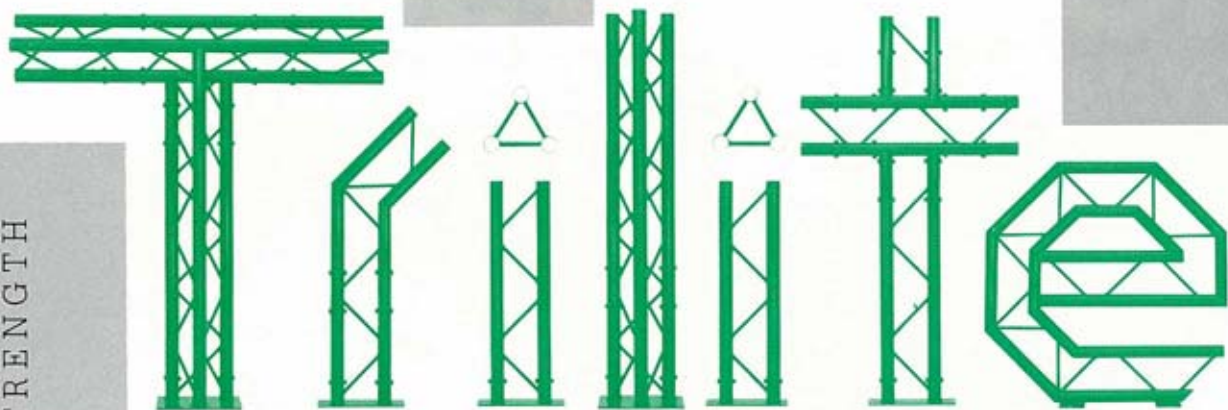
# LIGHTING+SOUND

NOVEMBER 1989

*International*



A DISPLAY OF STRENGTH



The Trilite Structural System is strong yet lightweight and easy to assemble. Available in any colour, 'Trilites' simple modular construction allows it to be built into an incredible variety of structures.

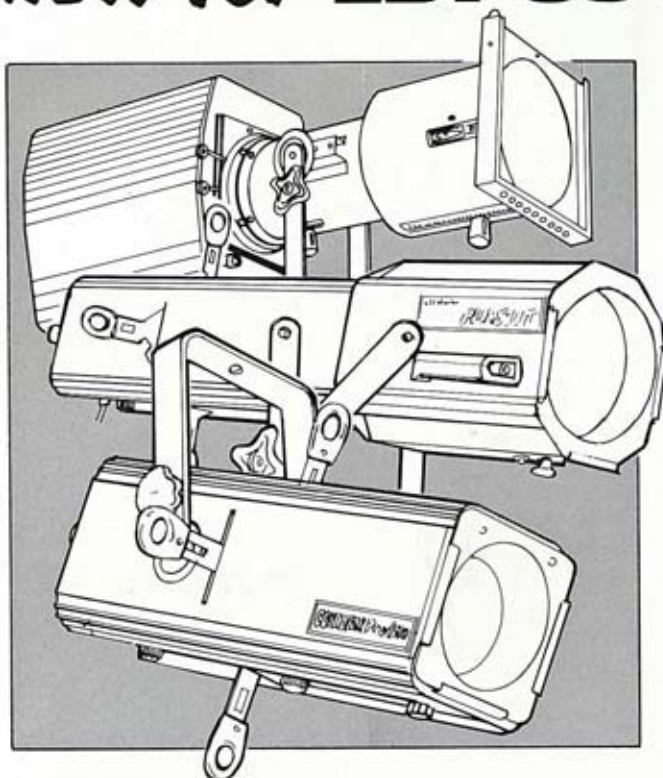
Full customer support service available.

For further details contact:

OPTIKINETICS LTD  
38 Cromwell Road  
Luton LU3 1DN, England  
Tel (0582) 411413, Tlx 825920  
Fax (0582) 400613

North America  
TRILITE STRUCTURAL SYSTEMS INC  
499 O'Brien Road, PO Box 778  
Renfrew, Ontario K7V 4H2, Canada  
Tel (800) 267 0727, Fax (613) 432 7672

## **NEW for LDI '89 NASHVILLE U.S.A.**



### **DISCHARGE 1200**

5 lamp options all hot restrike.  
Built in Iris Blackout • Trunnion  
Balancing • Elapsed Time Counter  
• Rotating Stripping Shutters

### **PURSUIT**

An efficient long throw follow spot  
• Ideal for small venues • 100 mm  
and 150 mm Zoom lenses • Built  
in Iris • Quadrant balance

### **MINUETTE CONDENSER PROFILE**

For those applications which  
require high definition Gobo  
and Gate projection, the  
condenser version of the Minuette  
is excellent.

**CCT lighting**

WINDSOR HOUSE 26 WILLOW LANE MITCHAM SURREY CR4 4NG UK  
Tel: 01-640 3366 Fax: 01-684 5263 Telex: 946648

# Commercial sound has come a long way.



## Are you keeping up?

You may have recognized that it is often difficult for busy sound architects to keep fully abreast of all the developments being made in our fast moving industry and, harder still, knowing where to find them.

It is also apparent that the dividing line between pro and commercial sound has blurred. This in itself is no bad thing since the cross fertilization of good products and good ideas from each sector can only be of benefit, but more suppliers have to be found and more time required to deal with them.

UK Sound has been started by Shuttlesound to sit across this borderline, pooling the best from both markets, ready to

address specific problems with the right specific products.

The range of products and associated services are aimed at the professional sound contractor who may deal with a stadium one day, office paging the next or a system requiring the full integration of both.

To talk here of individual product lines would be preclusive, a call from you however will bring the information and any technical specification required by return post.

That's useful, but UK Sound is much more than just the distributor of the right stock; new staff, with extensive knowledge of the commercial market, are backed by

Shuttlesound's considerable expertise in system design and installation. Our staff are on hand ready to talk to clients and discuss any problems or technical queries.

Above all else remember — UK Sound is for the commercial customer who wants to talk sound business.

**UK**  
**SOUND**

Unit 15 Osiers Estate

Osiers Road, London SW18 1EJ, England

Tel: 01-874 2050 Fax: 01-870 9300

**ALTEC**  
LANISING

 audio  
digital

Ivie

University  
Sound.

Vega

*360 Systems*

# "COME ON BABY LIGHT MY FIRE"



In fact anywhere that's got a power point. The highly portable Celco Baby offers the club and disco lighting designer 40 memories which are easily recalled and instantly outputted using any of the ten Cue Faders.

The effects board provides the facility to program 4, 40 step sequence patterns through any of the lighting channels and enables further creative possibilities through a sound activated sequence that will step to the bass line or change speed in relation to the volume.



Celco products are manufactured and distributed by: Celco Ltd, 1/3 Bellingham Road, London SE6 2PN, England tel: 01-698 1027 tx: 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 Baby.  Non-stop lighting. Non-stop dancing.*

# LIGHTING+**SOUND** *International*

## NOVEMBER 1989

6	NEWS in Lighting+Sound International
18	PLASA News & Show Page
25	Finland's Art: Caverns of Light at Retretti Arts Centre
28	Rolling Stones: Steel Wheels across the States
37	Partnership at the Pier: Oslo's Bryggeteatret
52	Cross Talk - Dick Carrier with Dave Winfield
55	Disco+Club Scene
58	Equipment News
64	Colour Values: Chris James & Co
67	On Tour
70	PLASA Members
73	Directory
78	Viewpoint



### Cover Story - Rolling Stones' Steel Wheels Tour

Our cover feature this month focuses on the Rolling Stones 'Steel Wheels' tour, now taking place in North America and billed as the biggest ever touring show. In the picture above, showing just part of the massive set, the 'snoot' has at its end a swivelling chair for a follow-spot operator who remains there throughout the entire show - even when smoke is pouring from it at the start of the performance.

Catriona Forcer explains the logistics, and talks to lighting designer Patrick Woodroffe starting page 28. Cover photograph and all pictures: Mark Fisher.

## LIGHTING+**SOUND** *International*

published monthly by the Professional Lighting and Sound Association

Editor: John Offord

Assistant: Ruth Rossington

Telephone: (0323) 642639 Fax (0323) 646905

Editorial Advisers: Tony Akers, David Bearman, Andrew Bridge, Peter Brooks, Jenny Cane, Tim Chapman, Mike Gerrish, Kevin Hopcroft, Tony Kingsley, John Lethbridge, Rob Peck, Iain Price-Smith, Neil Rice, Hazel Simpson.

PLASA Office:  
7 Highlight House, St. Leonards Road,  
Eastbourne, Sussex BN21 3UH.  
Telephone: (0323) 410335



© Copyright Professional Lighting & Sound Association

No part of this magazine may be reproduced without the permission of the Editor.

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

## LIGHTING DIMENSIONS INTERNATIONAL

### DTI Supports PLASA Promotion Push

A strong contingent of PLASA companies will be exhibiting at this year's Lighting Dimensions International Exhibition at Nashville in Tennessee (November 17-19), both on the PLASA group stand or with their respective US companies or dealers.

Le Maitre Holdings will show products from three companies in the Group in conjunction with their distributors Global Future Technologies of New York and RMS Co. Ltd. of Ontario.

**Le Maitre Lighting & Effects** will show the Optimist, Powermist and Smoke Processor smoke machines, together with the LSX low smoke convertor. **Le Maitre Fireworks Ltd** will display their full range of pyrotechnic devices together with electronic firing systems. For **ICElectrics**, with 'new look' products, great emphasis will be placed on the new DPA range of Mosfet power amplifiers as well as lighting control systems and strobes. Representing the company will be Dick Carrier, Mick McManus and Rick Wilson.

Being shown by **CCT Theatre Lighting** for the first time in the States will be their new discharge follow spot. It has 5 lamp options, including Philips' latest 1200W MSRHR. In designing the unit, CCT say every attempt has been made to ensure it is a truly 'operator friendly' light.

Also on show will be a new effects projector. Rated at 2500W it is designed to use industry standard effects and slide carriers. Condenser lenses and heat filter are indexed and easily removable for cleaning, and external field adjustment and safety interlocks are standard.

On view alongside these will be the new CCT Pursuit follow spot and the latest condenser optics version of the Minuette profile zoom spotlight - for those who want the finest in gobo projection. On stand will be Don Hindle and Martin Moore, manager of Furse Theatre Products, a CCT company.

Also on the PLASA Group stand will be **Advanced Lighting Systems** with the latest in their Enigma variations, and with John McPhail and Alyson Stewart in attendance. **Presentation Consultants** will be telling people about their MegaMags on the current Rolling Stones tour (see feature this issue) and have on display a wide range of colour change products. **Cerebrum** will be pushing all their regular lines including **Powerdrive**.

In addition to their regular product range, **Anytronics Ltd** will be showing their Light Systems One and Two expandable lighting control systems and their new 19" dimmer packs - the D605 and the D610 - the first products in the 192 Series

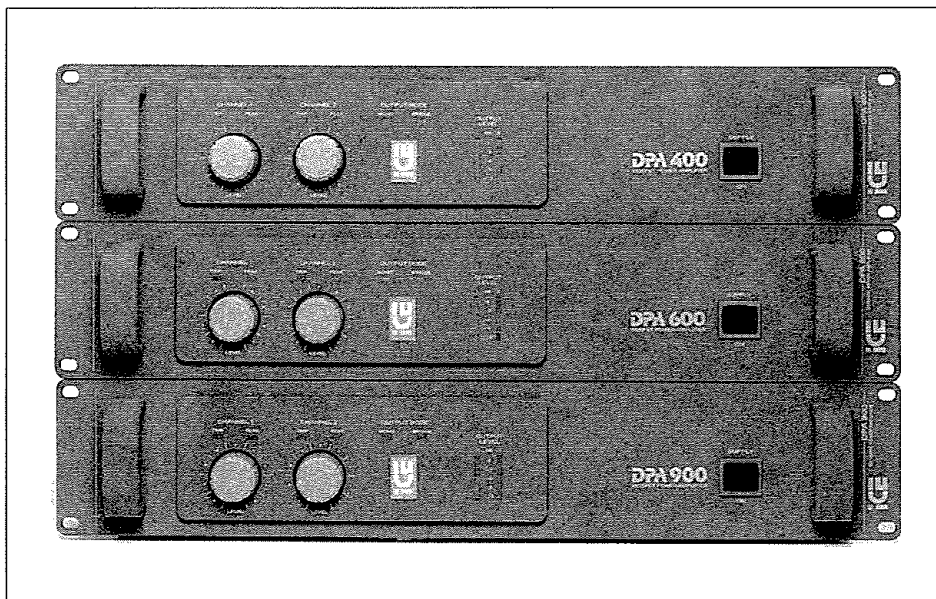
range. Whilst in Nashville the company hope to increase customer awareness in the States, establish new contacts, and support both their US and Canadian agents.

**Celco** will wear their 'Inc' banner and will show their complete range of lighting boards and dimmers. They will also have a comprehensive range of 'peripheral necessities', including Connexion Softpatch, computer enhanced displays, and Q-Card digital storage. Celco Inc. have also been appointed exclusive USA agents for **JEM Smoke Machine Co Ltd** and will be displaying their range of products including the recently launched 'Cracker' and 'Roadie' alongside the ever-present Heavy Fog. Also on the Celco Inc. stand will be **Lynx Lighting** products including Synchro Pin, The Tube, Synchro 2, and 100SX pinspot.

**James Thomas Engineering** will be showing their 36 lamp pod, an extended truss compatible with pre-rigged trussing and adapted to fit 36 luminaires in stead of the usual 12. Alongside this will be equipment from the current ranges of Thomas products. **Zero 88 Ltd** will be adopting a supporting role for their American-based counterparts Zero 88 Inc. The new Sirius 48 will be given prominence, and together with the two Sirius consoles already on the market, other ranges from the Zero 88 stable will also be on display.

**Pulsar** have two stands this year. Their major display is a joint venture with Clay Paky featuring Oska and all the Clay Paky range of equipment including Golden Scans. Pulsar will also have a large area as part of the High End Systems complex where they will be showing their full range of products.

A full review of Lighting Dimensions International by Tony Gottelier and John Offord will appear in the December issue.



ICElectrics' DPA Mosfet power amplifier range.

### Police Field Search

Zero 88 were recently the bemused recipients of a telephone call from the West Midlands Police in Coventry. Apparently a 'big bit of metal with the name Eclipse' had been found in the middle of a field! and the boys in blue were anxious to know if the company would claim ownership of the 'miniature UFO'.

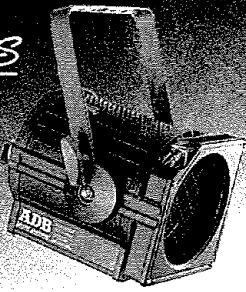
Zero 88 speedily denied all knowledge of the strange occurrence, however the serial number disclosed that the owners were one Furse Theatre Products of Nottingham. On being phoned by Zero 88, Martin Moore, MD of Furse informed Freddy Lloyd that he 'hadn't missed it', obviously thinking something sinister was involved.

So, if anyone can help the Police with their enquiries . . .

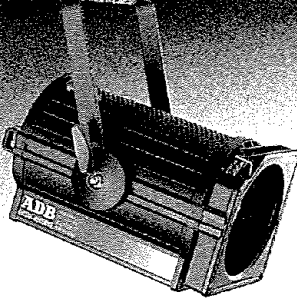
# ADB

*lighting systems*

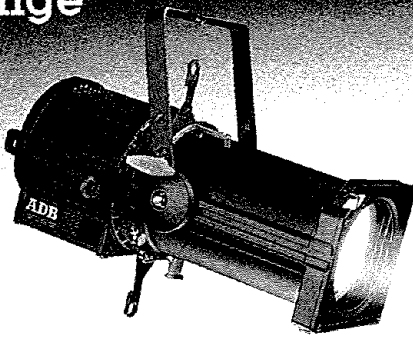
## "EUROPE" Theatre Range



Europe  
1000/1200 W Fresnel  
2000 W



Europe  
1000/1200 P.C.  
2000 W



Europe  
1000/1200 W  
Zoom Profiles

## Upfront PLASA News

● It was announced as we went to press that Kevin Hopcroft of NJD Electronics is to become the next Chairman of PLASA, taking over from Peter Brooks of Zero 88 Lighting. A profile of NJD Electronics is included in this month's Disco+Club Scene, and an in-depth interview with Kevin Hopcroft will follow in January.

● Eight new members have been admitted to the Association this month. They are as follows: A. C. Lighting, Chris James & Co, Colin Eades Partnership, DHA Lighting, London Acoustical Developments, Middlesex Sound & Lighting, Quartz Systems and System Freestyle. For full details see the membership listings on pages 70/71 in this issue.

● Elections for new members of the PLASA committee are now taking place. All members will have received a ballot paper and short profile on each of the 13 candidates, and may vote for a maximum of five.

## New Lee Locations

Lee Lighting Limited, which, according to the company, has the largest inventory of lighting equipment, skilled labour, generators and vehicles, is moving its London headquarters to a new location. From November 13th, the company will be based in Wycombe Road, off Beresford Avenue, Wembley, Middlesex, leaving its Barlby Road premises completely.

The new facility includes offices, equipment stores and workshops in a completely refurbished complex which it occupies alongside JDC, Mitchell, Panavision and Lee Colortran. The headquarters move represents a major investment for the company and provides upgraded facilities in readiness for future growth.

Lee Lighting's London location is the focus of a nationwide network of rental operations with offices in Manchester, Glasgow and Bristol, and additional representation in Thetford. In response to the film industry's growing use of East Africa as a location, Lee Lighting recently established a new operation in Kenya.

## Vestax Arrives

Vestax (Europe) Ltd has recently announced its European debut. The newly formed company will serve all aspects of the leisure industry where audio and lighting are used. Primarily the company has been established to open new markets and support distributors for the Vestax range.

Vestax are market leaders in Japan and the USA. Until now however, only part of their range of pro-audio, personal multitrack recording, musician equipment and DJ equipment has been available in Europe. Exhibiting at the recent Light and Sound Show resulted on overwhelming interest in the DJ products which include digital effects and sampling. Also available from Vestax will be a range of lighting equipment including lanterns and a new wind-up structural truss system.

Vestax Europe will be run by Rob Peck, formerly of Icelectrics, who is now in discussion with a number of potential dealers. He can be contacted on (0428) 53117.

# Q3Z

## MINI ZOOM ELLIPSOIDAL








**INDUSTRIAL PARK, ROUTE 9W, STONY POINT, NY 10980**  
**PHONE: (914) 947-3034 • FAX: (914) 947-3047**

- Variable Focus 25°-40°
- New Optics Outperform Larger 4 1/2" Units
- Thermal Operator Controls
- Perfect for Framing or Pattern Projection
- 150-500W Lamps

## Light Engineering

News from Light Engineering is that the PLASA Show was a great success for their two new products. The company launched a sound animated high speed version of the popular Hexabeam and a completely new effect called the Sextet. Business on both products was brisk with several hundred units ordered at the show and many export enquiries, which the company say they are in the process of following up.

The company also offer a range of wholesale lines including the new agencies for Satel and Celestion. Other brands also available from Light Engineering include Multiform, Coemar, Jem and Anytronics amongst others. All products are listed in the new catalogue available from Light Engineering's London Trade Counter in Walthamstow.

## A Sound Future

Leading British PA and amplification maker HH, purchased in June this year by BLT Industries, now has a new home. Located in a brand new purpose-built factory in Cradley Heath, West Midlands, HH's full product line remains in production and plans are underway for a major ex-

pansion, with new products already scheduled for release next year.

BLT, with an annual turnover in excess of seven million pounds, say that with the recent installation of CAD/CAM design facilities, HH's reputation for innovative design and reliability will be considerably enhanced. Former HH area representative Mike Joyce has been appointed general sales manager.

## Databeat Launch

Databeat officially launched the DJ version of their unique and successful intelligent CD music systems at Leisure Industry Week which took place last month at the NEC. The versatile system was displayed on the BASS Leisure stand.

As a development of the fully automatic systems which are already being used by the Whitbread Henry's chain, Scottish and Newcastle, THF, Crest, Hyatt, Chef and Brewer, Bass and Suntory amongst others, the DJ system offers the user the opportunity of being as much or as little of a DJ as is desired. The user can choose tracks from prompt lists that the computer offers or can select tracks by artist or track title if desired or finally the user can 'walk away' from the system and allow it to run on automatic.

the "EUROPE" RANGE has been selected  
for "HAMLET EUROPEAN TOUR"  
(directed by Yuri LYUBIMOV)

A HAYMARKET THEATRE LEICESTER PRODUCTION  
(0533/530021)

**ADB**  
*lighting systems*

## Bloomsbury Set

Leading design and communications company Imagination - the company responsible for lighting the Lloyd's of London building and the facade at Waterloo Station - has now lit, to dramatic effect, its new London headquarters.

A former Edwardian school, the building has undergone a remarkable transformation by architects Herron Associates (who have since merged with Imagination) into an exciting environment that includes facilities such as roof gardens, a staff restaurant and a gym. One of the most outstanding features is an 18 metre high atrium space covered by a unique, translucent fabric roof.

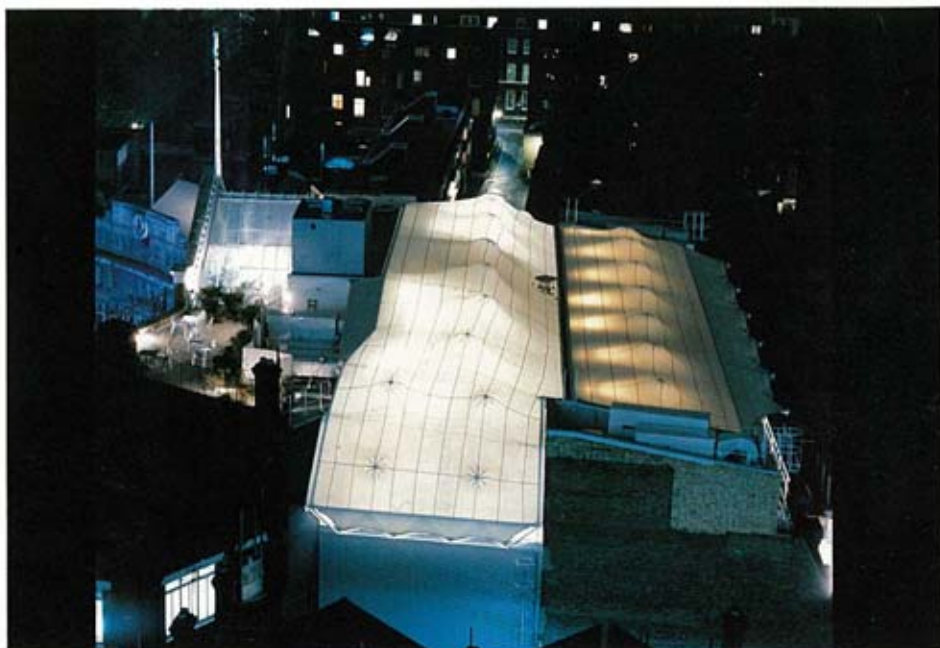
Imagination lighting designer Hugh Vanstone has devised lighting schemes to enhance both the exterior of the building and the interior space. "Our aim was to highlight the dramatic architecture and to help make a visit to the building an exciting 'experience' at night as well as by day," Vanstone told L+S. "The building is a series of 'surprises', none of which can be guessed at from looking at the exterior facade."

The exterior floodlighting comprises a simple lavender wash to bring out the red brick facade, with four columns of white light to highlight interesting architectural features. The flagpole at the top of the building and the entrance canopy are also picked out in white light.

The atrium lighting scheme has been designed for flexibility, so that Imagination can use the space in many different ways. The white roof fabric is uplit with halide floodlights and 10 steel bridges which span the space are crosslit with low voltage spots to pick out their detailed structure. Further 'mood' lighting is provided by banks of theatre lights specially finished in chrome.

By day, the natural daylight, let in by the translucent roof fabric, is supplemented by beams of white light which streak down the walls of the atrium bringing out the texture of the brick walls (painted white). In the evening this is replaced by a warm, dappled light in the area outside the restaurant to provide an 'evening sunlight' effect.

One of the most noticeable features of the general office lighting throughout the building is the absence of fluorescent strip lighting. This was a design decision taken by Gary Whithers,



Architectural floodlighting adds an extra dimension to Imagination's new HQ in Store Street, WC1.

Imagination's founder and creative director. Instead, the company has opted for a subtler effect, achieved with 500w tungsten halogen uplighters (with dimmers) and Tizio desk lamps. In addition, low voltage, adjustable wallwashers are used throughout.

Various lighting 'specials' around the building include recessed white neon to enhance the architecture in the reception area and strip fittings to provide a warm glow behind the 2.74 metre high sculptured Acanthus leaves in the restaurant.

### Lighting Specification

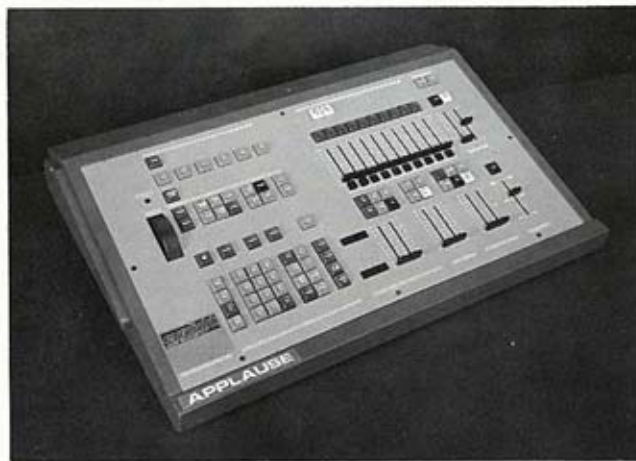
Exterior Floodlighting:  
12 x 250w Powerlite with MBI lamps

4 x modified connect Superlight 250w spots  
6 x modified Francis FR230  
4 x Berger & Weiser outdoor LV 100w spots  
2 x outdoor recessed MR16 fittings  
Equipment supplied and modified by Lighting Technology

### Atrium:

24 x Thomas Par 64 (chrome)  
12 x Strand Cantata 26/44 with gobos (chrome)  
15 x 150w halide floods with barn doors  
40 x Candela ring fitting 75w  
1 x 24 Electrosonic dimmer system with 60-way patch panel and "Scenemaker" control.  
Equipment supplied by Theatre Projects Ltd  
Electrical engineering for the building: Electrical Engineering Contracts Limited.

## TWO WINNERS FROM EUROLIGHT



**OVATION** and **APPLAUSE** offer a new generation of lighting control from EUROLIGHT.

The systems include as standard a colour visual display, 3½ inch MS-DOS format disc drive, full effects package, 6 manual or automatic playbacks, dimmer profile, DMX multiplexed output, menu functions including macro keys, proportional softpatching and 10 multi-function controllers. Ovation also includes fade profiling, alpha numeric keyboard and 20 multi-function controllers.

The best news of all is their price!

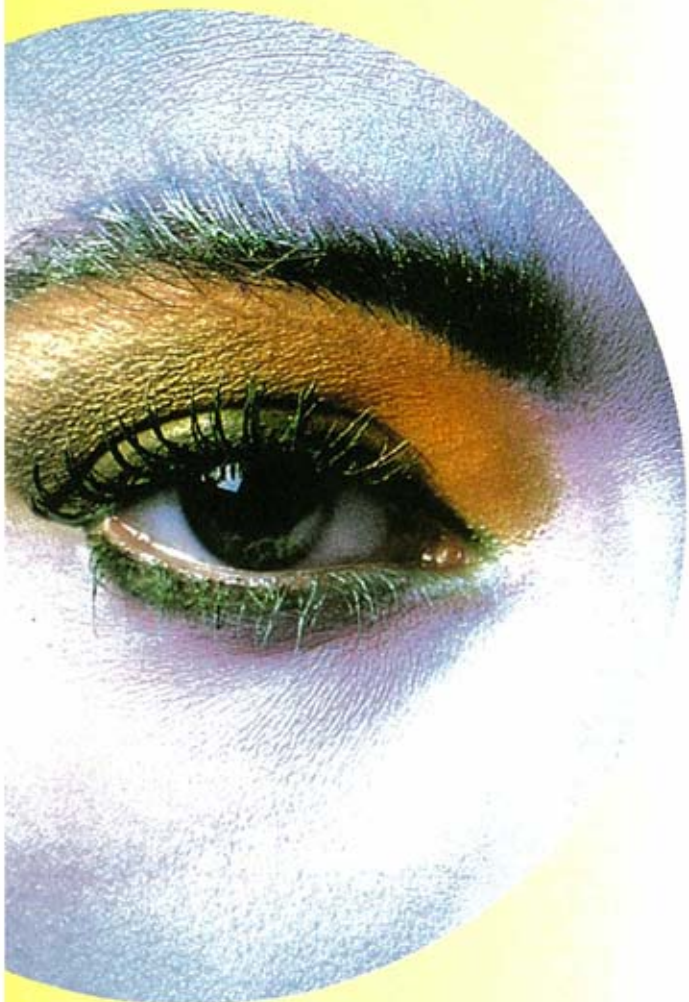
Eurolight Ltd Unit 1 Maple Industrial Estate, Maple Way, Feltham TW13 7AJ  
Telephone 01-751 6400 Telefax 01-751 3334 Telex 888941 LCCI G





FINALLY, THE COMPLETE LINE OF MORPHEUS LIGHTING PRODUCTS IS NOW AVAILABLE FOR PURCHASE. THE PC SPOT, THE PC BEAM, THE  
**OWN THE FIRST NAME IN LIGHTING: MORPHEUS** COLOR FADER, THE COLOR RANGER, THE CUE SPOT, THE COMMANDER CONSOLE,  
AND MORE. TO OWN THE DIFFERENCE CONTACT: PAN-COMMAND SYSTEMS, INC., 1271 ALMA CT., SAN JOSE, CA 95112, 408-297-7262.

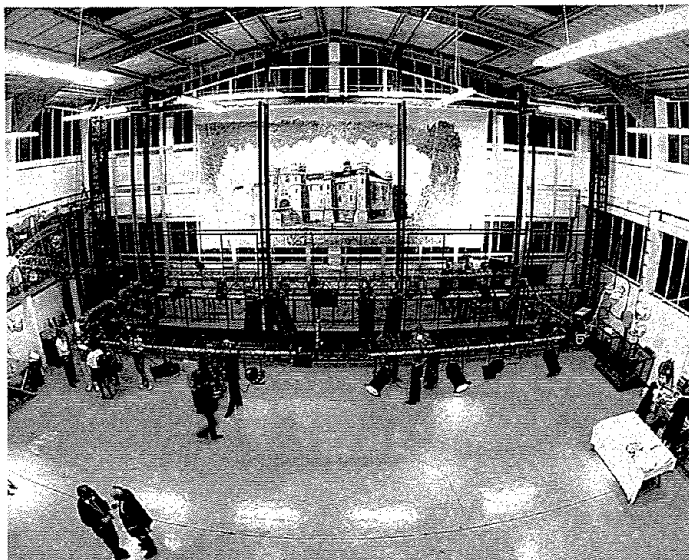
**PanCommand**



**See The Difference.**



## Rosco Get it Framed!



The Rosco Paint Frame gives the scenic artist complete flexibility at work.

The 1st of November saw the launch by Rosco of their newest facility for scenic artists - the Rosco Paint Frame. The extremely large working area of the Paint Frame, together with 24 hours a day, seven days a week access, means that Rosco are able to offer a service which, after extensive research, they believe to be unequalled in the country.

The Paint Frame is 25 feet high with a 30 feet high centre section, and just under 55 feet wide. The rise and fall platform, extending the whole length of the paint frame is over 4½ feet wide, and is completely stable as some of the heavyweights on L+S's staff will testify. It is operated by remote control from the platform itself, providing two levels of storage plus power outlets for compressors on the platform.

The front section is hinged so that if partially completed scenery needs to be mounted, the gantry maintains a clearance. A small ramp has been added to allow access for disabled scenic artists. Health and safety considerations were studied carefully in the design, and a full selection of safety switches is included.

The Frame is situated in its own work area, measuring 60 feet by 35 feet, which provides an uninterrupted viewing area, plus space for set assembly and construction. Entrance to the ground floor Paint Frame is through 14 feet high dock doors, from a secure, and large, parking facility.

The Paint Frame can be found at Rosco's headquarters in South London, and offers the full back-up, say the company, of an on-site screen making-up facility plus the complete range of Rosco paints, brushes, latexes, finished textiles and host of other artist's materials.

## European Leisure's Latest

European Leisure PLC, the fast-growing consumer leisure group, has acquired, in separate transactions, two theme pubs in Warrington and Cardiff for an aggregate of £2.05 million in cash and Ordinary shares.

**Russian Tomkins** in Warrington, for which European Leisure is paying £800,000 in cash from the Group's own resources, is a theme pub and restaurant with facilities for up to 750 people. Situated in the centre of Warrington, the building is adjacent to Warrington Central Station and was the station booking hall. It has been recently converted and totally refurbished, and was opened in October. The property, which has a 99 year lease, has been valued at £1.0 million, reflecting the potential trading profit.

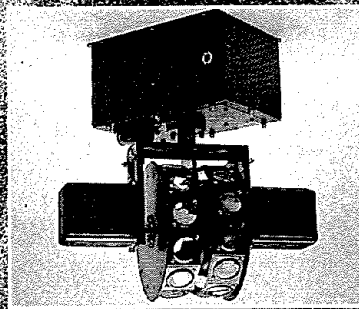
**Buzz**, in the centre of Cardiff, is an extremely popular theme pub and restaurant with facilities for up to 650 people. It is European Leisure's first acquisition in Wales further extending the company's geographical coverage. The consideration of £1.25 million is to be satisfied by the payment of £800,000 in cash from the Group's own resources and the issue of 436,893 new Ordinary shares. Buzz, which has been valued at £1.6 million, has been fully refurbished and opened in June this year. The new Ordinary shares will rank pari passu in all respects with the existing Ordinary shares and an application has been made for their admission to the Official List in London and Dublin. The Group, has also acquired a nightclub and bar complex in Hartlepool, Teeside for approximately £300,000 in cash.

The complex is situated in Hartlepool Town Centre and comprises three separate trading concepts: 'Piano's' - a theme bar which is open for both lunch and evening trade, 'Gemini's' - a discotheque bar, which is only open in the evenings and 'Heavens Above' - a nightclub which operates until 2.00am.

The operation which is licensed to a total capacity of 680 people further strengthens the Group's position in the North East. The Group is also strongly positioned in the UK discotheque industry as a whole, where it has already become one of the major operators. The Group is also assembling its own estate of theme pubs and has developed the concept of large-scale floating leisure venues. It has recently made its first acquisition in France forming part of its European strategy.

The Group continues to strengthen its management teams in the UK and Europe. The recent acquisition of three Paris venues, which was completed in September 1989, has brought to the Group a strong management presence in France which will significantly enhance the Group's prospects for growth in that country.

# The absolute Bolognese!



This exciting new compact effect from Nisel Italy is perfect as a centre piece in smaller venues, or stunning used in multiples for the larger club.

The twin discs contra rotate to sound, and the whole head can then revolve when the beams appear to interweave for the spaghetti effect!

The lenses can be filtered to the colour or colours of your choice.

Diameter: 510 mm  
Drop: 490 mm  
Weight: 25 kg

# AVITEC

THE ATMOSPHERE CREATORS

Avitec Electronics (UK) Ltd.,  
80/81 Walsworth Road,  
Hitchin, Herts, England.  
Tel: (0462) 458961  
Tlx: 85682 AVITEC G  
Fax: (0462) 431019



The special effects of Laser Grafix featuring in Malta's 25 years Independence Spectacular.

## Reason to Celebrate

Malta's recent celebration of 25 years independence provided Laser Grafix with their most ambitious display project to date.

Almost half of Malta's entire population numbering approximately 150,000 people, attended the celebrations held on two consecutive nights. Laser Grafix produced hundreds of detailed graphics and four complete animation sequences to complement a theatrical representation of Maltese history from the Neolithic period to post World War II.

"This was the biggest thing Malta's ever seen," Laser Grafix' cartoonist, Graham Allen, told L+S. "It was a thrilling experience to be involved in

such an emotionally charged event." Lasers were projected from a distance of 150 yards, (a feat which Laser Grafix claim has never been achieved before in Europe), onto a massive screen suspended from a height of 200 feet by two enormous cranes. The screen was constructed of netting to avoid it being brought down in high winds.

Large frame lasers were used for the show, and cooled with over 2,500 gallons of water. Laser operators had to work from a purpose built-tower at a height of 30 feet. Mark Brown, managing director of the company, commented: "International competition for this contract was fierce. We took on the job at short notice and our artists had to move fast. Naturally, we're very pleased to have been involved in such a big event which went very successfully."

## On the Right Track

The Railway Inn sited at Pitsea near Southend, has recently undergone changes. The Inn, owned by Allied Lyons, is part of a new concept in evening entertainment for over 21's. The Group have turned part of the pub into a music bar.

A sophisticated sound system comprising Toa SF-30 speakers, SBD base bins, F-150 fashion speakers and P300 and P150 amplifiers has been installed by Enlightened Audio, including a 16 monitor video wall supplied through Cameron Video.

Special lighting effects have been coded onto the pop videos and this, combined with the use of the bank of monitors, creates an overall sight and sound experience. Additional to this, Enlightened Audio have also installed a smoke volcano which produces a smoke ring and has quite a stunning effect.

## EXPORTing Ideas

Owners, managers and other professionals from the nation's top nightclubs, bars and fun restaurants are expected to attend the Nightclub, Bar and Restaurant EXPO at Chicago's Rosemont/O'Hare Expocenter on February 5-7 1990.

It will include two days of exhibits and seminars preceded by a day of concentrated workshops designed for hospitality professionals. "Our workshop schedule prior to the opening of the exhibits has been extremely successful. They are supported by leading consultants for management-level employees in the nightclub industry. Workshops include subjects ranging from marketing and promotions, video, music, design and beverage operations to management," Ed Meek told L+S. In addition, the show will include a night tour of top clubs in Chicago. Additional information on attending or exhibiting can be obtained from: Nightclub, Bar & Restaurant EXPO, 305 West Jackson Avenue, Oxford, MS 38655; Tel: 800/247-3881 Fax: 601/236-5541.

## "It takes two to Tango..."

One of the 1990 range of new effects from Kremesa, the CR10/S Tango produces a unique combination of effects and is doubly superb used in pairs! The ten high power 100 watt PAR 56 Parabola lamps circle helicopter style – the whole unit can tilt to produce an astonishing switch back effect, and the lamp heads can then scan vertically through more than 90 degrees.

*The twin Tango experience is a light show in its own right – trip the Light Fantastic tonight!*



**AVITEC**  
THE ATMOSPHERE CREATORS

Avitec Electronics (UK) Ltd., 80/81 Walsworth Road, Hitchin, Herts, England. Tel: (0462) 458961 Tlx: 85682 AVITEC G Fax: (0462) 431019

# There is no comparison!

Synchrolite  
Series II

Vari-Lite  
VL 2B

Pan-Command  
PC Spot

Tasco  
Starlite

Moto-Light  
Moto-Arc

FEATURE	DESCRIPTION
Fading color	Fade or bump color. Fades directly from one color to another.
Rotating gobos	Rotate gobos in either direction with variable speed.
360° Continuous Pan	Uninterrupted 360° revolution.
Zoom optical system	As beam size decreases, intensity substantially increases.
Mixing gobos	Create new gobos by mixing existing gobos.
Color correction	Correct light source for TV, film and video lighting as needed.
Zoom pattern system	Control pattern size with zoom. Pattern remains in focus.
Designer option scroll	Designer choice in adding custom colors and effects for each application.
Pre-programmed cues	A library of pre-programmed movement and effects in the fixture.
Soft-edge light	Softened edge of light beam.
Basic features	HTI 400 lamp or equivalent; color, gobos and aperture/iris systems.

## PC Spot®

It's obvious that there is no comparison between the PC Spot and other moving lights. Just look at how many more features we offer! For a better look at the PC Spot, contact: Pan-Command Systems, Inc. 1271 Alma Court, San Jose, CA 95112 (408) 297-7262.

Distributor inquiries welcome. Patents pending.

**PanCommand®**  
See the Difference

## Moscow Musika '89

### Steve Warren of Avolites reports

In the hall that recently hosted the Bon Jovi peace concert (featured in last month's L&SI) a different sort of major event had not long passed. When Glahe International, the organisers of the Moscow Musika '89 Trade Fair, told exhibitors that they were expecting 100,000 visitors a ripple went through the ranks. However, once the show started this didn't seem quite so absurd.

Such a show was an extremely rare treat for Russians in the music and entertainment fields and for the entire eight days the Avolites stand was inundated!

This could be due to the fact that we had taken the 'Western Show' approach and were open to all the 'button pressers' and any members of the general public who wanted a demonstration. Most of the other stands were cordoned off with barriers or plastic chains and only people who had been adjudged serious buyers were allowed on to them. I gather this is quite normal for all exhibitions East of the Iron Curtain.

Sifting out the potential buyers was not too difficult as the Russian state controls the issuing of business cards. Anyone who has a licence to import from the West will have such a card in both English and Russian. These buyers understand the need to sell for 'hard' currency (valuta) as opposed to Russian roubles or the much suggested 'joint ventures', where goods or labour are offered in exchange for products.

All together there were about 60 stands, most of them western companies, and in the other half of the hall a large rock show took place every night (unfortunately mostly mimed playback) which was being used as a showcase for Coemar with PA from Formula Sound/Outline, Soundtracs and Cerwin Vega.

To the question 'Was the show worthwhile?' Well with the problems of currency exchange, export licences and the embargo list, we'll just have to press on with our contacts and wait and see!



Musika '89 - Billboard Style.



Trace Elliot displays its wares.



The Dynacord stand. Note the chain barring entry.



Steve Warren (right) with a hands-on demo.



The Allsop stand featured disk drive products.

# Light your act with Teatro

Followspots  
Cyclights  
Fresnels  
Profiles  
Floods  
Pars  
Pcs  
300W - 2500W



ZAMBELLI ADVERTISING

 **TEATRO**

Creative Lighting

TEATRO srl - 46042 Castel Goffredo (MN) Italy  
tel. 0376/780702 - ttx. 301590 1  
fax 0376/780888

Action Lighting, London: 01-992 7821  
BEMCO Ltd, London: 01-874 0404  
Dial Sound & Lighting, Bradford: 0274 651600

Mushroom Lighting, Northampton: 0604 494886  
Odeum Light Sound, Surrey: 0403 752775

## Full of Eastern Promise

Something big is happening in the Soviet Union and, in this particular instance, I'm not talking about Glasnost. Traditionally, the USSR has been famous for vodka, dancing, ballet, salt mines and the KGB. Soon, however, lighting and sound entertainment might well be added to the list.

Over the past decade the Soviet Union has become increasingly important and accessible to foreign touring rock musicians as well as musical and theatrical companies. This has created the need for a comprehensive range of lighting and sound equipment in order to raise production quality to a standard already commonplace throughout the West.

Until now, satisfaction of this need has not been possible and, consequently, visiting artistes such as Uriah Heep, Black Sabbath, Billy Joel, The Scorpions, Sting and Big Country have had to contend with the expensive and time consuming process of shipping equipment out.

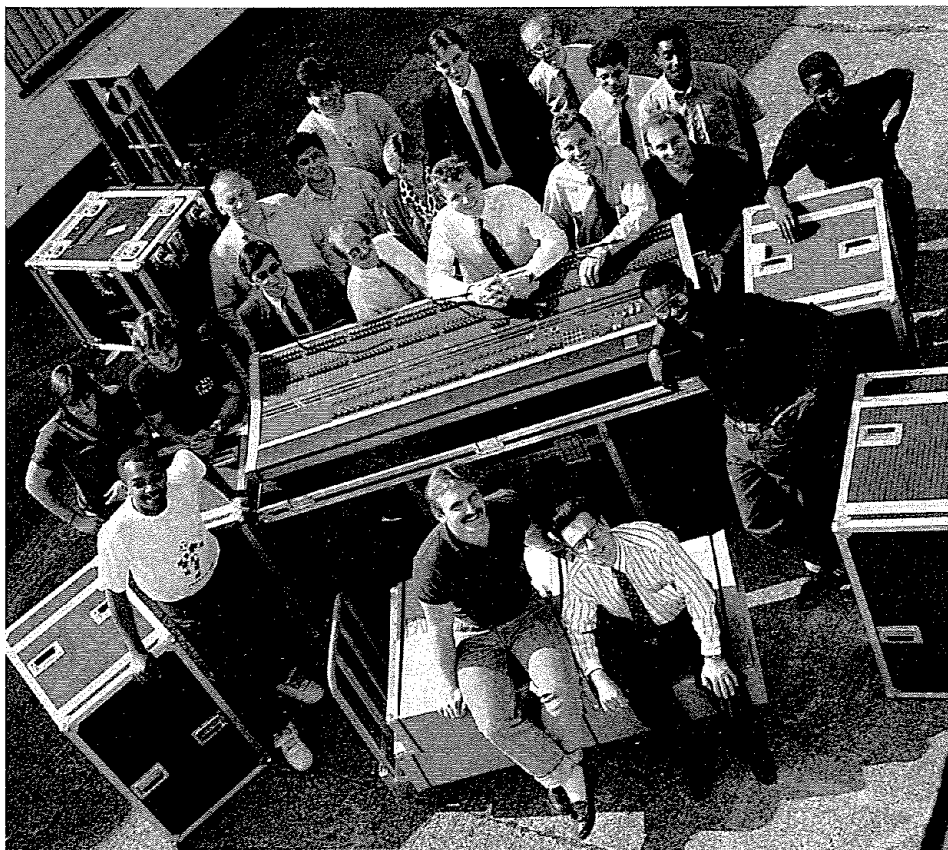
However, with the recent formation of ALT Co, an Estonia-based show service and management company, many of the problems encountered by visiting performers should soon be alleviated. At their disposal now is a vast array of sound equipment, courtesy of Soundlab, Munich, and a Gold, 30 Major as well as a number of Series 2 Dimming and Connexion Systems, supplied by Celco. This will soon be supplemented by an array of Light & Sound Design's rigging equipment, to be distributed through Presentation Consultants. In addition they have purchased Thomas Parcans and slick trussing through Camco in Germany.

"This", says Mati Vaarmann, the company's vice president on a recent, and first visit to the UK, "is just the beginning. As soon as visiting performers are aware that we can supply them with the sort of lighting and sound equipment they need, we will be in a position to expand our range.

"Already", he adds, "we are trying to establish what's going to be our next most likely purchase". In fact, this was his and the president of ALT Co, Jury Altov's, prime motive for travelling to the UK this October. They wanted to meet the professionals, see equipment in action, discuss general issues about lighting and sound, as well as to contact promoters with a view to gaining inclusion on future world tours.

Celco were hosts for their week-long stay; a stay which included trips to a variety of lighting and sound equipment designers, manufacturers and distributors, as well as some other rather more leisurely excursions into the great British countryside.

"All of which", according to Mati Vaarman, "left a great impression. Light & Sound Design's Nick Jackson, Terry Lees and Steve Dawks gave us a demonstration of the very large 'scrollers' which were manufactured specially for the current Rolling Stones tour; Terry Clark of Klark-Teknik showed us the semi-automated process for the production of equalisers, the latest Midas sound mixer and the Jade Active Speaker system; John Lethbridge gave us a tour of all the equipment



The staff of Celco prepare for the shipment of equipment to the Soviet Union.

currently available at Presentation Consultants; and Thomas Reimann, Keith Dale and Colin Whitaker of Celco generally looked after us and made us feel (not) at home.

"We can", he continues, "learn a tremendous amount just by talking to people and watching them in action". And, after hearing Jury Altov's account of the current state of productions in the Soviet Union, learning is exactly what is needed. "It's very hard", he says, "to take the industry seriously, you can't even buy toilet paper or toothpaste, so why should we have good equipment for putting on different types of entertainment? It's taken us a year of hard work to convince officials and banks that having the facility to put on big productions is worthwhile. After all, the Soviet Union is a very big country and music is very important to people".

It appears that ALT Co will be trying to make further trips to the UK in the future because information about equipment and news of what's going on in the world of lighting and sound is not readily available in the USSR. "There are no magazines or newspapers about these things" says Mati Vaarman, "only a few fanzines which, of course, can-

not cover everything".

ALT Co's formation and connections with the UK and Europe are obviously important for East-West relations in general. However, for the lighting and sound industry, the potential scope of recent events is almost limitless. It has shown that there is a vast and almost untapped market which cannot be satisfied by Soviet Union enterprise alone.

Assuming that production quality improves drastically - and there is no reason to suppose that it shouldn't - thereby enticing more artistes to include the USSR on their touring schedules, the future looks very promising indeed. ALT Co's initiative should provide the necessary stimulus for other Russian co-operatives to do the same, which in turn can only increase the demand for Western equipment.

If this is the case, how long will it be, I wonder, before we begin to hear about great Soviet LD's? "Sooner than you think", says Mati Vaarman, "because our very own Nikita Kiknadze is already coming up with highly creative ideas. We can't drag him away from the equipment". Roy Bennett, Patrick Woodroffe, Allen Branton et al. Watch out!

## Citronic at The Old Vic

Citronic PPX Amplifiers have been used by the Bristol Old Vic in a major sound system revamp at their Theatre Royal.

The sophisticated Citronic equipment and wiring has been supplied through Stage Electrics who are specialist suppliers to the theatre industry. In conjunction with Citronic, they have worked closely with the Theatre Royal's sound engineer Chris Johns, to achieve the best possible results both in the auditorium and back-stage.

The top-of-the range Citronic PPX1200 provides most of the sound from the stage to the auditorium. Overhead sound effects are generated by a PPX900 in the flies with two PPX450's either side of the stage providing sound effects such as traffic. In addition, an existing PPX300 provides foldback to the orchestra back-stage.

Chris Johns is delighted with the new sound system: "At last we can support productions staged at the Theatre Royal with a really professional sound system," he says. "We are very pleased with it. Both Citronic and Stage Electrics were extremely helpful and co-operative at all stages of

the installation."

Citronic are one of the UK's leading manufacturers of professional audio equipment and are based in Melksham, Wiltshire. In addition to the PPX range of power amplifiers installed at the Bristol Theatre Royal, the company manufactures MPX Mixers and SPX Signal Processing for studio, concerts and venue-based reproduction systems.

## All in a Day's Work

Hi-Profile technical services, a division of HPC Leisure Group, received a phone call recently. Nothing remarkable about that, apart from the fact that the call was to place an order for six Clay Paky Golden Scans with 575 watt lamps together with controller. Naturally the order was received with open arms, but there was one snag, the customer, Monroe's of Plymouth, wanted the equipment delivered and installed the next day.

The technical services division, not wanting to be beaten, took on the challenge. Within five minutes of the phone call a confirmation order was faxed through to Pulsar's sales director Derrick Saunders, who couldn't believe his ears when he heard that not only did the equipment need to

be collected the following day, but it also needed to be installed. This being shortly after the PLASA show, a distributor's warehouse is usually in a state of what might be termed organised chaos.

The following morning an engineer left Helsby in Cheshire, for the long drive to Cambridge to collect the equipment by 4.30pm. The total mileage covered on the whole journey was just under 1,000 miles with a total of 16 hours driving time. Unfortunately the heavy traffic on the M4 caused his late arrival and thereby delayed the installation. However, it was completed by 10.30am the following morning and was ready in full operation for the delighted guests in the evening.

## Correction

September's article 'The Mysteries of Sound' contained a typographical error. Part of Tony Kingsley's reply to the question of the DJ menace should have read: "This they do by injudicious boost of treble on the mixer. We'd like to see a mixer with an internal restriction of EQ on music channels of +/- 6 or 4dB, without the operator knowing this has been activated." We apologise for any confusion this may have caused. Apologies also to Cyberdescence whose fax number appeared as their phone number in last month's issue. Their new phone number should have read 01-447 1010.

# The Professional People

Lighting sales and hire to the Entertainment, Conference, Exhibition and Leisure Industries.

Hire, design and supply of Slick lightweight structural trussing systems.

Huge rental stocks available.

Full design service.

Delivery and erection throughout Europe!



## MUSHROOM LIGHTING

76 Tenter Road,  
Moulton Park Industrial Estate,  
Northampton NN3 1AX

Telephone: (0604) 790900  
Facsimile: (0604) 491118



Lighting up the night sky, the powerful xenon searchlight at Blackpool Pleasure Beach.

### An Illuminating Experience

The sky at night at Blackpool Pleasure Beach has been transformed by the most powerful searchlight in the UK leisure industry, according to the amusement park operators. This illumination cleaves the clouds with piercing precision in true movie-studio fashion, and can be seen from as far afield as Preston!

The unit, situated on the roof of the Pleasure Beach's Bourbon Street restaurant at the centre of the 42 acre complex, was supplied by Lighting Technology of London. Made by Francis Searchlights, it uses a 7kW high pressure short-arc xenon mounted in a 710mm deep-parabolic reflector made of Rhodium. This combination produces a peak beam candle power of 1,100 million candelas, with a range of 33 kilometres. Made to marine specifications due to the climatic conditions at Blackpool Pleasure Beach, the sky tracker rotates on a 180° axis and is computer programmed, searing the sky from all angles.

### Major Installations for Farrahs

As part of a substantial refurbishment programme at the Sunderland Empire, Farrah Sound have supplied a major sound and communications system to provide front of house PA for what promises to be a busy and varied programme of productions over the next 12 months.

The entire system required over 5000 metres of cable, although the refurbishment programme dictated careful consideration of the siting of all the equipment with no surface wiring on show. The management of the Empire plan to make the theatre the finest in the North of England with no compromise on equipment to be supplied.

The substantial main house speaker system is Apogee based, with six A3 and two A5 full range cabinets and two A10 bass bins, plus 14 Anchor A1 delay units and six Ohm wedge monitors. The custom built rack carries 12 Metro Audio MA2, 400 stereo power amps with a total power capability of 10 kilowatts. Additional equipment includes a Soundcraft 40 channel sound mixing console, two Revox's, Denon equipment and Yamaha digital effects processors and graphic equalisers. Other facilities include induction loops on every level of the theatre and within the cinema, which also forms part of the building.

Farrahs have also delivered a new sound touring system to the National Theatre. The system includes Apogee speakers with rigging hardware to provide flexibility, and a Soundcraft 800 mixing console. The system will be used for a production of 'The Beaux Stratagem' about to tour, and will then be used in the Lyttleton Auditorium for a new musical in the spring.

### Cover Girl

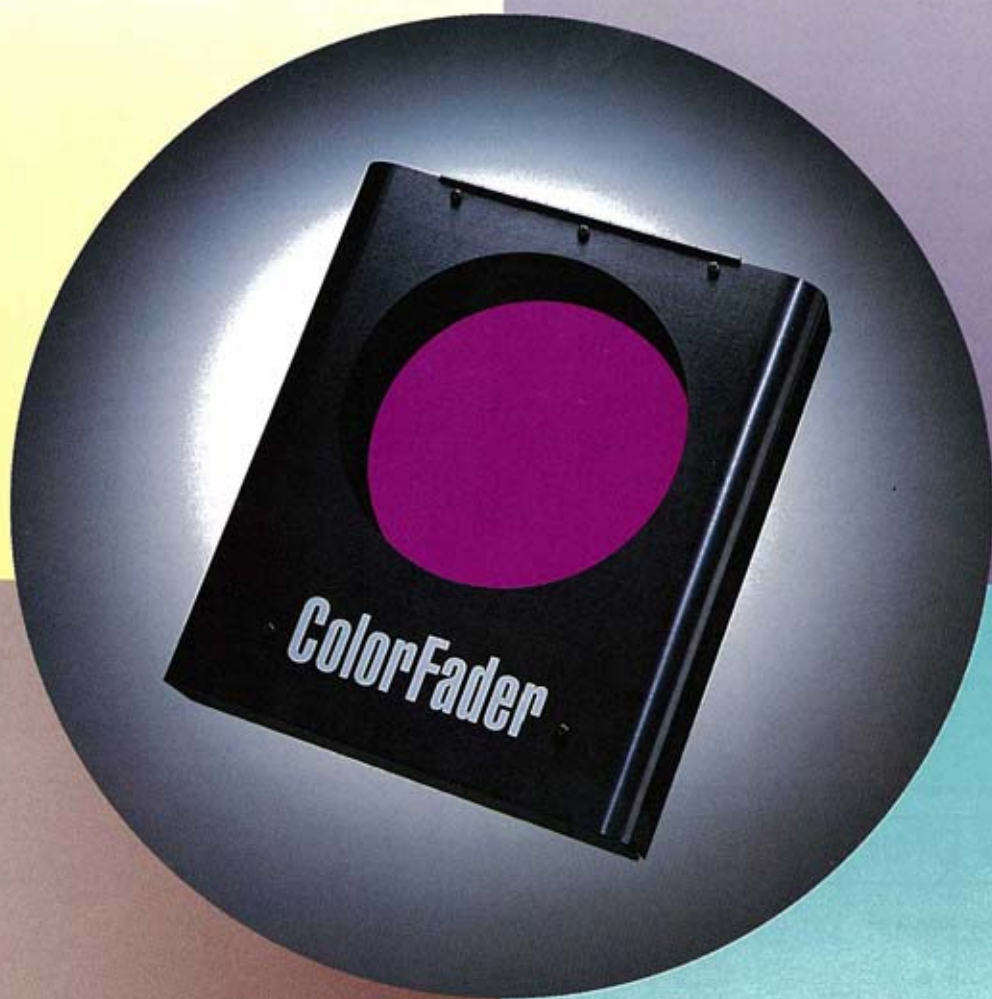


Last month's front cover shot and insets, together with several shots inside, were taken by Irene M Cooper L.B.I.P.P., a photographer who specialises in work for the entertainment, conference, and leisure industry. Working for set designers, lighting designers, production companies and television and theatre companies, she has worked on projects as diverse as rock 'n' roll, to Shakespeare to TV light entertainment shows.

As you may know, moving light shows are a part of the industry which is notoriously difficult to capture on film, but as you can see from her shots on last month's front cover, Irene has a 'feel' for creating quality images of this type.



Introducing...a color  
changer that fades!



## ColorFader™

*The innovative fading color changer from Pan-Command features:*

- Bump and fade directly to and from any color
- Utilizes same patented technology as the PC Spot.
- Unlimited choice of color (instead of preselecting only 10 to 24).
- Variable speed color changes.
- Eliminates need for costly custom gel scrolls.
- Compatibility with most digital controllers.
- Works on both 7½" and 10" frames.

*Find out how you can have all these features at a cost comparable to that of a standard color changer. For a closer look at the ColorFader, contact: Pan-Command Systems, Inc. 1271 Alma Ct., San Jose, CA 95112 (408) 297-7262.*

Distributor inquiries welcome. Patents pending.

**PanCommand®**  
See the Difference

# PLASA News

## Pricing Policies: Resumé of a Presentation by Mike Gerrish to the Plasa Committee.

Price is a horny old subject in this industry. Everybody would like to charge more for their products and services, but in reality they end up charging less. Why? Basically, it has become the norm and a very dangerous norm at that. The products used are becoming increasingly sophisticated requiring a greater effort to sell, as well as demanding competent after-sales servicing. This is not a result of products becoming more unreliable, quite the reverse in most cases. The crux of the matter lies in the fact that after-sales requirement is for continued help and advice on an ongoing basis. This is costly to provide and if the margin is not in the original sale it won't help. If this is to become a truly professional industry, then it **has** to make money and it **must** provide both the services and goods that the customer needs.

Citronic faced a difficult problem in 1987/88 because the company was losing sales to its competitors - not through problems with the products, but with their method of sale. Business in general was becoming more competitive, and being a market leader, the company's products were the subject of price-cutting to a level that, in some cases, represented loss-leading in order to attract a limited number of buyers to an industry with an over-supply capability. The result was that it became unprofitable for the more professional dealers to stock and service the Citronic products to the degree the product deserved. Marginal sales were therefore lost.

What was Citronic to do? Resale price maintenance is illegal and undesirable, but

this was looking a bit like survival time. We were faced with the choice of bypassing our dealer network and taking the UK market in a direct supply environment increasing our servicing facilities to a nationwide capability and marketing directly to professional users or attempting to explain the problem to the dealer network and working closely with them to begin to add value back to the products and continue to sell them in the way quality capital goods deserve. We took the latter course, and quite successfully I believe. We now have a profitable and professional dealer network through which sales are increasing and customers are being properly serviced.

The motives behind the move were coloured by the impending free-market situation the European Community is intending to subject us to. For better or for worse, it will come, and once established, will stay. We have to get used to an environment where selling to Paris or Barcelona is the same as selling to Aberdeen or Falmouth.

The things that won't change however are important as those that will. What about language and cultural differences, they cannot change overnight. It will be absolutely vital for manufacturers and distributors to maintain local representation in EEC countries if they are to get good market penetration for their products. Good penetration will be vital because only the efficient volume traders will be able to be competitive in this aggressive market.

Pricing is absolutely vital because local representation will be compromised if, in

what is a single market, the market values of products traded are significantly different in the various areas of Europe. If a product is cheaper in Germany than France, then French buyers will trade across the border at the expense of the French distributor who will eventually find something else to do.

Normalisation of prices is therefore imperative, which for UK suppliers means stabilising the input costs to its European distributors so that they match those in the UK. When you take into account the currency and transport costs this is a tall order and the supplier has to be very efficient at what he does in order to survive.

The one element that has to be stable is the market value of the products on the suppliers home market because that is the focus around which the European market will revolve.

The open market could be a blessing for the British pro-audio and lighting industry but, if we don't get our act together, then our competitors, elsewhere in Europe, will dominate and, instead of taking a lead, we shall be struggling to follow.

The standard of dealers in the UK is, in my opinion, second to none in Europe and I have spent a good deal of time in all the EEC countries, so we have the infrastructure as an industry. All we need is the will and aggression to make it work.

**The Plasa committee asked Mike Gerrish to prepare a proposal for a course of action that Plasa as a body could take. In our Viewpoint this month (see page 78), he puts forward his recommendations.**

## Exhibition Diary

### LIGHTING DIMENSIONS INTERNATIONAL 89

November 17-19, 1989.  
Nashville, Tennessee.  
Enquiries: Patricia Mackay or Jackie Tien,  
Lighting Dimensions, 135 Fifth Avenue, New York,  
NY 10010, USA.  
Telephone: (212) 677 5997.

### SIEL

February 17-20, 1990.  
Porte de Versailles, Paris.  
Enquiries: Bernard Becker Communications,  
22/24 rue de President Wilson - 92300 Levallois-Perret,  
Paris. Tel 33 (1) 47 56 50 00.

### SOUND NINETY

February 20-21, 1990.  
Heathrow Penta Hotel, London.  
Enquiries: SCIF, 4b High Street, Burnham,  
Slough, Bucks SL1 7JH.  
Telephone: (06286) 67633.

### FRANKFURT MUSIC FAIR

March 21-26, 1990.  
Frankfurt Fair Centre, Frankfurt, West Germany.  
UK Representatives: Collins and Endres,  
18 Golden Square, London W1R 3AG.  
Telephone: 01-734 0543.

### SIB/MAGIS

April 1-5, 1990.  
Rimini, Italy.  
UK Enquiries: PLASA general secretary,  
Tony Andrew, 7 Highlight House, St Leonards Road,  
Eastbourne, East Sussex BN21 3UH.  
Telephone: (0323) 410335.

### USITT

April 11-14, 1990.  
Milwaukee, Wisconsin.  
National Office: 330 West 42 Street, Suite 1702,  
New York NY 10036.  
Telephone: (212) 563 5551.

### VISION & AUDIO 90

April 22-25, 1990.  
Earls Court, London.  
Enquiries: Emap Maclaren Exhibitions Ltd,  
840 Brighton Road, Purley, Surrey CR2 2BH.  
Telephone: 01 660 8008.

### EXPO MUSICA

(dates to follow)  
Madrid, Spain.  
Enquiries: IFEMA, Avda de Portugal,  
s/n Casa de Campo 28011 Madrid 1101.  
Telephone: 470 10 14.

### APRS

June 6-8, 1990.  
Olympia 2, London.  
Enquiries: APRS, 163a High Street, Rickmansworth,  
Hertfordshire WD3 1AY.  
Telephone: (0923) 772907.

### ABTT TRADE SHOW

June, 1990 (provisional).  
Riverside Studios, London.

Enquiries: ABTT, 4 Great Pulteney Street,  
London W1R 3DF.  
Telephone: 01-434 3901.

### PLASA LIGHT & SOUND SHOW

September 9-12, 1990.  
Olympia 2, London.  
Enquiries: David Street, 3D Services,  
10 Barley Mow Passage, Chiswick, London W4 4PH.  
Telephone: 01-994 6477.

### PHOTOKINA

October 3-9, 1990.  
Cologne, West Germany.  
UK Representative: Tony Pitman,  
12/13 Suffolk Street, London SW1Y 4HG.  
Telephone: 01-930 7251.

### DISCOTEC/HOGATEC 90

November 5-9, 1990.  
Messe Dusseldorf, Dusseldorf.  
Enquiries: Dusseldorfer Messgesellschaft mbH,  
NOWEA, Postfach 32 02 03 D-4000 Dusseldorf 30,  
West Germany.  
Telephone: 0211 45 60 01.

## CHIEF EXECUTIVE

As a result of the forthcoming re-organisation of the Professional Lighting & Sound Association, the position of Chief Executive is to be created to administer and manage the newly formed limited company.

Under the new structure the Chief Executive will have the responsibility for all the activities of the Association, i.e. Light & Sound Show, Lighting + Sound International, and the running of the PLASA head office in Eastbourne.

Applications for this post are now invited and should be addressed to The Chairman at the PLASA office in Eastbourne (see page 5 for address).

Salary negotiable. Applications in writing only considered.

Reply date: November 24, 1989.

# DONCASTER'S DOME

The largest leisure centre in Britain that's under one roof opened its doors on October 1st. Ben Duncan visited the complex with Page One's Chris Taylor, who installed the sound system, and in a separate feature, Nick Mobsby of Eurolight describes the lighting installation

Sited next to the famous racecourse, Doncaster's new leisure centre has cost £23m, yet has taken just three years to arrive, from planning to completion. It's been funded by Doncaster's Metropolitan Borough Council without being a drain on ratepayers, from the sale of 350 adjoining acres for £20m, to companies who plan to build a supermarket and a multiplex cinema next door. The council have even formed a limited company, Doncaster Leisure Management Ltd, to independently manage the centre.

The Dome's main attractions are an indoor 'water park', a large, split-level ice rink, and a multi-purpose events hall which can accommodate up to 2000, with events ranging from theatre and music, to ball games. Altogether, The Dome can accommodate 5000 participants and spectators at any one time. Since the opening day is a long one (from 8am through to 11pm), a throughput approaching 10,000 people is plausible on busy days. Meanwhile, if the Channel Tunnel ever opens, Doncaster's population is set to swell, with the building of a European rail centre.

I asked John Richards, who's the centre's 'Head of Operations' how it all came about. "There was a nucleus of local councillors who wanted to provide first rate leisure facilities. To decide on the architect, a competition was held, and Faulkner-Brown (from Newcastle) won. They were headed by Neil Taylor, and this is his dream building! Construction was by management contract, under Norwest Holst, who won the contract on the basis that they agreed to fix the price and the opening date. Both Holst and Faulkner-Brown have done similar projects, at Blackburn and Bolton, for example...they came in bang on time, and dead on budget. So the building we've got is here now -rather than being two or three years out of date!"

I asked John Richards about his own background. Surprisingly, it was in electrical engineering and construction. So he's well qualified in expressing the opinion that 'The Dome is built and finished to unusually high standards'. John went on to describe how all the centre's 150 full-time staff have been recruited from diverse walks of life, many of them off the dole. It's meant nobody's had any preconceptions; everyone is new and fresh to the business of running a leisure centre. And so far, since opening on October 1st, it's worked well.

## Introducing the sound system

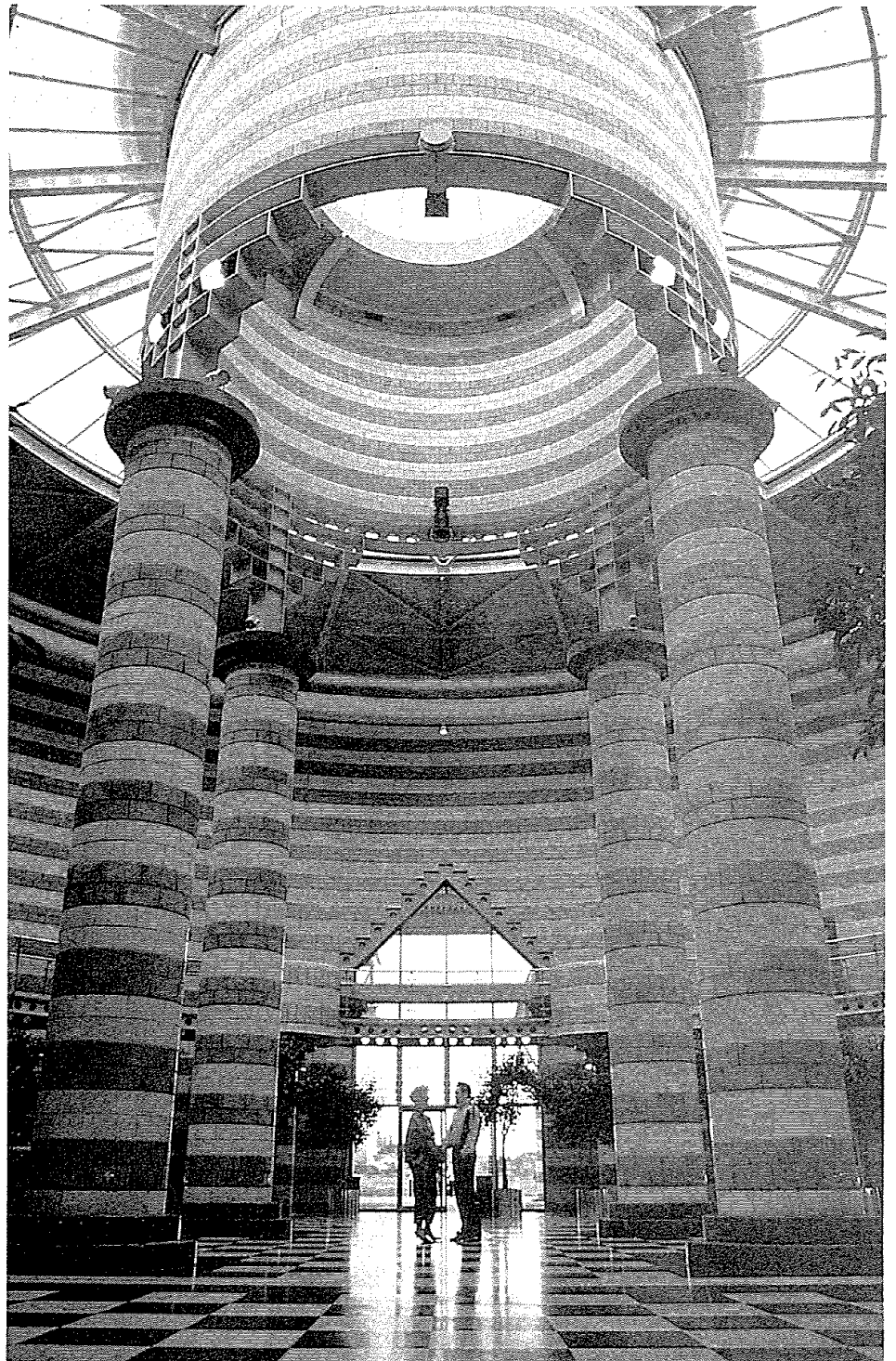
A competitive tender to supply The Dome's labyrinthine sound system was won by **Page One System Technology**, who offered to install Toa equipment throughout. The total cost was £97,000 including cabling, but excluding the laying and 'plumbing' of the cable runs, which was carried out by the electrical contractors. The system comprises over 180 loudspeakers.

Beyond providing a series of 'local' sound installations appropriate to each of The Dome's numerous facilities, each part had to relate back to the 'operations room', for overall announcements, as well as for pre-

recorded announcements in the event of a fire or some other emergency requiring evacuation. In the operations room, there's a smart, engraved metal plan of The Dome's layout, with green and red LEDs inset to show which doors are locked, as well as the location of smoke detectors and alarms. Monitoring includes a colour CCTV system, also installed by Page One using Toa components.

## The Swimming Hall

Our tour of The Dome's facilities began in an overheated office (a subtle hint perhaps, that we should have been clad in our swimming costumes) from where the centre's six indoor swimming pools are managed, and monitored by the CCTV installation. The pools cascade into one another, and they're all fitted with underwater lights...and speakers. This was to be the first of several



The circular forum capped by the Dome which gives the centre its name.



One of The Dome's six swimming pools, showing the twin flume exits. The CS-512 projector speakers are mounted off to the upper right of the picture.

challenges, and it's ironic that these are the only speakers in the building which aren't Toa and which weren't fitted by Page One.

The manufacture of speakers for continuous use under several metres of water is a highly specialised field: the model of loudspeaker originally proposed by Chris Taylor for this purpose, a Vitavox unit, became unavailable during the term of the contract. Chris reports: "Regretfully, a unit of similar size, performance and mounting detail couldn't be sourced by Page One. Size and fitting detail were important because by this time, the pools were approaching completion. In conjunction with the consultants and electrical contractors, it was decided to install French manufactured Cirtikin units.

However, the technical data available from the UK distributors was limited to the speakers impedance. Page One were hesitant in supplying equipment of which they had no previous experience, so consequently the advice of the project consultant, who had used Certikin on a previous project, was sought, and this element of the works was subsequently undertaken by the electrical contractor."

A bridge crosses the centre of the swimming hall, and on either side of the parapet, about 18 feet above the pool, Page One have installed mini clusters of four CS-152P weatherproof horns. Each produces 113dB at 1m, and together they cover the main body of the six pools, a distance of about

80'/27m on either side. The furthest pools are higher, so they're not as 'shadowed' or difficult to 'reach' as the distance suggests. Care was taken to treat the horn's diaphragms with a waterproofing chemical, to enhance their lifespan in the high humidity. In the changing area beside (but below) the bridge, PC-37R ceiling speakers are fitted.

At the planning stage, it seemed obvious that delay compensation would be needed, so the ceiling speakers could be synchronised with sound escaping from the main PA clusters, 50 feet away. In the event, the intelligibility was acceptable and the delay didn't provide any improvement. With hindsight, Chris Taylor attributes this to the changing area's low height and acoustically absorbent ceiling. For readers, it just goes to show how unpredictable acoustics design can be. For buyers, this is a good example of sound installation practice: an honest installer won't fit equipment which isn't needed, even if it was originally budgeted for. Beyond the parapet are Roman Baths, Solaria and Saunas.

The Roman bath sports a BS-5W, a direct radiating speaker which is Toa's most splash-and water-proof model. PC-37R ceiling speakers are fitted immediately outside the sauna cubicles. Chris Taylor comments: "All the PC-37R ceiling loudspeakers used in the centre have been equipped with an alloy smoke dome which helps prevent the spread of smoke and flames within the ceiling void in the event of a fire. The smoke dome was specifically designed by Page One for Toa. Speed of fitting isn't impaired, it suits all of Toa's models, and it's now incorporated in Toa's range as the CFD-1 smoke dome."

Back at the swimming hall's reception desk is a local paging mic. In the nearby control rack in the manager's office, the amplifica-



A view of the bridge and parapet (right) with CS-512 projectors visible between the palm tree's foliage.

tion is divided into four sectors, to feed the central array (240w), the health suite (60w), the underwater speakers (120w) and the wet changing rooms, as well as an external swimming pool (60w). Each destination can receive the locally produced background music from a BA-400 four way cassette player. Alternatively, the 'central' background music can be relayed. And for the individual pools, there's the option of local commentary. Toa's RD-14 dynamic cardioid mics were chosen; Page One expect these to withstand the occasional exposure to high humidity anticipated in this area. To maximise gain-before-feedback, this section of the PA is equipped with an E131, 1/3rd octave graphic EQ. The various sources are combined and selected with VM and VP-series mixer amplifiers.

#### Twin Ice Caps

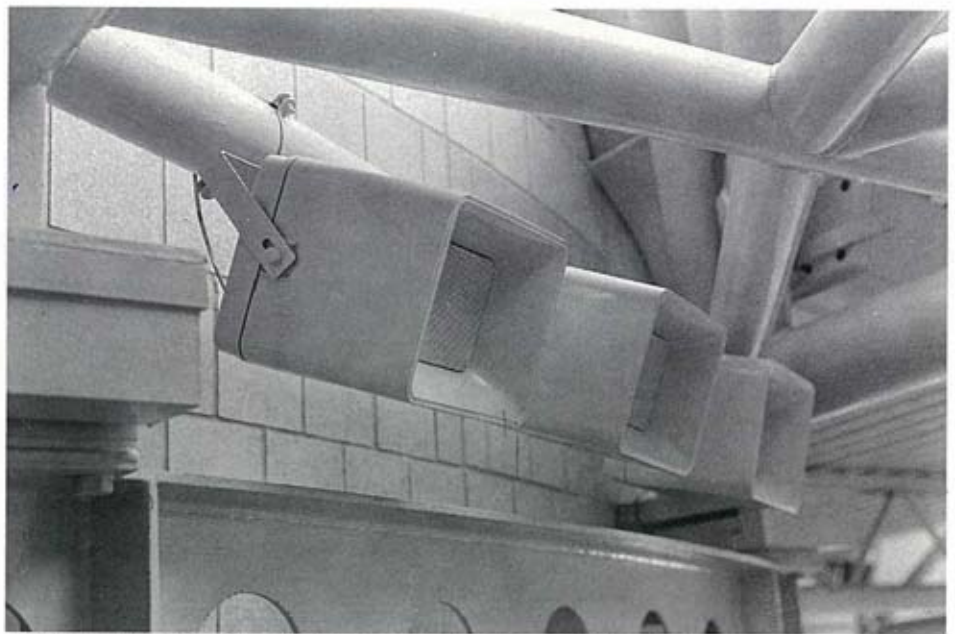
The Dome's ice rink is said to be the first in the country on two levels: two broadly circular rinks are coupled by an icy ramp. The atmosphere is enhanced by real pine trees (growing in big tubs), a snow flake machine and after dark, 'swiss night sky' lighting effects. The ice rinks' music source is determined by a key switch at the ice receptionist's desk. One option is background music, supplied by a BA-400 4-way cassette deck. The other is ice disco. The DJ booth is sited between the two rinks, and contains conventional equipment: a pair of SL-1200 turntables, a PM-80 mixer and a Sony CD player. The mic is again an RD-14. The PM-80 feeds a Toa 1000 mixer frame, as well as the disco light rig. The ultimate signal feeds two P-300D 480w/ch amplifiers for the upper and lower rinks. For each rink, one amp channel feeds the mid and high section of a mini cluster of four SE-380 speakers. The other half drives a single SEB subwoofer, which comes with its own low-pass filter. The Dome's management are happy with the aesthetics of the cluster, except that it's got 'TOA' written all over it in bright red!

Back at the desk, the receptionist can choose local or house background music, and local paging, while overriding priority is given to paging from one of two admin areas. The sound system extends into the rinks' changing areas and toilets, where six PC-37R ceiling speakers are fed by a 30 watt, VM-1030 amplifier mounted under the receptionist's desk.

#### Hall for Events

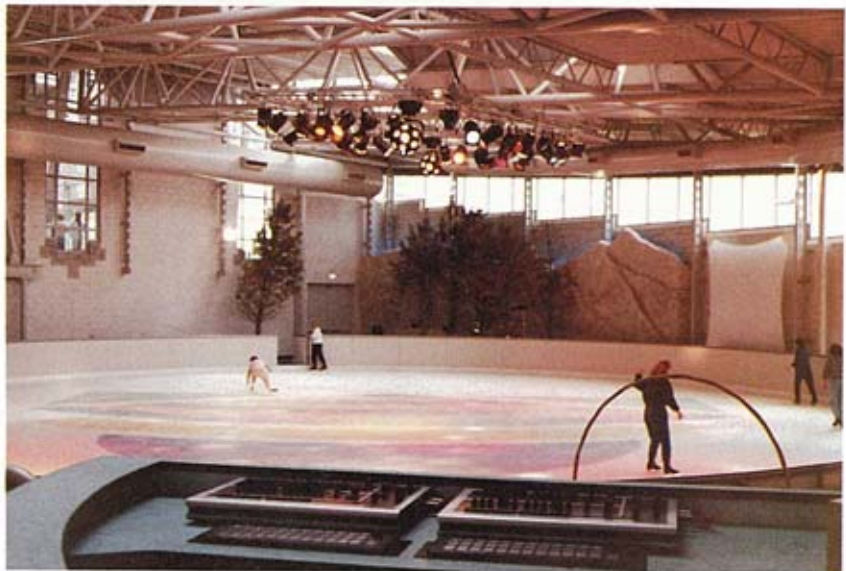
The venue's Main Hall caters for sporting activities like badminton, basketball, 5-a-side football and gymnastics. The games can be watched from a gallery which seats 700. The hall doubles for music and theatre, seating capacity being increased up to 2000 (at the expense of taking up some of the floor space), with 1300 clip-together seats in stepped tiers. At first, Page One installed a full-scale disco sound facility with a central cluster. But it was quickly removed, partly because the management couldn't justify the cost and also because it was clearly vulnerable to being bashed by footballs and the like. By contrast, the other ceiling fittings (such as the lights) are deeply recessed for protection.

At the time of viewing (early October), the PA speakers had been reduced to 12 CS-152P horns, in a splayed cluster, safely placed in the ceiling's central recess. These provide high quality paging and commentary as well as foreground music. There's a series of viewing boxes behind the gallery, the end one being fitted with a microphone for commentators. All the viewing boxes have PC-37R ceiling loudspeakers and AT-32A

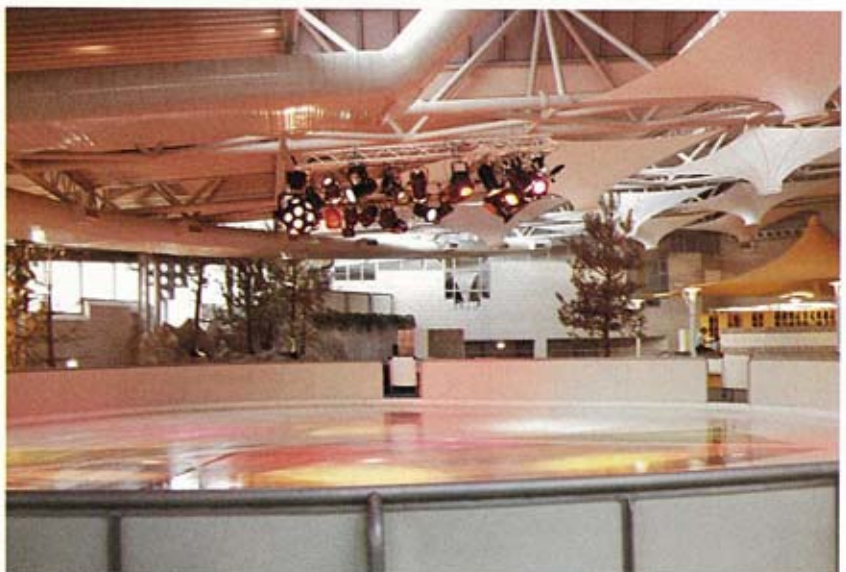


Splashproof CS-512 projector speakers arrayed above the swimming pools.

## LIGHTING THE DOME

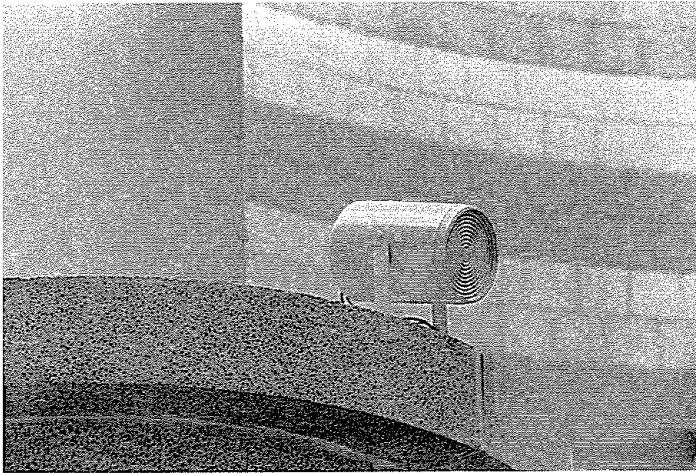


A view of one of the ice-skating rinks from the DJ console.

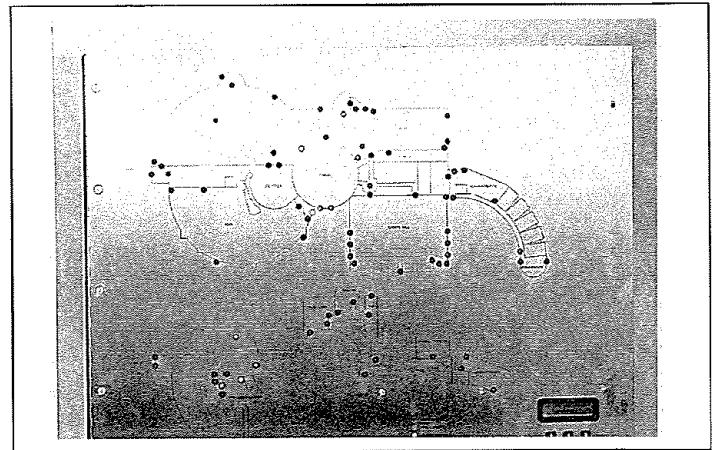


The second rink where Parcans are combined with rotating cosmos balls, strobes and projectors to add an extra dimension to ice skating.

The lighting scheme for The Dome was designed and installed by Middlesex-based Eurolight. Nick Mobsby relates the installer's viewpoint on page 23.



A PJ-200 speaker mounted on one of the marble columns in the forum.



In the operations room, an engraved metal plan is inset with LEDs to display the status of the security and fire alarm systems.

volume controls, working at speaker level. The main system is band-limited and tuned for maximum gain before feedback, with the (by now) customary E131 graphic. Chris Taylor recalls: "There was actually not much in the way of nasty resonances to tune out".

Also at the time of viewing, the centre had decided to fit a cabaret system for live performers, with a suitably protected central array of constant directivity horns. The system will include a mixer with enough channels to suit smaller acts. The management are clearly aware that biggest isn't best on this occasion, in that larger outfits will almost certainly want to bring their own PA.

#### Other Activities

On the centre's 4-lane indoor bowling 'green', commentaries and announcements are made through two rows of eight SM60 speakers, ranged along each side. Intended as mini (stage) wedge monitors, they're made from diecast alloy, they contain 5" paper-cone drivers, which should yield a softer, more relaxed and less insistent midrange quality than speakers employing a compression driver with a metal diaphragm. Having a low impedance (16 ohms), they're fed in parallel from a 25v line tap on Toa's VP-1240 amplifier. For commentaries, hand held mics can be plugged in at opposite ends of the green. Background music is available from the central source; usually this happens after games, as the green has its own bar.

The centre's five squash courts are fed by

CS-61P 6 watt 'projectors'. Again, these contain pulp cone speakers, but in an ABS (plastic) tubular structure, which offers some measure of directivity control on a tight budget. The dance and fitness room has one wall and part of the ceiling covered in mirrors. On the column in the middle, there's a pair of F-300 'fashion speakers' pointing out and downwards. Behind, there's a reception desk; the receptionist has her own mic.

Aside from receiving priority paging (from admin) and optional central background music, the local mixer also copes with mic and music sockets on the dancefloor, for the instructresses' instructions, as well as her taped music. The resident dance teachers had a question for L+SI's readers: they've had a problem finding ghetto-blasters with variable tape speed. Can any readers help?

The 'Engine Room' is a gallery for heavy duty workouts. It's equipped with ceiling speakers wired to the centre's general circuit, with a volume control in the admin booth.

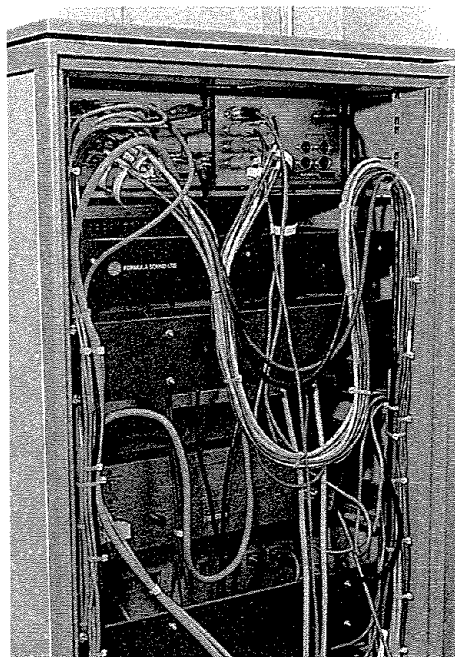
#### The social scene

The Dome is well equipped for more relaxed activities too. There's a functions room ('Icebreaker') with another Toa mixer-amp, model VM-1060 lurking behind the bar. Like the bowling green, it receives paging, the general circuit (background music), and has its own mic socket, for toastmasters, best men, and the like. Like the dance suite, the functions room is fitted with F-150

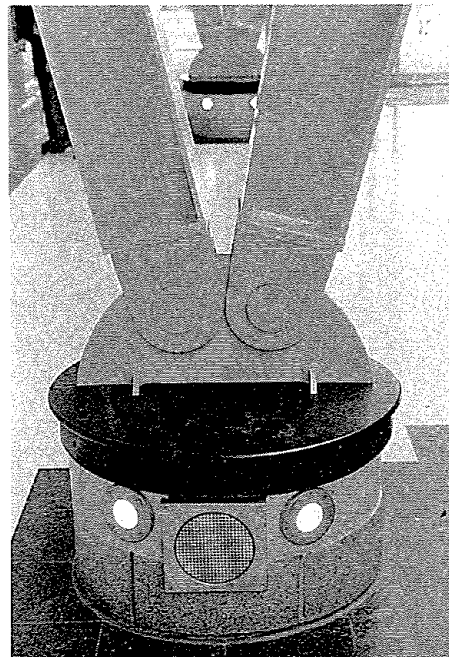
foreground 'fashion speakers', to look the part. The nearby Triangles bar is served by ceiling speakers fed continuously from the general circuit, but with override, so the central paging is always heard. The music's volume can also be adjusted from the bar. The centre's main entrance hall (with the main reception desk at its head, just in front of the stairs to the Flume) is covered with eight PJ-200 speakers, which are 6" dual-concentrics. These are built into the pillars which line the sides, because the architect wouldn't accept a central cluster. Worse, the pillars are solid stone, so Page One were forced into mounting speakers on the column's plinth, only 6" off the floor. Fortunately, intelligibility hasn't turned out as bad as could be expected, though Page One had sought to offer something much better. Back at the main reception desk, paging calls are made through a VR-1012 console, from which up to 12 zones can be selected, though only eight are designated so far. The VR-1012's mic inputs are subjected to a basic compressor with preset dynamics.

#### The Dome and the central Rack

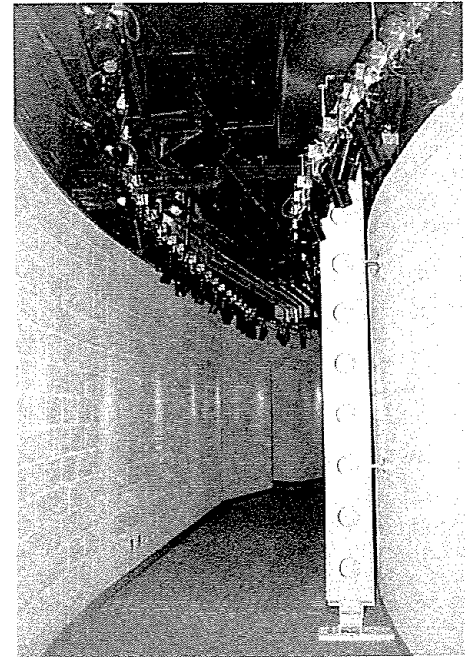
In the middle of the building, there's a circular forum, an aesthetic showpiece that's capped by the dome which gives the centre its name. The stone, stucco and marble-clad surfaces, as well as the circular shape, give the forum the acoustics of a stately home's mausoleum. And naturally enough, the architect wasn't keen on having the visual ef-



Line-level rack wiring is easily reconfigured due to the adoption of standard DIN connectors.



In the Mall, speakers had to be mounted in plinths close to the floor. A metal grille gives protection.



Architectural lighting creates a variety of moods along the flume corridor.

fect distracted by a cluster of horns hanging from the centre. Instead, he wanted announcements distributed from speakers in the columns. At this stage, Chris Taylor put his foot down, because such a scheme had little chance of producing intelligible sound, in such a reverberent environment.

Eventually, a compromise was struck: four groups of PJ-200 speakers were mounted at the top of each column. Intelligibility was then optimised using the E131 graphic EQ, again to take out the worst resonances, and tighten down the speakers' operating range to 200Hz up to 5kHz. The management is happy with the results, but Chris Taylor knows it's not as good as it could be, and hopes to be asked to install the cluster he'd originally envisaged in the future.

Returning to the centre's 'operation room', the main rack contains an AM-820 spot announcement machine. The management can select up to nine pre-recorded messages, either at timed intervals or on demand. At this point, a mixer-cum-distribution amplifier receives the paging calls from admin and the main reception desk, before sending them out to all areas. For the zones without individual power amplifiers, the signal is sent at 100v line level from one 120 watt and three 240 watt amplifiers mounted in the central rack. Any source can be listened to and the levels balanced by punching buttons on an MP-032A monitor panel. The back of the rack (which is light enough to be easily swung around) shows the wiring standards adopted. Every unit is fitted with an individual 13 amp plug, while the low-level signal connections to all the custom modules are made with 5 pin DIN plugs (a great improvement on bare tagstrips), for ease of removal, maintenance, and reconfiguration. Ventilation is passive; hot air exhausts through a raised top which won't be blocked if people put things on top of the rack (as they invariably do).

Page One System Technology, 78 Glebe Lane, Maidstone, Kent ME16 9BA. Tel: (0622) 28200/20490.

## LIGHTING DESIGN

In 1986 Eurolight of Feltham were approached by the electrical and mechanical consultants Ronald Hurst Associates to design a lighting scheme for two ice rinks and subsequently a flume corridor at the new Doncaster Dome Leisure Centre. The architects, Faulkner Brown, were keen that any lighting scheme supplied, should be as flexible as possible, look attractive to complement the building's architecture and also be highly reliable and easy to maintain. Sections of the scheme would also be controlled by means of the building services computerised control system.

The two ice rinks within the Dome are unique in so far as a ramp is provided for skaters to move from rink to rink. The design brief was to provide two effects lighting schemes that can run independently or simultaneously to suit various programmes of use, and Eurolight designed two flown structures which are located over the centre of each rink. Rink one has a 4.5 metre square Trilite truss structure and Rink two a 3.5 metre square Trilite truss structure. The truss sections are finished in natural aluminium and have been lacquered to prevent corrosion, and they are suspended via steel brackets and wires at angles to match the angular roof structure.

Within the truss sections internally wired bars have been provided by Eurolight to

enable easy connection of lanterns and effects. These bars are hard wired back to the dimmers located in the disco control area. Eurolight dimmer cabinets are provided together with Zero 88 Sigma switching packs. The 24 dimmers are split into two sets of 12, one for each rink. Each 12 are controlled by means of Zero 88 Lightmaster 1200 desks with an audio input from the Toa sound system installed by Page One.

A total of eight switching circuits are provided for each rink, and these are controlled by Zero 88 Touch panels. It is therefore possible to operate each rig separately via each Lightmaster 1200 or when linked both rigs operate simultaneously, and this enables the centre staff to run classes in one rink whilst running skating with atmospheric lighting or a disco in the other. When both rigs are in disco mode a very large number of people can be accommodated.

It is hoped that the lighting moods will encourage the public to visit the centre at more frequent intervals and thus increase the throughput with a consequential increase in income. The staff intend to move equipment around and change effects from time to time to ensure that the lighting scheme creates different effects and moods.

Hanging on the trusses are a variety of lanterns and effects. The design criteria gave priority to creating mood for both daytime and night-time during general public skating. Secondary to this, the system had to be able to run as a disco rig, and thirdly, the system should be able to offer a combination of general 'atmosphere' and effects. All these criteria have been met and it is hoped that visiting a skating rink will now be more enjoyable as each time the rink will have a different appearance.

Par Cans are used to provide both colour wash and movement, and CCT Silhouette profiles are used for gobo projection across the walls and across the ice. CCT fresnels with colour wheels again generate colour and movement. The effects package includes rotating cosmos balls, strobes, and Optikinetics Solar 250 projectors to name a few. The Zero 88 Lightmaster desk has enabled various programmes to be created and stored. The disc jockey then simply selects the required pictures or lets the rig free run on chase or links the programmed output to the sound input. Provision for additional fixtures has been allowed for, as have facilities to move fittings around over a period of time to ensure that the atmosphere changes periodically.

The flume corridor is an interesting area, as was the architect's brief. This area is literally a brick walled corridor with duct work and cable trays above, and it runs from the swimming pool to the staircase leading to the flume tower. The architect felt that the corridor should emulate the throbbing heart beat of swimmers running to the flume tower. The initial ideas revolved around vertical neon strips mounted behind glass or plastic panels that would run on an auto cycle, but this was rejected due to cost and safety considerations. The final scheme produced by Eurolight is one where conventional theatre rigging and control techniques are joined with architectural fittings to create various moods.

A Eurolight Smart control desk has been used to programme some 120 different lighting states which free run with fade-in, fade-out, delay-on delay-out times recorded for each cue. The cues are loaded into the soft chase playback whose assignments are memorised and maintained via the battery maintenance system. So, when the system is turned on via

the building services computer, it runs without any operator support.

The lighting units provided by Eurolight are from the Microlight range with a mixture of fresnels, spots and profiles used to create wall washing 'throbs', pools on the floor, and suitable gobos to create atmosphere. The colour for the low voltage M60 lamps was created using the latest Thorn clip on dichroic colour filters. In addition to the gobos a number of DHA rotating effects are being added to generate further movement and effect. Base level lighting is maintained using the spots to ensure that a minimum light level, albeit in colour, is maintained to comply with Health and Safety regulations.

The fittings are suspended from two specially constructed internally wired lighting bars. These were purpose built and follow the curvature of the corridor to ensure that an even wash of colour on the walls is achieved. Additional works are about to be undertaken in the Sports Hall to provide a multi-purpose motorised rig for larger events as well as specialised lighting for sports functions such as boxing.

Nick Mobsby

### The Dome: Doncaster

#### Equipment List

**Loudspeakers** (all Toa)  
 2 x BS-5W splashproof speakers  
 6 x CS-61P wideband projectors  
 20 x CS-152P wideband projectors  
 4 x F-150 120w foreground fashion speakers  
 2 x F-300 150w foreground fashion speakers  
 93 x PC-37R ceiling speakers, fitted with CFD-12 smoke domes designed by Page One for Toa  
 24 x PJ-200 projectors  
 4 x SE-380 3-way full-range music speakers  
 2 SEB 120w subwoofers  
 16 x SM-60 210w mini 'wedge' speakers  
 3 x TC-301-TE 'reflex' horns (for boiler house, etc)  
 2 x Cirtikin underwater speakers  
**Equipment** (all Toa, except where stated)  
 1 x AM-820 spot announcement machine  
 10 x AT-32A 100v line volume controls  
 4 x BA-400 4-way cassette machines  
 4 x E-131 1/2 octave graphic EQs  
 1 x MP-032A monitor panel  
 2 x P-300D PA amplifiers, 480wch into 4 ohms  
 4 x RD-14 microphones  
 2 x VM-1012 paging consoles  
 1 x VM-1060 mixer-amp  
 6 x VM-1120 120w mixer-amps  
 7 x VP-1240w slave amplifiers  
 7 x VR-1001 paging mics  
 2 x V1000 mixer frames  
 1 x Formula Sound PM-80 mixer  
 2 x Technics SL-1200 turntables + SC35 cartridges

#### Ice Rinks

24 Channels of Eurolight dimming  
 4 x Zero 88 Sigma switching packs  
 2 x Zero 88 Touch panels  
 2 x Zero 88 Lightmaster 1200 controls  
 30 x Parcans  
 8 x CCT Silhouette 30  
 8 x CCT Starlette fresnels with colour wheels  
 4 x Optikinetics 4 arm Helicopters  
 4 x Optikinetics Solar 250 with autochangers  
 2 x Pulsar strobes  
 3 x 24 lamp cosmos Balls  
 2 x Trilite customs truss rigs  
 8 x Eurolight internally wired bars

#### Flume Corridor

2 x 17 metre specially curved Eurolight internally wired bars  
 16 x channels of Eurolight dimming  
 1 x Eurolight Smart control desk  
 1 x 16 channel Eurolight DMX demultiplexer  
 36 x Microspots with M60 and coloured dichroics  
 24 x Supernova spots with M60 and coloured dichroics  
 4 x Microprofiles with motorised flame effects  
 4 x Microprofiles with gobos

Electrical contracting: Crown House Engineering Ltd (Sheffield)  
 Specialist electrical and mechanical contracting: Eurolight Ltd  
 Sound equipment supplied and installed by Page One Ltd  
 Architects: Faulkner Brown, Newcastle Upon Tyne - Neil Taylor  
 M&E Consultants: Ronald Hurst Associates - Ian White  
 Builders and Project Management: Norwest Holst Ltd  
 Lighting Designer for Eurolight: Nick Mobsby  
 Project manager for Eurolight: Andrew Murray

# F500 + F600

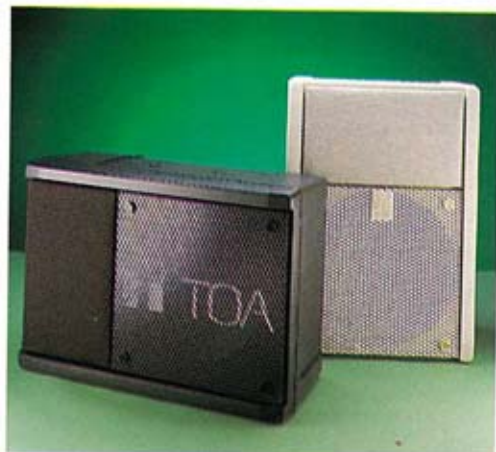
## 2 - W A Y L O U D S P E A K E R S

For over fifty years TOA has manufactured some of the world's finest audio equipment.

Following that tradition TOA has launched the F500 and F600 Series 2-way loudspeaker systems. Available in either standard or SR versions the new F500 and F600 incorporate state-of-the-art, computer-aided design techniques. So ensuring superb acoustic characteristics without compromising on durability and cosmetics.

Built-in overload protection circuitry guarantees reliability, whilst a variety of fixing methods enables convenient mobility and easy installation.

So, if you are serious about your sound, check out the TOA F Series and hear why TOA is fast becoming the number one in the UK for pro-audio.



 TOA

TOA ELECTRONICS LIMITED

TALLON ROAD · HUTTON INDUSTRIAL ESTATE · BRENTWOOD · ESSEX CM13 1TG · TEL: 0277 233882



C O M M I T M E N T T O E X C E L L E N C E



# FINLAND'S ART

## Stream of Life and Finlandia at Retretti Arts Centre Lighting 'The Knife' at Savonlinna Opera Festival L + S! talks to light artist Ekku Peltomäki

"The project started from the visions I had of the poems of Eino Leino, one of Finland's most respected classical poets. I wanted to recreate these visions using light on a combination of sand, water and stone, and in the air," explained lighting designer Ekku Peltomäki.

"I've always aimed for a 'clear' performance in my works. Poetry and fairy tales have much in common but I've been fascinated by the simplicity of poetry. A fairy tale is told in rich colours, but to me, a poem is naked and spiritualized."

Since his internationally acclaimed lighting of the Helsinki City Theatre production of *Cats*, Peltomäki has realised the limitless possibilities to be had from using lighting for poetic expression. His original idea was to use the underground Retretti Arts Centre installation as a backdrop to perform *River of Tuonela*, a Finnish myth based on the river of the underworld. Despite the suitability of the caves, the idea was later rejected for being possibly too lugubrious.

The series of *Streams of Life*, in 13 situations, draws together the thinking of Eino Leino. The different paths go under titles such as *Explosion*, *The Colours*, *Growth*, *The Garden of Stars*, *Boulevard* and *Infinity*, and each installation is accompanied by the poems of Eino Leino and music from the first and fourth symphonies of Sibelius.

At the same time this summer Peltomäki had a second installation at Retretti based on Sibelius' music of *Finlandia*. He sees this work as a choreography for light, a visual instrument for music.

He explained this further: "I'm also trying to tell a story. My purpose is to create an experience. I want the spectator to be able to feel for himself light and sound. Light is excellent to play over rhythmic, structurally clear music, and such a visualisation opens up a new side of classical music for the spectator. The music of Sibelius sums up for me the nature of Finland: the smell of the coniferous forests, the melancholy, the difficult history. To this music I add my own artistry such as harmony, balance, phrases of the structure and rhythm."

"My laser work of *Finlandia* was born of a common gratitude for an independent Finland, a pride of being Finnish and the civilisation that has grown up here. The use of lasers expresses our pride in our technology and high level of know-how. After being a lighting designer for some time, I have now broadened the scope of my work. Lighting for classical music has a greater fascination for me: the structural variety of classical music poses a challenge which other music cannot. Traditional spotlights, fibre optics and the soft colour ray are a functional start, and I use lasers to create the contrast and depth."

"Four computers and a four-track recorder were needed for *Finlandia*: two tracks for the music, the third for the time code of the laser scanner, and a fourth which controlled the control desk i.e. the lights and the laser beam. We couldn't achieve a total control system because the Color Rays were not

connected - at the present time their control system is not suitable.

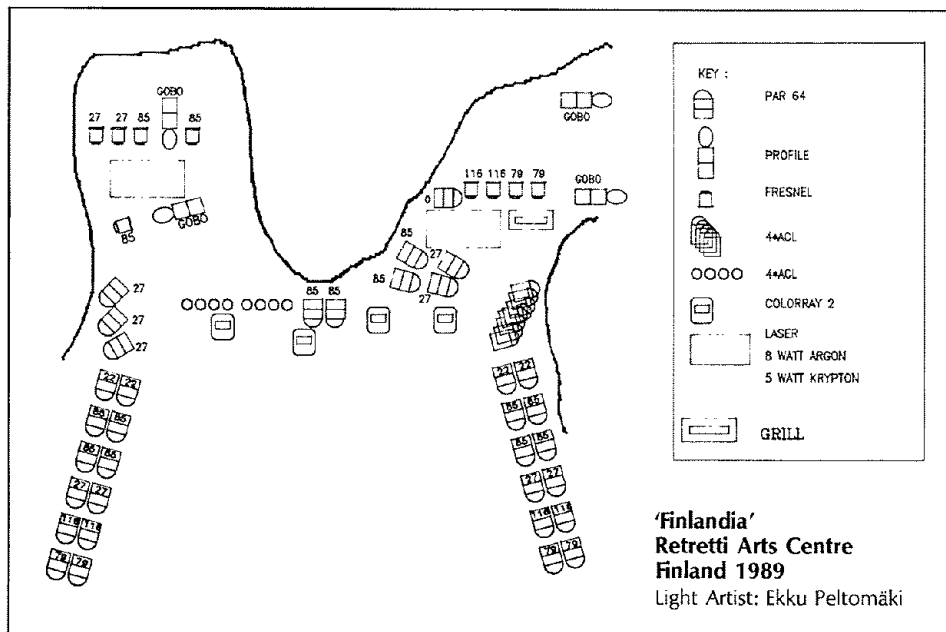
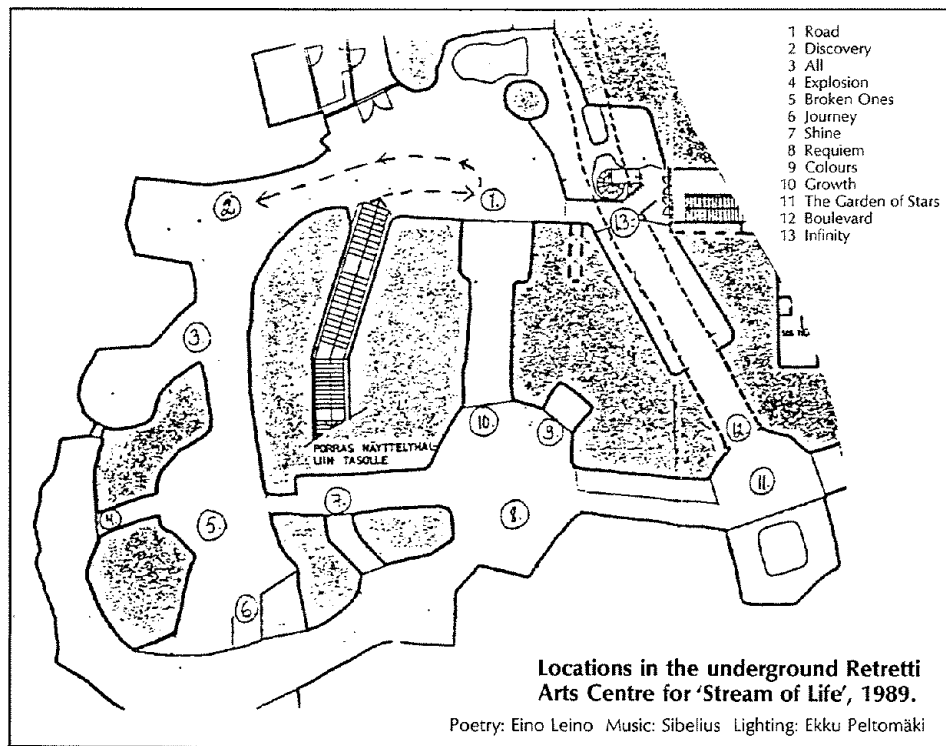
"*Finlandia* was first performed in the historical Senate Square in Helsinki in the summer of 1988. We had to start planning the Retretti production in April. Programming began in Retretti on June 11th and the premiere was on the 15th. It took a month to prepare for the *Streams of Life* in Retretti because we couldn't anticipate the possibilities of the caverns and cave lakes."

The Retretti Arts Centre is now the most popular exhibition space in Finland, and more than 233,000 people visited the 1989 event. Ekku Peltomäki's light exhibition

covered well over 3000m of the caverns in a highly emotive display.

The most talked about production of the 1989 Savonlinna Opera Festival was definitely the new Finnish opera, *The Knife* by Paavo Heininen. It's the story of a modern city-dwelling poet who ends his life with a tragic suicide. The libretto tells of love and success and their meaning, when they at last come to the hero. The lighting for the production was designed by Ekku Peltomäki.

The Savonlinna Opera Festival has been running annually since the beginning of this century when it was started by Aino Ackte. It is held in the courtyard of a medieval castle in Eastern Finland dur-



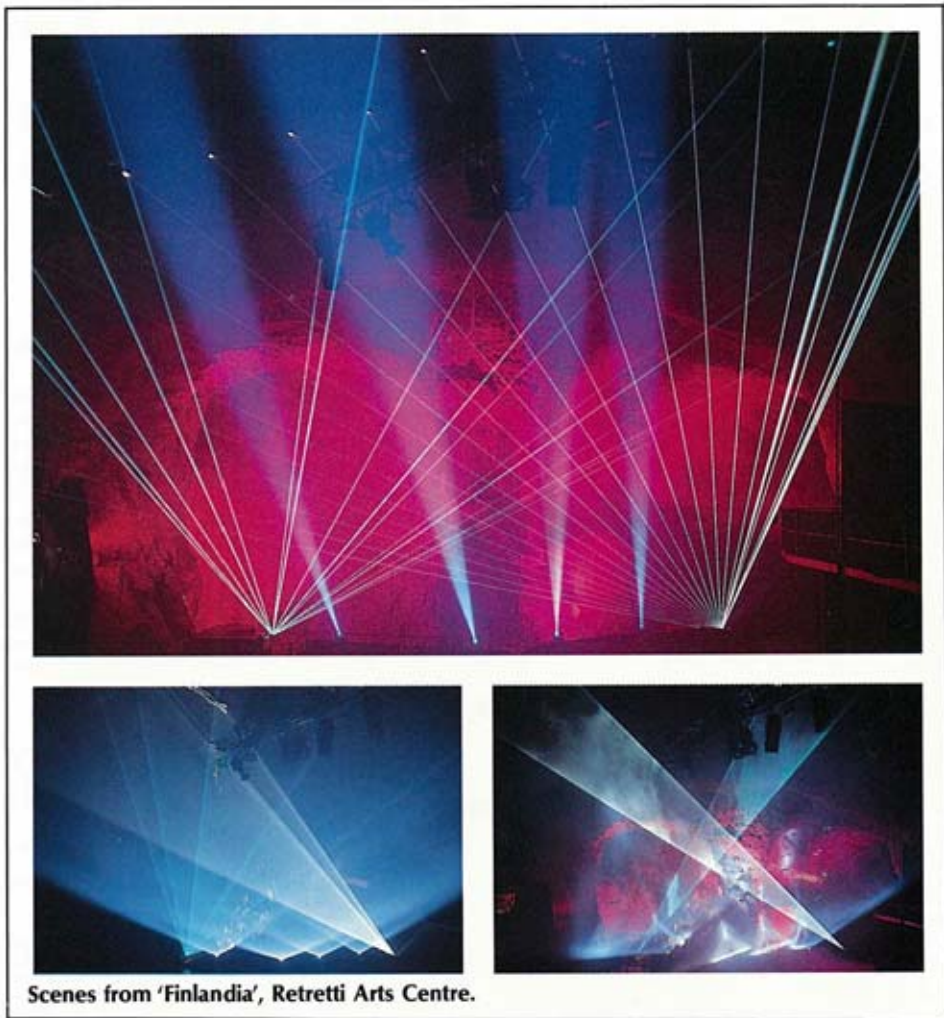
ing the long evenings of the Finnish summer. Its recent successes are largely due to the creative management of the Finnish impresario Martti Talvela who sadly died during this year's festival. Among the festival's achievements are several new Finnish operas, *The Knife* being the latest and possibly the best of these, according to many spectators.

Ekku Peltomäki spent a year creating the lighting designs for the production. The changing light conditions of an outdoor performance vary considerably and as such create many difficulties. As the evening performance begins in Savonlinna, the sun still has not sunk below the horizon. I initially thought that the big lights would only be on for the climactic end. But the natural light is different for each performance. So we decided to create as natural a light setting as possible," explained Peltomäki.

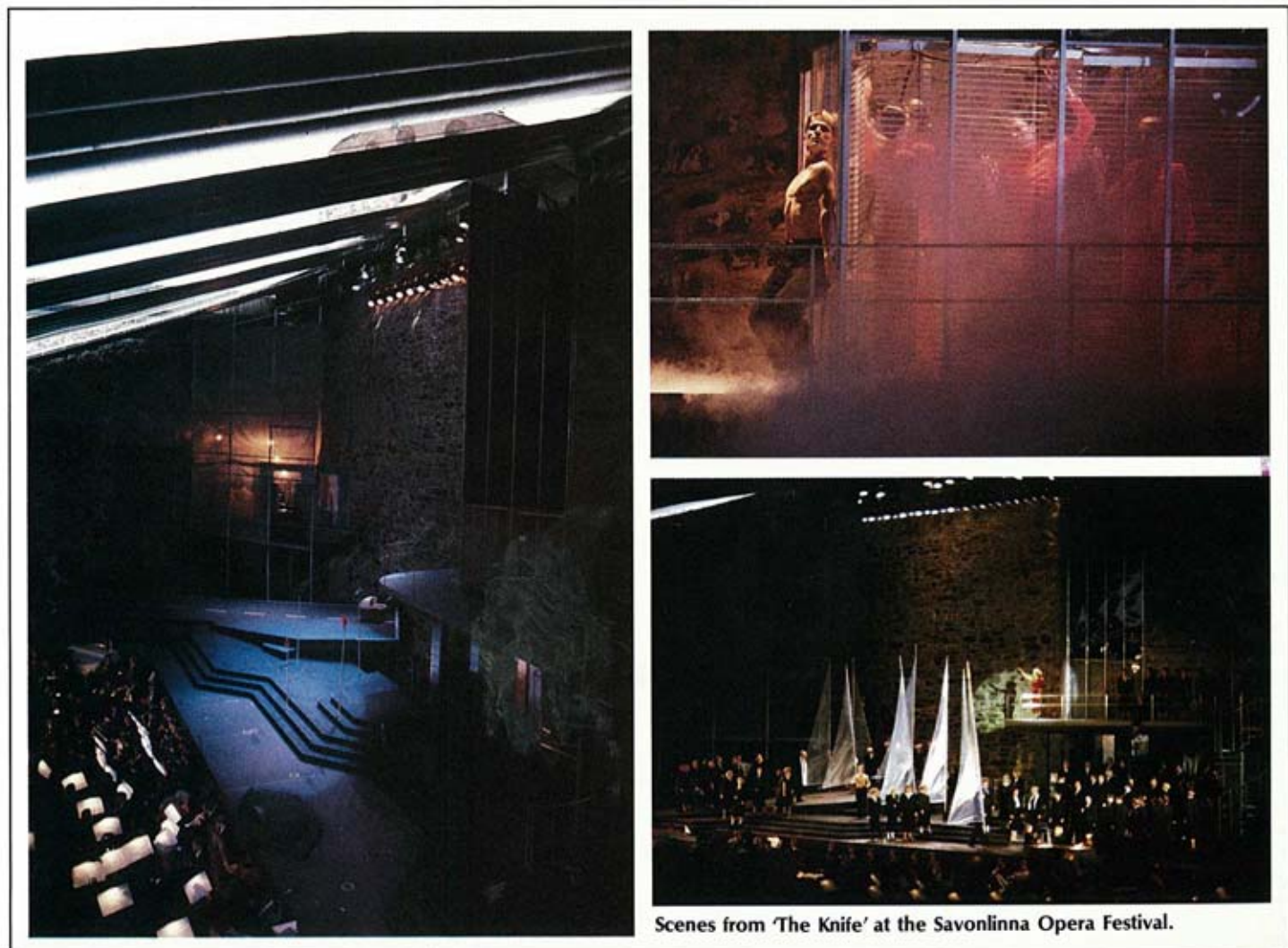
"I felt under pressure because of the wide publicity that this festival receives outside of Finland. It is one of the Finnish festivals to be reported not only in Europe, but also in North America and Japan." *The Knife* was reasonably well-received by critics from Germany, Sweden, Britain and several other countries. Heininen's music raised conflicting reviews but I'm pleased to say the pace and look of the production was widely praised.

"It took some time for Heininen to accept lighting typically used for heavy rock concerts to be used in his opera," explained Peltomäki. "I've designed lighting for *Don Carlos*, Verdi's *Requiem*, *Porgy and Bess*, *Les Noces* and *Carmina Burana*. As a result of this work, I realised that there was a great deal of similarity between the visual images that can be obtained from opera and heavy rock.

"The themes of heavy rock - good versus evil, hatred and love - are not so different from those of classical opera. The differences between the lighting for opera, theatre and rock concerts are basically superficial. Lighting is just another instrument and it's how you use it that counts, and it's important to visualise the lighting according to the subject. There is still, of course, a lot to be done in the world of opera lighting."



Scenes from 'Finlandia', Retretti Arts Centre.

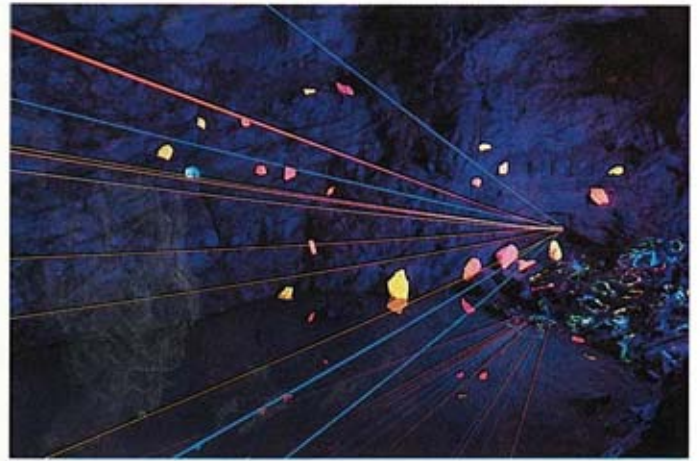


Scenes from 'The Knife' at the Savonlinna Opera Festival.

**Stream of Life: Retretti Arts Centre** Light Artist Ekku Peltomäki



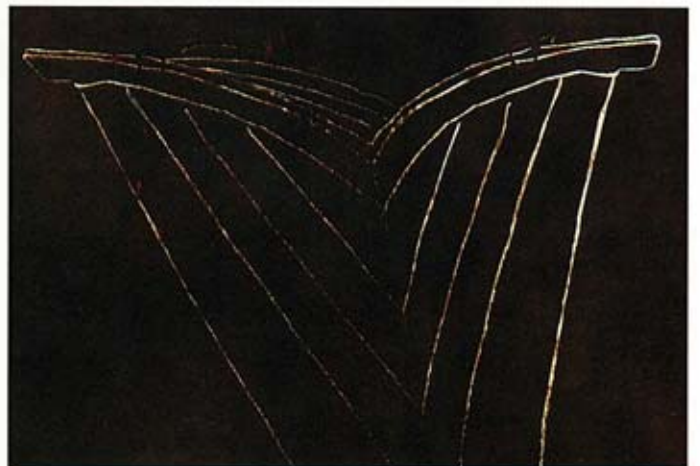
The Road, with Ekku Peltomäki.



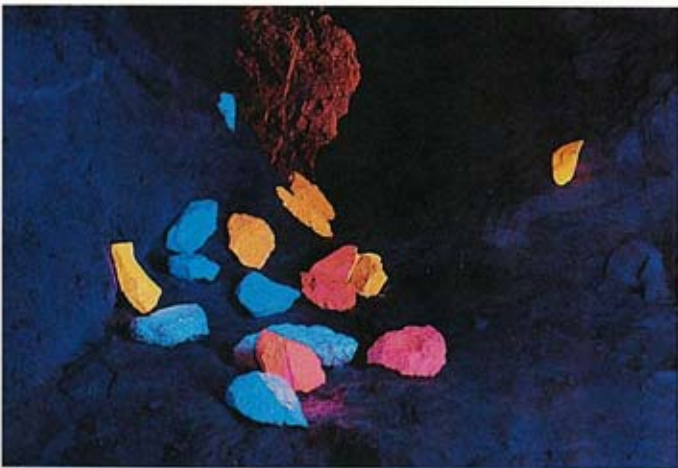
Explosion



Broken Ones



Journey



Shine



Requiem (part)



Colours



Garden of Stars

# ROLLING STONES: STEEL WHEELS ACROSS THE STATES

Catriona Forcer details the logistics of the biggest-ever rock and roll road show

The 1989 Rolling Stones 'Steel Wheels' tour is the biggest rock and roll tour ever to go on the road in the U.S.A. It involves three or four concerts each week, which take place in baseball and football stadia seating 70,000 - 120,000 people. And the stage has been designed to transform these vast, barren sports environments into fantastic architectronic spaces for large scale entertainment.

The show design team consisted of Mark Fisher and Jonathan Park of Fisher Park (architects), Patrick Woodroffe (lighting designer), Michael Ahern (production coordinator), and Benji LeFevre (sound designer). Mick Jagger and Charlie Watts were very much a part of the team, taking on responsibility when things did not work equally as much as when they did.

Fisher Park began designing the show in May 1989, and the brief was worked out with Mick Jagger and Charlie Watts between their recording sessions for the Rolling Stones' 'Steel Wheels' album. It called for a design which would accommodate the band's expansive stage performances and which would create evocative backgrounds for the raunchy urban blues they play.

Normally the demarcation between the set designer and the lighting designer is such that you have a set and you light it. In this case the design of the set and the lighting was integrated with as many lighting ideas coming from Mark Fisher as set ideas came from Patrick Woodroffe.

Communication between all those involved in putting the show together is one of the main reasons for its huge success.

Their answer to the brief is a strong style with many references to industrial and expressionist forms. The organisation of the design derives from the choreography of the band's performance and the technical requirements of the lighting and sound systems. "Strong, tough, urban and risky," Fisher describes it. "A stirring indictment of contemporary society," claims Michael Ahern.

The major elements of the set are composed into functional and decorative structures of dereliction and decay which are visible by day, but lost under lighting at night. The audience witness this transformation as the stadium lights dim and the show begins. Under theatrical lighting the stage set, referred to as the monument, takes on many different moods and makes quite different references, from jazzy urban jungles and post-holocaust cities to intimate bars and romantic bordellos. As Mark Fisher says: "It is a matter of transforming a football stadium into a temple for the afternoon. It is about reclaiming the monster superbowl stadiums from the world of Coca-Cola, sport and Marlboro, and celebrating the band and its audience."

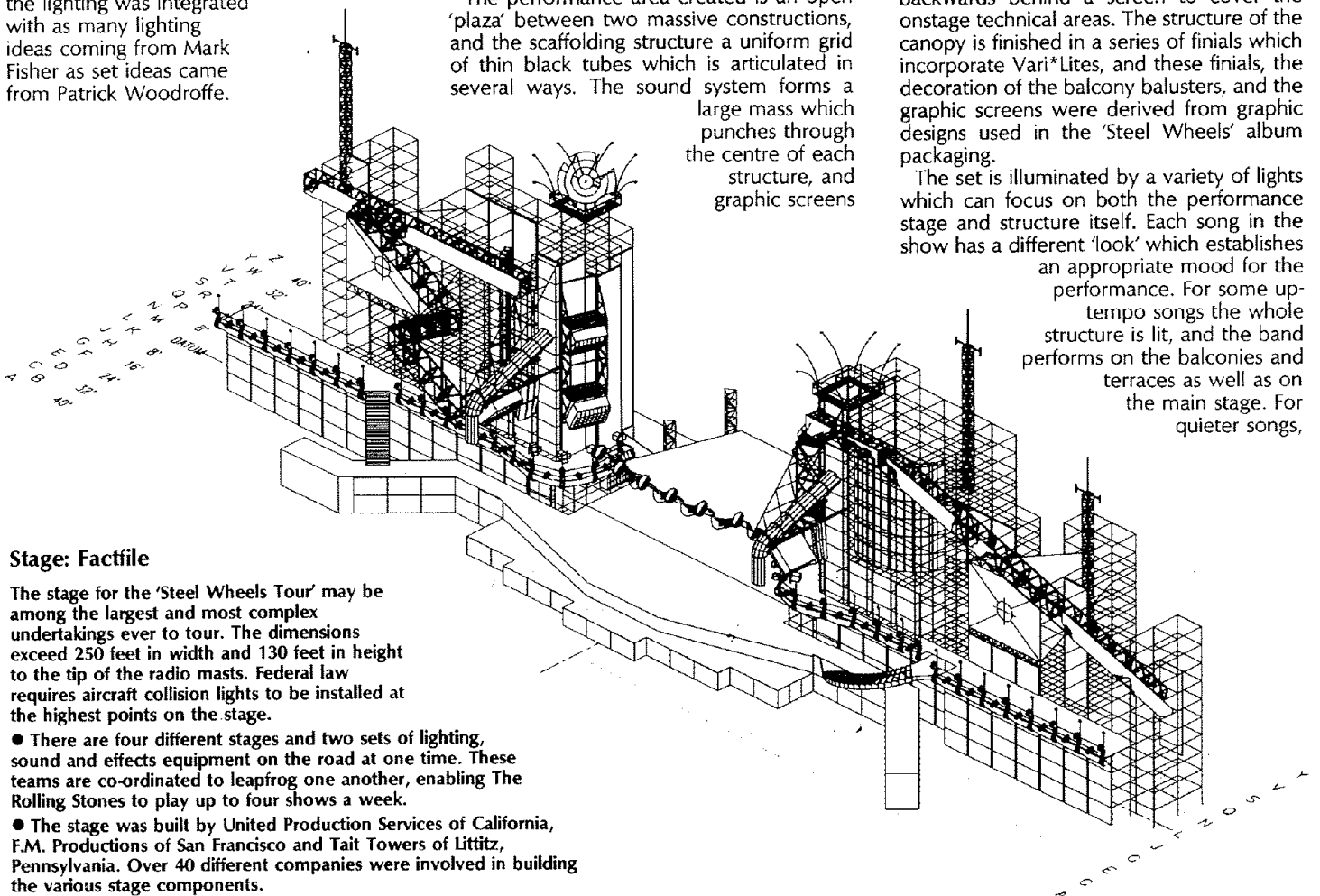
The performance area created is an open 'plaza' between two massive constructions, and the scaffolding structure a uniform grid of thin black tubes which is articulated in several ways. The sound system forms a large mass which punches through the centre of each structure, and graphic screens

hang inside the scaffolding grid on different planes. In addition video screens, for closed-circuit TV from the stage, are embedded in the structures at different heights. At the base of the scaffolding the constructions are expanded into a cascade of balconies, terraces and stairs, allowing the band to present their act across the whole width of a stadium and on different levels. The balcony at the base of the structure is reinforced by a balustrade of swagged chain-mail and oversized balusters. Between each baluster there is a Vari\*Lite which is hung in diamond fashion on curled brackets. The faces of the 'levels' are dressed with silver fish-net over black scrim.

Juxtaposed against the dark masses of the scaffolding are brightly coloured linear forms and an array of smaller decorative pieces. Girders are suspended across the structure and also cantilevered from its face. They are functional, containing lights, but at the same time they make the necessary symbolic industrial references. The large 'steam vents' which protrude from the structure contain spot lights and Vari\*Lites.

A lightweight canopy is cantilevered forward and upward, and hovers over the performance area at the centre of the stage, providing a weather-cover for the keyboard players and drummer. It then extends backwards behind a screen to cover the onstage technical areas. The structure of the canopy is finished in a series of finials which incorporate Vari\*Lites, and these finials, the decoration of the balcony balusters, and the graphic screens were derived from graphic designs used in the 'Steel Wheels' album packaging.

The set is illuminated by a variety of lights which can focus on both the performance stage and structure itself. Each song in the show has a different 'look' which establishes an appropriate mood for the performance. For some up-tempo songs the whole structure is lit, and the band performs on the balconies and terraces as well as on the main stage. For quieter songs,



## Stage: Factfile

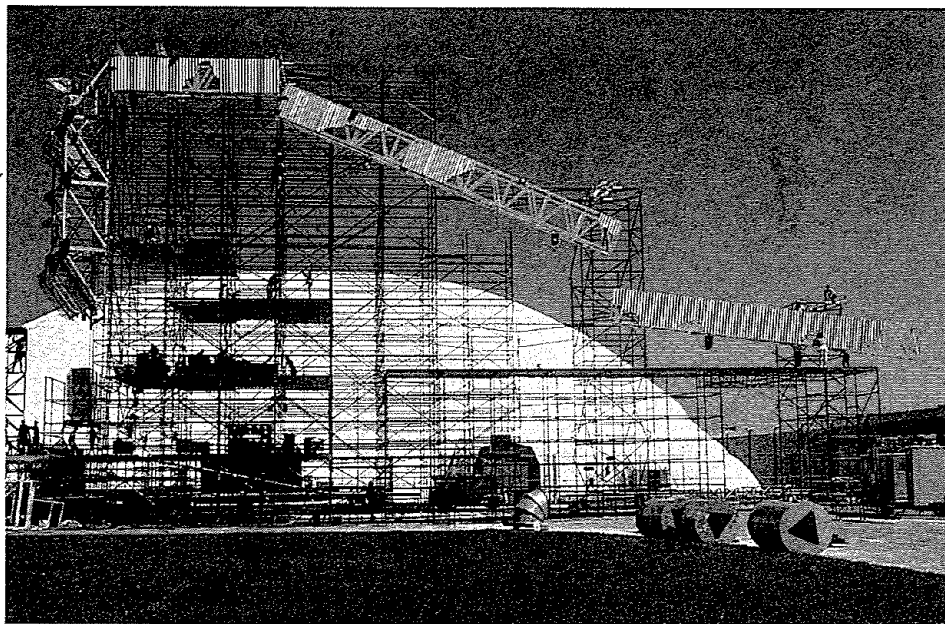
The stage for the 'Steel Wheels Tour' may be among the largest and most complex undertakings ever to tour. The dimensions exceed 250 feet in width and 130 feet in height to the tip of the radio masts. Federal law requires aircraft collision lights to be installed at the highest points on the stage.

- There are four different stages and two sets of lighting, sound and effects equipment on the road at one time. These teams are co-ordinated to leapfrog one another, enabling The Rolling Stones to play up to four shows a week.
- The stage was built by United Production Services of California, F.M. Productions of San Francisco and Tait Towers of Littitz, Pennsylvania. Over 40 different companies were involved in building the various stage components.

only the stage under the canopy is illuminated. The stage also conceals a number of special effects including the spectacular pyrotechnic displays which open and close the show. It also hides two 60ft high women which can be inflated in just 30 seconds during the song 'Honky Tonk Woman'.

Patrick Woodroffe admits that about half the lighting he uses, certainly half the Vari\*Lites, never actually reach the stage. When designing the lighting he had to be very careful not to make the structure dwarf the stage area. He believes one of the major successes of the show is that, although the structure is 300ft wide, the focus of attention is always on the Rolling Stones themselves. This is due mainly to the emotional impact, because they are such exciting performers, and also because of the eight giant light units focused on the stage. These units are 3ft x 8ft and have giant colour changers specially commissioned from UK-based Light & Sound Design of Birmingham. The lighting directs attention away from the structure and onto the stage, particularly when they are switched on in one colour, flooding the stage with no less than 500,000 watts. For additional effect, grilles have been placed over the front of the light units so that they complement the architecture.

"Because the stage is so enormous, the lighting systems had to reflect its size," explained Patrick. "The stage had to equate to the importance of the event and the lighting system had to reflect the size of the stage set. You couldn't have rows and rows of Par cans. I wanted something like the lights in football stadiums, so I opted for huge lights and filled in the spaces between with lots of smaller, individual lights so that the whole structure is lit evenly from one end to the



Set-up for the massive Steel Wheels spectacular.

Photos: Mark Fisher

other. Everything that we did had to be big bold and strong. I had to constantly remember that there would be people sitting 500ft away from the stage."

A sixties feel was required for the songs '2000 Light Years' and 'Paint it Black'. "I've always wanted to do a spoof thing for '2000 Light Years' and I've built a portion of the show around it," enthused Patrick. "It's meant to be very tongue-in-cheek and psychedelic with deliberately corny effects on the video. Production Arts in New York provided Ludwig Pani BP6 Gold effects projectors which can project an image over

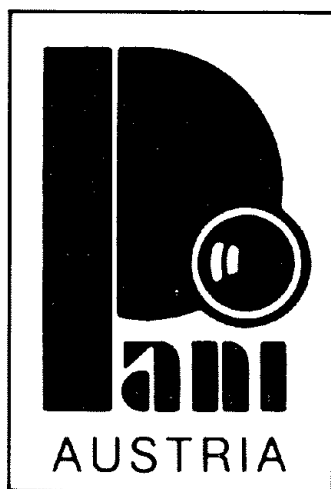
300ft wide and 100ft high, and we asked them to develop a liquid colour wheel that could be attached to them.

"The BP6 Gold units on the Stones are the compressor-cooled version," Production Arts' Steve Terry told L+SI. "While we originally thought it impossible to use the BP6 Gold with effects discs or rotating oil discs, a custom airjet/manifold was manufactured to allow this to happen."

These songs lead into 'Sympathy for the Devil', a very big production number where Patrick basically 'sets fire' to the whole structure with red flames and smoke. Mick Jagger

# PRODUCTION ARTS

## L I G H T I N G , I N C.



## World-Class Projection for World-Class Talent.

- Rolling Stones
- Gloria Estefan and Miami Sound Machine
- Siegfried & Roy
- Madonna

Ludwig Pani, Company for Stage Lighting  
A-1070 Vienna, Kandlgasse 23. Phone: 01 93 24 62  
Telefax: 01 96 42 87 Telex: 01-32076

Production Arts Lighting, Inc.  
636 Eleventh Avenue, New York, N.Y. 10036  
(212) 489-0312 Fax: (212) 243-3723



The lighting directs attention away from the structure and onto the stage, flooding it with no less than 500,000 watts.



The concert reaches its climax with a stunning pyrotechnic sign off.

disappears off the stage in a puff of smoke only to reappear seconds later 100ft up on the roof with the aid of a concealed elevator.

During the show the lighting control boards are run by Shawn Richardson and the Vari\*Lite board is operated by Dave Hill. Patrick takes care of the LSD colour changer board as well as calling the 22 follow spots, ten on stage and 12 front of house. Lighting is controlled by two Celco Series 2 Golds - the first time that Patrick has used Celco boards on a major show. "I like the way the Celco Gold programmes and edits more easily than any other board, and I also like the facilities of putting the chase into the matrix (cue faders). I think that Celco are one jump ahead with this particular model. They are great boards."

The 'Steel Wheels' tour is a major logistical exercise. The scaffolding substructure for the stage packs into ten trucks whilst 18 trucks carry the sound and lighting equipment, scenic elements and generators. Ten further trucks carry video equipment, musical instruments, computers and other control equipment. To meet the schedule required for the US tour, four complete sets of scaffolding are employed, each one commencing construction about five days before the concert at which it will be used. Two sets of sound, lighting and scenic elements leap-frog between these stages, arriving at the stadium two days before each show and leaving the day after. The video equipment, musical instruments and other systems travel from show to show, arriving on the afternoon before the event. When necessary the whole show can be constructed in three days.

Designing such a complex stage and lighting system is one thing, but having to construct it is another. "Any form of design starts right at the top with a few people - in this case Mick Jagger, Charlie Watts, Michael Ahern, Mark Fisher, Jonathan Park and myself," explained Patrick. "As time goes by, lighting and sound companies, video people etc. become involved and, it keeps on growing until you get down to the guys unloading the truck. All the time the process is underway, there is a very positive feeling about the production. What often happens is that as you get further down the line you start to get a less positive reaction from some of the guys who don't really want to put something in at that level. But, on this production, more than any other that I've done, the positive feeling and feedback that I've had, right down to the local stage hands, has made the whole thing enormously worthwhile. It is genuinely one of the most rewarding aspects of the show."

Over the past ten years Patrick Woodroffe has been responsible for lighting and staging shows for some of the top names in the rock world. He has worked extensively abroad, and has been responsible, in part, for the development of lighting technology in France, Germany, Japan, Australia and Sweden. He has worked with such acts as Abba, Bryan Ferry, Cher, Cameo, Donna Summer, Pet Shop Boys, Robert Palmer, Rod Stewart, Spandau Ballet, Stevie Wonder and Tina Turner.

Fisher Park Limited is a design company in which working directors with backgrounds in architecture and engineering combine art and technology for large productions. The scope of their work ranges from the design of individual special effects to the design, art direction and management of entire productions. Shows which they have staged include Pink Floyd's 'The Wall' (1980/81), Barry Manilow's 'Concert at Blenheim Palace' (1983), George Michael's 'Faith' world tour (1988), Jean Michel Jarre's 'Destination Docklands' concert (1988) and the recent Nelson Mandela 70th Birthday Tribute.



The lighting rig features the largest colour changers in the world, measuring 8ft x 4ft. Forty are in use on the tour and they were custom-built by Light & Sound Design of Birmingham and supplied by Presentation Consultants Ltd. In addition, 88 MoleMags and 100 ColourMags were used.



A pyrotechnic wall of fire opens the show.



A massive audience enjoys the biggest ever show.

## Steel Wheels: More Background

### Effects:

- The 55 ft inflatable women used in the show were built by Air Artists in England and inflate in 30 seconds. They can be deflated in approximately one minute.

- The 4 x 6kW Pani projectors are used to project images and effects over the entire stage area. The projectors are provided by Production Arts of New York. Images used in the show were designed by Mark Norton and George Harris.

- Astro Pyrotechnics of Norwalk, California were responsible for all the fireworks.

### Video:

- Chris Strand is the video director.

- Older footage used during 'Rock and A Hard Place' and 'It's only Rock and Roll' was designed by Stuart Samuels with Imageways of New York. The video images are projected onto two screens, each 18' x 24'.

- A seven person crew is required to operate the equipment. Five cameras are used throughout the performance.

- The images are projected by two MLV (multiple light valve) projectors.

### Sound:

- The sound crew consists of: Benji Lefevre (sound engineer), and Christopher Wade-Evans (monitor engineer - onstage).

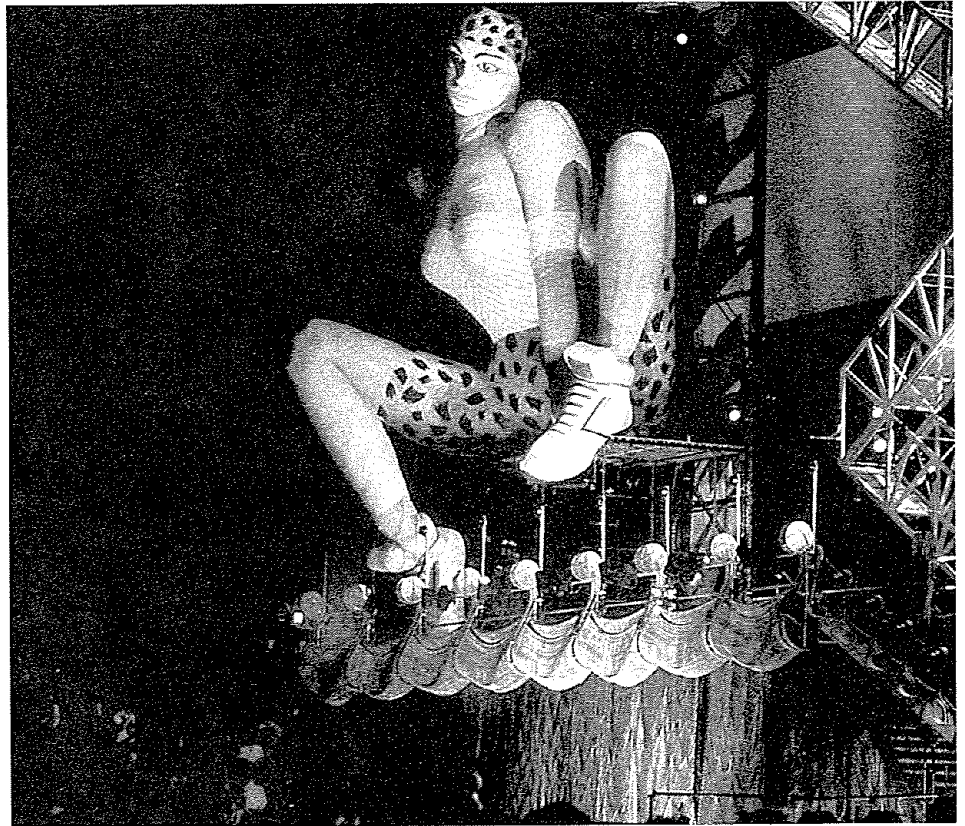
- The sound system is provided by Showco of Dallas, and is one of the largest of its kind ever used. The Prism system is being utilised for the tour.

- The system produces ½ million watts of power and is controlled by over 96 channels. Eight sound consoles are needed to accommodate this demand.

- An 18 person crew is needed to operate and transport the sound system alone which requires eight tractor trailers to transport.

### Lighting:

- The lighting system comprises 80 Vari-Lites, 100 automated colour changers, 22 man-operated



Honky Tonk Woman - 55 feet high - towers above the set.

followspots, and eight custom-built block lights fitted with remote control scrollers. 500,000 watts of power are consumed by the system.

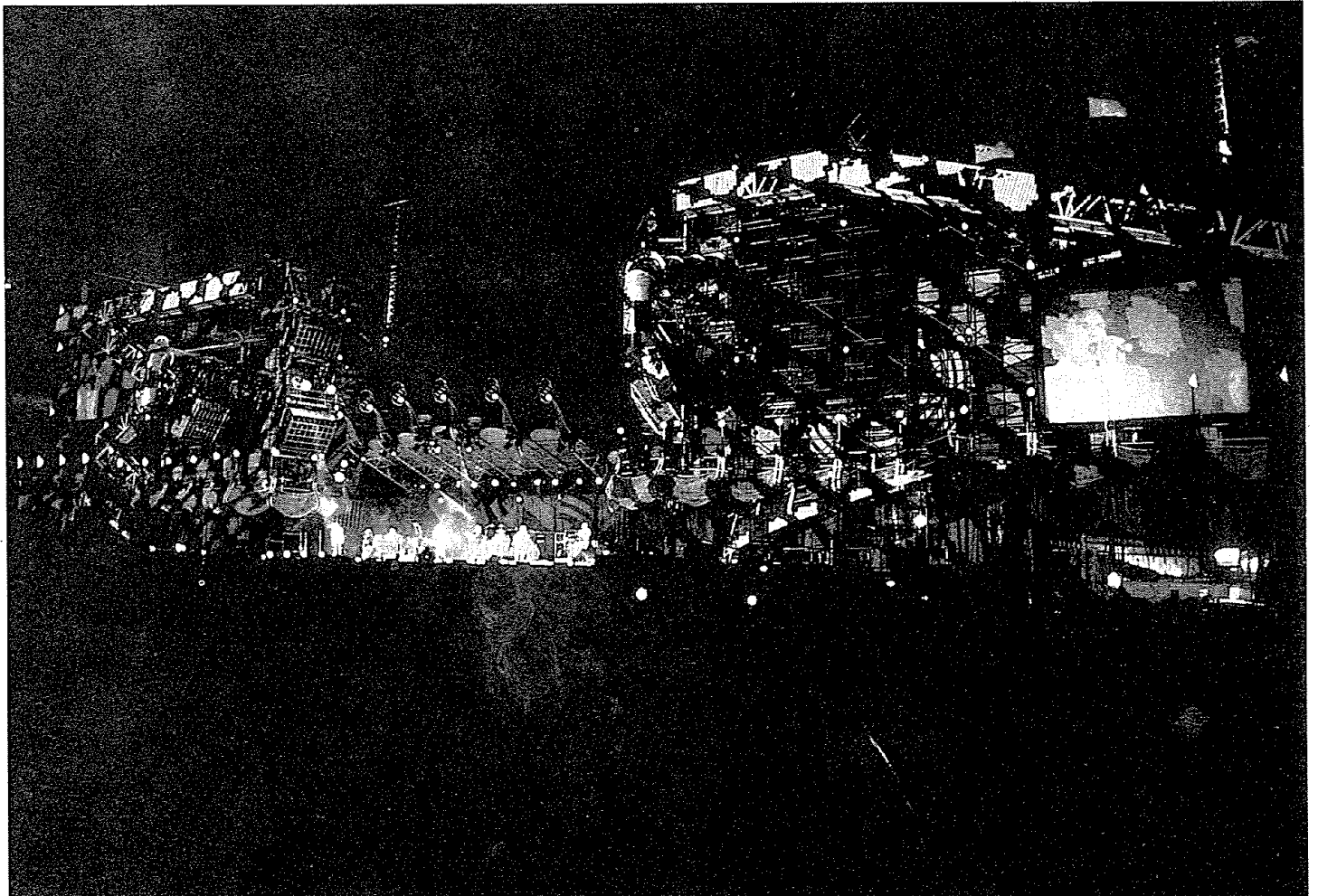
- The lighting contractor is Samuelsons Concert Productions of Dallas.

### Power:

- Power for the show comes from 4 generators

supplying 3200 horsepower. The total power generated during the show is 2,400,000 watts. This is roughly enough power to comfortably power a 40 block area in most American cities.

- Over 12 miles of cable are used within the staging power system.



The industrial backdrop provides an atmospheric performance vehicle for The Rolling Stones.



# LIGHT

**LIGHT** *adj.* not heavy; weighing relatively little.

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

## LIGHTING & STAGE TECHNOLOGY *redefined*

From one of the world's leading concert lighting companies comes a fully integrated range of lighting instruments, trussing, colour change and motor control systems.

Designed for international touring and permanent installation by people who know what's required at major venues worldwide.

L. & S. D. – the original range of aluminium instruments – minimum weight, maximum strength.



## Light & Sound Design

PAR 64 lantern  
(wired, unwired,  
black, silver or  
coloured).



Floorlite PAR 64.



Cyclorama  
unit or  
Groundrow.



PAR 56, 46,  
36 & 16  
(wired,  
unwired,  
black, silver or  
coloured).

8-lite 'Molefay'  
with vertical or  
horizontal yoke.



Water-resistant  
outdoor PAR 64.



Worldwide dealer distribution:-  
Presentation Consultants Ltd.,  
168 Chiltern Drive, Surbiton,  
Surrey KT5 8LS, England.  
Telephone 01-390 4841.  
Facsimile 01-390 4938.  
Telex 892337 CELCO G.



# WHEN THE GOING GETS TOUGH...

## ...THE ROADIE GETS GOING

The ROADIE has been designed to the specifications of major hire companies and is a must for touring Rock & Roll Bands, Theatre, TV, Film and outdoor applications.

The ROADIE has an enormous output 10 to 15 times greater than a conventional smoke machine. The ROADIE can fill an area of 450,000 cubic feet in under four minutes.

The ROADIE has a rear drive 15" 4,000rpm fan which throws the smoke great distances. It also has a specially-designed front grille to disperse the smoke, so there are no static thick clouds.

The ROADIE is tough, rugged and dependable and has a five year guarantee.

### SPECIFICATION — ROADIE

- ▼ Five Year Guarantee
- ▼ 19" Rack Controller
- ▼ Variable Output
- ▼ 450,000 Cubic Feet Capacity
- ▼ 35 Litre Tank Capacity
- ▼ Air Dispersal Vents
- ▼ Fly Hooks
- ▼ All Electronic Control
- ▼ All Stainless Steel Interior
- ▼ 15" 4,000rpm Rear Driven Fan
- ▼ 60amp Single Phase or 3-Phase Supply
- ▼ Fully Flight Cased

**MANUFACTURED BY JEM  
PYROTECHNIC & SPECIAL EFFECTS CO. LTD**

Vale Road Industrial Estate, Boston Road, Spilsby,  
Lincolnshire PE23 5HE

Tel: (0790) 54050 Telex: 37207 JEMSMC G Fax: (0790) 54051



## ANOTHER CRACKER FROM JEM

The CRACKER cracked oil smoke machine produces a mist which is virtually invisible to the human eye until it is hit by a beam of light. The CRACKER lends itself perfectly to Laser Shows, Live Concerts, Film, Television applications.

The CRACKER does not need to heat like a conventional smoke machine, but instead produces minute particles of cracked oil, one-twentieth the size of a strand of human hair.

The CRACKER fluid has been specially formulated by JEM to leave virtually no residue. The CRACKER is tough, rugged and dependable, and has a five year guarantee

### SPECIFICATION — CRACKER

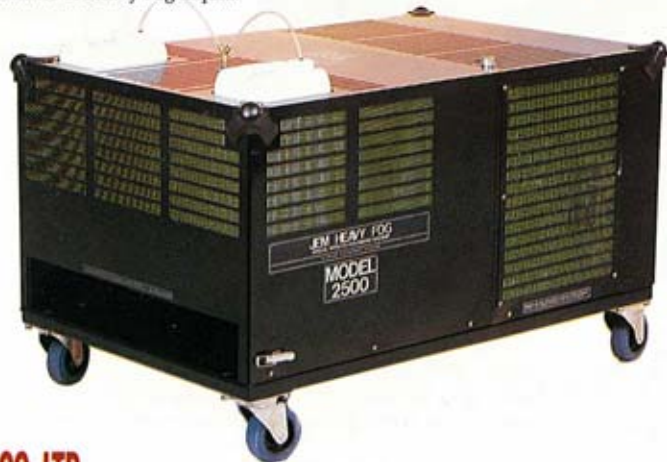
- ▼ Five Year Guarantee
- ▼ Fully Flight Cased
- ▼ Up to Four-Head System Available
- ▼ Remote Control
- ▼ Fan Assisted
- ▼ 10-Litre Tank Capacity
- ▼ Fly Hooks

**STOP PRESS**  
 JEM HEAVY FOG MODEL 500 &  
 JEM PYRO PACK PYROTECHNIC SYSTEMS  
 AVAILABLE JANUARY 1990 FROM  
 JEM THEATRICAL SUPPLIES & SPECIAL EFFECTS CO. LTD.



**HEAVY FOG — MODEL 2500**

- Features:
- Heavy Duty Low Temperature Freezing Plant as used in the successful Model 6500.
  - Hand Held Remote Control with Automatic Timer.
  - Facility for 2 x 5 litre containers of Heavy Fog Liquid.
  - Fan Assisted Output
  - Five Year Guarantee



**HEAVY FOG — MODEL 1500**

(To be used in conjunction with any JEM Smoke Machine)

- Features:
- Heavy Duty Low Temperature Freezing Plant.
  - Can be used with a JEM Smoke Machine which has a remote facility.
  - Hand Held Remote Control for overall control of Smoke Machine + Model 1500.
  - Fan Assisted Output
  - Five Year Guarantee

**MANUFACTURED BY  
 JEM PYROTECHNIC  
 & SPECIAL EFFECTS CO. LTD**

Vale Road Industrial Estate,  
 Boston Road, Spilsby,  
 Lincolnshire PE23 5HE  
 Tel: (0790) 54050 Fax: (0790) 54051  
 Telex: 37207 JEMSMC G

**JEM'S  
 NEXT  
 GENERATION**

***17*** of the top ***20*** grossing acts of 1988 used  
**AVOLITES control.**

<b>Top 20 Grossing Acts Of The Year*</b>			
Acts	No. Of Shows	Attendance	Gross
1. PINK FLOYD ✓	37	1,267,594	\$27,813,077
2. AEROSMITH ✓	115	1,379,912	\$22,096,003
3. GRATEFUL DEAD ✓	67	1,165,151	\$21,529,265
4. VAN HALEN'S MONSTERS OF ROCK ✓	18	783,143	\$19,843,283
5. DEF LEPPARD ✓	83	1,122,642	\$19,047,747
6. GEORGE MICHAEL ✓	47	548,700	\$17,341,073
7. BRUCE SPRINGSTEEN ✓	43	776,045	\$16,994,425
8. 'SOUTH PACIFIC' ✓	245	519,504	\$12,890,051
9. AC/DC ✓	68	769,152	\$12,519,305
10. WHITESNAKE ✓	60	715,918	\$12,033,353
11. BARRY MANILOW ✓	60	463,274	\$10,186,351
12. STING ✓	119	504,515	\$ 9,057,774
13. ROBERT PLANT ✓	50	529,183	\$ 9,056,011
14. INXS ✓	45	528,901	\$ 8,873,463
15. AMNESTY INTERNATIONAL: HUMAN RIGHTS NOW! ✓	45	265,632	\$ 8,744,784
16. MICHAEL JACKSON ✓	6	354,252	\$ 8,357,424
17. JOHN COUGAR MELLENCAMP ✓	21	419,341	\$ 7,337,372
18. MOSCOW CIRCUS ✓	27	509,748	\$ 6,932,368
19. ELTON JOHN ✓	109	287,856	\$ 6,361,084
20. 'THE ULTIMATE EVENT': WITH FRANK SINATRA, SAMMY DAVIS JR. & LIZA MINNELLI ✓	17	122,368	\$ 5,756,210
	8		

Booth 238



Nashville, Nov. 17-19



*The Proven Performer*

**AVOLITES USA, INC.**  
 9700 Owensmouth Avenue Unit B  
 Chatsworth, CA 91311  
 Tel: (818) 709-1116 Fax: (818) 709-0153

**AVOLITES PRODUCTION COMPANY, LTD.**  
 184 Park Avenue London NW10 7XL  
 Telephone: 01-965-8522 Telex: 24652 SPOTON G  
 Fax: 01-965-0290

\*Reprinted from PERFORMANCE Magazine

# BRYGGETEATRET: PARTNERSHIP AT THE PIER

L+SI visits Oslo's new Akker Brygge water-front centre

Tempest, fire and fashion have made pier theatres a long lost cause - or so I thought until I visited the new Bryggeteatret (literally, Pier Theatre) in Oslo. To be truthful, the venue is in no way a pier theatre as the British know it. Firstly, it's located on a neck of land that juts out into the Oslofjord adjacent to the city centre, and secondly, most of the theatre is sited well **below** sea level.

Bryggeteatret is situated in the heart of Akker Brygge, Norway's largest ever private sector construction project outside the oil industry, and it represents an ambitious and enlightened mixed development of a former shipbuilding yard that occupies a prime waterfront site in the formerly run-down 'Bay' area of central Oslo.

While the Akker Brygge complex is largely of new construction, the traditional character of the area has been maintained by skillful integration and refurbishment of some of the former dock workshop buildings. The project, with a total value of around 2.5 billion Norwegian Kroner (£230 million), has been managed by property developer Akker Eiendom A.S. with main contractor A. F. Selmer Furuholmen.

Spacious glass covered shopping malls co-exist alongside high grade office accommodation, restaurants, cafes and bars as well as flats and penthouses affording spectacular views over the Oslofjord. A central piazza with fountain and sculptures is amongst the generous open spaces, and there is also a marina for small craft. Ferries depart alongside Akker Brygge to serve Oslo's fiord-side suburbs and islands while bus services and underground parking for 1600 vehicles caters for those who rely on the more conventional methods of transport.

Happily, L+SI can report that arts and entertainment facilities too have been generously provided for in Akker Brygge's first phase which opened in 1986 and houses Black Box's two studio theatres. Norway's National Dance School is also in the area.

More significantly however, the project's second phase saw the opening in September this year of the multi-purpose Bryggeteatret, the subject of this feature, together with the adjacent Lillescenen and two cinemas, Felix 1 and Felix 2. The venue is situated deep in the basement of one of Akker Brygge's commercial and residential blocks - stage level is in fact 7.5 metres below fiord level.

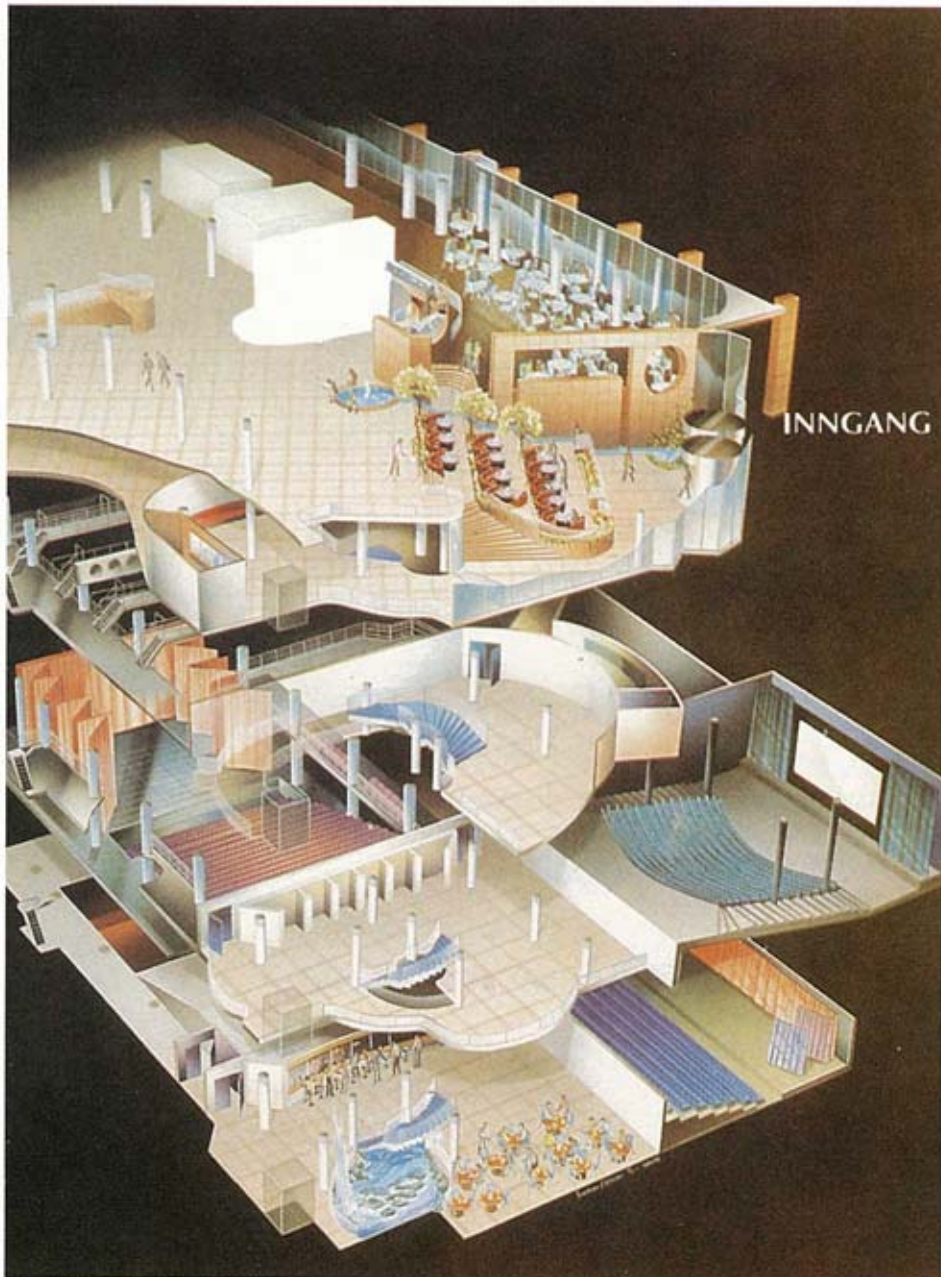
Derek Gilbert, managing director of Glantre Engineering of Reading, the joint contractors for Bryggeteatret, briefed me on the background to the scheme.

"Early in the design process of the second phase, spaces had to be allocated to the various facilities, and that provided for Bryggeteatret's stage and auditorium was far from ideal: a box 29 metres long, 18.5 metres wide and 9.5 metres high over both stage and auditorium. Requests for additional height and width for a theatre fly tower and wing space had to be declined at an early stage for economic reasons.

"Architectural practice Niels Torp, winner of an architectural competition 'The City and the Fjord, Oslo AD2000', were issued a brief that the space should be designed to permit



Aker Brygge (left) with the twin towers of Oslo City Hall to the far right.



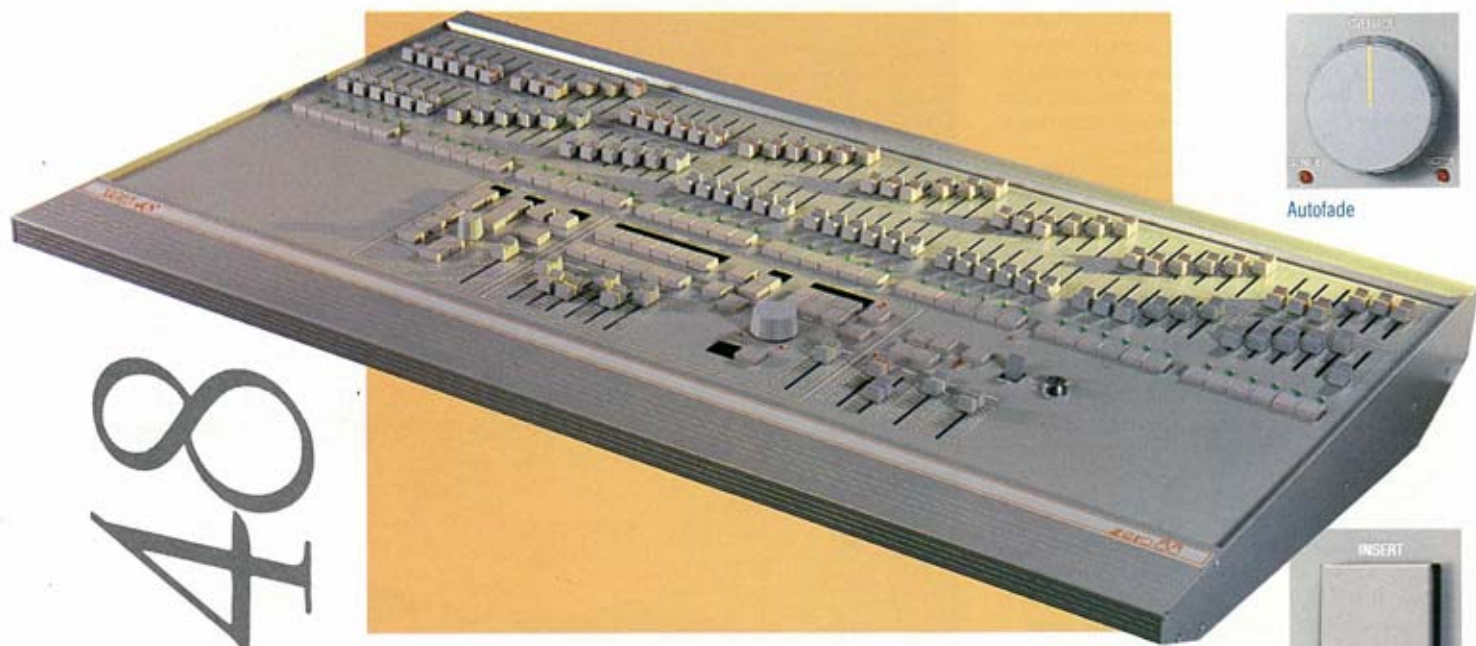
Entertainment at Akker Brygge: Bryggeteatret is centre left with Lillescenen bottom right. There are two cinemas, one of which can be seen centre right.

the

E L E G A N T  
solution

Combining sophistication with user friendliness, this elegant performer brings a whole package of advanced technology to the smaller console.

Sirius offers simplicity, versatility and value for money making it ideal for Theatre, Hire, Touring, Schools, Colleges and Night Clubs.



SIRIUS 48

- ▶ 48 CHANNELS
- ▶ 2 PRESETS
- ▶ 99 PROGRAMMABLE LEVEL MEMORIES
- ▶ 9 LEVEL CHASES
- ▶ 90 'INSERT' MEMORIES
- ▶ 200 'INSERT' CHASES
- ▶ 6 MEMORY MASTERS
- ▶ 32 KB. MEMORY CARD
- ▶ TRUE SOUND TO LIGHT
- ▶ CLIC TRAC
- ▶ 'GO' BUTTON (THE SINGLE ACTION PLAYBACK)



Programmable Chaser



Manual Masters



'GO' Button



Autofade



Insert



Data Storage

from  
ZERO 88

Hart Road, St. Albans, Hertfordshire. AL1 1NA England.  
Telephone: St. Albans (0727) 33271  
Telex: 22521 ZLIGHT G. Fax: (0727) 43676

staging of conventional and experimental theatrical, musical and dance productions. And to maximise revenue, the theatre was required to be able to accommodate conferences, fashion shows, cinema and commercial presentations as well as exhibitions and other functions requiring a flat floor over the whole area."

Given the limitations due to economics, Aker Eiendom and the Niels Torp architect responsible for the theatre, Erland Blakstad, pushed ahead to make the most of the space at their disposal. A little later, interior architect Kirsti Evensen was brought in to take charge of all aspects of furniture design, colour, etc.

Erland Blakstad is an experienced ballet and musical dancer and stage manager as well as being an experienced architect, and it was his dream to create a theatre that would not only work well for the audience but also for the people who have to run it. After the initial decisions on the general layout had been made, Bjarne Stensrud was brought in as theatre consultant to Aker Eiendom.

Stensrud is a senior stage manager for the New Theatre Company in Oslo, and he was appointed as theatre consultant and project manager and seconded full-time to Bryggeteatret. "My initial brief was to confirm whether a theatre could be equipped within a total cost of 15 million Norwegian Kroner," he told me. "I had got into the habit of spending much of my time on site, a situation that became a sheer necessity as work proceeded, but I came to learn a lot working as I did with highly skilled professionals in Aker Eiendom's, Selmer-Furuholmen's and Elpag/Glantrø organisations."

The Blakstad-Stensrud partnership proved to be a well-chosen one. They are both good



Part of Bryggeteatret's attractive entrance and foyer areas.

listeners and had a wide ranging combination of ideas and skills, and the project began to take a definitive shape.

In view of the need for a flexible and readily adaptable theatrical format that could offer standard proscenium, end stage, in-the-round, side stage and other situations, early decisions were taken both to provide retractable and mobile tiers for audience seating and also to incorporate two levels of peripheral galleries to the auditorium: the lower one would accommodate fixed seating at the rear and sides, and the upper one would provide for technical installations.

Additionally, it was decided to fit four transverse galleries across the auditorium and stage to provide easy access to rigging as well as provide mounting positions for stage lighting and sound equipment.

Once these initial parameters had been determined, and because of the need for elaborate and integrated lighting, sound, communications, rigging and mobile seating systems within a tight space, a decision was taken to appoint a single contractor to handle all these technical aspects of a 'design and build' basis.

Approaches were made to a number of



Bryggeteatret with a rehearsal in progress. Elements of the first production's set can be seen above stage top left and right.

# DATAFLASH

Up to 256 Channels

Self-Diagnostics

Dimmable!

Reflectors and Yoke Kits Available

Pump up the Power with Bursts of Animated Energy . . . or Dim Down to Subtle Hues . . . with DATAFLASH

. . . The World's most advanced Xenon Flashlamp System. Multiple flashlamps, each individually addressable and dimmable, provide short-term bursts of incredible power . . . or soft hues for more subtle effects. Colored domes, color-correcting domes, narrow-beam reflectors and dichroic filtration are available options. Each controller can individually control or communicate with up to 256 illuminators by means of a single 2 conductor shielded cable which is daisy-chained from one illuminator to another. Each controller may contain up to 99 programs, and a unique touch panel interface allows the user to call up programs instantly for live control. Audio synchronization is accomplished by two different audio advance selections. The end result is a powerful xenon illumination system that delivers *on demand*.



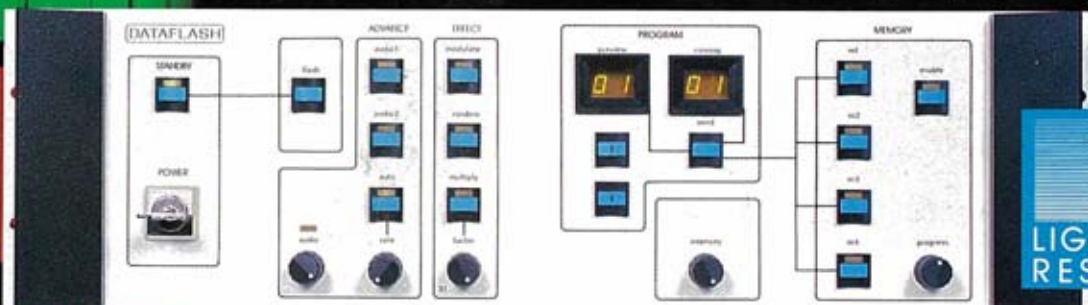
## DATAFLASH ILLUMINATOR SPECIFICATIONS

- maximum flash rate 17fps
- minimum flash rate .5fps
- xenon lamp power 1000 watts at 10 fps duty cycle regulated
- lamp life: dependent on intensity; at 50%: 500,000 flashes average
- digital assignment selector 256 channels
- self-diagnostics
- data active indicator
- easy lamp replacement
- 3 phase system capability
- self-resetting thermal breaker
- thermal fuse
- current consumption adjustable
- volts 120 60hz 240 50hz
- dimensions 28.5cm x 20cm d
- weight 2.0kg

## Incredible Power . . . for the Largest Stage

## DATAFLASH CONTROLLER SPECIFICATIONS

- up to 99 programs
- up to 256 channels
- touch panel or analog interface
- multiple intensities per step
- master intensity
- audio advance
- audio modulation
- memory storage
- step multiply
- installer power level select
- remote enable
- security keylock
- positive feel switches
- communication port
- standard rack mount, 3 units
- volts 120 60hz 240 50hz
- dimensions 13.3cm high x 48.2cm wide x 28cm deep
- weight 7kg

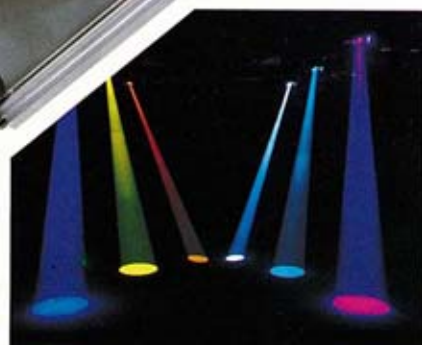
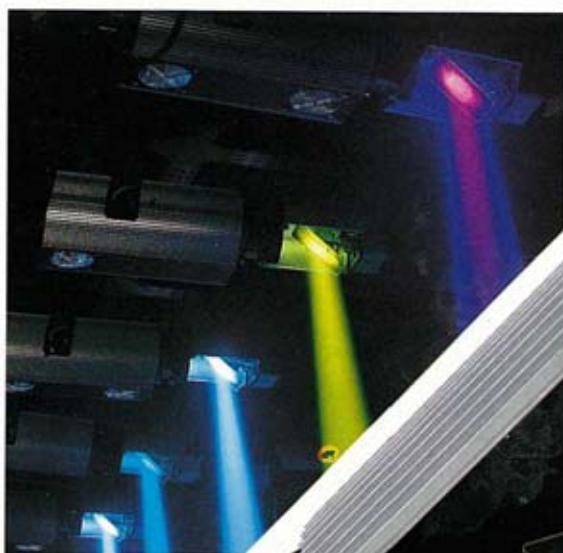
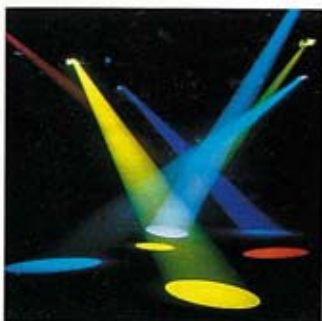


LIGHTWAVE RESEARCH  
PHONE 512 836-2242

2209 WEST BRAKER LN.

AUSTIN, TEXAS U.S.A. 78758  
FAX 512 837-5290





zovisa s.r.l. / photo italia

# GOLDEN SCAN. The absolute winner!

- Extremely reliable! No servo motors! Stepper motors only!!!
- Superbly sophisticated
- Completely computer controlled
- Beautifully designed
- Fantastic, ultra-rapid stroboscopic effects
- Colour change: six dichroic filters
- Three gobo patterns
- Remote-controlled iris
- Standard or wide-angle lens
- Lamp: HMI 575 - very high brightness - 49.000 flux/lm. (Version HMI 1.200 - 110.000 flux/lm).

**This is a Clay Paky challenge! Should you find a better product... Buy it!!!**



**CLAY PAKY**<sup>srl</sup>  
 PROJECTORS AND LIGHT EFFECTS FOR DISCOTHEQUES  
 Via G. Pascoli, 1 - 24066 PEDRENGO (Bg) Italy - Phone: 35/663.966  
 Telex: Italy 305242 CLAYPAI - Fax: Italy 35/665.976

Distributor for the U.K.  
**PULSAR** Pulsar Light of Cambridge  
 Henley Road, Cambridge, CB1 3EA - Tel. 0223/66798 - Tx. 81697

**CLAY PAKY**  
LIGHT DIMENSION

## SALE POINTS U.K.

IMPORTER

**Pulsar Light of Cambridge**  
Henley Road, Cambridge, CB1 3EA  
Tel. 0223/66798 - Tx 81697

SALE POINTS

### CEREBRUM LIGHTING

168 Chiltern Drive,  
SURBITON, SURREY KT5 8LS  
Tel: 01-390 0051

### AVITEC ELECTRONICS (UK) LTD

80/81 Walsworth Road,  
HITCHIN, HERTS, SE4 9SX  
Tel. 0462-58961

### LUTON SOUND & LIGHTING

88 Wellington Street  
LUTON, LU1 5AA - Tel. 0582-411733

### BATMINK GLASTONBURY WAREHOUSE

Silver Street  
GLASTONBURY, SOMERSET, BA16 8BT  
Tel. 0458-33186

### DIAL SOUND & LIGHTING

Wharfedale Road  
EUROWAY TRADING ESTATE  
BRADFORD, BD4 6SG  
Tel. 0274-651600

### STARDREAM LTD

Party House  
MOWBRAY DRIVE, BLACKPOOL, FY3 7JR  
Tel. 0253-302602

### SOUND ELECTRONICS

201/215 Jesmond Road  
NEWCASTLE UPON TYNE, NE2 1LA  
Tel. 0912-814248

### NIGHT FLIGHT SOUND & LIGHTING

Torwood  
BOWLING, GLASGOW, G60 5AB  
Tel. 0389-79261

### DISCO LAB

86, Dungannon Road  
COALISLAND, CO. TYRONE, N.I.  
Tel. 0860-623816

### LIGHTING DIMENSIONS

Unit 15A, Parkmore Ind. Est.  
LONGMILE ROAD, DUBLIN 12, EIRE  
Tel. 0001-520677

### WM REYNOLDS LTD

Raphoe CO DONEGAL, EIRE  
Tel. 010-353-74-45179

### CLAY PAKY s.r.l.

Via G. Pascoli, 1 - 24066 PEDRENGO (Bergamo) Italy  
Tel. 035/663965 - Fax: (0)35/665976  
Tlx. 301589 - 301032 BG EXP1 MBOX: CLAY



Theatre consultant Bjarne Stensrud (left) with architect Erland Blakstad.

specialist companies, some of whom eliminated themselves at an early stage by tending to concentrate on a hard sell of their lighting or sound products rather than submitting serious integrated design studies.

The selection process led in due course to the appointment of a local Oslo company, A/S Elpag as theatre systems contractor. Elpag, in partnership with UK specialist contractor Clantre Engineering Ltd had evidently impressed the construction management and consultancy team both by their in-depth understanding of the project's requirements and by their considerable joint experience of major packaged theatrical installations.

Following the award of the contract in February 1988, the Elpag-Clantre design team worked closely with Bjarne Stensrud to develop the design concepts, agree on fundamental principles, and develop a detailed engineering design.

"The first area to be subjected to detailed design appraisal had to be the stage and audience seating arrangements," explained Derek Gilbert. "The dual arrangements for flexible studio theatre usage and for an overall flat-floored exhibition space determined that a reference level be established.

It is common practice in multi-purpose halls that this should be the front auditorium level and that the stage be demountable.

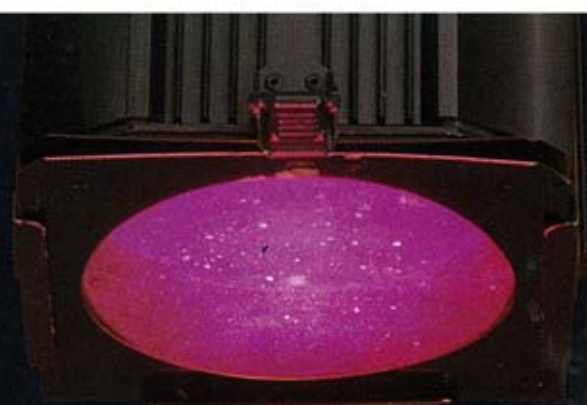
"At Bryggeteatret, an innovative solution was adopted whereby the stage and mid-auditorium level became the reference with the front five seating rows placed on one or both of two rectangular shaped screwjack-operated lifts in a lowered position. The larger of these, with dimensions 12 x 4m, is normally sunk to 80cm below the stage level and accommodates three rows of retractable seating tiers in three mobile sections. These may be stored understage when not required or relocated to the sides or rear of the stage when alternative configurations are required. The smaller elevator, sized at 12 x 2m, can serve either as a forestage or can be sunk to provide either an orchestra pit or further seating using movable chairs.

"Flat floor configuration is therefore achieved by storing away the mobile retractable tiers and the movable chairs, raising the two elevators to stage level and retracting the main mid to rear seating tiers to their storage position."

The main retractable array seating consists of 302 chairs in 14 rows split into three sec-



Another view of the Bryggeteatret auditorium.



# HOW TOUGH ?



GamColors and GamColor CineFilters — tough enough to take the heat on stage, on location, and in the studio.

GamColor lasts longer than others because it is made of heat-resistant, scratch-resistant polyester — a material selected after rigorous testing for clarity and durability. It has a higher melting point than polycarbonate. It is a consistent .002" thick. The dyes used in GamColor are the purest available.

GamColor is the filter proved best for long days, long runs and hot lights. Call The Great American Market for the name of a dealer near you.

**GamColor. Tough.**



# GamColor

Deep dyed polyester color filters

GamColor is made in U.S.A.

**THE GREAT AMERICAN MARKET**

826 N. COLE AVENUE HOLLYWOOD CA 90038  
213/461-0200 • TWX 910 494 1233 • FAX 213/461-4308

**GAMCOLOR IS AVAILABLE FROM THESE FINE PROFESSIONAL DEALERS:**

**U.K.:** AC Lighting, Tel. 0494 39076, FAX 0494 461024. **SWITZERLAND:** Zilz Concerts AG, Tel. 071-22 75 45, FAX 071-22 75 44.

**HOLLAND:** Corne-Light, Tel. 02 090 9898, FAX 02 095 1881. Flashlight, Tel. 030-62 58 14, FAX 030-62 59 34.

**WEST GERMANY:** Alfred Haussmann Intl. Ltd., Tel. 4940 660896, FAX 4940 665071. Zilz Concerts GmbH, Tel. 221-58 30 31, FAX 221-58 43 99.

**AUSTRALIA:** Concert Lighting Systems, Tel. 03-529-5019, FAX 03-529-2629. **HONG KONG:** Engineering Impact, Tel. 3-7110222,

FAX 3-7642543. **NEW ZEALAND:** Spotlight Systems, Tel. 64 9-789354, FAX 64 9-780542.



Lighting control with Strand Gemini.



Sound control with Soundcraft.



Stage management control position.

tions. A further quantity of 172 fixed chairs are provided at the rear and side intermediate gallery levels although in some formats, sightlines are poor from several of these side seats. Additional mobile retractable tiers are provided for thrust stage and in-the-round applications, but due to budget restrictions these are temporarily serving as main seating in the secondary Lilleteatret. (Seating sub-contractor to Elpag-Glantre was Audience Systems of Westbury, Wiltshire).

Despite the availability of thrust and in-the-round formats, it is expected that the most commonly used theatrical format will be that of proscenium or end stage. "The lack of both flying height and wing space determines that conventional scenic techniques are largely precluded and that lighting and sound will therefore be called on to play very important roles in the effective presentation of stage productions at Bryggeteatret," continued Derek Gilbert.

Design of the production lighting systems provides a flexible layout with over 400 socket outlets distributed over the complete stage and auditorium areas. The majority of outlets are located on the peripheral and transverse galleries above the stage and front-to-mid auditorium.

A total of 192 5kW and 2kW production lighting dimmers are installed, and these are Elpag's locally manufactured 'Elpi' type utilising Strand Permus components and housed in 48 way racks constructed in compliance with Norway's stringent NEMKO regulations. Lighting control is by a Strand Gemini, a flexible and popular system familiar to the majority of L+S's readers and with more than 350 worldwide installations to its credit.

The majority of the 200 stage lighting luminaires supplied initially are of 1.2kW or

1kW rating with Cantata profiles and Punch-lites predominating although a few 2kW Cadenzas are provided for positions involving longer throws. Although Iris 4 cyclorama lights are supplied as well, the lighting design by Thijs Wiessing for Bryggeteatret's opening production introduced conventional Par 56 battens for effective backlighting of the cyclorama.

Two 1kW CSI followspots are normally in dedicated locations on the auditorium bridge most distant from the stage but can easily be moved forward to the second bridge when steeper angles are preferred.

Additional lighting installations comprise houselights, emergency and exit lighting, rehearsal lighting, fit-up fluorescent lighting, production blue worklights and non-dims. These are controllable from both the lighting control room located at the technical gallery level at the rear of the auditorium and from the stage manager's desk.

"It is significant to report that Bryggeteatret has joined the growing trend of recently constructed theatres in which the capital value of the sound and communications installations exceeds that of the stage lighting," said Derek Gilbert. "Not so many years ago such a situation could only have been put down to a gross error of either design or arithmetic! More realistically, it is perhaps a reflection of the fact that imaginative theatrical lighting design and technology peaked some years ahead of that for sound."

Bryggeteatret's sound installation is based on a high specification Soundcraft Series 8000 mixer, with 40 house input channels, matrix outputs with masters centrally located and supplied to Elpag by local Norwegian distributor Lydrommet. The sound console and ancillary equipment are located in an

open control area at the centre of the technical gallery at the rear of the auditorium. This position produces a fairly satisfactory compromise between the increasingly common rear stalls mixer position with a consequent loss of seat revenue and a closed control room in which sound reproduction through monitor speakers can be a poor alternative.

The sound control area is also provided with two trolley mounted Revox PR99 tape recorders remote controlled from the Soundcraft console, and a two-bay signal processing rack fitted with graphic equalisers, digital delays, reverberative unit, limiter/compressor, expander/gate, notch filter, microphone splitters and patch panels. The adjacent technical room houses the amplifier rack which mounts nine QSC type 1400 and four QSC MX1500 power amplifiers.

The principal auditorium loudspeaker mounting position is on an electrically operated bar suspension set immediately to the audience side of the third bridge which provides ready access. While great flexibility is therefore provided, the initial arrangement of loudspeakers has consisted of three ElectroVoice horns, two type HP420 and one HP640, in a central cluster position with two EV type 606DX bass units spaced out to each side. Quantities of JBL Control One loudspeakers connected via delay lines are positioned to provide sound reinforcement to the auditorium rear and side gallery seating areas. The portable stage loudspeaker complement consists of four EV 1503, two EV 1202 full range speakers and ten Tannoy Wedge speakers.

An effective radio microphone system was considered to be of paramount importance

# SKY-TRACKER®

BY

## THEATRE · PROJECTS



**A** SKYTRACKER is a powerful moving multi-beam searchlight, providing the ultimate lighting spectacular for Sales Promotions, Festivals, Restaurants, Retail Outlets, Theatres, Nightclubs, or any other special events. It is versatile and can be set up at any venue literally within minutes.

SKYTRACKER is available for rental only from:  
Theatre Projects Services Limited, 8-34 Blundell Street,  
London N7 9BW, Telephone 01-609 2121, Fax 01-609 8897.



Available in three versions:  
4 head 2kW generator powered,  
4 head 2kW A/C mains,  
Single head 4kW A/C mains.

but needed to be cost-effective. After careful consideration, the Sennheiser EMC 1036 receiver was selected with Sennheiser SKM 4031 hand held and MKE 40-2R lapel microphone transmitters. A wide selection of conventional microphones was considered essential with a total of 30 microphones of nine different types being selected.

Naturally full communications and paging systems have been provided. These include a dual channel Canford Audio Tech-Pro ring intercom system and a ten channel conventional cue-light system controlled from the stage manager's desk. A multi-zone paging system covers dressing rooms and other backstage areas together with foyers and other public areas.

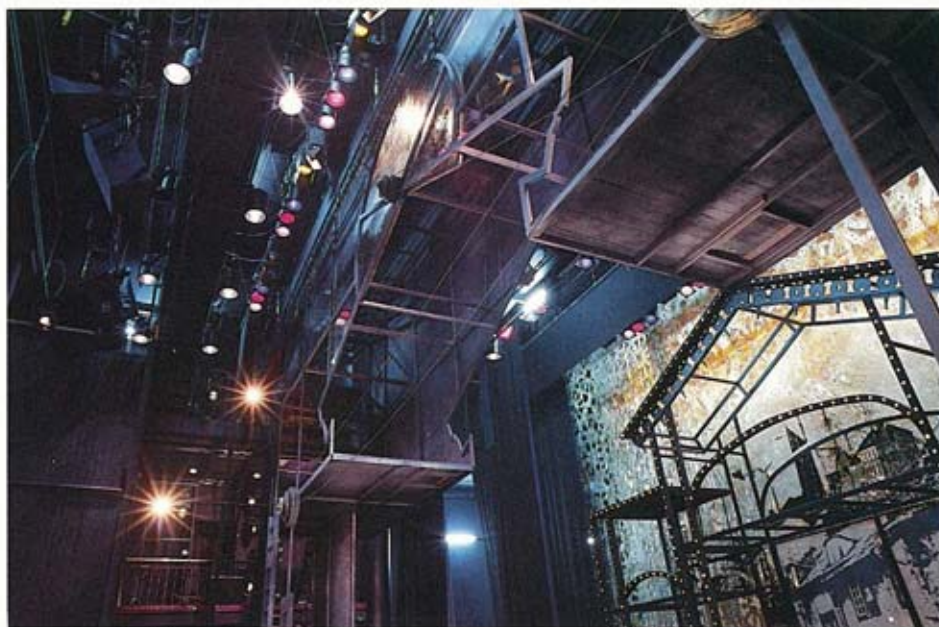
Although not falling strictly within L+SI's subject area, a short mention of the rigging system is appropriate. 20 rigging sets with 13.5m five line bars are provided over the front auditorium and stage areas. 15 of these sets are 250kg capacity, manually operated from the OP side with pile winding winch drums for suspension of scenic pieces, borders, masking, lighting etc. Five sets are 500kg electrically operated with hoists units installed at roof level PS; these electric sets include the principal loudspeaker bar and two lighting bars. For limited travel flying of scenery pieces during a production, 12 125kg point hoists have been installed. Principal rigging sub-contractors were Hoffend and Sons Inc, USA (electric sets) and Euro-Trak, UK (manual sets). The Elpag-Glantre scope of work also included curtain tracks, drapes, cyclorama and stage accessories.

With the get-in at prompt side technical gallery level, a Verlinde chain hoist and track beam were installed over the stage in-line with the scenery door. A telescope-type extending platform was also delivered to facilitate rigging and to provide access to points that cannot be reached from the technical galleries.

#### **Bryggeteatret, Aker Brygge, Oslo.**

Developer: Aker Eiendom A/S  
Architects: Niels Torp A/S  
Main Contractor: A. F. Selmer Furuholmen  
Architect responsible for design of theatre:  
Erland Blakstad  
Interior Architect: Kirstl Evensen  
Theatre Consultant: Bjarne Stensrud  
Suppliers of theatre technical equipment  
and installation: A/S Elpag (Oslo) in  
co-operation with Glantre Engineering  
Ltd (Reading, England)

**A/S Elpag**  
Postboks 2816 Toyen, 0608 Oslo 6, Norway  
**Glantre Engineering Ltd.**  
2 Cremyll Road, Reading, Berks RG1 8NQ  
England



Proscenium 'arch' showing set for Bryggeteatret's opening production.

The majority of site installation work was carried out between June and August 1989. For A/S Elpag, managing director Jan-Fredrik Larsen took overall charge of the project with chairman Fredrik Larsen Snr offering more than 40 years experience in support on the rigging installations. For Glantre, Vic Dobbs acted as project manager while Mark Davenport was in charge of Glantre's site team carrying out the majority of the sound, communications and electrical work. Elpag personnel handled the bulk of the rigging and seating assembly work.

The success of Bryggeteatret is also the success of an international partnership, theatre installation-wise. In addition to the Aker Brygge project, Elpag of Oslo has now had

the opportunity to work with Glantre Engineering on a number of installations such as the Skarer Centre and the Olavshallen concert hall at Trondheim.

"Jointly the two companies can offer design, specification, working drawings, supply, installation or supervision and commissioning for a full range of lighting, sound, rigging and AV systems for theatres, studios, presentation rooms and show lounges," Elpag's managing director Jan Fr. Larsen told L+SI.

"We are now looking forward to new opportunities and working with Glantre both in the cruise ship industry and ashore."

**John Offord**

## **With Elpag in Oslo**

A family business still totally owned by the family, A/S Elpag was founded in 1946 in Oslo by Fredrik Larsen, who continues to serve as the company's chairman and its resident mechanical engineering expert.

It rapidly became the leading Norwegian company for technical systems and equipment for the entertainment industry, and its present day management is led by the two sons of the founder: Jan Fredrik Larsen is managing director and Herman Larsen sales director.

Elpag is the sole agent in Norway for Strand and Quartzcolor, Manfrotto, Le Maitre, Ludwig Pani, Microlights, Pulsar, Rimowa and Euro-Track - and the Strand Lighting link was in many ways the backbone of the early business. In fact, Elpag is Strand's longest serving dealer, going back to the

days when Fredrik Larsen senior knocked on the door at King Street in London's Covent Garden with equipment orders for the newly formed Norwegian State Travelling Theatre.

The close links with Strand and other UK companies has continued on to the next generation. In 1970/71 Jan Fredrik Larsen spent a year on technical training with Strand Lighting and six months with Hall Stage Equipment Limited. Similarly Herman Larsen also spent two years training with Strand and other British companies.

Elpag's centre of operations in Oslo is a very efficient and tidily organised set-up. A former margarine and banana store, the premises has been expertly adapted since the company took it over in 1987. It provides just about all a forward-looking high technology company requires: good working conditions with excellent staff facilities, highly systemised stock storage and control, and a



One of Elpag's test and manufacturing areas.



Demonstration and display, with Strand in control.

VOTED

# Lighting Controller Of The Year

## >ENIGMA<™

PAT PENDING



SEQ	Bank 1	ZONE	Bank 2	MEON	Bank 4	LASER	Bank 4
1: MASTER SEQ	1 PL	1: TIUOLI 16 CH	PL	1: M/BALL FLASH	PL	1: POINT MODE	PL
1: SMPTE SEQ	5 PL	5: COMET/TWO'S	PL	1: G/NEON HOOP	PL	1: DIFFRACTION 4	PL
1: LIGHTSHOW 2	PL	6: SATURNO/FLAS	PL	2: BUILD/DECAY	PL	1: 360 SCAN SLO	PL
1: LIGHTSHOW 3	PL	7: ROTOMAX	PL	1: RIG 1 RED	PL	1: 360 SCAN FST	PL
1: LIGHTSHOW 4	PL	8: COLIBRI CHAS	PL	1: RIGS 2&3 GRE	PL	1: SINE WAVE	PL
1: STROBES ONLY	PL	3: SYNCRO SCAN	PL	2: NEON FLASH	PL	1: CLUB LOGO 1	PL
1: ALL ON	PL	2: 8 SPINNERS	PL	1: DIM TO 50%	PL	1: CLUB LOGO 2	PL
1: MASTER SEQ 8	PL	4: STROBES FAST	PL	2: X-FADE FAST	PL	1: CLUB LOGO 3	PL
EFFECT	Bank 9	ROBOT	Bank 2	DITNER	Bank 8	LASER	Bank 1
1: HOISTS 1&2	PL	1: JUPITERS RED	PL	1: 4 CH CHASE	PL	1: scroll text	PL
1: HOISTS 3&4	PL	1: STARS STAGE	PL	1: 12 ch MATRIX	PL	1: static text	PL
1: RIG 1-4 DOWN	PL	1: SPOTS STAGE	PL	1: CAMS FLASH	PL	1: CIRCLE	PL
1: RIGS 5-8 UP	PL	1: MOVE CENTRE	PL	2: FORTE BCH CH	PL	1: circle ramp	PL
2: MOTORS STOP	PL	1: UP AND DOWN	PL	2: 20 ch CHASE	PL	1: square spin	PL
2: MOTORS START	PL	1: LEFT-RIGHT	PL	1: ENIGMA DEMO	PL	1: flat scan	PL
3: PYROTEKS 5	PL	1: 64 STEP FAST	PL	1: STAGE RED 80	PL	1: triangle	PL
4: SMOKE 1&2	PL	1: ZOOM IN/OUT	PL	1: RED/blue Xfd	PL	1: beams	PL
[ENCODER]: OFF		[SELECT]: OFF		[JOYSTICK]: OFF			
[Current Device]		Preset		Trigger		Seq	
DIMMER 1: Raylights		88		OFF LOOP		Tap	
UPPER TOUCH OFF				UPPER TOUCH OFF			
LOWER TOUCH OFF				LOWER TOUCH OFF			



ADVANCED LIGHTING SYSTEMS (SCOTLAND) LTD.

1-3 Hillside Street, Edinburgh EH7 5HD · Tel. 031-556 1771 · Fax 031-557 1973

>ENIGMA< and the >ENIGMA< logo are trademarks of Advanced Lighting Systems (Scotland) Ltd. The >ENIGMA< lighting control system is the subject of British and foreign patent pending applications.

# A little piece of Magic

Lee Filters have introduced Colour Magic - a starter pack to introduce you to the versatile and colourful world of Lee's filter products.

The Colour Magic pack contain twelve sheets of high grade lightin filter, a cutter, and the formulae fo creating more than 50 other colours it's a palette of tones for the lighti professional.

Whether you want to bring a blush the heroine's cheeks, or a glow to sunset, or a wintry light to the cas ramparts - if it can be done w colour, it can be done with Lee Colour Magic.

Priced at just £7.50, Colour Mag an ideal introduction to the Lee ra and all its versatility.

And once Colour Magic has pr the performance of the Lee sys our pocket sized swatchbook will vide the key which will unlock the to the wider horizons of our wor colours and effects.



## Lee CT's are right on target - every time

The Lee range of colour temperature filters is unrivalled in terms of accuracy and repeatable performance.

Lee Colour Temperature Blues and Colour Temperature Oranges are made using the first principles of colour physics, ensuring that each filter

delivers a performance which is spectrally correct - and that means the right colour temperature, and an accurate colour, every time.

You've heard it all before from manufacturers, haven't you? Team of professionals blah, blah, blah. . . . dedicated to one ideal, blah, blah, blah. . . . all highly skilled blah, blah, blah. . . . so for a change, we thought you'd like to see the Lee Filters team. They're having another great season.

*We don't need to tell you we're the best*

**LEE Filters**  
**LEE Filters**  
**LEE Filters**  
**LEE Filters**  
**LEE Filters**

A DIVISION OF **LEE** Colortran Ltd.

Central Way, Walworth Industrial Estate, Andover, Hampshire SP10 5AN,  
Tel: (0264) 66245 England. Fax: (0264) 55058 Telex: 477259



smart demonstration studio and display area.

A walk round the storage area makes you realise how much capital a good dealer has to keep tied up in stock. "We're that big in lamps that both Thorn and Philips buy from us occasionally," said Jan Fredrik. "We've probably got the biggest stock of lamps in Scandinavia."

Their inventory of parts extends back to non-current equipment, and I would guess that if ever Strand or Pulsar, for instance, were searching for a few odd bits and pieces a call to Elpag might well sort out their problem.

Elpag also manufactures its own range of dimmers, which came about largely due to the different Norwegian supply and standards and the necessity of adapting for the cruise ship market. Strand Permus cards are used as are Environ fluorescent dimmer cards and non-dims (see separate story within this feature).

About two-thirds of the company's turnover is sales with most of the remainder coming from installation and production work. Some hire is involved: "At present we undertake a small amount of hire to support major customers when they need extra equipment," explained Herman Larsen. "But in the future we will be looking to develop this aspect of the business."

Sitting round the table with all three Larsens, I asked how British companies fared in relation to their competitors in the international market place.

"There has been some lack of understanding of electrical specifications and NEMKO standards and that your standard is not accepted everywhere else," said Fredrik Larsen senior. "But the market in Norway is so small we understand. However, it is a short-sighted policy and you must make the effort, although recently people are more aware of the situation."

Herman Larsen explained a typical dealer problem. "Last Wednesday we had a call asking for 25 lanterns of different types. We gave them prices the same day. One day later they decided what was needed and placed the order. They had to be supplied and installed in the theatre by the following Wednesday. We managed, but we have to scream quite a lot to get products. The industry knows that theatres aren't good planners, anywhere in the world. It means we have to stock a whole range in depth, but we do expect back-up fast when needed when we get extraordinary requests."

"It also takes a lot of time to get across a message about design and comments on how to improve equipment. We have to moan a lot to get what we want," said Fredrik Larsen snr. "The British do sometimes tend to think that they know best."

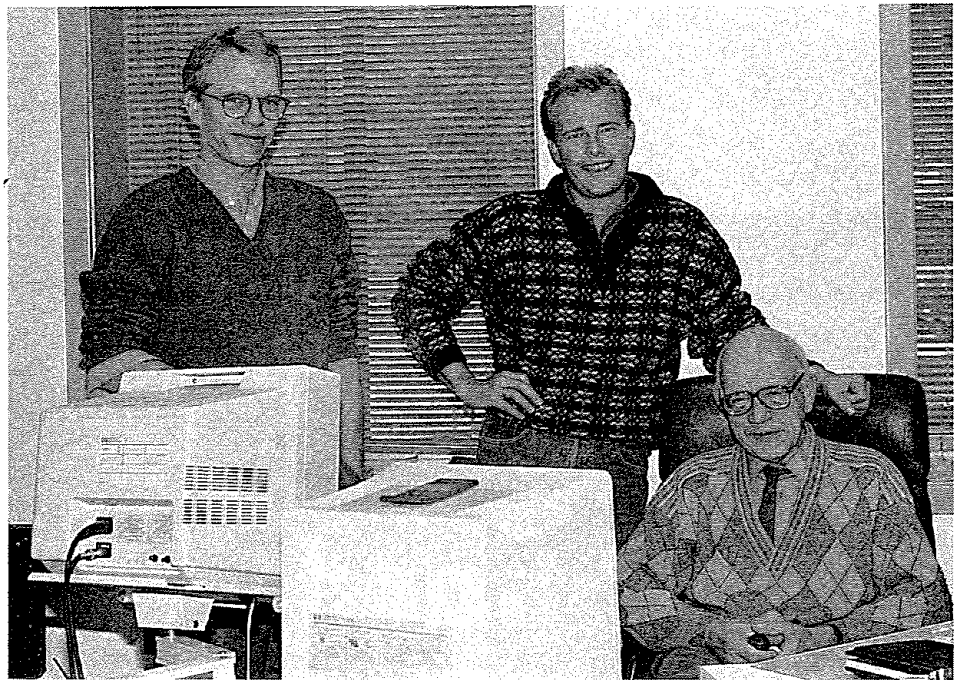
"But there are many good points," said Jan Fredrik. "We can still say England leads the world in theatre techniques and the understanding of theatre. They have a lead, but they must watch out!" And Herman: "With Strand we are still ahead on the easy way of doing things - more user-friendly on the control side. Their controls are made for theatre."

## Elpag's Elpi Dimmers

The Elpi dimmer range was originally designed and produced by Elpag as a special installation for the cruise ship M/V Vistafjord. The system had to fit into the confined space of an old transformer room and cater for the required dimming facilities for both the main ballroom and a separate nightclub. The system had 85 dimmer channels using a combination of 2 x 10 amp Strand Permus cards and Strand Environ fluorescent dimmer cards and non-dims.

The system is based on a plug-in principle where 6 dimmer cards are placed on guides in a 19" plug-in crate containing the 12 x 10 amp dimmers. The crate also contains special ring filters and specially calibrated Swiss circuit breakers. All dimmers meet VDE 0875 NORM for filtering. The plug-in crates are placed in a special 19" rack with base measurements of only 520 x 500 mm, and the height varies from 782 mm for a 24-way system to 1720 mm for a 60-way system.

Elpag now produce the system in 24, 36, 48 and 60-way versions. There is also a portable version of the 24-way unit which has custom-built facilities such as carrying handles on both sides for normal



Elpag's founder and chairman Fredrik Larsen with managing director Jan Fredrik Larsen (left) and sales director Herman Larsen.

carrying and specially positioned handles for stairways, mains input socket, wheels, etc. All racks for fixed installation come complete with input terminal blocks and output terminals, all necessary circuit-breakers and fan.

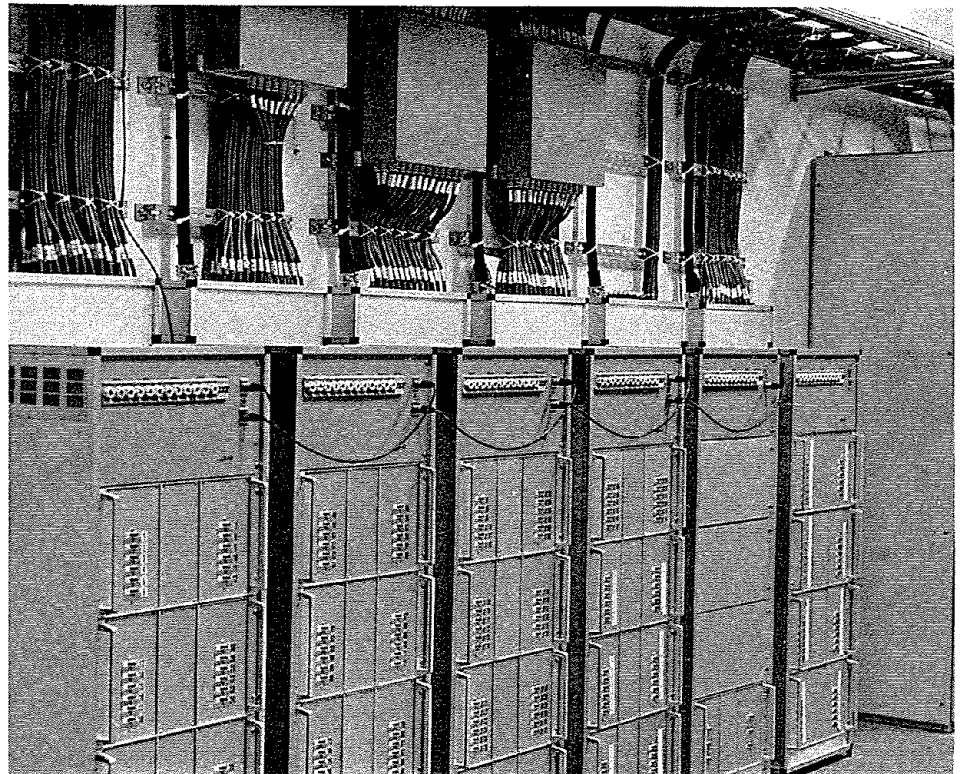
Due to the special Norwegian electrical supply being a Delta system without neutral and 230V between phases (the same as on board ships), all Elpi dimmers have double pole circuit-breakers, unless otherwise stated.

Also, all systems can be fitted with demultiplexers and special features such as programmable dimming facilities for auditorium, conference, hotel, restaurant or standard house dimming. The program card can handle 6 presets and full on and zero is adjustable for all circuits. 4 presets are individually controllable on all circuits and there is

no limit to the number of dimmers.

Other special features include emergency lighting with automatic selection of dimmers and level - a requirement in increasing demand not only for the cruise ship industry but also for other projects such as Bryggeteatret (see below), hotels and hospitals.

The small Elpi S-N or SN dimmer is a 6 x 10 amp or 3 x 20 amp unit with facilities such as switching of input mains between 1 and 3 phase both for 380V-N and 230V Delta, automatic sensing of control voltage being positive or negative. It has control switching of individual dimmers either to remote desk or to internal potentiometer, and direct outlet and facility to plug in two-way communication via XLR sockets in the dimmer unit through the control cable and socket in the desk.



The dimmer room at Bryggeteatret. Based on Permus dimmer cards from Strand, the Elpag manufactured Elpi dimmers have special filtering, are tightly packed, and incorporate the house lighting on a special 6 preset programme card with individual up and down times for each preset. The system also incorporates emergency lighting that automatically uses the emergency light sources only - these circuits also act as ordinary lighting circuits when not acting as emergency lighting. The dimmers also feature 24 non-dim circuits which can be controlled from both the Gemini and also from a remote panel with standard on/off switches.

# **Strand technology moves further ahead...**

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

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

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

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



**Filters**



**Pollux  
Spotlights**



**Arturo  
Softlights**



**Cantata  
Spotlights**



**Beamlite**



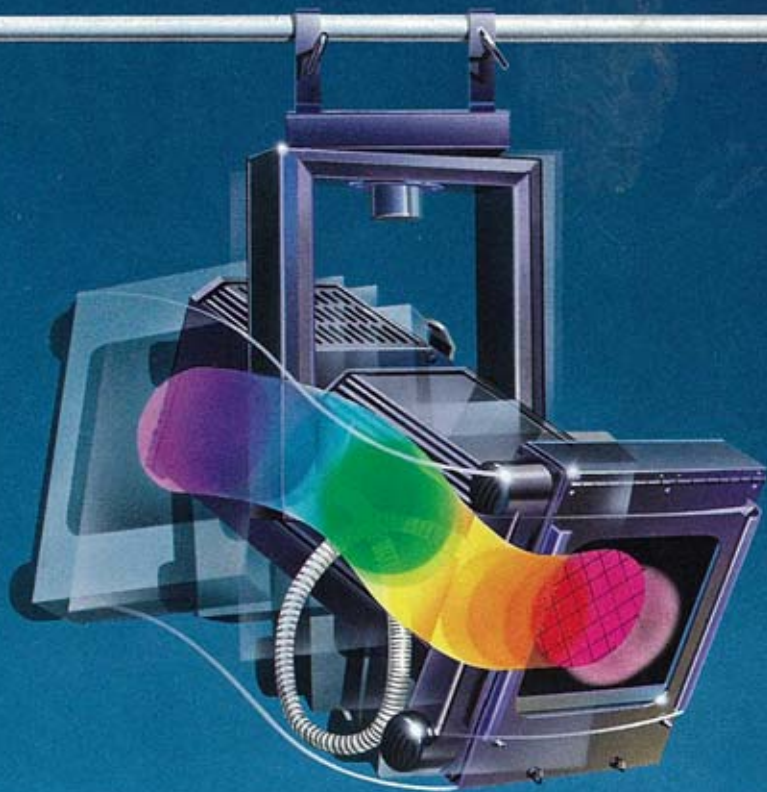
**Micro-  
dimmer**



**Taskmaster  
Control Desk**



**Action 24  
Control Desk**



investment in research and development. Every year, we introduce increasingly sophisticated and reliable products — from follow spots for schools and halls to dimmers and controls for theatres, film and T.V. studios.

This commitment to creative product development ensures that Strand will always lead the way in entertainment lighting. Leaving others even further behind.

If you'd like to find out more about Strand technology, fill in and return the coupon. It could be the best move you'll make all day.



## Strand Lighting

**Strand Lighting Limited**  
 Grant Way, (Off Syon Lane), Isleworth,  
 Middlesex TW7 5QD, United Kingdom  
 Telephone: 01-560 3171. Telex: 27976. Fax: 01-568 2103



**Galaxy  
Control Systems**



**Act 6  
Dimmer Pack**



**Lamps**



**Redhead  
Floodlights**



**Stands**

I'd like to know more about Strand technology. My area of interest is: Theatre  T.V.  Other

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Tel. No. \_\_\_\_\_

Position \_\_\_\_\_

LS11189

# CROSS TALK

## Dick Carrier and Dave Winfield

At the beginning of 1989 Le Maitre Holdings bought Jivelight Ltd., for the first time bringing a company in under their corporate umbrella whose main area of business was dealing in overseas lighting effects.

The Group's resident lighting specialist is Dick Carrier of LSD, and to clarify their new position in market, L+S got the respective MD's together and let them do the talking. For the first time, Dave Winfield of Jivelight and Dick Carrier talk about the take-over and what it means to Le Maitre Holdings. And, of course, they went on to say some more about the industry and its attitudes . . .

### Firstly, a brief history of both companies:

**Jivelight** was founded in 1985 and overseas agencies include Coperluz of Spain and Sapro of France. The company first distributed Coperluz and later added a range of UK own-brand products, which was also targeted at the export market. Their CR16 was awarded the best mobile lighting effect in 1987, and the Sapro range was acquired in 1988. Mike Henden joined the company on 1st January 1989 as sales manager responsible for the north of England.

**LSD (Light & Sound Distribution):** In 1979 Le Maitre approached Dick Carrier and asked him to market and promote their lighting products. Up to then Dick had worked for Goodhews and later ran CDC with Keith Hardy. He is now managing director of LSD and sales and marketing director of Le Maitre Holdings.

**Dick Carrier:** "We now have an ideal situation: if people want to buy imported lighting there's Jivelight, and if it's home grown Dave's also got a manufacturing base of UK lighting as have LSD."

### How did the take-over of Jivelight come about?

**Dick Carrier:** "I recommended to the board that at the price, Jivelight was a good deal, and they said 'let's go with it'. The two companies worked so well together, Jivelight being such a similar company. I had looked at it and said 'there's another LSD'. Jivelight is an embryonic LSD, and one day it will be as big as LSD with its own niche in the market, selling what it sells - which is not what we sell."

### How separate are the two companies?

**Dick Carrier:** "Totally autonomous - they are totally separate companies. They are owned by the parent company but are all run as individual companies."

**Dave Winfield:** "Jivelight runs the same as before the take-over."

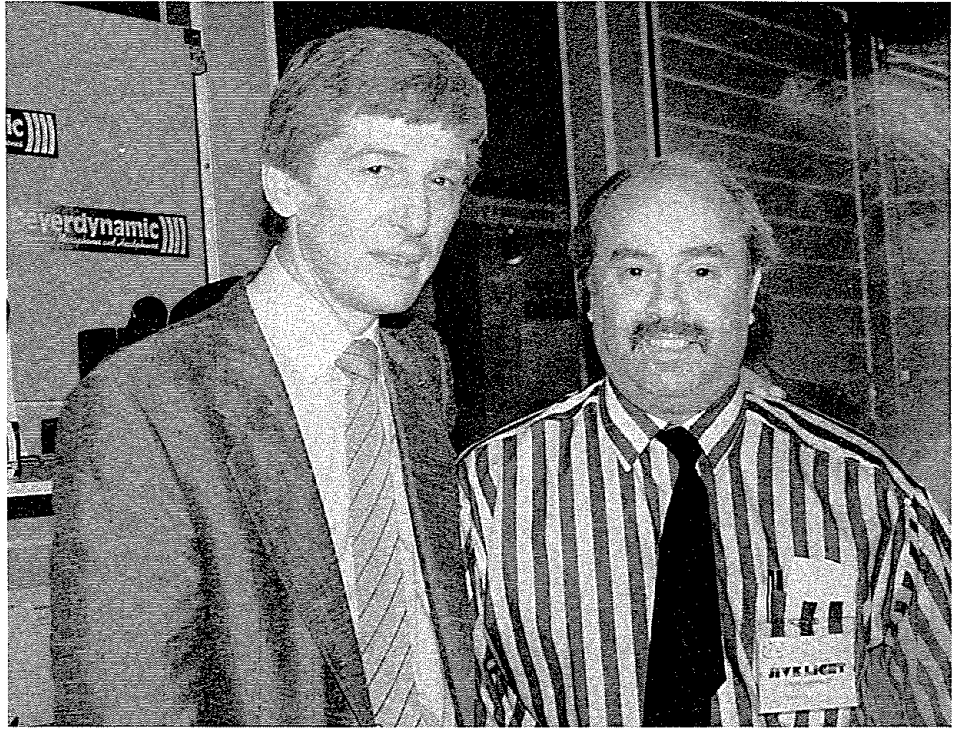
**Dick Carrier:** "We both want our own market, so it's pointless chasing the same customers. The whole idea was that Dave had a market, and LSD had a customer base. The overlap was minimal and together we now have a huge market."

### How do you define your customer base?

**Dave Winfield:** "We go through selected major distributors throughout the country. We do not sell to any retail or installer direct - no end-users at all."

**Dick Carrier:** "There is one common product we share, and that's ICE. The more people we have selling the product the quicker we will regain ICE's market share. Jivelight covers the whole of the UK, whereas LSD only gets up as far as Birmingham."

**Dave Winfield:** "One of the reasons we sold Jivelight to Le Maitre was to give us the back-up and financial support we need to take us into the 1990's. Jivelight are actively looking into the market for more things to sell, to take on more products."



Dick Carrier (left) with Dave Winfield at the recent PLASA Show.

### The acquisition of Jivelight marked Le Maitre's first move into selling overseas lighting.

**Dave Winfield:** "And I'm hoping to convince them to take more foreign products."

**Dick Carrier:** "LSD has always flown the Union Jack. We're a British company and major in British products. We're not really interested in imported products and I'm certainly not going to advocate a change in that philosophy. We're competing on an absolutely even wicket as one of Dave's customers; we don't get any preferential treatment. If a customer wants to buy a Jivelight product they can buy from Dave or me - they get the same deal. If someone wants to buy Jivelight product, that's fine, but it won't stop LSD promoting UK products as hard as it can."

**Dave Winfield:** "What we are looking at is the disco industry - which is pretty small on the whole - and between us, that is the whole of Le Maitre Lighting and Effects, we have a broad customer base and we shouldn't miss anyone. We are under the Le Maitre banner, but each company is doing its own thing."

**Dick Carrier:** "That goes for overseas as well. If Le Maitre lighting customers want ICE products they can consolidate their orders and ICE can go in the same carton. It saves duplication of paperwork and freight. There are some lovely spin-offs."

**Dave Winfield:** "We can send a whole shipment overseas with all the group's products."

**Dick Carrier:** "Let's get to the basics of what we are discussing. Dave and I have to listen to our customers. The customer wants a piece of lighting, and I don't think he worries whether it comes from France, Spain or the UK - it's simply a requirement for that piece of equipment. He's seen a piece of lighting and liked the effect and said 'I want to buy it'."

### So what do the discotheques want, and where is it coming from?

**Dave Winfield:** "The Spanish haven't any innovation at all at the moment. They're still producing the old pinspots, scanners and helicopters which sell great. Our business with Spain is static, whereas the French and particularly the Italians regularly bring out new effects."

"When I went to Madrid last year, every Spanish stand was showing Italian lighting products, which was never known before. You could never get the Spanish to buy Italian. You had Satel with Clay Paky on their stand, and Coperluz with SGM. Kremenza had Clay Paky and Coemar and a few of their own products."

**Dick Carrier:** "You can't run a discotheque on intelligent lighting. There's the cake and there's the icing. The intelligent lighting and beam stuff is the icing, but you still need four channel spots and floods, period! I defy anyone to put a good discotheque together that hasn't got that ingredient there. The punters identify with it, and it's been around a long time. I've got nothing against the intelligent equipment but you've got to have the cake first."

**Dave Winfield:** "I agree. It's not all Mecca and First Leisure. There are plenty of clubs out there who only want to spend £20,000: £10,000 on sound and £10,000 on lighting, or thereabouts. So what do you get?"

**Dick Carrier:** "And you aren't going to get Golden Scans, that's for sure!"

**Dave Winfield:** "The trouble with many of these people is that they buy intelligent equipment, but the person who runs it is not very intelligent. They get a little mobile twin deck in and switch panels and all he does is go bang bang. It goes from 0 to 60 miles per hour in two seconds flat. Half the lights don't work because he won't switch them on; he blows up the amp and blows up the speakers; he \*\*\*\*\* up all the lighting and the owner has spent £50,000 on the club. People haven't got the intelligence to work with it."

**Dick Carrier:** "I think our customers know that if you are developing a discotheque there's only X you should spend on intelligent lighting, and if you spend an extra £30k to £40k you are not going to get £30k to £40k of business out of it. But the major groups are saying: 'you've spent £200,000, right I'll spend £250,000'."

### Are people being put off or even intimidated by the way intelligent lighting is going?

**Dick Carrier:** "I'll answer that straight away. Intelligent lighting has been hyped through massive

press advertising, and when people find out the price of it, they say 'well I can't afford it but the man up the road got one . . .' But if they feel they want to spend £500,000 on lighting then they can automatically afford intelligent lighting. At the moment most of it comes from overseas - there's only the Colour Sweep from Laser Systems that's made in the UK. If someone comes to me for intelligent lighting I go for Laser Systems because they're the only British company doing it, for no other reason that I support UK companies primarily."

**Dave Winfield:** "A lot of people see the ads but don't realise they need a sophisticated computer and a sophisticated light jockey to work the systems."

**Dick Carrier:** "You need a light jockey as an absolute pre-requisite to have that sort of investment: they need someone to drive it which is an on-going expense."

**Dave Winfield:** "Getting back to the mentality of the club owner, most of the time they have one guy - a DJ who most of the time is not interested in the lighting other than the fact that it goes on. I think that 90% of DJ's in this country are interested in hearing (a) their voice and (b) the sound."

**Dick Carrier:** "I'll go further than that. I think big discotheques are geared to their opening night. All the hoi polloi are showing off to all their friends how much they can spend. When the real customers start coming in I don't think they care; they want the records, they want the atmosphere, and I don't think that intelligent lighting has got anything to do with that. I think that many discotheque owners are spending much more money on lighting than they need to. If they halved their budgets they really wouldn't miss out on much."

"Why is it, when discotheques do these big light shows they use classical music? What the hell has classical music got to do with discotheque? Nothing! It's wrong. People don't dance to classical records. They dance to the funk and the funk goes with the bass line."

"You need a damn good DJ playing bloody good music, and that's what makes a good discotheque - plus lighting on the floor that pulses to the music. That's what they want. If they're off the dance floor they might witness the lighting but they don't go to be off the dance floor."

#### How does the massive promotion of imported lighting effect you?

**Dick Carrier:** "There's only one company in the UK making intelligent lighting. Which makes the statement that there's a market requirement for it. There are other people in the UK making the rest i.e., the pin spots, and beam effects, and we have half the market share, which is good. Most of our customer base is in the UK and we're here to sell British products. From LSD's point of view if it's not made in the UK, we're quite prepared to buy through the importer what the customer needs, but at the end of the day we are here to supply the customer with what he wants."

"But if a customer wants something that he's seen in another club or in the trade press, and we say 'OK, that's £4000 and imported, how about a UK one at £2000', it's hard to dissuade him from his original idea. Do the punters realise that if it moves and changes colour that it's a particular make of equipment. Of course they don't."

**Dave Winfield:** "At the smaller fittings end, a few years ago the Spanish/Italian market was a lot cheaper to buy in. However, since Spain joined the EEC the tariffs have gone up and there are no subsidies for export. It has made UK goods more competitive. But the problem then is with some of the UK's smaller suppliers i.e. the garage manufacturers. They make a few pinspots and pop around the country selling them from the backs of their cars."

#### So we're on to professionalism in the industry?

**Dave Winfield:** "If we are trying to make this industry professional it will never happen with these people in the market. OK, they've got to earn a living, but it all stems back to certain companies who have slashed, crashed and bashed prices. They didn't need to. If you compare the disco in-

dustry to the theatre industry there's not such a thing as cut price. In the theatre they sell at trade, and this is how the disco industry should be."

**Dick Carrier:** "We have messed ourselves up in the UK. Many manufacturers thought the way to get into the industry was by price. It's not. It's by good competition, and by saying 'I've got something better here'. With price cutting there hasn't been reinvestment into new product. There are exceptions, of course, but we've let Europe walk all over us. There must be reasons. They may be able to produce more cheaply abroad, but they still have to ship it. I think, come 1992, it'll be great to sell direct back into Europe."

**Dave Winfield:** "If a dealer tries to buy from abroad it's not easy. You can't ring up Spain and ask them to send a dozen pinspots - but this is what 99% of the customers want. You get very few bulk ordering. Most customers today want you to do the stocking, and then ring up for a dozen pinspots and a couple of scanners. And now that interest rates are so high, they are not investing in stock, but are living from hand to mouth, expecting distributors to cover all eventualities. If you haven't got it in stock they get really upset. We do point out that as a dealer they should have it in stock."

**Dick Carrier:** "Dave's right. People in the UK are not stocking because in many cases they haven't got the money to stock, primarily because they're not making the profit they should on sales."

"Incidentally, it's good to see - although they're competitors - Starlight Design doing what they're doing. And there should be more of them: people making stuff in the UK that the home market is buying. Whoever puts the money into R and D gets my vote, but there aren't enough people doing it. To my knowledge, Starlight Design are the only people in the UK that are having a crack back at the foreigner, and good luck to them. They were a company which were importing, and it's good to see them going over to UK manufacture."

#### So what is good management?

**Dick Carrier:** "To do £1.5 million annual turnover you would expect to have £150,000 in stock - that's about the rate you want. If you turn your stock around ten times a year you're doing it about right. Any less than that and you're doing it for fun, not business. It's a question of balance on what you keep in stock - regular everyday lines against occasional ones. We monitor the situation, and we know the situation with the manufacturer, and whether he will have a line in stock and how we can call upon it as required."

#### So stocking UK products is about having a one-to-one relationship with manufacturers?

**Dick Carrier:** "It's absolutely that, because I can

honestly say that in 10 years LSD has built itself up from zero with no capitalisation. I'm not saying we are unique - practically the whole of the UK industry has never been capitalised. Hardly anyone ever put any money into it, and they've always done it on their terms of credit. They've bought ten grand's worth of stuff and hoped to sell it before they have to pay the bill. We've arrived at where we are today by growing steadily on our cashflow. Jivelight was bought out of cashflow - we didn't borrow the money; we had the money to spend."

#### So what do your future developments include?

**Dick Carrier:** "We're producing an intelligent pinspot - one that we can programme to move to position A, B or C or wherever and pulse sound to light. I wouldn't use a mirror and lens - I don't need to. I move the actual lamp. There are some simple things about, and I believe in the simple approach. At the end of the day people don't dance to pure intelligent lighting - they dance to pulsing sound and light. That's what gives the atmosphere to discotheques: colour wash and beams punctuated with revolving light."

#### What is the future for Le Maitre Holdings, LSD and Jivelight?

**Dave Winfield:** "Jivelight are involved in an expansion plan, and we want more things to sell."

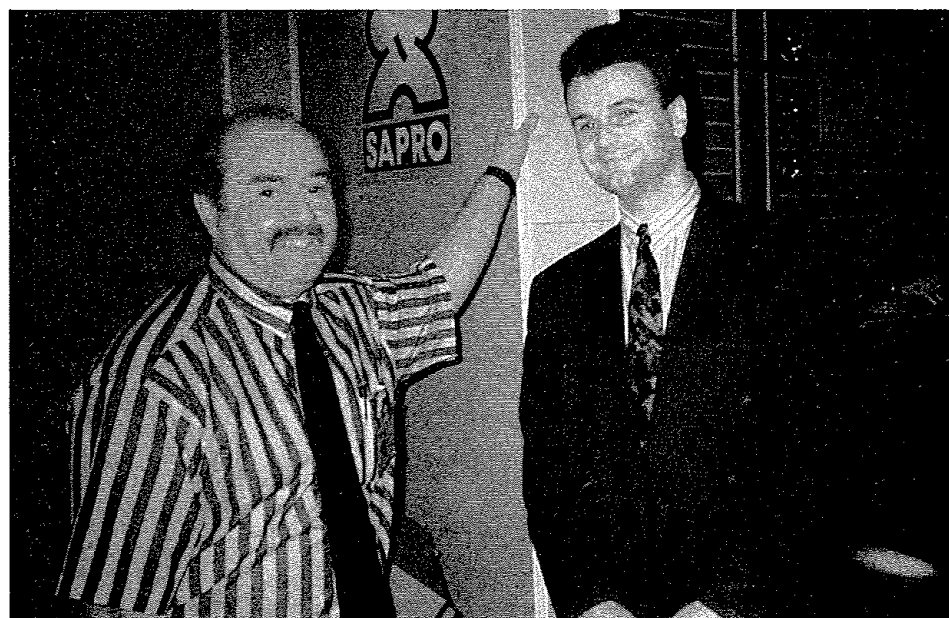
**Dick Carrier:** "We listen to our customers, to what they want, and the price they are prepared to pay for it. And then we try to provide it."

"The First Leisures and Meccas may have pots of money, but between them they haven't got the major share of the discotheque market. There are lots of clubs in lots of towns and they want fancy lighting like their big brothers."

"Dave and I have a plus. We've been in this business a long time, and despite our ages we're still on the same wavelength as our customers, and we understand it's their money. I like to think I spend my clients' money as if it were my own. And I certainly wouldn't want to part with the sort of money being spent in many cases. I believe the discotheque market cannot afford to spend the sort of money that's being spent now for much longer."

"Taking the Group as a whole, the jigsaw is complete. We have an audio and lighting controller company, an import lighting company, and a smoke machine and effects company. And we've got a wholesale business that covers anything else made in the UK. What more could you want?"

"If you're in the UK or overseas and want to buy UK products, you've got a choice of company that's been established 10 years. Whether you like us or hate us, we're still doing the job. So we can't be doing it that wrong."



Jivelight duo: Dave Winfield with Mike Henden, northern sales manager.

30,000 MILES IN THE BACK OF A TRUCK  
ONE METER ONTO A CONCRETE FLOOR  
SWITCH IT ON . . . .

. . . . SOME OF THE PEOPLE WHO HAVE

James Last · Jeff Beck · Texas · Deacon Blue · Love 'n' Money · Roachford · The Cure · Gloria Estefan & Miami Sound Machine · Style Council · Luther Vandross  
Julio Iglesias · Neil Diamond · Anne Marie · Kenny G · Whitney Houston · Patti Labelle · Steve Miller · Hall and Oates · Crosby, Stills & Nash · Sheena Easton  
Dolly Parton · Debbie Gibson · Neil Young · Joe Jackson · Anita Baker · Rick Astley · Peter Waterman · Steve Wonder · John Denver · Earth Wind & Fire  
Disney World · Ronnie Milsap · Rickie Skaggs · Tony Bennett · Frank Sinatra · Harry Belafonte · Belinda Carylsle · Leo Kottke · G. Washington J.R. · Jerry Goldsmith  
4 Tops · David Crosby · Kool & The Gang Tour · Andrews, Bruford, Wakeman, Howe · Neil Sedaka · Smokey Robinson · Marie Osmond · Little Feat · Herb Alpert  
Liza Minnelli · Prince Tour · Larry Carlton · Miles Davis · Temptations · The Who · Don Henley · Ella Fitzgerald

LONDON BOROUGH OF ISLINGTON  
**BRITANNIA  
ROW** NI

TEL: 01-359 0955  
FAX: 01-226 5396

**Panasonic**  
Professional Audio Systems

**RAMSA**

**S840** SERIES

## Whitegate's Flagship Venue

Fast-growing Whitegate Leisure is set to revitalise the Manchester leisure scene following the acquisition of the city's oldest established leisure complex - Herriots in Quay Street.

Whitegate added Herriots to its rapidly expanding portfolio earlier this year and announced plans to redevelop Sunlight House into a health club, discotheque and brasserie. The leisure complex has been extensively refurbished, Whitegate having spent in the region of £2 million, which has created a leisurely elegance which designer, Mike Craig, believes 'echoes the elegance of Langans in London.'

Built to encircle the traditional Roman style swimming pool, Roxanna's night club is a clever combination of different styles. The Victorian pool, which is listed, has specially designed underwater speakers in order that the club atmosphere can percolate to the furthest recesses of the venue. It is central to 'Health Connections at Herriots', the health club aspect of the venue which employs the latest designer pain machines for the health conscious Mancunians. Aimed at executives, the club features phones and faxes, and what is described as state-of-the-art gym equipment specially shipped in from America. Exercise bikes, for example, will be equipped with video screens transporting the rider to new horizons!

The theme of the 60 cover brasserie is a relaxed ambience achieved through raised floor levels and a colour scheme combining creams, wedgewood blues and terracotta. The mood is further added to by the presence of a piano which provides a suitable backdrop to the brasserie. The bars overlooking the pool are ideal for early evening drinks with their opulent silver leather seating and suede clad walls.

The mood moves up tempo in the heart of Roxanna's with its white marble dance floor and strips of glistening glass across the walls. After the health complex has closed the pool becomes an architectural feature with fountains of water rising from the coloured depths. The open fronted DJ stand is complete with an ElectroVoice sound system which was installed, as was all the sound equipment, by Zenith Sound Systems of Wakefield, and the lighting system installed by



Whitegate Leisure's nightscene and brasserie, Roxanna's, the latest addition to Manchester nightlife.

Dial Design features a full rig of Parcans and four Clay Paky Golden Scans which give an impressive lighting effects display.

Nigel Patterson, director of the company, believes the time is right for Manchester: "Investment is increasing in the city with the revival of the Quays and the Olympic bid." Whitegate have acquired a number of leisure developments in the North of England. One of their more recent

venues to open has been Josephine's nightclub in Harrogate. Whitegate have also made a significant number of investments in the Greater Manchester area including bowling centres in Burnley and Wigan and a discotheque in Bury. With other developments in the city, it seems that Manchester can rest secure in the knowledge that the large leisure groups are looking to the north for future investment.

## Profile: NJD Electronics

In 1985 NJD moved from the lace market in the centre of Nottingham to their present home in Sandiacre just outside Nottingham and handily placed next to the M1.

"The company stayed in the lace market three years longer than it should have done," explained MD Kevin Hopcroft. "Probably one of our better moves at the time, because, although we lacked space, we stayed because of the costs. The old factory was only 1500sq.ft, but we did reach the point where you couldn't get through to the work shop area. There was so much equipment, we wondered if the floor would take the weight."

Their new home was 4000sq.ft and "we rattled around it at first," says Hopcroft. "It was at this time that we started to promote the company much more, using the trade press and the London Show. This resulted in an increased demand, for product."

Looking back over their time at Sandiacre, Hopcroft recalls that one of the most important moves the company made was the launch of the NJD catalogue which brought together all the products in one guide.

"That was, quite possibly, the biggest step forward the company ever made." Four years on this year's catalogue is now a four-colour presentation.

"We strived to do the impossible," Hopcroft



Kevin Hopcroft, managing director of NJD.

went on, "which was to make the product as reliable as its more expensive competitors, very difficult when you're trying to make a cheap product. I don't make any bones about it, that's the market we deliberately go for. If we can't make it ultra competitive, we won't make it at all. One of the ways of making a product cheap is to make a lot, and then make less profit on each one, which is one of the things we do. If you are making less profit per unit, you can't afford to have it back to be repaired. So, somehow, we had to make them reliable otherwise we were on a grand loser. So we cut back on all the things that are expensive, and sought the materials that were cheaper, but without making the product unreliable, such as finish, metal boxes, and without letting people down."

The company also looked at product packaging, labelling-knobs and other areas that they could save on. They then went the opposite way with the electronics. "We bought good quality electronics and saved money on the hardware, which worked well for us." Having got things right thus far, NJD then gave some thought to product design, and the need to get as much onto one printed circuit board as possible. It was at this time that they also introduced a double Test system, which is still in force today.

By using all of these systems, they have managed to achieve precisely what they set out to do, which is to produce high volume, low cost pro-

ducts with the minimum of returns.

However, NJD paid the price for its developments, for once again, it was beginning to creak at the seams. By the summer of '88, they had all their old problems of space, with raw material stacked to the ceiling and staff working in cramped conditions. They had been negotiating with the owner of the factory next door for over 18 months, whilst considering at the same time a move to larger premises elsewhere.

With prices high, and a seemingly hopeless situation next door, Hopcroft takes up the story. "One night I stood in the factory at 10 o'clock wondering what the hell I could do, I then looked up at the roof, and realised there was another 4000sq.ft up there."

After pricing a mezzanine floor and finding that it was a third of the cost of a new site, NJD went ahead and built it, and moved up in September '88.

They utilised the area for raw materials to free other areas, but, in the best tradition of Sods Law,

the man next door then offered to sell his unit. At this point, it was necessary to make a decision. NJD didn't actually need the space, but there might come a time in the future when they did, and then, of course, the unit would not be up for sale. "So we stuck our necks out and took it on the chin," Hopcroft recalls, "and we've been taking it on the chin ever since paying twice the overheads and producing the same amount of product. Fortunately, we're still surviving. We now own both properties, and we've got room to grow."

So where to in the future? The two major areas are export and catalogue. The product range has grown to nearly 80 and NJD now export to 19 countries worldwide, although export still only represents 10% of the company's turnover.

Where do they see future growth? "There are two major areas", says Hopcroft, "one of them is export, in which the demand since the September PLASA Light and Sound Show has been unbelievable. The second step forward is that we are becoming involved with the major catalogue

companies."

The two companies they supply at the moment are Great Universal Stores and Empire Stores. The former are better known for their Kays; Grattan and John England catalogues. The benefit of dealing with such companies is that they are not governed by seasonal change.

Walking around the factory it's easy to see how they now employ a staff of 40. The office and production staff are fully computerised. When it comes to solving problems on the production line, more often than not, they'll produce a machine 'in house' to do the solving.

This seems to be the secret of NJD's consistent growth in the market. They know their market and go out and serve it. Kevin Hopcroft feels it unlikely that there is a disco shop in the country that is not stocking NJD products. The company is now in the process of building a showroom for demonstration purposes and is planning to run dealer seminars there.

## Outlet Number Two

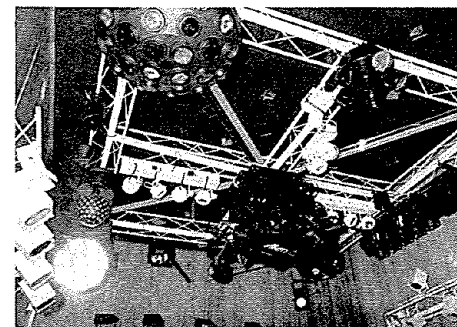


Ian Potter shows the way to a new era.

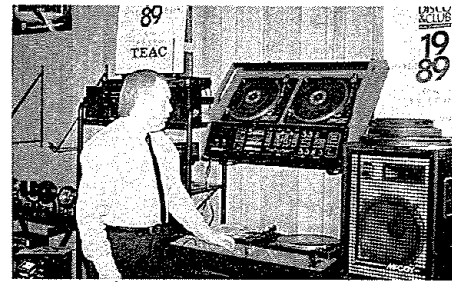
Over 150 people turned up to the official opening last month of Plasa member Leamington Sight and Sound's new retail outlet in the centre of Coventry. The new showroom has been the subject of a two year search for a suitable second site for the company, and the former music shop proved to be an ideal base from which to remind people of the range of services on offer.

The company acquired the premises some nine months ago, and have since spent a great deal of time and money. Presented with just a square room, the company constructed a window display area from scratch, and divided the unit into 442 sq.ft of display area and 208 sq.ft of storage. The height of the showroom facilitated the installation of a full demonstration rig which is comprehensively stocked with a range of hardware, most notably the entire range of Program-System lighting effects, for which Leamington are the sole distributor in this country.

Part of its attraction is the flexibility this arrangement now affords. It is intended that the shop will work in tandem with the smaller showroom already established in Leamington, ensuring that a wide range of products are available when required. Most of the major manufacturers are represented and visitors can view any of the lighting or sound systems in full operation. At present in the showroom is the new Volcano fog



Part of the well-stocked demonstration rig.



Terry Lees in Leamington's new outlet. See also Discoscene '89 below.

machine from Avitec which will no doubt become a popular feature of many nightclubs, and a snow machine from ProgramSystem which Terry Lees, who will run the shop with Terry Ansell, believes to be the only one on display in the country.

The company, which won Disco and Club Trade International's 'Retailer of the Year' Award for 1989 are keen to diversify. Along with services and products for club installation and the mobile DJ market, the company are displaying stage lighting desks and their newly introduced theatre packs. In addition to the retail side, a hire service is also available, together with a complete back-up service aided by a large stock of electronic and mechanical spares.

## Discoscene '89

Terry Lees has been running Discoscene in and around Birmingham for the past 11 years. The first one back in 1979 was at the Strathallen Hotel, from which he moved to the St Johns Hotel for four years.

In 1982, he presented the first Super Disco outside Germany or the London Show. "A collaboration between Avitec and Optikinetics," Terry told me, "bought the concept of the Super Disco to Britain's second city."

The show has moved to various venues since then, mainly small pub sites, but last year it was staged at its present location at Edgebaston Cricket ground in the prestigious banqueting suite.

"People said we should move it to a more 'up-market' venue to show the true worth of the show," said Terry. And that is really where we came in. A generation of DJs have grown up and supported the show. At one time after the London show, you could visit regional shows in Newcastle, Frome, Bristol, Gravesend, Cardiff, Crewe, Gloucester and all points West.

These shows helped to support the industry through the difficult period at the start of the eighties. But as the London and European shows grow in stature, so the regional shows dwindle. The calendar now shows one or two retailers and SEDA/TVDJA.

"We started planning six months ago," explains Terry, "but a lot of the companies now do PLASA, but they don't find it viable to do a regional show, because of the sales results. So it is left to the retailers and any of the manufacturers who are kind enough to come down and do it. Today we have support from Cloud Electronics, Custom Sound, Optikinetics, Universal Lasers and Bose,

the latter for the first time. All the sales and enquiries resulting from today will go back to the local retailers."

On the day they had around 350 visitors to the show with quite a cross section of exhibitors - perhaps the one most left-field was a company selling fountains and waterfalls - Fabulous Fountains.

What place the regional show has in the congested life of the exhibition year still remains to be seen. Terry Lees has been at it longer than most, and has given up more times than Frank Sinatra, but like Ol' Blue Eyes, he still comes back for more.

Derrick Saunders signed off the Pulsar/Clay Paky lightshow at the PLASA show with these words: "Goodbye, thank you all for coming, see you in Nashville."

Terry Lees wasn't around to hear this from someone who has supported regional shows in the past religiously, or he may well have called to mind the line from the song 'Three Coins in the Fountain' - 'Which one will the fountain bless?' - Birmingham?

## Spanish Nights

One of the north's leading nightclubs, the Hacienda, situated in the heart of Manchester, has recently installed a totally unique sound system from sound specialists Wigwam Acoustics Limited. The Hacienda, renowned for its wide variety of activities, has hosted television and radio shows, including the Tube, conferences, fashion shows and presents frequent live music shows.

Madonna, The Smiths and New Order are amongst the many groups that have appeared at the club, and for each performance a complete live sound system has to be hired. The problems involved in the organisation of regularly hiring a system combined with sound equipment hire charges, prompted Hacienda's manager, Mr. Paul Mason, to seek alternatives. He explained: "We have always tried to provide the best entertainment for our customers. Our specialised theatre-type lighting provides sophisticated dance floor and decor effects and we frequently change the interior of the club on different nights to cater for different tastes and moods."

Initial technical assessment by Wigwam's contracts co-ordinator Simon Campbell confirmed that the existing system would have to be replaced. The company designed a specialised sound system capable of meeting defined specifications, and offering full bass requirements for the discotheque. The system also provides broadcast facilities for television and radio programmes.

ElectroVoice MTH4 high/mid range loudspeakers were chosen and mounted on purposely designed Tomcat flying frames with ElectroVoice MTL4 sub-woofers. Stage monitoring is provided by four Martin Audio LE400 wedge monitors. Amcron MA2400 and MA1200 power amplifiers are used on bass and low mid, with HH V800 amplifiers providing power for high mid and H.F. Soundcraft and Formula Sound broadcast quality mixing consoles are used to sustain all live and recorded sound requirements.



Jupiter  
in a famous painting  
by Andrea Appiani.



# jupiter. the ultimate.

Jupiter was the Mythical Ruler of the Gods.  
But today Jupiter is no myth  
- stunning power, sharp colours and clean,  
accurate movements  
make the Coemar Jupiter  
the unrivalled King of the Discoteque.



Programmable controller.  
90 memory banks and 8 programs  
with 60 steps each.  
Possibility of using  
external memories with the same  
capacity as the internal one.



Cassette-wheel for 12 colours.

Cassette-wheel for 12 gobos from a selection of over 100 patterns.

Wheels with automatic reset to home position by means of optical sensors.

Microstep stepper motors controlled by microprocessors.

Programmable chase with 8 speeds.

Programmable movements with 8 speeds of the high quality reflector.

Independent general blackout.

Individual blackout for each lantern.

High definition autofocus zoom objective.

Programmable angle from 10° to 20°.

Thermal sensors automatically control the internal temperature.

Safety device for lamp exchange.

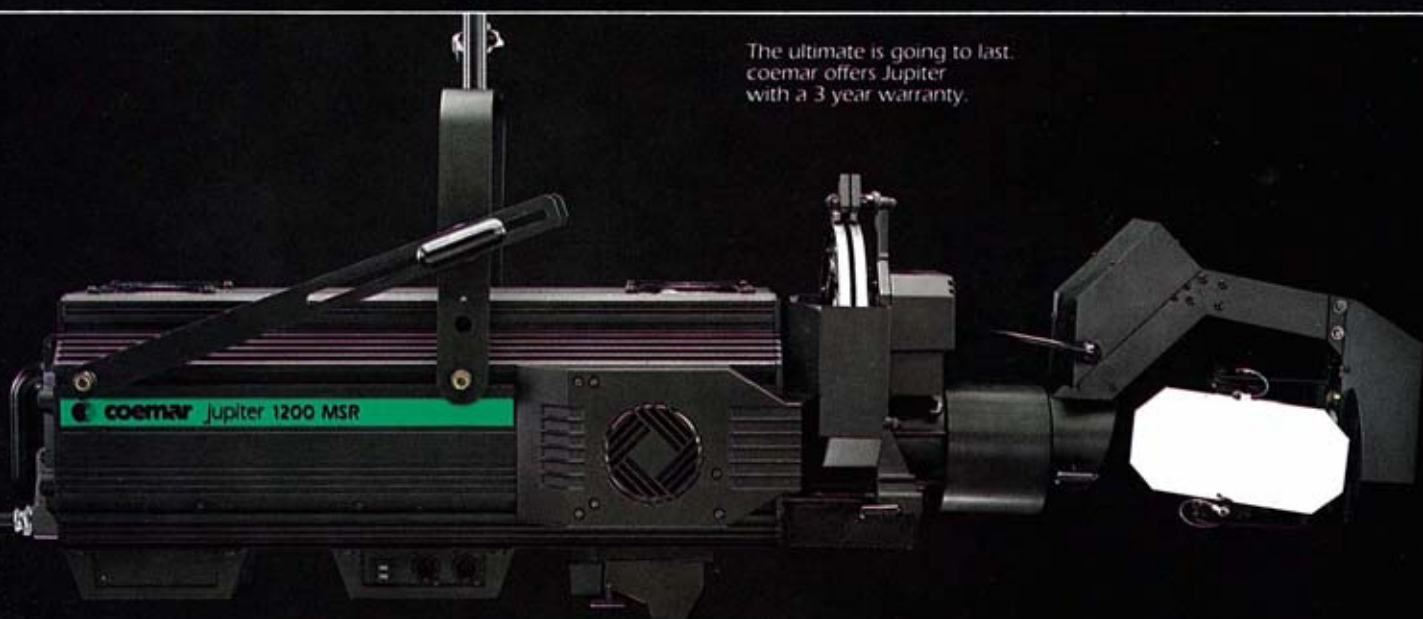
Remote ignition of the lamps via controller.

Programmable mechanical dimmer  
for light intensity from zero to maximum.

New lamps of exceptional brightness:  
700W MSR 56.000 lumen 5600°K, 1200W MSR 110.000 lumen 5600°K.

Extremely easy installation.

The ultimate is going to last.  
coemar offers Jupiter  
with a 3 year warranty.



w.b.lighting  
4 tenter road, moulton park  
northampton nn3 1pz  
phone (0604) 49.93.31  
telex 312320  
telefax (0604) 49.94.46

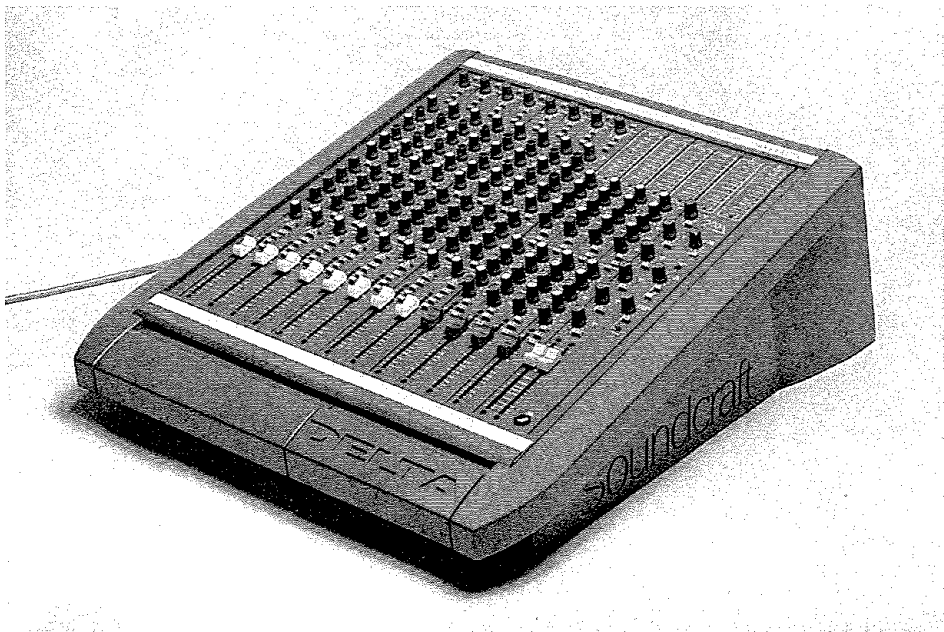
coemar spa  
42042 castelgoffredo (mn)  
via inghilterra  
telefono (0376) 77.93.36  
telex 301590  
telefax (0376) 78.06.57

professional projectors  
for lighting effects



**coemar**

# EQUIPMENT *News*



The Soundcraft 200 Delta console (8 channel standard).

## Soundcraft's new Delta Console

Replacing the highly successful Series 200B, the introduction of Soundcraft's new 200 Delta mixing console could well be seen to be one of the most important product launches of 1989.

Setting new standards for compact professional consoles, the 200 Delta benefits from many features already seen on the 200B as well as a wealth of new options and facilities, say Soundcraft. Like its predecessor, the 200 Delta has been designed for a number of different applications including theatre stage mixing and AV conferencing as well as live sound reinforcement and home recording.

The unique single-piece steel frame created for the 200 Delta has been made possible by the introduction of a radically new module design. Integrating individual rear connector panels with each module has not only multiplied the potential configurations of the console, but has greatly reduced the number of internal looms and connectors, thereby giving exceptionally high field reliability and simplified maintenance requirements.

Eliminating the need for fixed rear connector panels across several modules has brought several key features to the 200 Delta - notably the creation of individual group modules as well as a separate master section. Splitting the modules in this way, enables the 200 Delta to be configured with less than four groups or even as a straight stereo mixer, with no submerging facilities.

Available in four frame sizes (8, 16, 24 or 32) as well as an 8 channel rackmount version, the 200 Delta can be specified with any combination of input modules - Standard, Deluxe, Stereo or Dual Line - the last of which is a new feature of the console.

Literally doubling the number of sources that can be brought into the console, the new Dual Line option provides an exceptionally compact solution when space is at a premium - combined with only the master module, as many as 24 line inputs can be accommodated in a single 8 channel frame - making it ideal for stage instrument or submixing as well as studio effects processing.

With access to a total of 6 auxiliary sends, the 200 Delta offers exceptional flexibility whether they are being used for creating foldback mixes or as additional effects sends.

The EQ facilities are 'uncompromising' - a 3 band EQ with swept mid band on the Standard Input, with an advanced 4 band EQ on the Deluxe version. In particular, the newly designed hybrid peak/shelf LF control allows low frequency signals to be accurately boosted while minimising both loudspeaker distortion and room resonances. A further feature of the Deluxe Input is a post fade line output provided on the rear connector panel, enabling specific signals to be recorded direct to individual tape tracks, bypassing the summing amp and thereby assuring signal integrity.

For use with stereo line sources or stereo effects returns, the RIAA preamp option offered on the B inputs of the Stereo Input module provides a direct input for magnetic phono cartridges, ideal for both broadcast and AV applications as well as studio recording.

Both the Standard and Deluxe input modules incorporate Soundcraft's proprietary microphone preamp, giving superb performance at both maximum and normal operating gains. The padless design results in a significantly enhanced Common Mode Rejection Ratio, reducing the potential pick-up of unwanted signals in long cables. Greater isolation between left and right buses is also assured with the inclusion of a patented active panpot, enabling any bus to be used as a mono output, with up to 25dB improvement over conventional designs.

To maximise signal to noise ratios and minimise the possibility of transient distortion, a PEAK LED gives clear indication of available headroom. Used in conjunction with the PFL facility, levels and tonal qualities of individual signals can be optimised before being sent to any bus output.

Attention to detail in the design of the 200 Delta extends beyond the console's performance specifications. Although familiar in many respects to the 200B, the overall appearance of the console has been enhanced by subtle changes in colour schemes and the addition of several new ergonomic features, the most obvious being the moulded armrest and new side panels, providing additional comfort as well as doubling as carrying handles.

20 segment wide-range bar graph meters have

been incorporated on both the group and master modules, which are internally selectable to be either Peak or Average ballistics. "Add to this the inclusion of illuminated switches and it is easy to recognise the status control afforded by the 200 Delta", say Soundcraft.

For further information contact Soundcraft Electronics Ltd, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Herts WD6 5PZ. Telephone 01 207 5050.

## Fibre-Bright



Paul Raymond and David Press with the new LS 150HL fibre optic light source.

Fibre Optics have moved a step ahead with the development of a new light source, the LS150HL.

Par Opti Projects managing director, Paul Raymond, told L&S: "The new high luminance source allows outputs previously unimagined from fibre optic systems, and a wider sphere of illumination is now becoming the order of the day. As well as permitting longer lengths of side emitting fibres to be usefully employed, the exterior use of fibres now has far greater possibilities and is of particular interest to designers working on a larger scale."

"The source uses metal halide discharge technology, a new direction from the established halogen lamps. This provides a significant improvement in lumen/watt output. The new 150w lamp yields a gatherable light power of some three times that which we could previously achieve with halogens."

Other new products from Par Opti include a larger bullet lens suitable for larger fibre formats - especially with the new MBI lamp sources and for use in buildings as 'sparklers'.

For information call Par Opti Projects on 01-995 5179.

## ARK LIGHT

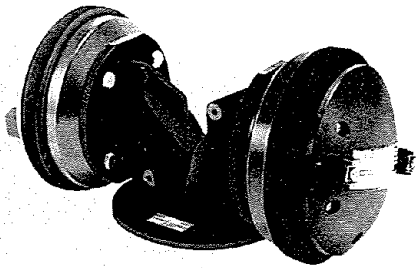
### THEATRE LANTERN RESTORATION

COLOUR MATCHING TO DECOR  
SPARES, T/H KITS

2 Partridge Close, Upper Bruntingthorpe,  
Leicestershire LE17 5QY.

Tel: (0533) 478336

## Joining Technology

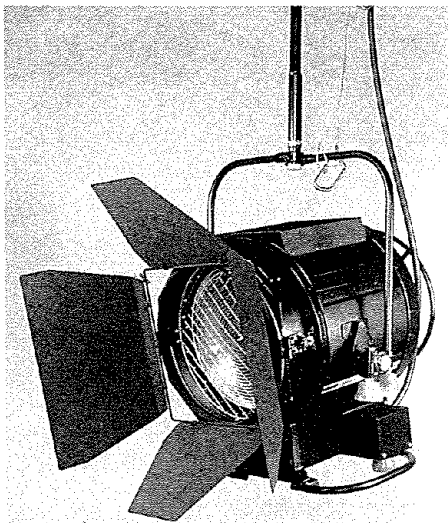


The high-frequency acoustic summation system.

Electro-Voice has married the twin advanced technologies derived from its continued research and development of neodymium and Manifold Technology. The result is the N/Dym 1/2 MT, a new design that combines the output of two drivers and a single exit thus eliminating any need for two or more horns to cover the same area. This new arrangement means a typical array will produce twice the acoustic output and the same sonic qualities as traditional single compression drivers. Frequency range of the E-V N/Dym 1/2 MT is 500-20,000 Hz. The unit has a long term average power capacity of 100watts over 24 hours or, a short term capacity of 400watts. Components for the E-V N/Dym 1/2 MT are also available separately.

Further information from Shuttlesound Ltd, Unit 15, Osiers Estate, Osiers Road, London SW18 1EJ. Tel: 01-871 0966.

## Lee's Babies



One of the Baby range from Lee Colortran.

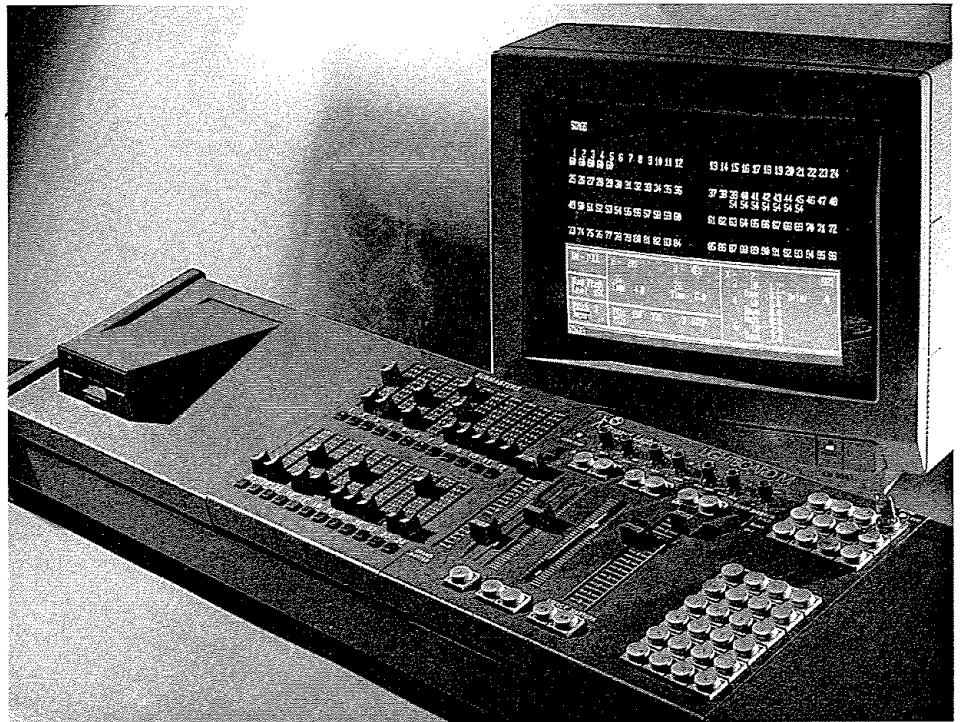
A range of Baby Fresnel tungsten luminaires is now available from Lee Colortran International.

Eight different models are available: 300/500w Kitten, 1Kw Pup manual, Baby 2Kw manual, Baby 2Kw pole-operated, Baby 5Kw manual, Baby 5Kw pole-operated, Baby 10Kw manual and Baby 10Kw pole-operated. Each of the luminaires is designed for small studios, OB or film location use and comes complete with four leaf barn door, colour frame, wire guard and 4.5 metres of cable.

The redesigned luminaires are more compact and lighter than their predecessors to give storage and transportation benefits on location, and to make movements easier around track and barrel grids in the studio. In addition, the new range of Baby Fresnels give more efficient performance (lumens/watt) and improved spot/flood ratios, say Lee.

For further information and full technical literature contact Lee Colortran International, Manchester Road, Kearsley, Bolton BL4 8RL. Telephone: (0204) 73373.

## Lightboard M Junior



Strand has recently introduced a smaller version of the popular Lightboard M console. Known familiarly as LBM/Junior, the new desk offers everything in the larger system but the manual faders - still a powerful memory system with 24 submasters, special effects, colour VDU and disc storage, but without the cost and space requirements of a full two scene preset system.

Lightboard M Junior has many features including: 96 or 144 digitally addressable channels, 768 dimmers, 4 tables of fully proportional soft-patch, flash buttons with level adjustment and solo, split dipless crossfader for timed or manual cues, 'Go' button for activation of timed cues,

programmable split times, delays, automatic follow-on and cue linking, any number of recordable effects for channels or memories, 2 effects playback with levels and rate control, memory list with editing capability, internal back-up system, 8 programmable function keys and 8 additional remote submasters (optional). A 3½ disc drive and 14" EGA colour monitor are supplied as standard.

For further information contact Strand Lighting Limited, Grant Way (Off Syon Lane), Isleworth, Middlesex TW7 5QD. Telephone 01 560 3171.

## Effects Control Interface

A completely new product being distributed by M & M Lighting is the FXC Effects Control Interface. Manufactured by XTBA, the FXC provides the ultimate in control interfacing between lighting control and 'non-dim' applications. Complex lighting and effects sequences can be programmed, recorded and reproduced accurately time after time.

The FXC is housed in a 3U, 19" rack-mounted format and will control up to six channels of interfacing. Unlike other effects controllers, the FXC can be switched in and out of the control line, as and when required, giving maximum flexibility. The standard FXC interfaces to existing dimmers or switched systems and there is also the FXC Plus which is fitted with six fused 10 amp solid state relays and interface, enabling it to be placed in-line with an existing dimmer to control both the dimmer and effects.

Technical literature is available from M & M Lighting, 87 Gloucester Avenue, London NW1 8LB. Telephone 01-722 4147.

## Green Ginger's Newest

Lytemode's successful and established range of Green Ginger portable MicroPack and fixed WallRack and WallPack, analogue and DMX dimmers has been extended.

Lytemode now offers a comprehensive standard range of dimmers that provides for the basic system using the Green Label twin outlet, 6 x 10A analogue MicroPack or Red Label twin outlet, 6 x 10A analogue MicroPack with integral faders through to the larger more sophisticated applications using the Gold Label twin outlet, 6 x 15A DMX MicroPack or even a 24 x 10A DMX WallRack. Control is offered in the form of DMX desks incorporating chase and other features.

A comprehensive range of accessories adapts the Green Ginger equipment further with DMX conversion kits for dimmers and DMX to analogue converters to allow existing systems to interface with new equipment amongst the items.

For further details contact Lytemode Ltd, 3 Dawson Road, Mount Farm, Milton Keynes MK1 1LH. Tel: (0908) 644366.

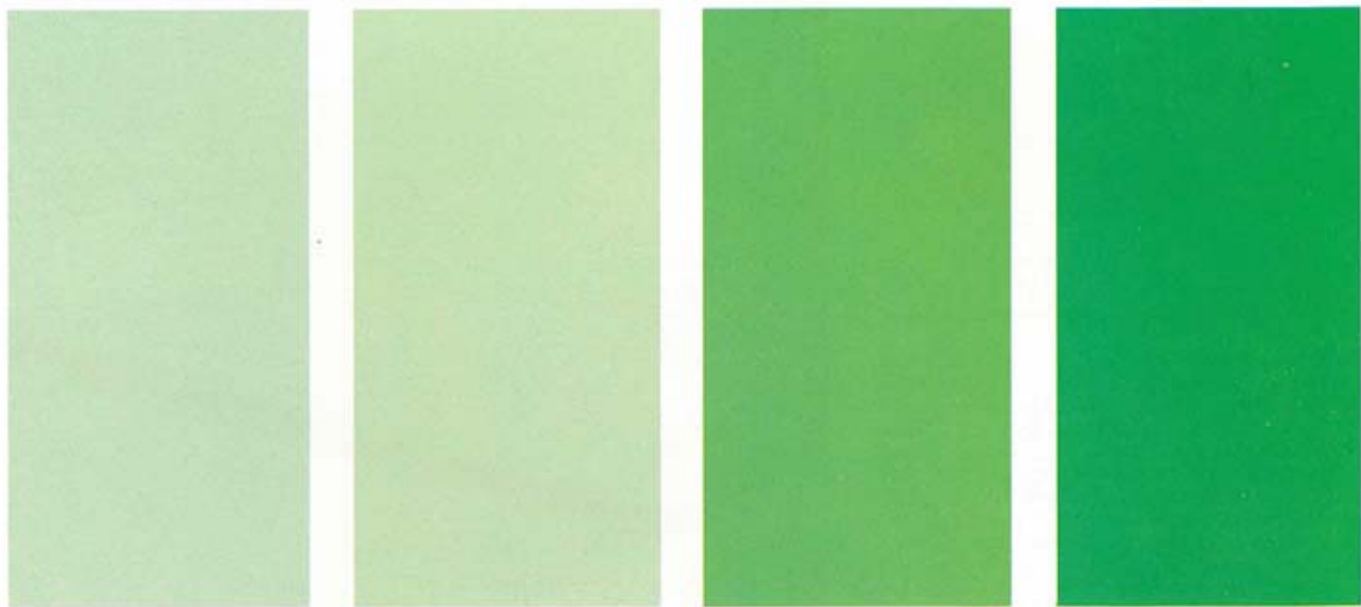
**CONTRACTING:** STADIUMS · FOOTBALL GROUNDS · CONCERT HALLS · CHURCHES · CLUBS · CONFERENCE CENTRES · DISCOS · THEATRES · TURNKEY TOURING SOUND SYSTEMS · CONSULTANCY FOR ALL SOUND REINFORCEMENT APPLICATIONS **DESIGN:** CUSTOM PATCHBAY SYSTEMS · ANY SPECIAL APPLICATIONS · TOURING MAINS DISTRIBUTION **HIRE:** CASUAL TO FULL INTERNATIONAL TOURING SERVICES **TOUR SUPPORT:** BROADCASTING INTERFACE **SALES:** AMERON · HH · MEYER SOUND · YAMAHA · BSS · SOUNDCRAFT · KLARK TEKNIK · DDA · NEXO · DRAWMER · ANG · SENNHEISER · AMPERTRONIC · KLOTZ · SWITCHCRAFT · EDAC · KORG · MARTIN AUDIO · ELECTROVOICE · SAMSON · DENON · EMO · BEYER DYNAMIC · SHURE · TAC · ASL · RCF · BOSE · CALREC · ALLEN & HEATH · ATC · TECHPRO · ALTEC · DUCER · JBL · AUDIO TECHNICA · NEUMAN FORMULA SOUND · REVOX ALESIS · APHEX · TANNON · SHERMAN AUDIO · T.C. ELECTRONICS

**SOUND SPECIALISTS**

**Wigwam**

**PHONE FOR A CATALOGUE**

St. James House, Ayeroff Ave, Heywood, Greater Manchester O110 1QB. Telephone: 0706 68766



**What's mysterious,  
comes from the sea,  
lurks in forests, and  
is green all over?**

## **Supergel Green Gel**

Like Kermit says, it isn't easy being green. There are so many jobs to do.

Sometimes you must carry a scene by creating pastoral effects. Luckily, there are Supergel 86A, 89,90 and 94 gels. They generate a wide range of naturalistic illusions, from dense forests to airy fields.

At times you must become the sea itself. It's a good thing there are Rosco blue-green gels that show up as light reflected from water.

Other times you're called upon to effect mystery or danger. Supergel has several green gels perfect for the role.

These days a green gel even has to be an electronics genius, acting as a Chromakey background for video. For this job, we developed 385 Chroma Green. Or re-create the period look with 388 Gaslight Green.

So many jobs to do. So many roles to play. It's a good thing Rosco has so many green gels.

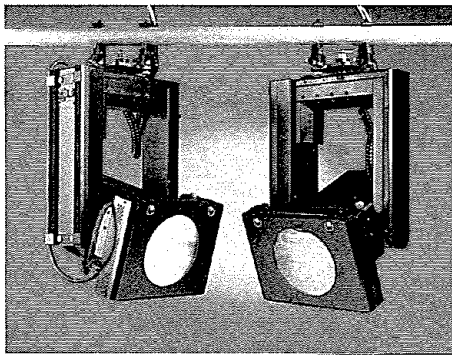


Roscolab Ltd., Blanchard Works, Kangley Bridge Road, Sydenham, London SE26 5AQ.  
Tel: (01) 659 2300. Fax: (01) 659 3153. Telex: (01) 895 3352 ROSLAB G.  
Also at New York, Hollywood & Madrid.



**SUPERGEL**

## Strand's Parscan 2



The old and the new.

From the outside, the difference is hardly noticeable. Internally, little remains the same between the original Parscan and Parscan 2.


The major advancements in this redesign are noise reduction, removal of line voltage from inside the yoke, improvements in reliability and ease of repair. From the designer's view, added key features include co-ordinated movement, wider speed ranges and 360° of travel in the pan axis.

All electronics are powered by an outboard power supply box, removing the need for any line lead voltage inside the yoke. This will be invaluable for world wide rock and roll tours where voltages vary from site to site, say Strand. All control electronics are in a single printed current board for ease of repair, and the electronics module can be replaced in an instant. All high specification motors are identical so fewer parts need to be stocked for service, and pan axis travel has been increased to a full 360° while tilt axis moves through 200°.

Three additional speed ranges have been added, and 'moves' can be extended up to three minutes by means of a switch in each head. Other speed ranges have maximum movement of 15 seconds, 45 seconds and 60 seconds. Parscan 2 is designed to simultaneously co-ordinate the speed of movement along all areas, regardless of distance travelled. This enhances the visual impact of the move as the light beam takes a direct path to the next point.

The range has been subjected to tests under a wide variety of environmental conditions for thousands of hours, and with its high reliability and low maintenance, its quietness and wide range of speed capabilities, Parscan 2 is ideally suited as a workhorse fixture for studios, theatres, and concerts where dynamic lighting designs are desired, say Strand Lighting.

For further information, contact Strand Lighting Ltd., Grant Way (Off Syon Lane), Isleworth, Middlesex, TW7 5QD. Telephone 01-560-3171.

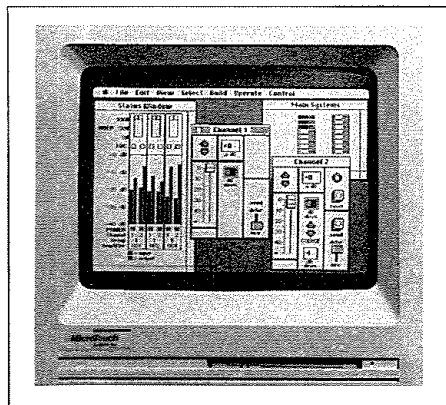


**PROFESSIONAL LIGHTING SALES**

- Comprehensive 125p Catalogue
- Open 8.30am - 8.00pm Mon - Fri
- Open 10.00am - 5.00pm Sat
- Tel: 01-703 0011
- Fax: 01-703 8123

Midnight Design (Sales) Ltd  
The Arches  
Grosvenor Terrace  
London SE5 ONP

## System 2000 Amp Control



The Amcron IQ system from Shuttlesound.

With the aid of the new Crown IQ system 2000 it's now possible to monitor and control up to 2000 amplifiers at the touch of a key.

The IQ System 2000 which Crown confidently expects to change the face of both touring and fixed amplifier installations, can be run in conjunction with Crown Macro-Tech power amplifiers and either a Macintosh or IBM computer. Heart of the system is Crown's IQ Interface which operates in tandem with one Crown IQ-P.L.P. card for every amplifier hooked up to the system.

Monitor functions include channel and rail voltage status plus audio signal at the amplifier output stage. Control functions include the ability to turn a channel on or off or, turn an auxiliary control line on or off, and to increase or decrease input attention.

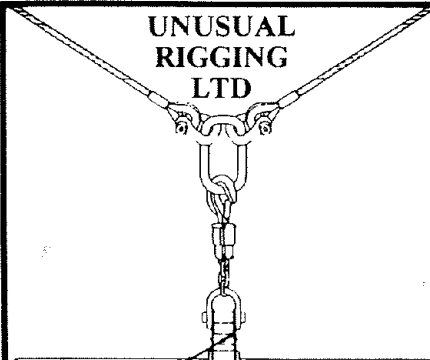
For further information contact Shuttlesound Ltd, Unit 15, Osiers Estate, Osiers Road, London SW18 1EJ. Tel: 01-871 0966.

## New from Novalight

A new range of controllers has been introduced under the Nova banner.

The Nova-Innkeeper is a 3 channel automatic dimmer for hotels with a programmable switch on and off and level setting which will automatically control the light level for every occasion. Single channel versions are also available. The Nova-Scenemaster is a 3 channel with chase flightcased unit with a time scale from 5 seconds to 10 minutes with programmable on/off timer and ambient light level device to enhance and attract attention to window displays. It is suitable for resistive or inductive low voltage display lighting.

For more details contact Novalight International Ltd, Unit 5 Foxes Bridge Road, Forest Vale Industrial Estate, Cinderford, Glos. GL14 2PQ. Phone 0594 23197.



**UNUSUAL RIGGING LTD**

**RIGGING FOR CONCERT THEATRE COMMERCIAL FILM T.V. & VIDEO PRESENTATION.**

4 Dalston Gardens, Stanmore  
Middlesex HA7 1DA  
**01-206 2733**  
Fax: 01-206 1432 Telex 945470 Riggln G

## More Carlsbro

Carlsbro Electronics has introduced more models to the company's new Alpha Series of enclosures. This compact yet powerful range of cabinets featuring kick proof grilles is designed to appeal to the PA requirements of the semi-pro who needs a smaller sound system. The Alpha Series A212 is a 150watt 3-way system combining a pair of 75watt 12" speakers with a high frequency horn and bullet tweeter.

Carlsbro describe the Alpha Series A158 as a 'natural for installation or on the road use'. This 150watt system incorporates a 15" bass driver, 8" midrange speaker and high frequency tweeter and is available in both 4 and 8 ohm versions. The 150watt Alpha Series A150X is fitted with high quality, heavy duty 15" bass driver: its range can be extended with the addition of the Alpha Series A208 2 x 8" or, A112 1 x 12" cabinets.

For further information: Carlsbro Electronics, Cross Drive, Kirkby In Ashfield, Notts NG17 7LD. Tel:(0623) 753902.

## Vitavox Latest

A new, high power, 15 inch loudspeaker, designed for bass reproduction in disco and live sound music systems, has been developed by Vitavox. Suitable for horn bins and bass-reflex cabinets, the MM 380 cone driver has a continuous programme power rating of 500w and a high sensitivity of 100dB/1w/1m.

The unit features high standards of construction including a diecast aluminium chassis. A precision turned magnet pole and plates and powerful ferrite magnet are also incorporated. It weighs 10.4kg.

For more information contact Vitavox Division, Secomak Ltd., Honeypot Lane, Stanmore, Middlesex HA7 1BE. Tel: 01-952 5566.

## Low Voltage Neon

Hi-Profile Concepts has launched a new product range called Plexi Neon. This neon is housed in a clear polycarbonate tube and comes in a complete range of colours, in lengths of either one or two metres, and is self contained with its own inverters, only requiring a 24 volt AC or DC supply. The versatility of the units also allows full range dimming.

The neon is ideal for touring shows, moving rigs, around bar areas and handrails or any location where the public have easy access, say HPC. It can also be used in outside applications.

For further information contact HPC Limited, Station House, Station Avenue, Helsby, Cheshire, WA6 OAG. Tel: 09282 3604.



We manufacture and distribute all fibre optic lighting materials - Parglas harnesses and conduits, Parflex polymers, light sources, theatre curtain washers, spot ball and bullet lenses, side emitting fractured fibres, ceiling fittings and large bore fibre optics.

Examples of our fibre optics may be viewed at our Chiswick showroom, from subtle backgrounds to fibre optic fireworks. Leaflets available. (Visitors by appointment)

Trade & Export call **PAUL RAYMOND**  
Par Opti Projects Ltd.  
Unit 9 The Bell Ind. Est.  
Cunnington St.  
Chiswick Park  
London W4 5EP  
Tel: 01-995 5179



Tlx: 933718 PAROP G  
Fax: 01-994 1102

## New Skytrackers



The Skytracker promotional searchlight system has proved a spectacular new success for exclusive UK hire agents Theatre Projects Services. The 2kW 4-beam self-powered units have won widespread attention this year with mentions in the national press following their appearances at the London Batman film premiere, LWT's 21st birthday celebrations and a string of major rock shows including Bon Jovi's Milton Keynes Bowl concert.

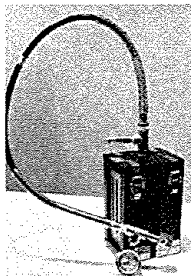
Now, Theatre Projects has expanded the range with the introduction of two new mains-powered versions: a 2kW 4-beam unit and a 4kW single-beam model. Like the original, both employ high-intensity 6000°K Xenon searchlight beams, visible from up to 10 miles away, which are motorised to create constantly-rotating patterns in the sky.

Theatre Projects has also added a major new dimension to the Skytracker concept. Their remote control system provides synchronised operation of multiple Skytrackers from a central control point - allowing spectacular large scale pre-programmed effects: for example, around a site or either side of a stage.

Theatre Projects' lighting manager Alan Thompson told L+S that with these innovations - and more developments on the way - "Skytracker is fast becoming recognised as the most exciting, innovative and spectacular outdoor lighting effects system for every major event and promotion". Details from Theatre Projects Services Ltd, telephone 01-609 2121.

### A & B THEATRE SERVICES

Specialists in Technical Theatre



Sole Distributors of the **Mini Dry Ice Box**

Dry Ice Making Machine to the entertainment industry throughout the UK and Europe.

#### ABTT 'Product of the Year' 1989

**Consultants** for theatrical installations, refurbishments, local council venues, schools and theatres.

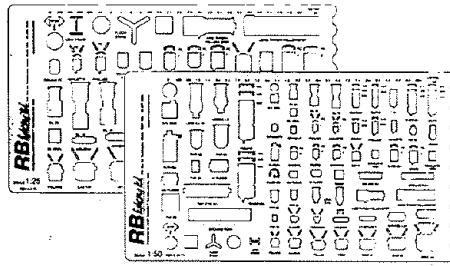
**Manufacturers** of internally wired bars and patchfields to order.

**Suppliers of:** Eltec, CCT, and Zero 88 equipment.

**A & B THEATRE SERVICES**  
4 Norwich Road, Wheatley Park, Doncaster  
DN2 4GD

Tel: (0302) 364808

## R.B. Lighting Stencils



R.B. have announced the arrival of their brand new lighting stencils. The set consists of two stencils (26x15cm) in a handy protective wallet, providing in excess of 120 individual symbols in 1:25 and 1:50 scales. The variety of symbols is comprehensive and covers equipment ranges from Strand (old and new), CCT, Quartzcolour, Teatro, Altman, etc.

The stencils are injection moulded from 'Lexan' polycarbonate plastic, the same material used for bullet-proof windows. "Whilst we don't claim that they will stop a stray bullet, with reasonable care, the stencils should last you at least as long as the lanterns whose outlines they carry!" say R.B.

For more information contact RB Lighting Limited, P.O. Box 34, Teddington, Middlesex TW11 9EU. Tel: 01-997 9665.

## EV PowerMix

Electro-Voice has introduced the 61PM Power Mix, a 6 channel self-powered mixer capable of delivering 200watts into 4 ohms via an onboard Mosfet power amplifier. Features include RCA tape-in jack inputs for tape and CD, the ability to use external processors on individual channels on all inputs for optimum gain, and patented 'PowerLock' providing anti-clip circuitry for protection from distortion and speaker damage. Also included are two individual sends on each channel for stage monitors and onboard signal processors. The E-V 61PM offers 9-band graphic equalization on all outputs and 2-band EQ for inputs.

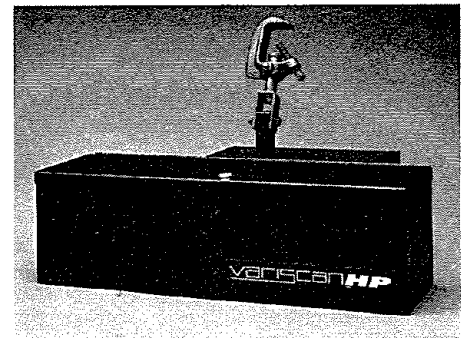
For further information contact Shuttlesound Ltd, Unit 15, Osiers Estate, Osiers Road, London SW18 1EJ. Tel: 01-871 0966.

## DigiTech EQ's

DigiTech of Salt Lake City has introduced three new programmable graphic equalizers all offering 99 memory locations, EQ curve comparison function, independent MIDI access to each channel, standard ISO frequency centres, a security lock-out system and plus or minus 12dB of cut and boost. The 28-band DigiTech MEQ 28 mono, one third octave graphic is recommended for stage, studio and installation purposes while the DigiTech MEQ 14 stereo, two thirds octave EQ is suitable for both stage and studio applications. DigiTech's top of the range MEQ 7 four channel one and one third octave graphic equalizer is recommended for stage work, particularly in conjunction with keyboard systems.

For further information contact the UK distributor: John Hornby Skewes, Salem House, Garforth, Leeds LS25 1PX. Telephone 0532-865381.

## Laser Effects



Laser Productions of Miami is now in production with their new Variscan HP laser simulator. The Variscan HP produces Saf-T-Lase, and intense columnated beam of non-coherent light that is controlled like a laser, resulting in laser-like effects without the inherent dangers of laser light.

Because of Saf-T-Lase, intense multi-coloured beams and images can be safely projected directly into the audience, placing the viewer inside moving changing shapes, tunnels, sheets, and beam arrays, say Laser Productions.

There are two controllers available. The Performer model allows complete manual control with automated control as a back up, ideal for theatrical applications or larger clubs with lighting operators available for the application.

The automated model will allow the operator to call up a variety of images, shapes, and routines to manipulate the images, in X, Y, and Z motions, colours, rotations, chop and colour modulation effects. At a push of a button the fully automated mode will take over and perform a complete show including all of the above mentioned effects in sync with the music in a 20 minute non-repeating choreography.

Both controllers are capable of programming up to 24 beams to bounce mirrors or other targets, creating an array of beams above, around, and throughout the audience.

For more information contact Laser Productions at 7000 N.E. 4th Court, Miami, FL 33138. Telephone (305) 754-6885.



# marquee

# AUDIO

PROFESSIONAL  
SALES  
AND SYSTEMS















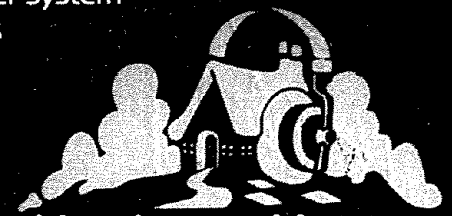


Tel: 0932 566777 · 01-439 8421  
041-357 4306 · Fax: 0932 568989

**Sound Equipment Rental and Sales**  
including the 'Hackney Cab' speaker system  
and Yamaha PM 3000 mixing desk

**Sound Design and Engineering**  
**Specialist Radio Mic Applications**

West Works Telephone: 01-986 6111  
Chalgrove Road Telex: 265871 Attn: DGS 2220  
London E9 6PB E-Mail: Hardware-UK



# Hardware House

# COLOUR VALUES

John Offord visited Sensitisers International's manufacturing facility in Cornwall  
Ruth Rossington talked to Chris James' Jim Phelan in London

After sitting quietly in the ante-room while the main players took the table, a north London based company is about to move in and show a new hand, with the declared intention of taking a bigger slice of the colour market.

Chris James & Co Ltd, under the guidance of managing director Jim Phelan, has steadily established itself as a supplier to the television and film markets over the past 10 years or so. Now, with the backing of a major British industrial, it is determined to come right out front in 1990 and launch itself as a major player in the colour games across the whole of the entertainment industry.

Behind-the-scenes stake raisers are Sensitisers International Ltd, one of the country's few major specialist coating companies, based in Penryn, Cornwall. And they are out to nudge and shove Chris James & Co up to the big play level.

"We were approached by Sensitisers, who are probably one of the biggest specialist coaters in the world, to take our business," Jim Phelan told L+SI. "At first we were reluctant to do this, but eventually we did. They then took a whole range of colours and we have spent the past three years redeveloping and reformulating the product."

Clive Blockley, Sensitisers' director of marketing and sales, explained how they had approached the concept. "We are a speciality manufacturer of films, and the main reason we decided to buy into Chris James was that he was not a manufacturer, and was relatively independent in the market place. Chris James & Co has now changed from being a buyer and seller of filters to a manufacturer of filters."

The sturdiness of Sensitisers' intentions and the strength of their bid to lift the Chris James operation onto a new level in the market is evident in their commitment on technical research and development. Clive Blockley again: "We committed two full-time research chemists to produce from scratch, over three years, 126 colour filters. A large amount of money has been invested getting into this business, and we have developed a range of filters that is far more flame retardant and far more fire resistant. And for the first time we are able to guarantee accurate



Joint forces in the colour business: Jim Phelan with Clive Blockley (left).

colour, time after time."

The new 'joint operation' has seen Sensitisers take a 50 per cent share in Chris James & Co, and Jim Phelan's role will begin to change from being the owner of a small business to that of fronting a considerably larger and more internationally biased company.

"Between you and I," said Jim Phelan, "Sensitisers want to bully me a bit, but that's business. You might say 'I don't think we should do it that way, and you talk it through. But the important thing is that it's working.'"

A major strength of Sensitisers is its access to, and knowledge of, the coating industry in the widest sense. They design and build all their own machinery, and look after every aspect of the coating processes, even to the extent of having a six-man R&D department in Surrey.

Back to Clive Blockley: "The market is very good for a company with a massive research and design facility. We leave the marketing



Stock check: Jim Phelan at Penryn with production supervisor Ken Penticost.

of the product to Chris James & Co in London, while Sensitisers take care of the



Director Bren Bartlett in Sensitisers' Penryn complex alongside one of seven custom designed coating machines.



Cut to order: all converting of Chris James colour now takes place in Cornwall.



research and design, deal with the manufacturing, converting and packaging.

Now well established in the film and television market, Chris James & Co's first push will be to make themselves better known in the area of live performance. In addition, there will be a determined effort to expand their share of the overseas market which currently accounts for 60 per cent of turnover.

"We've played things rather low-key up to now," said Jim Phelan, "but we'll be going out to take a much higher profile and show people what we've got, because I think we've got exactly what they want. And I accept that many people in the market don't even know we're here."

"There are two distinct markets. You have film and television and the people who are involved in that area of lighting, and then you've got the concert and theatre side which is different. In the past we have neglected one area and concentrated on the other. We can't do that any more, because it's a big business, as L+SI has proved."

The new range developed for Chris James by Sensitiser is 100 per cent British manufacture. The base polyester film is ICI Melanex, and everything produced out of Falmouth is British made, using British-made and designed machines and technology.

Jim Phelan reckons that the Chris James product is the most competitive on the market place. "That's what we've been told," he said, "and we're looking to double our business over the next 18 months."

Prior to the new arrangement, Chris James used to do all their own cutting from bulk reels. Now they have all the converting done in Penryn and a twice-weekly delivery from Cornwall ensures the London stock is permanently topped up as demand requires.

"It's given us a far better service than we've ever had, and it's working very well," continued Jim Phelan.

For the future, Chris James & Co are looking to bring out a totally flame-retardant material. "At the moment our competitors use a polycarbonate base, which is very expensive. We may have to go the same route, but our chemists are looking at things in a slightly different way. Certainly we will have a product on the market during 1990. Basically, I'm confident we have the best technical back-up in the industry. In fact, we know we have."

Located at Kings Cross, Chris James & Co will now be laying their cards on the table and telling the industry they are a major player. Extra staff have been taken on and from early 1990 a major advertising campaign will start.

And with the back-up now available Jim Phelan will have the time to hit the road and take the message out to the people . . .



Jim Phelan: "We've played things rather low key up to now, but we'll be going out to take a much higher profile."



Colour check by technology . . .



. . . and the human eye.



Quality control 'on the run' . . .



. . . and with lighting equipment.



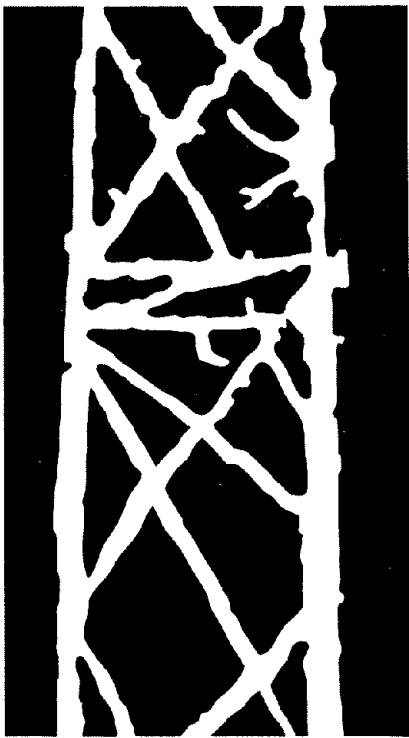
Bren Bartlett goes through the process.



A close-up of one of the coating machines.



Sensitiser's Penryn complex employs 180 staff in a high technology environment.



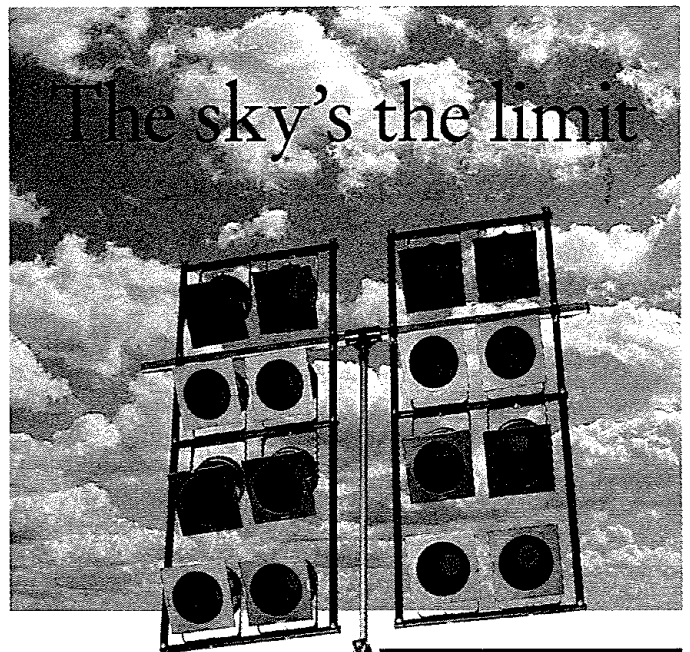
# Astralloy

GROUP HOLDINGS LTD

Manufacturers of

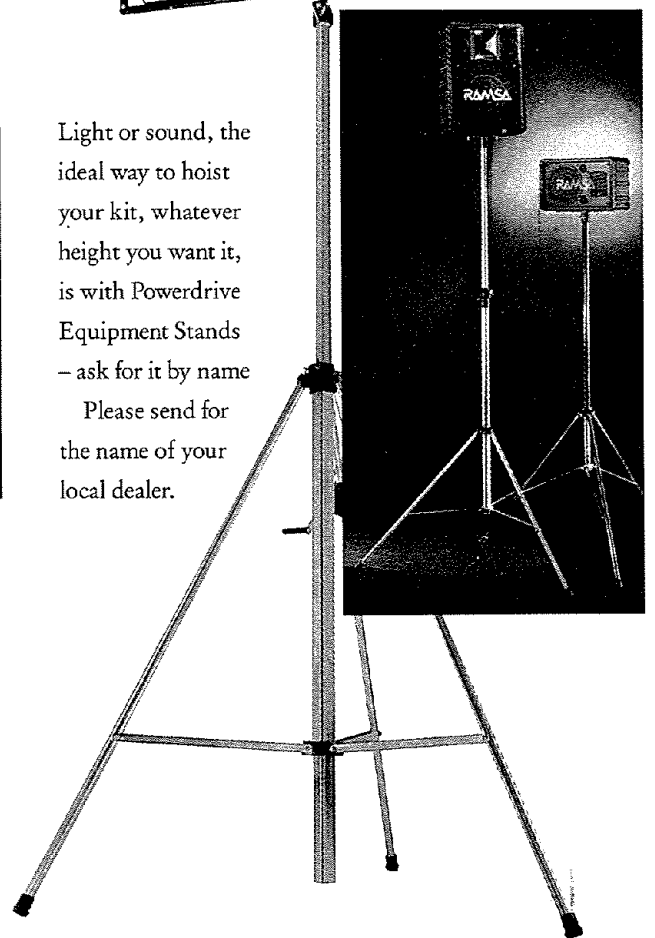
**Astralite**  
**Minilite**  
**Quatralite**  
**Bilite**

Unit 1 Manor Road Leeds LS11 5PZ  
Telephone 0532 465331 Fax 0532 421342  
Telex 557063 AGHLTD G



Light or sound, the ideal way to hoist your kit, whatever height you want it, is with Powerdrive Equipment Stands – ask for it by name

Please send for the name of your local dealer.



Europe's leading professional

**POWER**  
ENGLAND **DRIVE**

*Equipment Stands*

Cerebrum Lighting (Sales & Hire) Ltd,  
168 Chiltern Drive, Surbiton,  
Surrey KT5 8LS, England.

Tel: (Intrn) +44 1-390 0051/4841 (UK 01-)

Fax: (Intrn) +44 1-390 4938 (UK 01-)

Telex: 892337 (CELCO G)

# ON TOUR

Catriona Forcer

## The The Town & Country Club

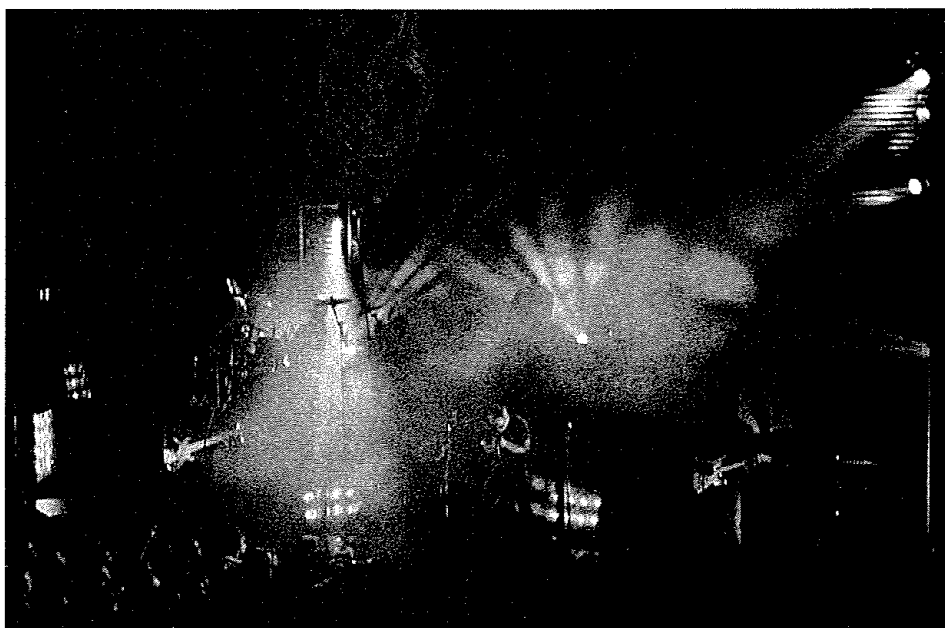
**LD: JOHN FEATHERSTONE**

Since I last interviewed him on the 'Curiosity Killed The Cat' tour in February 1988, John Featherstone has been a busy and much sought after lighting designer. After world tours with Ry Cooder and Duran Duran, he was appointed lighting designer for one of his favourite bands, The The, an outfit who have amassed a big following in the 12 years of their existence. However, this is the first time they have toured.

Here in my home town of Norwich it is term time again at the University, and I have had the chance to review some of the smaller, but by no means less impressive, shows that are on tour. The first is Danny Wilson whose lighting designer is John Dipple.

"After designing the Curiosity Killed The Cat tour I worked with Ry Cooder for the rest of the year. I'm really into guitar heroes, and this was a very slow show that had to be lit in quite a theatrical way. I had a tight budget so I used a Par can rig with a few raylights. At the same time I designed the lighting system for the first Bros tour although I couldn't go on tour with them.

"I also did a touring car show for Pontiac in America which was quite bizarre. There was so much money thrown about, it was ridiculous. Because of the situation with unions, it is cheaper

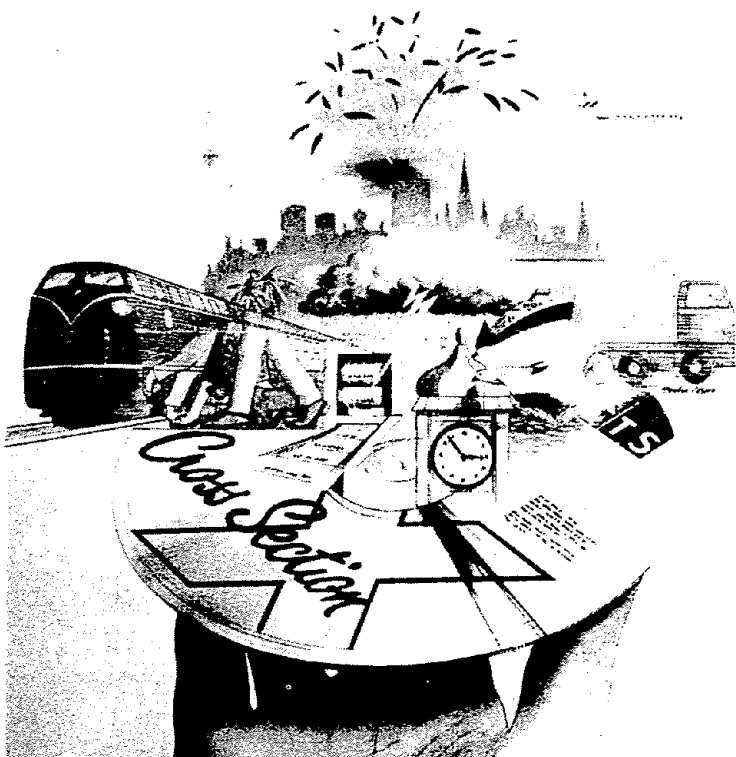


"We agreed on a dark show that would be very stark" - lighting designer John Featherstone.

to spend a week putting a show up, going in at 8am and leaving at 6pm, than doing it in the way they do it over here, where you work like crazy for two or three days prior to the show. So it was

almost like having a day job because at 6pm you went home whatever you were doing. I think we did four shows in six weeks! I enjoy doing trade shows for a bit of variety, but I couldn't do them

# DIGITAL EFFECTS®



The world's **FIRST** and **ONLY** real **DIGITAL SOUND EFFECTS LIBRARY** in crystal clear 3D-Sound as all effects are digitally recorded, mixed and mastered.

*In ten different categories on easy-to-use compact discs . . . City, Domestic, Rural, Transport, Industry, Office, Leisure, Sports, Human, Special, plus a Cross-section Disc containing sounds from all ten categories.*

Now available from



sound and  
lighting equipment  
from leading  
manufacturers

**Theatre Sound & Lighting (Services) Ltd**  
67 Drury Lane, London WC2B 5SP  
Phone: 01-836 7877/8 Fax: 01-836 7879



The The in performance on their current tour which finishes in December.

all the time because I would miss the feedback of a live audience.

"I then went on to do a six month world tour with Duran Duran which I really enjoyed. I was using an Avo QM 180 desk and when we were due to play the Philippines I asked them to supply connectors that would mate with the desk. They said that there would be no problem but when we turned up on load-in day we found that they had 180 bare strands of wire that they wanted to poke into the Socapexes on the back of the desk! It was a very time consuming process, especially as none of them was labelled. We had to go round with a 9 volt battery firing up the dimmers, finding out what channel it was and poking it in the relevant

hole. They had no plugs or sockets on the whole system - just wires twisted together.

"In London we played the Docklands Arena which I found to be very disappointing, although it has potential to be a really good venue. The emergency lighting is very bright when the show is on and it's a bad place to rig in. Also, there's hardly anywhere to put spots. With Duran Duran they put them on a little platform which was built on the back of the bleachers and, as predicted by all of our production people, they started bouncing up and down as soon as the crowd started dancing. If you went there with more than three or four trucks you'd have serious problems getting them in and out as there is nowhere to park.

There's not a great deal of clearance and if anybody went in with a large moving system they'd have big problems.

"I spent three weeks on The Cure filling in for Roy Bennett whilst he was with Simple Minds. My first run through was actually the first gig in front of 10,000 people. The Cure show was probably the best light show I've ever seen in my entire life. Roy really excelled himself. The guy is definitely a genius!

"This show is unusual as it is the first time that Matt Johnson, the man behind The The, has gone on the road. The The has basically always been a studio project for the past 12 years with some of the people in the band now making input at various stages. It was hard to establish exactly what Matt wanted as he had never had a designer before. The basic concepts that you take for granted when talking to clients didn't exist. We had to go right back to basics and Matt hadn't seen a lot of shows.

"However, he knew what he didn't want. We agreed on a dark show that would be very stark and simple, with no front light as Matt likes to be fairly shadowy and mysterious. There's an awful lot of smoke which is appropriate for this kind of music. Pete Brookes, a friend of Matt, was involved in the set design, and the project started off with a slightly more ambitious budget than we actually went out on the road with. I decided to spend a large proportion of my budget on colour changers rather than lights. There are only seven sections of truss on the system but virtually every lamp has a colour changer on it. We've got 44 ColorMags and 8 MoleMags and although it doesn't look like a lot of equipment, I can get a lot of variety out of the system. There are some blinds that hang in front of the up-stage parts of the rig. They're a bit like venetian blinds, except they are enclosed in a metal frame and are motorised.

"The tour started on July 14th and finishes on December 14th. There is some talk of some arena shows next year, as most of the European dates have sold out. It has been a most enjoyable and relaxed tour, especially as the system is fairly

# YAMAHA



The Yamaha MC Series Mixer

The new Yamaha MC and MR Series mixers are purpose designed for theatre and conference use. Both Series come in 8, 12 and 16 channel formats, the MC Series with stereo outputs and the MR with four subgroups, 3 band e.q. with sweep and 48v. phantom power. Full monitoring facilities and inserts on every channel are also featured. In addition, the MR Series has separate phono/tape inputs.

FARRAHS

7 St Georges Estate, 380 Richmond Road, Kingston, Surrey KT2 5BQ

Tel: 01 549 1787. Fax: 01 549 6204. Telex: 945114 FARRAH G

**FARRAHS**  
the sound professionals

## THE INSTANT LIGHTING RIG FOR YOUR NEXT SHOW

16m x 12m Triangular Alloy Tube and Castings complete with Erecting Columns. Lightweight yet Strong, Easy to Assemble and Transport, 2000 Kg Distributed Loading. Surplus to Requirements.

Further details from:  
Chris Mackie  
Instant Zip-Up Limited  
Audley Avenue, Newport, Shropshire TF10 7DP  
Tel: 0952 825815 Fax: 0952 825635



## ★ DIRECT LIGHTING ★

- ★ WE SPECIALISE IN SUPPLYING ALL YOUR LIGHTING REQUIREMENTS
- ★ P.A. SERVICE
- ★ TRUCKING SERVICE
- ★ TALK BACK FACILITY

WE OFFER A VERY PROMPT AND RELIABLE SERVICE FOR MUSICIANS OPERATED BY MUSICIANS

FIELDHOUSE LANE, THAMES INDUSTRIAL ESTATE  
MARLOW BUCKS Tel: (06284) 74740



University of East Anglia - Norwich: a Danny Wilson stop-off on his current UK and Europe tour. Lighting designer John Dipple.

straightforward to put up. Basically there are four different side sections of truss stood on end - so we don't need any ground support. There's an eight-foot section of truss full of ColorMags downstage right which either flies or goes up on a tower. The system has gone in in its entirety in every venue played - which surprised even me!

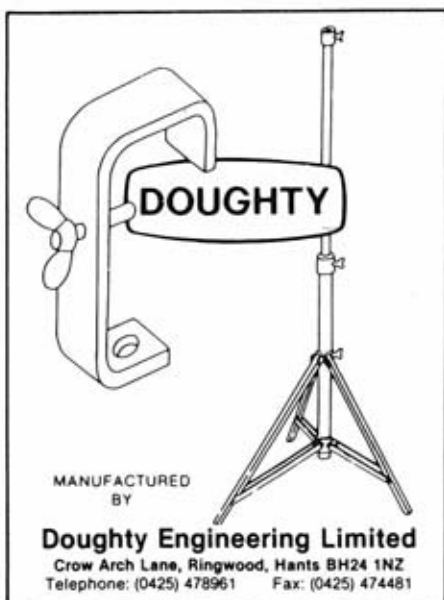
"I have a lot of projects lined up for the future. I'm working closely with Roy Bennett and through that there are various things happening which I obviously can't talk about! It could be embarrassing if I end up not doing them! I'd like to work for Fleetwood Mac or Eric Clapton, of course.

"I like working with other lighting designers as I get a lot of benefit out of talking to other people about my ideas. Too many lighting designers put themselves in ivory towers. I like to bounce ideas off other people to see what they think of them. It's too easy to become involved in something on your own and be worried about other people stealing your ideas. I don't think that people do that. There are enough creative designers around for you not to have worry about telling somebody your ideas. It's unhealthy for designers to work in isolation. I go out of my way to see other shows."

#### The The - Europe '89

##### Equipment (Light & Sound Design)

- 5 x 8' sections D3 trussing
- 5 x 4' sections D3 trussing
- 8 x 90 D type cubes
- 8 x 8 light ACL Molephay units
- 64 x Par 64 lanterns
- 30 x 6 x 9 Lekos
- 1 x Celco 90 Gold lighting console
- 2 x Avo 72 channel x 4k dimmer racks
- 1 x triple remote control snake
- 2 x Verlinde 1 ton electric chain hoists
- 1 x motor control system
- 44 x ColorMag colour changers
- 8 x MoleMag colour changers
- 1 x Super Tower (ground support)
- 2 x Smoke Processor smoke machines
- 2 x 2' diameter wind machines



## Danny Wilson U.E.A. Norwich LD: JOHN DIPPLE

John Dipple started his lighting career in the film industry and went on to work for Gaslights. The first band he designed for was Osibisa, and the largest tour that he designed, whilst at Gaslights, was 'The Rise and Fall of Toyah Wilcox'. Other bands which John has worked for include Imagination, Mike Oldfield and, last year, Ozzy Osbourne, where he used Tasco's Starlites which he believes will be very successful.

John has been very busy this year spending six months touring with Jonathan Butler, which is an act he really enjoys working with. On that tour he had a three-truss lighting system with 40 colour changers. He then started work for Danny Wilson, whose tour covered the UK and Europe, and which will hopefully go on to the USA and Japan.

It is a low budget tour with backline, sound, lights, catering and support band all in one truck. John told me he doesn't mind having a low budget because he enjoys the challenge of getting the optimum effect out of a small rig. This particular system consists of a back truss with half a dozen lamp bars and two side towers. It is very simple, but it works well - giving many different looks to the show. There are also many single raylights and floorlights. Missing at the U.E.A. gig was the back cyc with ground rows with which he achieves simple, but successful, effects like water. The band gave him total freedom in designing the lights and they are well pleased with the result.

When the Danny Wilson tour finishes, John will be working with Sam Brown on another low budget tour. However, he hopes to design a more theatrical show with backdrop projections, cycs and maybe kabuki. Originally he wanted to have lots of colour changers but the budget proved to be too restrictive.

# GET IN POSITION!

- individually programmable for max. 16 TWIST DRIVERS
- manual placing by joystick
- built-in lightcontroller, no external dimmer or switch necessary
- for all lamps HALOSTAR PAR 36 12 Volts (50 W, 75 W und 100 Watts)
- dichroitic colorframes

- Pan and tilt free programmable (each 170°)
- microprocessor controlled by TWIST CONTROLLER (4096 positions)

To find out more about TWIST please contact: NEXON ELEKTRONIK  
 Taminastrasse 2, CH - 7310 Bad Ragaz, Switzerland,  
 Tel.(085) 9 62 22, Fax (085) 9 62 69



# Members

**ABRACADBRA (SALES) AND HIRE LTD.**  
314 Nelson Road, Whitton, Middx TW2 7AH.  
Tel: 01-898 1127  
Contact: Darryl Hayden

**A.C. LIGHTING LTD.**  
Unit 4, Spearhead Industrial Park,  
Lane End Road, Sands, High Wycombe,  
Buckinghamshire HP12 4JG.  
Tel: (0494) 446000  
Telex: 838829  
Contact: David Leggett

**ACTION LIGHTING LTD.**  
367 Uxbridge Road, London W3 9RH.  
Tel: 01-993 1684  
Fax: 01-992 0212 Telex: 894452  
Contact: Paul De Ville

**ADAM HALL SUPPLIES LTD.**  
3 The Cordwiners, Temple Farm Ind. Estate,  
Sutton Rd, Southend-on-Sea, Essex SS2 5RU.  
Tel: (0702) 613922  
Fax: (0702) 617168 Telex: 995029  
Contact: John Allondale

**ADDA SUPER CASES LTD.**  
26 Mead View, Oakington,  
Cambridge CB4 5BH.  
Tel: (0223) 233101  
Fax: (0223) 237405  
Contact: Monica Saunders

**AJS THEATRE LIGHTING & STAGE  
SUPPLIES LTD.**  
Hightown Ind. Estate, Crow Arch Lane,  
Ringwood, Hants BH24 1ND  
Tel: (0425) 470888 (Sales)  
Tel: (0425) 470088 (Hire)  
Fax: (0425) 471398 Telex: 418405  
Contact: Simon Sketchley

**ALLEN & HEATH**  
69 Ship Street, Brighton BN1 1AE.  
Tel: (0273) 23346  
Fax: (0273) 821767 Telex: 878235  
Contact: Paula Jackson

**ANYTRONICS LTD.**  
Unit 6, Hillside Industrial Estate,  
London Road, Horndean, Hants PO8 0BL.  
Tel: (0705) 599410  
Fax: (0705) 598723 Telex: 869185  
Contact: Bob Hall

**ARRI (GB) LTD.**  
1-3 Air Links, Spitfire Way, Heston,  
Middlesex TW5 9NR.  
Tel: 01-848 8881  
Fax: 01-561 1312 Telex: 916075  
Contact: Tim Burnham

**ASTRALLOY INTERNATIONAL LTD.**  
Unit 1, Manor Road, Leeds LS11 5PZ  
Tel: (0532) 465331  
Fax: (0532) 421342 Telex: 55113  
Contact: Adrian Brooks

**ASTRON**  
Unit 2, Barrowmore Estate,  
Great Barrow, Cheshire CH3 7JS.  
Tel: (0829) 41262  
Fax: (0829) 41292 Telex: 61556  
Contact: Gary Peacock

**AUDILEC LTD.**  
6 Hornsby Square, Southfields Industrial  
Park, Laindon West, Essex SS15 6SD.  
Tel: (0268) 419198/9  
Fax: (0268) 541640  
Contact: Phil Price

**AVENUE ARTISTES SOUND & LIGHT LTD.**  
47 The Polygon, Southampton SO1 2BP.  
Tel: (0703) 227077  
Fax: (0703) 334625  
Contact: Terence Rolph

**AVITEC ELECTRONICS (UK) LTD.**  
80/81 Walsworth Road, Hitchin,  
Herts SG4 95X.  
Tel: (0462) 58961  
Fax: (0462) 31019 Telex: 825682  
Contact: Tony Kingsley

**AVOLITES PRODUCTION CO. LTD.**  
184 Park Avenue, London NW10 7XL.  
Tel: 01-965 8522  
Fax: 01-965 0290 Telex: 24652  
Contact: Derek Halliday

**BATMINK LTD.**  
Glastonbury Warehouse, Silver Street,  
Glastonbury, Somerset BA6 8BT.  
Tel: (0458) 331186  
Fax: (0458) 35320 Telex: 449530  
Contact: D. Churches

**BOSE (UK) LTD.**  
Unit G2, Trinity Trading Estate,  
Sittingbourne, Kent ME10 2PD.  
Tel: (0795) 75341  
Fax: (0795) 27227 Telex: 965559

**CALNE CABINET MAKERS LTD.**  
Redman Road, Porte Marsh, Calne,  
Wiltshire SN11 9PR  
Tel: (0249) 812656  
Fax: (0249) 821233  
Contact: Keith Rees

**CANFORD AUDIO**  
Crowther Road, Washington,  
Tyne and Wear NE38 0BW.  
Tel: 091-417 0057  
Telex: 538202  
Contact: Iain Elliot

**CCT THEATRE LIGHTING LTD.**  
Windsor House, 26 Willow Lane,  
Mitcham, Surrey CR4 4NA.  
Tel: 01-640 3366  
Fax: 01-648 5263  
Contact: David Manners

**CELCO LTD.**  
3 Bellingham Road, London SE6 2PN.  
Tel: 01-698 1027  
Fax: 01-461 2017 Telex: 927624  
Contact: Colin Whittaker

**CELESTION INTERNATIONAL LTD.**  
Foxhall Road, Ipswich, Suffolk IP3 8JP.  
Tel: (0473) 723131  
Fax: (0473) 729662 Telex: 98365  
Contact: M. Claydon

**CEREBRUM LIGHTING (SALES & HIRE) LTD.**  
The Stage and Effects Lighting Centre,  
168 Chiltem Drive, Surbiton,  
Surrey KT5 8LS.  
Tel: 01-390 0051/01-390 4841  
Fax: 01-390 4938 Telex: 892337  
Contact: Mike Fisher

**CITRONIC LTD.**  
Halifax Road, Bowerhill Estate,  
Melksham, Wiltshire SN12 6UB.  
Tel: (0225) 705600  
Fax: (0225) 709639 Telex: 444131  
Contact: Mike Gerrish

**CHRIS JAMES & CO.**  
Unit 7, North Western Commercial Centre,  
75 Broadfield Lane, York Way,  
London NW11 9YJ.  
Tel: 01-284 2221  
Fax: 01-284 2156  
Contact: James Phelan

**CLOUD ELECTRONICS LTD.**  
511-515 Stanforth Road, Sheffield S9 4RA.  
Tel: (0742) 447051  
Fax: (0742) 425462 Telex: 547938  
Contact: Roy Millington

**COLIN EADES PARTNERSHIP.**  
83 Tilehouse Street, Hitchin,  
Hertfordshire SG5 2DY.  
Tel: (0462) 55257  
Fax: (0462) 37369  
Contact: David Cregan

**CYBERDESCENCE LIGHTING LTD.**  
63 Lancaster Road, New Barnet,  
Hertfordshire EN4 8AS.  
Tel: 01-447 1010  
Fax: 01-447 0419  
Contact: Del Trew

**DHA LIGHTING LTD.**  
3 Jonathan Street, London SE11 5NH.  
Tel: 01-582 3600  
Telex: 935639  
Contact: Wyatt Enever

**DIAL SOUND AND LIGHTING**  
Unit 4C, Wharfedale Road, Euryway  
Trading Estate, Bradford, West Yorks BD4 6SG.  
Tel: (0274) 651600  
Fax: (0274) 651190  
Contact: Andy Blackwell

**DISCO & CLUB TRADE INTERNATIONAL.**  
35 High Street, Sandridge, St. Albans,  
Herts AL4 9DD.  
Tel: (0727) 43995  
Fax: (0727) 44417 Telex: 925859  
Contact: Gerry Gilbert

**DISCO NEON SIGNS**  
51 Dunster Road, Keynsham, Bristol BS18 2QB.  
Tel: (0272) 864818  
Contact: Sean Beech

**DISCO MIRROR LTD.**  
Suite, 2 Waterloo Place, Watson Square,  
Stockport, Cheshire SK1 3AZ  
Tel: 061-429 7803  
Fax: 061-480 8896  
Contact: Colin Gawne

**DISCOMIX CLUB LTD.**  
PO Box 89, Slough, Berks SL1 8NA.  
Tel: (06286) 62726  
Fax: (06286) 67057  
Contact: Martin Pickard

**DONMAR LTD.**  
Donmar House, 54 Cavell Street,  
Whitechapel, London E1 2HP.  
Tel: 01-790 1166/01-790 6624  
Fax: 01-790 6634 Telex: 264892  
Contact: Phil Wright

**EFFECTS LIGHTING (LEICESTER) LTD.**  
All Saints Road, Leicester LE3 5AB.  
Tel: (0533) 516662  
Fax: (0533) 516386  
Contact: Malcolm Robertson

**ELECTRONIC LIGHTING AND MUSIC**  
Unit 8, Scorrer Workshops, Redruth,  
Cornwall TR16 5AU.  
Tel: (0209) 820599  
Contact: Eric Matthews

**ELECTROVISION LTD.**  
Charity Farm, Arch Lane, Garswood,  
Nr Wigan WN4 0XL.  
Tel: (0744) 892636/892333  
Contact: Mark Benyon

**EUROUGHT LTD**  
Unit 1, Maple Industrial Estate,  
Maple Way, Feltham, Middx TW13 7AJ.  
Tel: 01-751 6400  
Fax: 01-751 3334 Telex: 898941  
Contact: Nick Mobsby

**EXCITING LIGHTING & DECOR**  
9 Silverbirch Crescent, Bangor, Co. Down,  
Northern Ireland BT19 2EX.  
Tel: (0247) 462338

**FANTASIA SOUND & LIGHTING**  
Unit 3, Bacon House Farm, Little Horwood,  
Buckinghamshire  
Tel: (0296) 713685  
Contact: David Laszlo

**FARRAHS**  
Unit 7, St. Georges Industrial Estate,  
Richmond Rd, Kingston, Surrey KT2 5BQ  
Tel: 01-549 1787  
Fax: 01-549 6204 Telex: 945114  
Contact: Kevin Swain

**FORMULA SOUND LTD.**  
Stuart Road, Ashton Road, Bredbury,  
Stockport, Cheshire SK6 2SR.  
Tel: 061-494 5650.  
Fax: 061-494 5651.  
Contact: Sandra Cockell

**GENERAL ELECTRIC USA.**  
6-8 Prospect Way, Royal Oak Industrial  
Estate, Daventry, Northants NN11 5PL.  
Tel: (0327) 77683  
Fax: (0327) 76386  
Contact: Keith Huxley

**GLANTRE ENGINEERING LTD.**  
2 Cremyll Road, Reading, Berks RG1 8NQ  
Tel: (0734) 509711  
Fax: (0734) 505808 Telex: 846522  
Contact: Derek Gilbert

**HARMAN (AUDIO) UK LTD.**  
Mill Street, Slough, Berks SL2 5DD  
Tel: (0753) 76911  
Fax: (0753) 35306 Telex: 849069  
Contact: Guy Hawley

**HARRISON INFORMATION  
TECHNOLOGY LTD.**  
Unit 3, Button End Industrial Estate,  
Harston, Cambridge CB2 5NX.  
Tel: (0223) 871711  
Fax: (0223) 872094 Telex: 81687  
Contact: Mike Harrison

**HAZEL GROVE MUSIC COMPANY LTD.**  
Bulkeley House, Stockport Road, Cheadle,  
Cheshire SK8 2AA.  
Tel: (061 491) 1068  
Fax: (061 428) 5595 Telex: 668017  
Contact: Malcolm Rusby

**HI-PROFILE CONCEPTS LTD.**  
Station House, Station Avenue, Helsby,  
Cheshire WA6 0AG.  
Tel: (09282) 3604  
Fax: (09282) 5377  
Contact: John Ellis

**HILL AUDIO LTD.**  
Hollingbourne House, Hollingbourne,  
Maidstone, Kent ME17 1QJ  
Tel: (062 780) 555  
Fax: (062 780) 550 Telex: 966641  
Contact: R.G. Harrison

**INFINITY INTERNATIONAL**  
Unit 6D Newmarket Lane, Felxex Ind.  
Estate, Leeds LS9 0SH.  
Tel: (0532) 406755  
Fax: (0532) 401479  
Contact: Steve Greenwood

**JAMES THOMAS ENGINEERING LTD.**  
Station Approach, Pershore Trading Estate,  
Worcestershire WR10 2DB.  
Tel: (0386) 553002  
Fax: (0386) 552321 Telex: 336808  
Contact: Mervyn Thomas

**JASCO LIGHT & SOUND LTD.**  
Unit 5, 315 Summer Lane, Hockley  
Birmingham B19 3RH.  
Tel: 021-359 7261  
Fax: 021-359 7262  
Contact: Joe Sharpe

**J.E.M. SMOKE MACHINE CO. LTD.**  
Vale Road Industrial Estate  
Boston Road, Spilsby, Lincs. PE23 5HE.  
Tel: (0790) 54050  
Fax: (0790) 54051 Telex: 37207  
Contact: Ann Savage

**R.G. JONES SOUND ENGINEERING**  
Beulah Road, Wimbledon, London SW19 3SB.  
Tel: 01-540 9881  
Fax: 01-542 4368 Telex: 8814917  
Contact: David Dyer

**KELSEY ACOUSTICS LTD.**  
28 Powis Terrace, London W11 1JH.  
Tel: 01-727 1046  
Fax: 01-243 0211  
Contact: Richard Vickers

**KENNETH BURR ASSOCIATES**  
171 London Road, Dunton Green,  
Sevenoaks, Kent TN13 2TA.  
Tel: (0732) 462848  
Fax: (0732) 740891  
Contact: Kenneth Burr

**LAMBA PLC**  
Albion Mills, Albion Road, St. Albans,  
Herts AL1 5EB.  
Tel: (0727) 40527  
Fax: (0727) 37811 Telex: 265871  
Contact: Neil Drain

**LASER CREATIONS LTD.**  
55 Merthyr Terrace, Barnes,  
London SW13 9DL.  
Tel: 01-741 5747  
Fax: 01-748 9879 Telex: 8954111  
Contact: Lorraine Ludman

**LASER MAGIC**  
5 Courtlands, Church Hill, Newhaven,  
East Sussex BN9 9LU.  
Tel: (0273) 512149  
Fax: (0273) 514968  
Contact: Stephen Harvey

**LASERPOINT LTD.**  
44/45 Clifton Road, Cambridge CB1 4FD.  
Tel: (0223) 212331  
Fax: (0223) 214085  
Contact: Simon Molsseed

**LASER SYSTEMS LTD.**  
Unit 11, Llanerham Park, Cwmbran,  
Gwent NP44 3AX.  
Tel: (0633) 838280  
Fax: (06333) 5002 Telex: 497072  
Contact: Geoff Jones

**LE MAITRE HOLDINGS PLC.**  
316 Purley Way, Croydon CR0 4XJ.  
Tel: 01-686 9258  
Fax: 01-680 3743 Telex: 883220.  
Contact: Dick Carrier

**LEAMINGTON SIGHT & SOUND**  
Unit 17, Rigby Close, Heathcote Ind.  
Estate, Leamington Spa, CV34 6TJ.  
Tel: (0926) 833617  
Fax: (0926) 883120  
Contact: Peter Maddison

**LEE COLORTRAN INTERNATIONAL**  
Manchester Road, Kearsley, Bolton,  
Lancashire BL4 8RL.  
Tel: (0204) 73373  
Fax: (0204) 862843 Telex: 635829  
Contact: Paul Baker

**LIGHT ENGINEERING LTD.**  
64 Eden Road, Walthamstow, London E17 9JY.  
Tel: 01-520 23367  
Fax: 01-509 1332 Telex: 898005  
Contact: Stephen Demeza

**LIGHTFACTOR LTD.**  
11 Fairway Drive, Fairway Industrial Estate,  
Greenford, Middlesex UB6 8PW.  
Tel: 01-575 5566  
Fax: 01-575 8678 Telex: 935030  
Contact: Mick Hannaford

**LIGHTING AND SOUND SERVICES**  
237 Chester Road, Helsby,  
Cheshire. WA6 0AD.  
Tel: 092-82 3502  
Contact: Phil Johnson

**LIGHTNING SOUND AND LIGHT**  
410-412 Bearwood Road, Warley,  
Birmingham. B66 4EX.  
Tel: 021-429 6884  
Fax: 021-429 6882  
Contact: Keith Julian

**LIGHT WORKS LTD.**  
2a Greenwood Road, London E8 1AB.  
Tel: 01-249 3627  
Fax: 01-254 0306  
Contact: Charlie Paton

**LMC AUDIO SYSTEMS LTD.**  
Unit 10, Acton Vale Industrial Park,  
Covley Road, London W3 7QE.  
Tel: 01-743 4680  
Fax: 01-749 9875  
Contact: Paul Hinkley

**LONDON ACOUSTICAL DEVELOPMENTS LTD.**  
8 Hartfield Rd, Wimbledon, London SW19 3TA.  
Tel: 01-946 6063  
Fax: 01-946 5743  
Contact: Gaj Pyndiah

**LUTON SOUND & LIGHTING LTD.**  
75 & 86-88 Wellington Street, Luton,  
Bedfordshire LU1 5AA.  
Tel: (0582) 411733  
Fax: (0582) 391102 Telex: 825562  
Contact: Eamon Hailles

**LYNX LIGHTING LTD.**  
5 Oxford Road, Pen Mill Trading Estate,  
Yeovil, Somerset BA21 5HR.  
Tel: (0935) 29290  
Fax: (0935) 79439  
Contact: Nick Searie

**LYTEMODE LTD.**  
3 Dawson Road, Mount Farm,  
Milton Keynes MK11 1LH.  
Tel: (0908) 644366  
Fax: (0908) 644166  
Contact: Ron Rook

**MALHAM LTD.**  
65-75 Malham Road, London SE23 1AJ.  
Tel: 01-699 0917.  
Contact: Steve Drewett.

**MARQUEE AUDIO LTD.**  
Shepperton Studio Centre, Studios Road,  
Shepperton, Middx TW17 0QD.  
Tel: (0932) 568777  
Fax: (0932) 568989 Telex: 894278  
Contact: Spencer Brooks

**MARTIN AUDIO**  
Cressex Industrial Estate, 19 Lincoln Road,  
High Wycombe, Bucks HP12 3RD.  
Tel: (0494) 35312  
Fax: (0494) 38669  
Contact: David Martin

**MARTIN SOUND & LIGHT.**  
125 Blackstock Rd, London N4 2JW.  
Tel: 01-354 2254  
Fax: 01-226 9994  
Contact: Martin Prescott

**METEORLITES PRODUCTIONS LTD.**  
4 Elstree Way, Borehamwood,  
Hertfordshire WD6 1BS.  
Tel: 01-207 5111  
Fax: 01-207 3655 Telex: 265871  
Contact: Ronan Willson

**MICHAEL STEVENS & PARTNERS**  
Invicta Works, Elliott Road, Bromley,  
Kent BR2 9NT.  
Tel: 01-460 7299  
Fax: 01-460 0499 Telex: 896979  
Contact: Michael Stevens

**MICO LIGHTING LTD.**  
Troydale Lane, Pudsey, Leeds LS28 9LD.  
Tel: (0532) 567113  
Fax: (0532) 572358 Telex: 556469  
Contact: Michael Kitching

**MIDDLESEX SOUND & LIGHTING LTD.**  
6 Village Way East, Rayners Lane,  
Harrow, Middlesex HA2 7LY.  
Tel: 01-866 5500  
Contact: Mike Olivier

**MIDNIGHT DESIGN (SALES) LTD.**  
The Arches, Grosvenor Terrace,  
London SE5 ONP  
Tel: 01-703 0011  
Fax: 01-703 8123  
Contact: David Rose

**MODE ELECTRONICS LTD.**  
Chelsing Lodge, Tonwell, Nr. Ware,  
Hertfordshire SG12 0LB.  
Tel: (0920) 2121  
Fax: (0920) 553644 Telex: 817837  
Contact: John Bradbrook

**MULTIFORM LIGHTING**  
Bell Lane, Uckfield,  
East Sussex TN22 1QL.  
Tel: 0825 3348  
Contact: Iain Price-Smith

**MUSHROOM LIGHTING SERVICES LTD.**  
76 Tenter Road, Moulton Park Ind. Estate,  
Northampton NN3 1AX.  
Tel: (0604) 494866/494991/790900  
Fax: (0604) 491118  
Contact: Paul Butler

**MUSICRAFT LTD.**  
303 Edgware Road, London W2 1BN.  
Tel: 01-402 2898  
Fax: 01-706 2872  
Contact: Jack Saund

**MYSTICAL LIGHTING LTD.**  
23 Low Farm Place, Moulton Park  
Industrial Estate, Northampton NN3 1HY.  
Tel: (0604) 491737  
Contact: Marie Cochrane

**NEON LIFE ASSOCIATES**  
202 Shefford Road, Clifton,  
Bedfordshire SG17 5QS.  
Tel: (0462) 811843  
Fax: (0462) 817352  
Contact: Chris Anderson

**NIGHT FLIGHT SOUND & LIGHTING**  
Torwood, Bowling, Strathclyde,  
Glasgow G60 5AB.  
Tel: (0389) 79261  
Fax: (0389) 79260  
Contact: Bill Smith

**N.J.D. ELECTRONICS LTD.**  
10 Ascot Industrial Estate, Lenton Street,  
Sandiacre, Nottingham NG10 5D.  
Tel: (0602) 394122  
Fax: (0602) 490453 Telex: 37605  
Contact: Keith Greenwood

**NORMAN GRAY CHARTERED DESIGNER**  
Failand House, 22 Newbridge Road,  
Bath, Avon BA1 3JZ.  
Tel: (0225) 312716  
Contact: Norman Gray

**NORTHERN LIGHTS**  
89 Scoforth Road, Lancaster LA1 4SD.  
Tel: (0524) 62634  
Fax: (0524) 37619  
Contact: Ray Wilkinson

**OPTIKINETICS LTD.**  
38 Cromwell Road, Luton LU3 1DN.  
Tel: (0582) 411413  
Fax: (0582) 400613 Telex: 825920  
Contact: Neil Rice

**OPUS AMPLIFICATION.**  
35-37 Parker Lane, Burnley,  
Lancashire BB11 2BU.  
Tel: (0282) 20795  
Fax: (0282) 411204 Telex 63201  
Contact: Jim Garlick

**OHM INDUSTRIES LTD.**  
Unit 3b, Wellington Close, Parkgate Ind.  
Estate, Knutsford, Cheshire WA16 8XL.  
Tel: (0565) 54641  
Fax: (0565) 55641  
Contact: Colin Hill

**ORANGE DISCOTHEQUE CENTRE LTD.**  
734/736 Oxford Road, Reading,  
Berkshire RG3 1EH.  
Tel: (0734) 509969/589453  
Fax: (0734) 507072  
Contact: Simon Spragg

**OXTRON DIGITAL SYSTEMS**  
Sucklings Yard, Church Street,  
Ware, Hertfordshire SG12 9EN.  
Tel: (0920) 60542  
Fax: (0920) 60543  
Contact: Geoff Kington

**P.A. INSTALLATIONS LTD.**  
26-28 Inkerman Street, Ilanelli, Dyfed SA15 1SA.  
Tel: (0554) 752490  
Fax: (0554) 777848  
Contact: Paul Adams

**PANCRAN**  
83 Gloucester Road, Brighton,  
East Sussex BN1 4AP.  
Tel: (0273) 672043  
Fax: (0273) 682674 Telex: 9312130131  
Contact: Margaret McLaren

**PAR OPTI PROJECTS LTD.**  
Unit 9, The Bell Industrial Estate,  
Cunnington St, Chiswick Park, London W4  
5EP.  
Tel: 01-995 5179  
Fax: 01-994 1102 Telex: 933718  
Contact: Paul Raymond

**PEGASUS SOUND & LIGHT**  
23-25 Cannongate, The Royal Mile,  
Edinburgh EH8 8BX.  
Tel: 031-556 1300  
Contact: David Hunter

**PLAYLIGHT HIRE LTD.**  
15 Park Street, Swinton,  
Manchester M27 1UG.  
Tel: 061-793 5848  
Fax: 061-794 5651  
London: 01-965 8188  
Leeds: 0532 461148  
Birmingham: 021-328 1591  
Contact: Nick Rowland (Manchester)

**POWERDRIVE DRUM CO. LTD.**  
Unit M1, Cherrycourt Way,  
Stanbridge Road, Leighton Buzzard,  
Bedfordshire LU7 8UH.  
Tel: (0525) 370292  
Contact: K. Dowzell

**POWERHOUSE HIRE.**  
**(Rainbow Discotheques)**  
247 Oakleigh Rd Nth, Whetstone, London  
N20 0TX  
166 Sydenham Road, London SE26 5JZ.  
Tel: 01-659 9022/01-368 9852  
Fax: 01-368 6229 (South)  
Contact: Norman Smithers (South)  
Contact: Robin Smith (North)

**PRESENTATION CONSULTANTS LTD.**  
168 Chiltern Drive, Surbiton,  
Surrey KT5 8LS.  
Tel: 01-390 4841  
Fax: 01-390 4938  
Contact: John Lethbridge

**PULSAR LIGHT OF CAMBRIDGE LTD.**  
Henley Road, Cambridge CB1 3EA.  
Tel: (0223) 66798  
Fax: (0223) 460708 Telex: 81697  
Contact: Derrick Saunders

**QUARTZ SYSTEMS LTD.**  
Unit 20, Earith Business Park,  
Meadow Drive, Cambridgeshire PE17.  
Tel: (0487) 741444  
Fax: (0487) 741414  
Contact: David Bearman

**RAINBOW INTERNATIONAL**  
448 Uxbridge Road, Shepherds Bush,  
London W12 0NS.  
Tel: 01-743 9999  
Contact: Mervyn Thomas.

**RAMSA**  
**(Panasonic Consumer Electronics UK)**  
Willoughby Road, Bracknell, Berks RG12 4FP.  
Tel: (0344) 853176  
Fax: (0344) 861656  
Contact: Ian Sharpe

**R.K. LIGHTING LTD.**  
4 Steep Hill, Streatham, London SW16 1UL.  
Tel: 01-769 5714  
Fax: 01-677 7463 Telex: 896559  
Contact: K. M. Ahmed

**ROSCOLAB LTD.**  
Blanchard Works, Kangley Bridge Road,  
Sydenham, London SE26 5AQ.  
Tel: 01-659 2300  
Fax: 01-659 3153 Telex: 8953352  
Contact: Joanne Butler

**ROSSULA LTD.**  
11 Fairway Drive, Fairway Industrial Estate,  
Greenford, Middlesex UB6 8PW.  
Tel: 01-575 5566  
Fax: 01-575 8678 Telex: 935030  
Contact: Mick Hannaford

**SCOTT SOUND SYSTEMS**  
451 Handsworth Rd, Sheffield, S. Yorks S13 9DD.  
Tel: (0742) 580722  
Fax: (0742) 758157  
Contact: G. Ibbotson

**SHUTTLESOUND LTD.**  
Unit 15, Osiers Estate, Osiers Road,  
Wandsworth London SW18 1EJ.  
Tel: 01-871 0966  
Fax: 01-870 9300 Telex: 27670  
Contact: Tony Oates

**SLICK SYSTEMS**  
Portland Street North, Leek,  
Staffs ST13 6LA.  
Tel: (0538) 372109  
Fax: (0538) 381315  
Contact: Paul Marsh

**SMITHFIELD ELECTRONICS**  
1 West Street, Hoole, Chester CH2 3PU.  
Tel: (0244) 49062  
Contact: Chris Aberdeen

**SOFISCOTECH**  
1212 Leeds Road, Bradford,  
West Yorkshire BD3 8JL.  
Tel: (0274) 661406  
Contact: Keith Walker

**SOUND CREATIONS**  
8 Britannia Road, Worcester WR1 5BQ.  
Tel: (0905) 21707  
Fax: (0905) 21163  
Contact: Eddie Davies

**SOUND ELECTRONICS (NEWCASTLE) LTD.**  
201-205 Jesmond Road,  
Newcastle Upon Tyne NE2 1LA.  
Tel: 091-281 4248  
Fax: 091-281 1194  
Contact: Ray Scott

**SOUNDTECH LTD.**  
137 Western Rd, Hockley, Birmingham B18 7QD.  
Tel: 021-523 6344  
Contact: Chris Jones

**SPECIALIST LAMP DISTRIBUTORS LTD.**  
10 Sovereign Enterprise Park, King William Street,  
Salford, Manchester M5 2UP.  
83 Lomond Grove, Camberville London SE5 7QZ.  
Tel: 061-873 7822 (Manchester)  
Fax: 061-873 8089 Telex: 668168  
Contact: Ron Merchant

**SPOTLIGHT PUBLICATIONS LTD.**  
Greater London House, Hampstead Road,  
London NW1 7QZ.  
Tel: 01-387 6611

**SQUIRE LIGHT & SOUND LTD.**  
176 Junction Road, London N19 5QQ.  
Tel: 01-272 7474  
Fax: 01-263 4600 Telex: 9419153  
Contact: Ian Kirby

**STAGE TWO LTD.**  
197 Watford Road, Croxley Green,  
Rickmansworth, Herts WD3 3EH.  
Tel: (0923) 30789  
Fax: (0923) 55048  
Contact: Terry Douris

**STAR HIRE**  
Blackburn Hall, Milton Road, Thurleigh,  
Bedfordshire MK44 2DC.  
Tel: (0234) 772233  
Fax: (0234) 772272 Telex: 825644  
Contact: Roger Barrett

**STARDREAM AUDIO VISUAL LTD.**  
Party House, Mowbray Drive,  
Blackpool FY3 7JR.  
Tel: (0253) 302602  
Fax: (0253) 301000 Telex: 67426  
Contact: John Barnett

**STARLIGHT DESIGN (Light & Sound) LTD.**  
9 Alms Hill, Bourne, Cambs CB3 7SH.  
Tel: (09544) 8841  
Fax: (09544) 8846 Telex: 827547  
Contact: Graham Smith

**STRAND LIGHTING LTD.**  
Grant Way (off Syon Lane), Isleworth,  
Middlesex TW7 5QD.  
Tel: 01-560 3171  
Fax: 01-568 2103 Telex: 29796  
Contact: Russell Dunsire

**STUDIO 1 ELECTRONICS**  
The Gatehouse, Foley Trading Estate,  
Foley Street, Hereford HR1 2SF.  
Tel: (0432) 277067  
Contact: Bryan Morris

**SUPERMICK LIGHTS**  
119-121 Freston Road, Holland Park,  
London W11 4BD.  
Tel: 01-221 2322  
Fax: 01-727 8693  
Contact: Peter Clarke

**SUPERVISION INTERNATIONAL DISCOTHEQUE  
SERVICES LTD.**  
320 Munster Road, London SW6 6BH.  
Tel: 01-385 2383  
Fax: 01-386 9206  
Contact: Chris Bradbury

**SYSTEM FREESTYLE LTD.**  
East Street, St Ives, Huntingdon,  
Cambridgeshire PE17 4PD.  
Tel: (0480) 65212  
Fax: (0480) 494922  
Contact: Colin Freeman

**TANNOY LTD.**  
The Bilton Centre, Coronation Road,  
Cressex Industrial Estate, High Wycombe,  
Buckinghamshire HP12 3SB.  
Tel: (0494) 450606  
Fax: (0494) 37431 Telex: 83251  
Contact: S. Harris

**TELEDYNE ACOUSTIC RESEARCH.**  
High Street, Houghton Regis, Dunstable,  
Bedfordshire LU5 5QJ.  
Tel: (0582) 867777  
Fax: (0582) 866627 Telex: 825467  
Contact: Simon Spears

**THEATRE PROJECTS SERVICES LTD**  
8-34 Blundell Street, London N7 9BW  
Tel: 01-609 2121  
Fax: 01-609 8897  
Contact: Alan Thompson

**THE SOUND DEPARTMENT LTD.**  
Askew Crescent Workshops,  
Askew Crescent, London W12 9DP.  
Tel: 01-749 2124  
Fax: 01-749 8789  
Contact: Steve Smith

**THEATRE SOUND AND LIGHTING  
(SERVICES) LTD.**  
9 Wigton Place, Kennington, London SE11 4AN.  
Tel: 01-582 8009  
Fax: 01-820 9584  
Contact: Matthew Griffiths

**TOA ELECTRONICS LTD.**  
Tallon Road, Hutton Ind. Estate,  
Brentwood, Essex CM13 1TG.  
Tel: (0277) 233882  
Fax: (0277) 233566  
Contact: H. Greenaway

**TOBSOUND LTD.**  
137 High Street, Burton-on-Trent, Staffs DE14 1JZ.  
Tel: (0283) 45307  
Fax: (0283) 63539 Telex: 878723  
Contact: Steve Halsall

**TOMCAT ENGINEERING LTD.**  
Unit 24, Pershore Trading Estate,  
Persnore, Worcestershire WR10 2DD.  
Tel: (0386) 556640  
Fax: (0386) 554950  
Contact: Chris Cronin

**TRIPLE E LIMITED**  
Unit 16B, Tower Works, Riley Road,  
London SE1 3DC.  
Tel: 01-237 6354  
Fax: 01-237 7650  
Contact: David Edelstein

**TUNEWELL TRANSFORMERS LTD.**  
115A Myddleton Road, Wood Green,  
London N22 4NG.  
Tel: 01-888 6044  
Fax: 01-888 0158  
Contact: Tony Heaney

**TURBOSOUND LTD.**  
Star Road, Partridge Green,  
West Sussex RH13 5EZ.  
Tel: (0403) 711447  
Fax: (0403) 710155 Telex: 878723  
Contact: Richard Frankson

**UL UNIVERSAL LASERS.**  
3 Newton street, Grantham,  
Lincolnshire, NG31 6HA.  
Tel: (0476) 73006  
Fax: (0476) 73060  
Contact: Manoochehr Kamani

**VOLT LOUDSPEAKERS LTD.**  
Benlow Works, Silverdale Road,  
Hayes, Middlesex UB3 3BW.  
Tel: 01-573 4260  
Fax: 01-573 4260  
Contact: David Lyth

**W.B. LIGHTING LTD. T/A COEMAR (UK).**  
4 Tenter Road, Moulton Park Industrial  
Estate, Northampton NN3 1PZ.  
Tel: (0604) 499331  
Fax: (0604) 499446 Telex: 312320  
Contact: Mike Wood

**WEMBLEY LOUDSPEAKER CO. LTD.**  
Askew Crescent Workshops,  
Askew Crescent, London W12 9DP.  
Tel: 01-743 4567  
Fax: 01-749 7957 Telex: 9413506  
Contact: Paul MacCallum

**WHARFEDAILE LTD.**  
Sandless Way, Crossgates, Leeds,  
West Yorkshire LS15 8AL.  
Tel: (0532) 601222  
Fax: (0532) 600267 Telex: 556357  
Contact: Gary Orrell.

**WHITE LIGHT (ELECTRICS) LTD.**  
57 Filmer Road, London SW6 7JF.  
Tel: 01-731 3291  
Fax: 01-371 0806 Telex: 295811  
Contact: John Simpson

**WIGWAM ACOUSTICS LTD.**  
St. Annes House, Ryecroft Avenue,  
Heywood, Lancs OL10 1QB.  
Tel: (0706) 68766/624547  
Fax: (0706) 65565 Telex: 265871  
Contact: Mike Spratt

**WYNNE WILSON GOTTELLIER LTD.**  
The Old Mission House, Ide Hill, Sevenoaks,  
Kent TN13 6BZ.  
Tel: (0732) 75204  
Fax: (0732) 75617  
Contact: Tony Gottelier

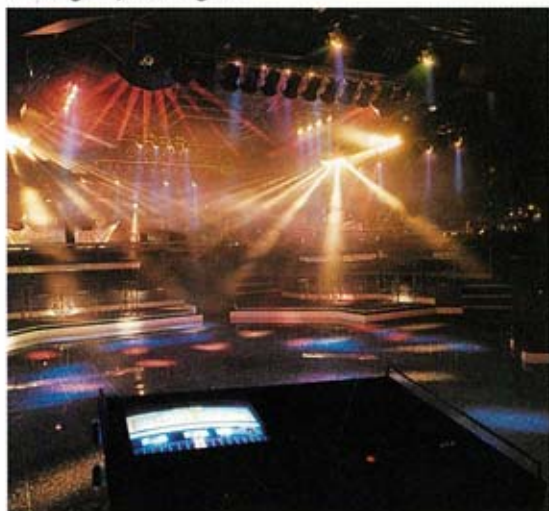
**ZERO 88 LIGHTING LTD.**  
Hart Road, St. Albans, Herts AL1 1NA.  
Tel: (0727) 33271  
Fax: (0727) 43676  
Contact: Freddy Lloyd

**OSKA**  
VOTED LIGHTING  
CONTROLLER OF THE YEAR

# OSKA

## winning performances

*Zhivago's, Darlington*



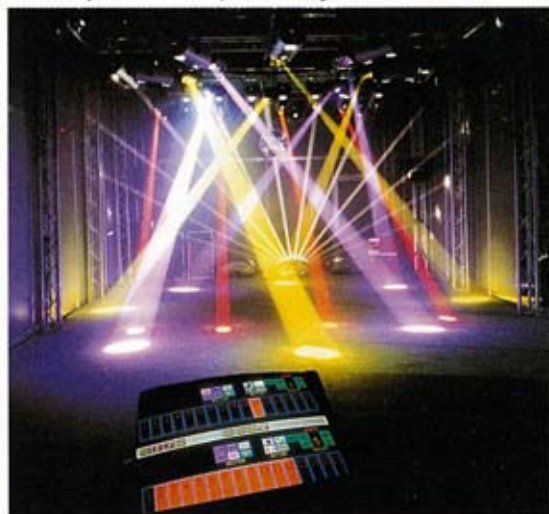
*Camden Palace, London*



*Fallows, Liverpool*



*Nowea, Dusseldorf, Germany*



OSKA is the ultimate lighting board.

Speed is the essence of its power – speed in learning, speed in programming and speed in action. Its touch-sensitive colour monitor translates the skill of the operator into instant lighting action. Handling 256 lighting channels including Golden Scans and other intelligent moving lights, it knocks spots off any other lighting controller.

OSKA is used by operators throughout the world who

depend on a powerful control system to make the most of their lightshow.

OSKA has initiated a new era in total lighting control, by integrating a complete lightshow under the control of one skilled operator.

Find out more about what OSKA can do for your performance by contacting your nearest Pulsar distributor.

**PULSAR**  
LIGHTING FOR EFFECT

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

Pulsar Light of Cambridge Ltd.,  
Henley Road, Cambridge CB1 3EA,  
Tel: 0223 66798 Telex 81697 PULSARG  
Fax (0223) 460708

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





# DIRECTORY

Lighting + Sound  
Equipment Sale/Hire  
Installation and Design

**DO DIMMERS  
LEAVE YOU  
IN  
THE DARK?**  
If the answer's yes call:  
**Green  
Ginger**  
3 Dawson Road, Mount Farm,  
Milton Keynes, MK1 1LH  
Tel: (0908) 644366

**Southwest Lighting**  
**Sound & Lighting  
to the Trade**  
Agents for:  
**Citronic, Coemar,  
SIS, Optikinetics,  
JEM, Scott, Avitec  
and many more**  
Send large SAE for current  
Trade Catalogue  
The Old Smithy, Church Road  
Cockwood, Exeter, Devon  
Tel: (0626) 890806  
Showroom open Mon-Sat 10-5

**DHA**  
● Library and Custom made Gobos  
and Slides.  
● Screen Printing onto various  
Materials.  
● Standard and Custom Fibre-Optic  
Effects and Equipment.  
For further information contact:  
DHA Lighting Ltd.  
3 Jonathan Street, London SE11 5NH  
Tel: 01-582 3600 Fax: 01-582 4779  
Telex: 935639 GOBOCO G

*The  
Fibre Optic  
Lighting  
People*  
We manufacture and distribute all  
fibre optic lighting materials -  
Parglas harnesses and conduits,  
Parflex polymers, light sources,  
theatre curtain washers, spot ball  
and bullet lenses, side emitting  
fractured fibres, ceiling fittings and  
large bore fibre optics.  
Examples of our fibre optics may be  
viewed at our Chiswick showroom,  
from subtle backgrounds to fibre  
optic fireworks. Leaflets available.  
(Visitors by appointment)

Trade & Export call **PAUL RAYMOND**  
Par Opti Projects Ltd.  
Unit 9 The Bell Ind. Est.  
Cunnington St.  
Chiswick Park  
London W4 5EP  
Tel: 01-955 5179  
Tlx: 933718 PAROP G  
Fax: 01-994 1102

**ARRI  
IMAGE IMAGINE**  
The world's best lighting controls  
and the most reliable.  
**DONMAR** 25 YEARS  
SILVER JUBILEE  
DONMAR LTD 54 CAVELL STREET WHITECHAPEL LONDON E1 2HP  
TEL 01 790 1166 FAX 01 790 6634

**Dial Sound & Lighting**  
Wholesale Distribution for  
**CITRONIC BOSE RAMSA  
SOUNDSHOP OPTIKINETICS zero 88  
POSCO coemar PULSAR  
POWER DRIVE TECHNICS EBL Le Maitre  
MODE ELECTRONICS**  
and other leading brand names  
Specialist supplier of Mini Light Tube  
INSTALLATION DIVISION — SHIPLEY DIAL LTD.  
DIAL SOUND AND LIGHTING  
Unit 4G Wharfedale Road, Euroway Industrial Estate,  
Bradford BD4 6SG.  
Telephone: (0274) 651600 Fax: (0274) 651190

**TSL**  
Theatre Sound & Lighting  
(Services) Ltd  
U.K. DISTRIBUTORS  
FOR  
**Clear-Com**  
Intercom Systems  
67 DRURY LANE,  
LONDON WC2B 5SP  
Phone 01-836 7877/8

**LIGHTING  
HIRE  
SALES  
SPECIAL FX**  
STAGE CONTROL LTD.  
STATION PARADE,  
WHITCHURCH LANE,  
EDGWARE, MDDX. HA8 6RW  
TEL: 01 952 8982  
TELEX: 924896

**FUTURIST  
LIGHT & SOUND**  
HOYLE HEAD MILLS,  
NEW STREET  
EARLSHEATON, DEWSBURY  
WEST YORKSHIRE. WF12 8JJ  
HIRE 0924 455586  
SALES MAINTENANCE AND SERVICE AGENT  
Strand Lighting  
SERVICE 0924 468183

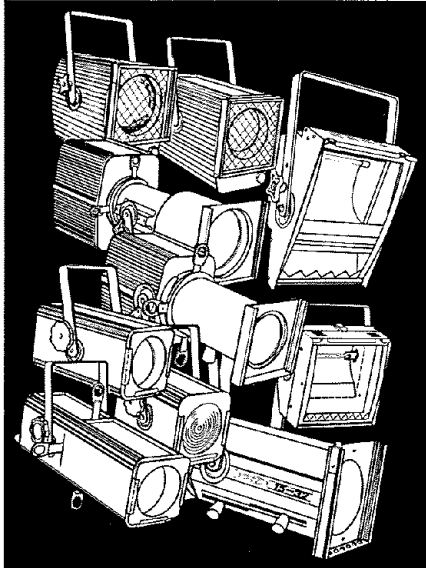
**NORTHERN  
LIGHTS**  
**Sound & Lighting  
Distributors**  
Trade representation for  
**OPTIKINETICS  
POWERDRIVE  
ANYTRONICS  
LE MAITRE  
TEXTLITE  
ZERO 88  
PULSAR  
CLOUD  
SHURE  
SATEL  
MODE  
EDC  
ICE**  
89 Scotforth Road, Lancaster.  
Tel: 0524 62634.

**CLS  
SALES**  
Professional lighting  
suppliers for Entertainment,  
Leisure and the Arts  
Jeff Demail, Sales Manager  
tel: (0204) 391343

**SPOT ON  
FOR QUALITY**  
**LUTON  
SOUND &  
LIGHTING**  
Sound, Lighting and Special  
Effects for leisure, promotion,  
entertainment and the arts.  
● First class technical back-up.  
● In-depth stocking at the best prices.  
● Speedy mail order and export service.  
● Field sales and installations.  
● OPEN MON-FRI 9.30-5.30. SAT 9.30-4  
Brochure on request.  
**LUTON SOUND & LIGHTING**  
75 & 86-88 Wellington Street,  
Luton, LU1 5AA, England.  
Telephone: 0582 411733  
Telex: 825353/825562 CHACOM G LITECO  
Fax: 0582 391102

# STAGE LIGHTING SALE HIRE

- 500W FLOODS
- 1000W FLOODS
- VARIABLE BEAM PROFILE SPOTS
- FRESNEL SPOTS
- PEBBLE CONVEX SPOTS
- DIMMING AND CONTROL
- COLOUR CHANGE
- EFFECTS
- RIGGING EQUIPMENT



Export Sales - Trade Shows

Mon-Fri. 9.30 am - 5.30 pm.

**CCT theatre lighting limited**

WINDSOR HOUSE, 26 WILLOW LANE, MITCHAM, SURREY, CR4 4NA TEL: 01 640 3366 TELEX: 946648

## MAC manchester

Professional sound  
hire nationwide

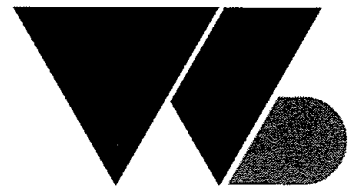
•  
High quality  
communications  
systems

•  
Sales and  
service facilities



Telephone 061-969 8311

1 & 2 Attenburys Park,  
Park Road, Altrincham,  
Cheshire, WA14 5QE.



W.B. Group  
cover the complete  
lighting spectrum  
from film to TV.,  
theatre to disco  
special & motorised  
effects

Only the best is good  
enough

W.B. Group  
4 Tenter Rd., Moulton Park Ind. Est.,  
Northampton NN3 1PZ  
Tel: (0604) 499331

## ELTEC

Manufacturers of  
Drama Lighting Control Systems

Eltec Drama Lighting, Unit 2, Cain Valley Trading Estate  
Llanymyrlin, Powys SY22 5DD Tel (069-184) 8801

### The Professional People

Lighting sales and hire to the  
Entertainment, Conference,  
Exhibition and Leisure Industries.  
From Sales Conference to Car  
Launch, Fashion Show to  
Exhibition Stand.  
Contact the specialists in lighting.



**MUSHROOM  
LIGHTING**

76 Tenter Road, Moulton Park Industrial Estate,  
Northampton NN3 1AX  
Telephone: (0604) 790900 Facsimile: (0604) 491118

LIGHTING HIRE & SALES

**Philip L. Edwards  
(Theatre Lighting)**

5 Highwood Close, Glossop,  
Derbyshire SK13 9PH.  
Telephone: 04574 62811.



Big Screen  
Video projection equipment  
&  
TV Monitors  
(Grundig, NEC, Thomson,  
Sanyo).  
New & Reconditioned

ENQUIRIES  
VIDEO MONITOR SERVICES  
01 350 1098

## MICO LIGHTING

The specialist for  
LAMPS used in the  
THEATRE and  
ENTERTAINMENT  
industries.

U.K. Distributor for  
Philips/Westinghouse,  
U.S.A

Excellent Trade terms  
available.

Mico Lighting Ltd.  
Troydale Lane, Pudsey,  
Leeds, West Yorkshire.

Telephone: (0532) 567113  
Telex: 556469 (MICO G)

FOR SPEEDY INFORMATION  
TO LIGHTING + SOUND  
Telefax (0323) 646905

## Lancelyn Lighting

Lighting Hire & Sales

Equipment from all  
major manufacturers  
Hire of Outdoor Equipment  
including Staging and Seating  
Special Effects, including  
smoke machines, snow machines,  
projection, pyrotechnics, etc.

HIRE: Oxford (0865) 722522  
SALES: Oxford (0865) 511522  
Hire and Sales Northwest:  
051-334 8991

## TRAFALGAR LIGHTING LTD.

01-360 0936  
LIGHTING  
SALES-HIRE  
SECONDHAND KIT  
BOUGHT & SOLD  
01-360 0936

FARRAHS  
LONDON • LOS ANGELES

SOUND EQUIPMENT  
SALES • HIRE  
INSTALLATION

FARRAH SOUND LIMITED

TELEPHONE: 01-549 1787

FAX: 01-549 6204

TELEX: 945114 FARRAH G

*the sound professionals*

## WENBLEY LOUDSPEAKER COMPANY LIMITED

### deuce

Professional Loudspeaker  
Repair  
Specialists for All Makes  
of Power Units

also  
Manufacturers of 'Deuce'  
Mini & Maxi Cube  
'B Line'  
(the ultimate professional  
18" Bass 500 Watt Loudspeaker)

Sound Systems custom designed and  
manufactured for all sizes of venue.  
Mobile Systems from 100 Watts to 20k  
Unit 4, Askew Crescent Workshops  
Askew Crescent, London W12 9DP  
Tel: 01-743 4567  
Fax: 01-749 7957

## NIGHT FLIGHT

Sound and Lighting  
**THE BIG ONE IN  
SCOTLAND**

Installation, Design,  
Hire, Repair and Service  
0389-79261

# Northern Light

Lighting & Sound Equipment Hire & Supply  
Technical Equipment for the Leisure & Entertainment Industry

Sale • Installation • Hire

Stockists for Strand, Hall Stage, Roscolab, DHA,  
Tecpro, Allen & Heath, Bose, Tannoy, Toa, AKG,  
Le Maitre, Slick Systems Trussing.

Manufacturers of Socket Boxes, Working Light and Specialised control systems

Edinburgh 031-553 2383  
(Fax 031-553 3296)

Glasgow 041-440 1771  
(Fax 041-445 4406)

MAKE SURE YOU COLLECT YOUR COPY OF THE NEW 1989 LIGHT ENGINEERING CATALOGUE FROM OUR TRADE COUNTER AT 64 EDEN ROAD, LONDON E17 OR RING 01-520 23367 FOR YOUR FREE COPY BY RETURN

WOTAN  
LIGHT ENGINEERING  
CATALOGUE  
LIGHT ENGINEERING 64 EDEN ROAD, LONDON E17 TELEPHONE 01-520 23367




# WHITE LIGHT

57 Filmer Road · London SW6  
Tel: 01-731 3291  
Telex: 295811  
FAX: 01-371 0806

## THEATRE LIGHTING HIRE AND SALES

Our prices are competitive  
please ring for price list or quote

NORTHERN BRANCH  
CORPORATION STREET, SOWERBY BRIDGE  
Nr. HALIFAX, WEST YORKSHIRE HX6 2QQ  
TEL: (0422) 839651  
FAX: (0422) 839773




### LIGHTING SALES/HIRE

Designers, Technicians and Installers  
to the Entertainment and Promotion Industries

#### NEON LITE ASSOCIATES

Unit 1, Clovelly  
Chapel Road, Meppershall, Bedfordshire SG17 5NQ  
Tel: 0462 811843 Fax: 0462 817352



*Chris James*

**CHRIS JAMES & CO LTD**  
Unit 7  
North Western Commercial Centre  
75 Broadfield Lane, York Way  
London NW1 9YJ  
Tel: 01-284 2221/2 Fax: 01-284 2156


### HI-PROFILE TECHNICAL SERVICES

Sound/Lighting - A.V. - Rig Work  
Installation - Maintenance  
Indoor/Outdoor - Design  
One Off Control Systems

**Sub Contract/Electrical  
Electronic Engineering  
Short or Long Term  
World Wide Service**

**phone PHIL BRAITHWAITE**  
**Tel: (09282) 3604**  
**Fax: (09282) 5377**

Part of HPC Leisure Group Ltd.



9-12 September

Olympia 2

Light & Sound Show

Please send me more information about:

Exhibiting in the '90 Light + Sound Show


Visiting the Show

Name \_\_\_\_\_

Address \_\_\_\_\_

Post Code \_\_\_\_\_ Tel No \_\_\_\_\_

To David Street 3D Services  
10 Barley Mow Passage Chiswick London W4 4PH  
Telephone 01-994 6477 International +44 1 994 6477  
Fax 01-994 1533



For annual advertising rates  
in the **DIRECTORY** section of

# LIGHTING SOUND

*International*

telephone  
**(0323) 642639**

## Strand Lighting

- Stage & TV Lighting
- Lighting Control Equipment
- Effects Projectors
- Colour Filters
- Dealers throughout the UK

Grant Way (off Syon Lane),  
Isleworth, Middlesex TW7 5QD

**01 560 3171**



### Hire • Sales • Service

- ★ Lighting
- ★ Sound
- ★ Curtains
- ★ Track
- ★ Cables
- ★ Connectors
- ★ Make-Up
- ★ Scenics
- ★ Books
- ★ Pyrotechnics

Theatre • Disco • Display • Architectural

Hightown Industrial Estate,  
Crow Arch Lane, Ringwood,  
Hampshire BH24 1ND

Sales 0425 470888 Hire 0425 470088

# LHS

Leslie Hire & Sale

For  
**Stage and TV Lighting  
and Stage Equipment,  
phone**

**01 871 5132**

L.H.S. Limited, The Business Village, Broomhill Road,  
Wandsworth, London SW18 4JQ.  
Telex 917003 LPCG

# FABTRONIC LIGHTING

Entertainment and Display  
Lighting Manufacturers

Full brochure and  
price list available  
Lighting for all your needs  
Quality products manufactured

Contact: Sue Riley

62 Tenter Road,  
Moulton Park Ind. Estate,  
Northampton NN3 1AX  
Telephone: (0604) 790765  
Fax: (0604) 47403



## SPOT ON THEATRE SERVICES

- ★ Supply & Hire of Stage Lighting Equipment & Effects
  - ★ Design & Consultancy Work Undertaken
  - ★ Complete Mechanical & Electrical Installations (NICEIC) Make-Up, Curtains, Rostra Supplied
- ILKLEY (0943) 602979  
ILKLEY (0943) 830574  
KEIGHLEY (0535) 606255  
21A LEEDS RD, ILKLEY LS29 8DP

# S.A.V.

AUTHORISED WHOLESALE DISTRIBUTORS

FOR TOA

zero 88 LeMaitre

PULSAR CITRONIC

CLAY PAKY coemar

OPTIKINETICS

J E M BOSE  
MODE ELECTRONICS

POWER DRIVE

STARDREAM AUDIO VISUAL  
Party House, Mowbray Drive,  
Blackpool, Lancs.

Telephone: (0253) 302602  
Telex: 67426 PARTY G  
Fax: (0253) 301000



**LIGHTING**

HIRE  
DESIGN  
ENGINEERS

London 01-891 4755

# eurolight

Lighting Controls  
Stage Management Systems  
Patching Systems  
Paging and Relay Systems  
Full Installation Service

Eurolight Ltd.  
Unit 8, Maple Industrial Estate  
Maple Way,  
Feltham TW13 7AW  
England

Telephone: 01-751 6400  
Telex: 888941 LCCI LITESYM

FOR ALL  
YOUR  
CONTROL  
REQUIREMENTS

black light

black light

Scotland's lighting company  
THE OLD CUSTOMS HOUSE WEST HARBOUR ROAD  
GRANTON, EDINBURGH, EH6 1PH

011 551 2337  
24 HOUR 7 DAY  
031 229 1426  
RADIO UNIT 102

HIRES AND SALES

DEALER FOR

CCT  
ARRI  
ROSCO  
ZERO 88  
COEMAR  
LE MAITRE  
DURAPLUG  
POWERDRIVE

UPDATE



- ★ Sound and Lighting equipment hire
- ★ Le Maitre special effects stockist
- ★ Installation service and one night stands available
- ★ Special promotions
- ★ Competitive rates and efficient service

Call us for colour  
brochure and price lists

STAGE TWO LTD  
197 Watford Road, Croxley Green,  
Herts WD3 3EH  
Watford (0923) 30789

# CHARLES FISHER

S.T.A.G.I.N.G. L.I.M.I.T.E.D.  
EXHIBITION and CONFERENCE  
DESIGN and CONSTRUCTION

Specialists in Something  
Different

Straw House Farm, Kirkby Road, Ripon, North Yorkshire HG4 3JU.

Tel: 0765 701604 Fax: 0765 701389

# THE THEATRE LIGHTING SHOP

Lee Colortran International has opened a specialist  
theatre equipment shop and hire department at Nottingham.  
From this single source you can get:

- ★ theatre luminaires
- ★ dimming and control
- ★ filters by the roll or sheet (cutting service available)
- ★ replacement lamps
- ★ complete theatre installations
- ★ professional consultancy and technical advice

Consumables also available from our other shops in  
Manchester (0204 73373) and London (01 902 8835)

Everything for your show. From Village Hall to  
West End. Without drama.

**LEE Colortran  
International**

Unit 43, Nottingham South and Wilford Industrial Estate,  
Ruddington Lane, Nottingham NG11 7EP

**Tel: 0602 455520**

THEATRE  
HIRE  
PRICE LIST  
AVAILABLE

# Specialist Technical Equipment and Services for the Entertainment and Allied Industries

## GERRIETS ANNOUNCES

### PRO-CYC

### A DIFFERENT PROJECTION SURFACE

A CREAM-WHITE SURFACE  
WITH A 180 DEGREE VIEWING ANGLE

ULTRA-SONICALLY WELDED  
IN 1.40m VERTICAL SECTIONS

OUR "FOR LIFE" WELDED EYELETS

A SUPERB COLOUR RESOLUTION  
& FAITHFUL TONE REPRODUCTION  
FOR FRONT & REAR PROJECTION

OUR "BLUE STREAK" MAKING SERVICE  
TO ANSWER YOUR DEADLINE

AND  
LOWER PRICES  
WHAT MORE COULD YOU ASK?

Call us for a sample .....

01-232 2262 tel  
01-237 4916 fax

Unit 18, Tower Workshops,  
Riley Road,  
London SE1 3DG.



### SPECIALISTS IN HI-TECH PROMOTIONS

5 Courtlands, Church Hill,  
Newhaven, East Sussex BN9 9LU  
Telephone: (0273) 512149  
Mobile: (0836) 252885  
Fax: (0273) 514968

For the creative use of 'Lasers' in the  
A.V. Industry, Music Industry and  
Theatrical Industry call us first.  
You'll be glad you did!



Specialist Suppliers  
to the Lighting, Sound,  
TV and Theatre Industry.

products include:

PEEL CLEAN  
'TOUR LABELS'  
SECURITY  
'HIRE LABELS'  
PRINTED  
'CABLE TAPE'

Main distributors of Standard  
and Specialist Self-Adhesive Tapes

For UK & Export  
Tel: 0480-494540  
Fax: 0480-494206

unit 24, stephenson road, st ives,  
huntingdon, cambs pe17 4wj



## Hall Stage Products

Limited

offer a complete range of  
Stage and Scenery Hardware  
Rigging Gear, Pulleys & Curtain Tracks  
for the discerning designer

For the latest literature write or  
telephone

Chris Hitchens

HALL STAGE PRODUCTS

The Gate Studios, Station Road,  
Borehamwood, Herts WD6 1DQ.

Telex: 8955602 PERLUX-G

Telephone: 01-953 9371/2.

### TRIPLE E LTD

FROM CURTAIN UP TO PRODUCT REVEAL

### UNI - TRACK

IS THE SOLUTION

We sell and hire the most sophisticated and  
comprehensive track system available on the  
market. Even the most complicated system  
tailored to meet your requirements, whether  
manual or motorised may be hired

### WE ARE THE TRACK SPECIALISTS



01-237 6354

### UNITED KINGDOM DISTRIBUTORS

Appointed sole uk-distributors for ProgramSystem

Trade Suppliers of Professional Sound,  
Lighting and Special Effects Equipment

Telephone: (0926) 314878

Fax No: (0926) 883120

MOBILE No: (0850) 544934

Situated in the heart of England gives us the right con-  
nections to serve you via the  
M1, M6, M65, M69, M42 and the M40 with these  
facilities.

- Wholesale trade supply to retailers, installers, contractors etc.
- Extensive stock on all major manufacturers and some minor ones too.
- Some own brand products, concentrating on quality and availability.
- Manufacturers trade prices used, sometimes bettered considering delivery service.
- Vehicles travelling the country carrying orders and stock.
- Regular personal contact.
- Regular visits averaging 5/6 weeks to Wales, S.E., S.W., London, East coast, N.W., N.E., Scotland and of course the Midlands.
- No delivery costs when orders coincide with visits (nominal in between times).
- No minimum orders.
- Use of our technical staff - for enquiries and help.

If you are not being offered these facilities at the moment, but would like to and would like to know more, we will be only too pleased to hear from you.  
Rigby Close, Heathcote Industrial Estate  
Leamington Spa CV34 6TJ England

FOR SPEEDY INFORMATION  
TO LIGHTING + SOUND  
Telex (0323) 646905

### HI-PROFILE TECHNICAL SERVICES

Sound/Lighting - A.V. - Rig Work  
Installation - Maintenance  
Indoor/Outdoor - Design  
One Off Control Systems

Sub Contract/Electrical  
Electronic Engineering  
Short or Long Term  
World Wide Service

phone PHIL BRAITHWAITE

Tel: (09282) 3604

Fax: (09282) 5377

Part of HPC Leisure Group Ltd.

## STAGEFLOOR DUO

### Instant Layflat

The flooring that will  
go down and not  
let you down!!

Phone us for samples  
of our exclusive  
product.

Enquiries welcome from  
European/USA distributors.  
We are looking to expand  
our agency network.

CRAIG-LOUTH ASSOCIATES  
15 Lansdown Place, Frome  
Somerset, England BA11 3HP  
Tel: (0373) 61809

## THE TOTAL PACKAGE

- Design, supply and installation of lighting, sound, communication, stage equipment, rigging, AV, conference and projection systems.
- For theatres, studios, halls, clubs and commercial presentation.
- Full in-house electrical contracting service.
- UK and Worldwide.



GLANTRE  
ENGINEERING LTD.  
2 Cremyll Road, Reading, Berks.  
0734-509711

## CHARLES FISHER

### STAGING LIMITED

EXHIBITION and CONFERENCE  
DESIGN and CONSTRUCTION

Specialists in Something  
Different

Straw House Farm, Kirkby Road, Ripon, North Yorkshire HG4 3JU.  
Tel: 0765 701604 Fax: 0765 701389

For annual advertising rates  
in the DIRECTORY section of

## LIGHTING SOUND

International

telephone

(0323) 642639

# VIEWPOINT

## Smartening Up the Sharp End

Citronic's Mike Gerrish puts forward his training proposals for the industry

(See Plasa News on page 18)

In response to my presentation with regard to the marketing effect of price cutting both on the UK market as it is today, and the knock-on effects that could occur should the 'Open Market' in Europe actually happen, I submit this proposal for a course of action that Plasa could take to assist both member companies and others working within the industry.

There are basically three classes of trader in our industry - the manufacturer, the distributor and the retailer/installer. While the activities of retailers and installers may be different, I suggest that they are essentially the same with respect to their position in the supply chain in that they both supply the end-user. It is the companies at this end of the supply chain that determine the real market value of any product because it is they who make the final decision as to the price it reaches the end user at, regardless of any recommendations from the supplier.

When an end-user sale is being negotiated, there are many factors that determine the

final buying decision. The factor we need to eradicate from this industry is that which results from a lack of selling skills or product knowledge - the price goes down until the customer says yes. This is a very expensive way of getting a sale and is nothing short of a desperate measure.

I don't think there is much Plasa could or should do about the dissemination of product information. That really has to be up to the supplier of the product, but Plasa could have a role to play providing the opportunity for end-user sales people to have access to training in selling skills allied to this industry.

I believe that it is not appreciated that we are in a capital goods industry and the skills required are different from consumer electronics retailing. Plasa can help by the provision of training courses, professionally run, that should cover two specific topics. Selling to owner/operators (professional users) and selling to corporate buyers.

The value of the course needs to be promoted in terms like 'Selling for Profit' while

showing people how to sell capital/investment goods on factors other than price. After all, 99% of the product in this industry is sold to people who use it by way of trade themselves and a good investment on their part does not necessarily mean the lowest price.

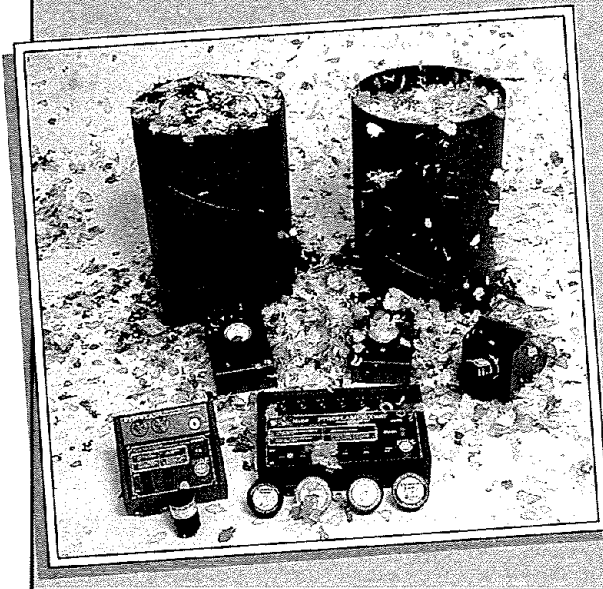
If we can smarten up the sharp end of this industry, we begin to create a cat-in-hell's chance of operating profitably, not only in the UK, but throughout Europe where there will be increasing business opportunities for us all. By all, I mean all, because as long as there is stable pricing throughout Europe, there will be opportunities for mail order, installs, co-operative trading and local distribution without destroying the market value of the products traded nationally and internationally.



Mike Gerrish is sales and marketing director of Citronic Limited, and he has been with the company since 1977.

He started his working life as an electronics engineer in research and development serving an apprenticeship before going on to the University of Bath, where he studied Business Studies, English Law, Economics, and Accounting. He has also had formal training in sales management with a major multi-national company.

## PYROFLASH



- ▶ 2-way, 6-way and professional systems
- ▶ Full range of pyrotechnic effects including 'specials' and 'one-offs' to your requirements
- ▶ Colour brochure available from:

*Le Maitre*  
lighting and effects

316 Purley Way, Croydon,  
Surrey CR0 4XJ  
Telephone: 01-686 9258.  
Telex: 883220 Maitre G.  
Facsimile: 01-680 3743.

## Index to Advertisers

A & B Theatre Services	63	Coemar	57	Marquee Audio Ltd	63	Roscolab	60/61
ADB	6/7	Direct Lighting	68	Meteorlites	79	Strand Lighting Ltd	50/51
Advanced Lighting Systems	47	Doughty Engineering Ltd	69	Midnight Design	62	Teatro	14
Ark Light	58	Eurolight	8	Mushroom Lighting Services	16	Theatre Projects Services	45
Astralloy	66	Farras	68	Nexon	69	The Great American Market	43
Avitec Electronics Ltd	11/12	Hardware House	63	Optikinetics Ltd	2	Times Square	7
Avolites Production Co	36	Instant Zip Up Ltd	68	Pan Command Systems Inc	9/13/17	Toa Electronics	24
CCT Theatre Lighting	2	JEM Smoke Machine Co	34/35	Par Opti Projects Ltd	62	TSL	67
Celco Ltd	4	Laserpoint Ltd	80	Presentation Consultants Ltd	33	UK Sound	3
Cerebrum Lighting	66	Lee Filters	48	Production Arts	29	Unusual Rigging Ltd	62
Clay Paky/Pulsar	41/2	Le Maitre Lighting & Effects	78	Pulsar Ltd	72	Wigwam Acoustics	59
		Lightwave Research	40	Ramsa Panasonic	54	Zero 88 Lighting	38

# METEORLITES

AUTOMATION FOR CONCERT, STAGE AND TELEVISION LIGHTING



▲ PAR-SCAN



▲ FRES-SCAN\*



▲ PAR-SCROLLER



▲ PRO-SCAN



▲ 5K, CYC, 4 LITE SCROLLER



▲ DROP IN 6", 8" SCROLLER



▲ HMI-DIMMER



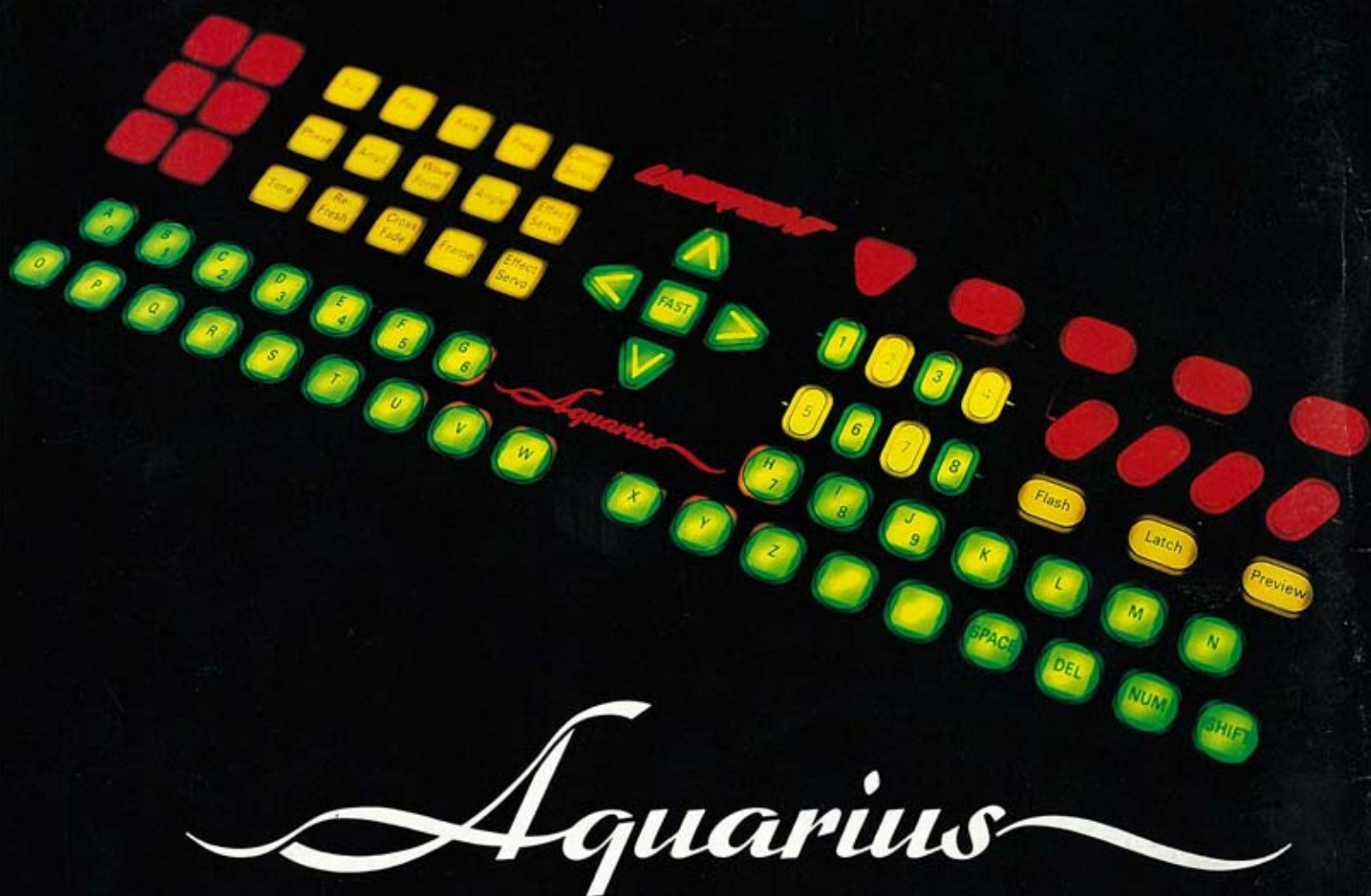
▲ TASKMASTER CONTROL CONSOLE

**METEORLITES PRODUCTIONS LTD**

4 ELSTREE WAY, BOREHAMWOOD, HERTS WD6 1BS  
TEL: 01-207 5111 FAX: 01-207 3655 E-MAIL DGS1518

\*AVAILABLE SOON

# THE DAWN OF A NEW AGE IN LASER CONTROL



Aquarius, the new generation of laser control desks:

- 8 channels, with over 500 high quality graphics on each.
- 12 parameters for pattern control: each one infinitely variable.
- Waterproof, illuminated keyboard.

• Standard model includes disk drive, MIDI, tape control and RS232 interface.

• Wide range of animation/effects programming, including flip, rotate, zoom, moving background and cross fade.

• Down range effects capability – also controls lighting dimmers and smoke machines.

Full details on Aquarius from:

**LASERPOINT**