

# LIGHTING+SOUND

*International*



CLIFF RICHARD AND LASERS 'FROM A DISTANCE'

- Wind in the Willows at the National
- Cliff Richard 'From A Distance'
- Tony Gottelier and Life Beyond DMX
- Ben Duncan Sounds Out the Eighties
- Venue reports from Melbourne, Malta and Windsor
- Company reports: Samuelson/ADB/Playlight

JANUARY 1991



## COMPANIES



### SAMUELSON CONCERT PRODUCTIONS LTD

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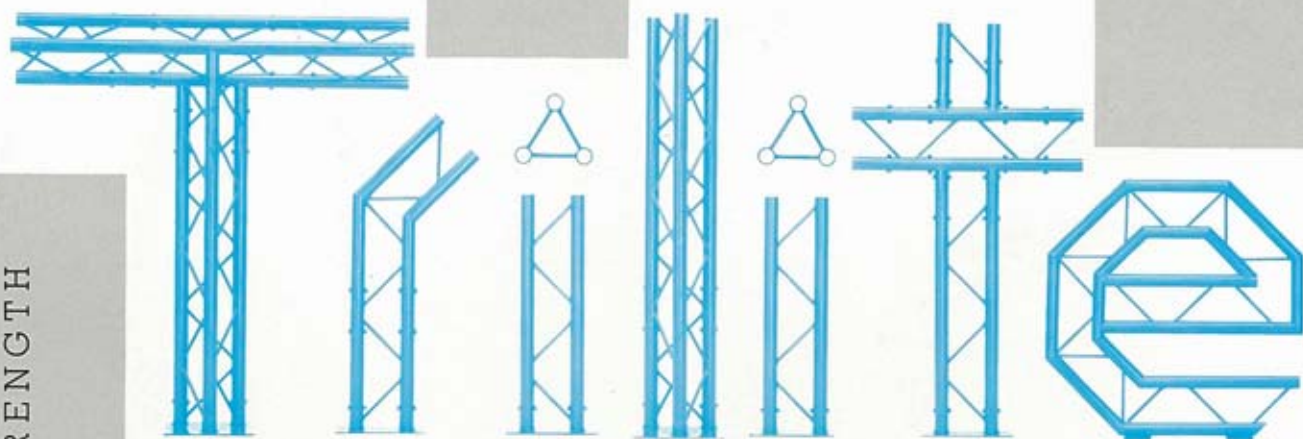
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*while others have been trying to impress you with past achievements we've been designing the next generation of control consoles*

*celco introduce the*

## **PANORAMA** range

*designed to synchronise and automate the control of moving lights, colour changers and generic lighting in one console.*



*and, whilst others have been making their dimmer systems bigger we've been shrinking ours.*

*celco introduce the*

## **COMPACT RANGE**

*of high density, 100% duty cycle, modular dimmer systems.*

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Celco products are manufactured and distributed by:  
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081-461 2017 and Celco Inc, 200 Sea Lane,  
Farmingdale, New York 11735, USA tel: (516) 249  
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# LIGHTING+ SOUND *International*

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# LIGHT & SOUND SHOW 1991

## Olympia 2

8-11 September 1991

Britain's premiere  
International trade show.

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

No admission under 16.

Contact: Simon Boyd  
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Tel 071-244 6433  
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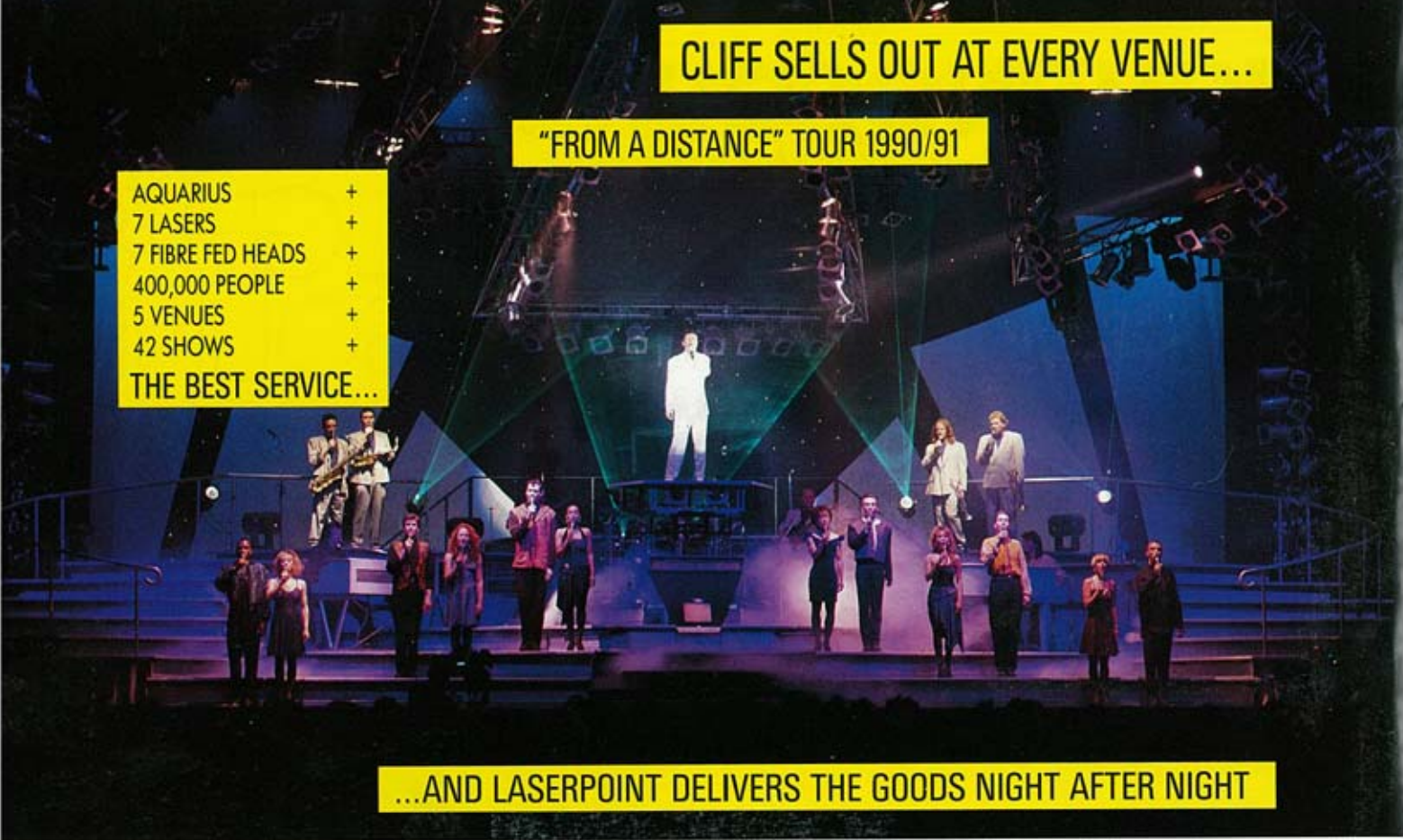
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# PLASA

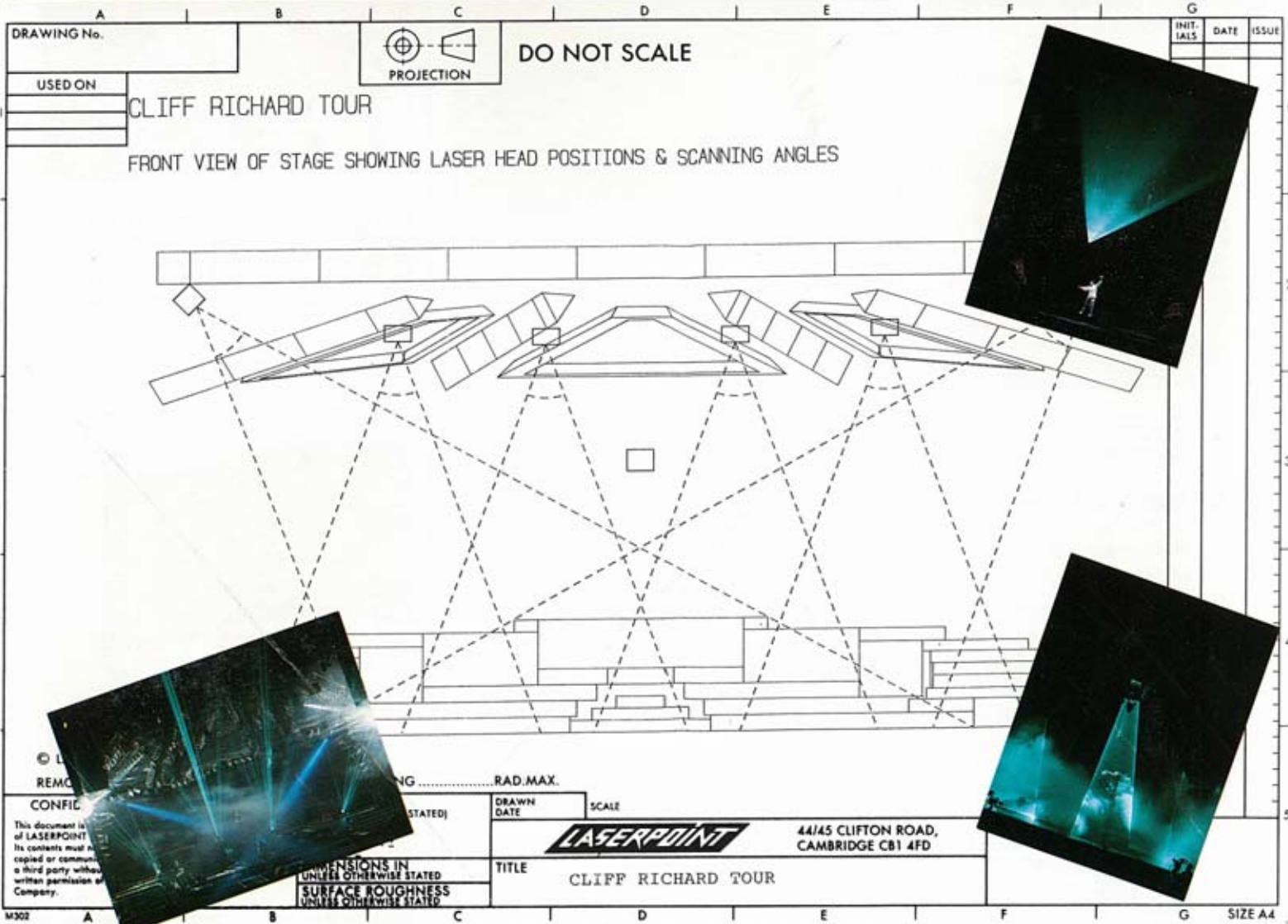
**CLIFF SELLS OUT AT EVERY VENUE...**

**"FROM A DISTANCE" TOUR 1990/91**

- AQUARIUS +
- 7 LASERS +
- 7 FIBRE FED HEADS +
- 400,000 PEOPLE +
- 5 VENUES +
- 42 SHOWS +
- THE BEST SERVICE...**



**...AND LASERPOINT DELIVERS THE GOODS NIGHT AFTER NIGHT**



**LASERPOINT**

## New Organisers for Light & Sound Show

The 1991 Light & Sound Show, to be held at Olympia 2 from September 8-11, will go on sale in January, and will have a new organising company in charge.

After detailed negotiations with the event's previous organisers and two major exhibition companies, the PLASA committee reached agreement with Philbeach Events Limited (part of the P&O Group) for management and organisation of the 1991 and 1992 events. Negotiations were concluded on December 19, 1990.

At every stage of the various negotiations, the PLASA committee treated PLASA members' and show exhibitors' needs as paramount. The decision to work with Philbeach Event Limited was based on these precepts.

The agreement reached means that PLASA receives sufficient guaranteed income from forthcoming shows to ensure that the Association continues to offer the high level of service to its members, including research on standards which few individual members could afford on their own, whilst at the same time offering the best possible space cost to exhibitors.

One of the attractions of the Philbeach proposal was that the increase in stand prices for the 1991 Show will be less than the proposals from the other companies or continuance of previous arrangements. The committee also emphasised that the Association still owns and presents the Show and retains all rights to its title.

The Show will go on sale from January 15 and stand allocation procedures will remain as with the 1990 event. The Show director will be Simon Boyd who can be contacted on 071-244 6433. Fax: 071-244 7617.

## Samuelson and Vanco Rock in Rio

The first joint venture for London-based lighting company Samuelson Concert Productions and its new US associate, Vanco Concert Productions, is the nine day rock & roll festival in Brazil, Rock in Rio, which kicks off on the 18th January.

The commission came to Samuelsons from production company, GLS. Together with Vanco they are providing 14 tons of equipment for stage and audience lighting, plus an international 16-man crew. Claimed to be the biggest musical event of the year, the 1991 Rock in Rio will feature a 100 feet rolling stage, flanked by two 100 feet sound wings to provide the ambience for an expected audience of 200,000 a day.

The complex management of lighting design for a varied range of pop styles including Prince, George Michael and Santana, is being handled by Patrick Woodroffe. At his 4:1 studio in London (featured in L+SI, November 1990) he has set up a replica of the rig using scaled down lighting equipment, and has invited all the lighting designers involved to visit. The lighting equipment used includes 700 Parcans, 40 Molefay units with colour changers, and Arri digital patching system, Celco Series 2 consoles, 2kW Supertroupers, Lycian HTI followspots, Jem smoke machines, and over 200 Vari\*Lite's. The sound system for the concert is being provided by ShowCo of Dallas. (A full report will appear in a future issue of L+SI).

## Royal Opening for Electrosonic's International HQ



The opening ceremony at Electrosonic's new international headquarters at Hawley Mill, near Dartford. HRH The Duke of Kent is pictured above with Electrosonic's chairman Robert Simpson.

Lampo of Italy has changed its UK distributor and appointed Batmink Ltd to handle its range of products.

Laserpoint have appointed Hillsborough-based DSD Designs as their new distributor in Ireland. The company already has the new seven colour Aquarius laser on display in their new showroom.

Siel 91 will take place from 16th to 19th February at the Parc des Expositions de Paris - Porte de Versailles. Further details are available from Bernard Becker Blenheim in Paris on 33 1 4753 5000.

David Neale Associates have been commissioned to carry out a major survey of the discotheque industry. It will be mailed in January to club owners, managers and specifiers working in the leisure industry. Source of the commission is not disclosed. Details on 081-674 0870.



People at LMC



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**Nik Milner**LOCATION  
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Tannoy-Audix has appointed Tim Roberts as its new managing director. He replaces founder John Billet who moves up to become executive chairman of the company.

Due to an increase in business, the fast expanding firm of Sound and Vision consultants B J Auditorium Design will be moving to new offices at 4-5 Wilson House, John Wilson Business Park, Thanet Way, Whitstable, Kent CT5 3QU. Telephone (0227) 770821.

Doughty Engineering have announced the appointment of Andy Trevett to their sales department. Formerly with Lumo Lighting's London office, he will now oversee the establishment of a worldwide dealer network for new products to be unveiled this year.

### Vision & Audio 91

Vision & Audio 91, is to return to London's Earls Court in 1991. On show from 15-18th September, will be traditional technologies such as OHP and multi-image graphics, as well as newer technologies which include interactive video and satellite conferencing. For more details contact EGA Communications in Brighton on (0273) 23889.

### Independent Consultant

Brian Fitt, recently departed from Lumo Lighting, has set up his own consultancy with a wide range of services from the preparation of plans and specifications for electrical services, dimmers luminaires and grid systems to site surveys, project management and scheme implementation. He can be contacted on 035 921 506.

### Rainbows in West End

M & M Lighting have recently supplied Rainbow Colour Changers to three new West End shows - Children of Eden, Five Guys Named Mo and Just So. 35 Rainbow Scrollers to fit Pars, Cantatas and Cadenzas were specified for Five Guys Named Mo, and Just So uses a Light Curtain and Par size scrollers. Children Of Eden, which opened recently at the Prince Edward Theatre, has been supplied with 23 Par size Rainbow Scrollers by Theatre Projects, who have purchased them from M&M.

### Smithfield Relocate

Smithfield Electronics have moved to new premises. They can be reached at 19 Queens Road, Vicars Cross, Chester CH3 5HB. The company's phone number remains as (0244) 349062.

### Stage Exhibition

Commencing in 1991 a new annual exhibition will be held at the mid-Suffolk Leisure Centre in Stowmarket from the second Wednesday after Easter through to the Saturday. It is hoped that all sectors of the theatrical profession will be represented including lighting, box office, sound, staging and signwriting specialists. For further details contact Stowmarket exhibitions on (0449) 677497.



Best Christmas card received at PLASA HQ: from Utrecht-based Flashlight.

## Soundcraft at LMC



Yes is our stock reply

**LMC Audio Systems Limited**  
unit ten, acton vale industrial park, cowley road, london w3 7qe  
telephone +44 (0) 81 743 4680 facsimile +44 (0) 81 749 9875





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at 9 a.m. sharp:  
Frankfurt strikes  
the first note.**

Because this is when the leading music fair commences: the international Frankfurt Musikmesse 1991. More than 1,000 exhibitors from over 30 countries will be providing a full programme, with everything from electronic and acoustic instruments, computer hardware and software, sound and light equipment, recording studio technology, music accessories, to books and sheet music. The Frankfurt Musikmesse will display new products, show the

latest trends and provide fresh ideas. There will also be a number of concerts, workshops, special events and seminars. But see for yourself, hear for yourself: come to the international Musikmesse 1991 in Frankfurt.

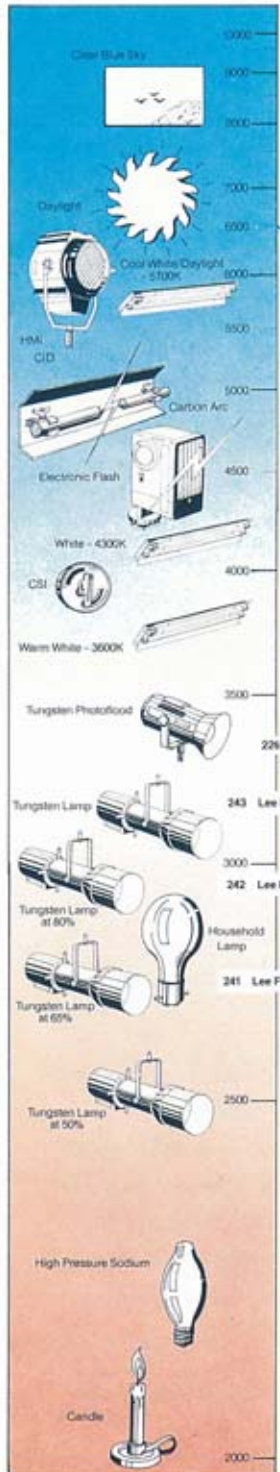
Fair and travel information, admission tickets:

Collins & Endres  
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Representatives in the U.K.  
18 Golden Square  
London W1R 3AG  
Tel.: 071-7 34 05 43  
Telefax: 071-7 34 40 24

# Light Source Conversion Calculator

Original Source (Kelvin)

Converted Source (Kelvin)



**HOW TO USE**  
Simply draw a line from the Colour temperature value of your original light source, to that of the converted source. Where the line crosses the central band, read off the Mired Shift value. For your convenience we have added the range of Lee Light Conversion Filters at their appropriate positions in relation to the Mired Shift Scale.

**EXAMPLE**  
To convert an original source of 6500K to 3000K, the line has been drawn as an example. You will note that it crosses the central band at just over 150+ Mired Shift. This indicates that the Filter required is 204 Full CTO (also available with two degrees of Neutral Density).

247 Lee Minus Green	Coral 14 (Mired Shift -134)
248 Lee Half Minus Green	Coral 13 (Mired Shift -129)
249 Lee Quarter Minus Green	Coral 12 (Mired Shift -124)
219 Lee Fluorescent Green	Coral 11 (Mired Shift -119)
These Filters correct the colour cast of fluorescent tubes without affecting to colour temperature.	
Fluorescent FL 5700 - B (Mired Shift +137)	Coral 9 (Mired Shift -109)
236 HMI to Tungsten (Mired Shift +134)	Coral 8 (Mired Shift -104)
85B 85BN3 85BN6 85BN9 (Mired Shift +131)	Coral 7 (Mired Shift -99)
85 85N3 85N6 85N9 (Mired Shift +112)	Coral 6 (Mired Shift -94)
Fluorescent FL 4300 - B (Mired Shift +80)	Coral 5 (Mired Shift -89)
81EF 81EFN3 81EFN6 81EFN9 (Mired Shift +63)	Coral 4 (Mired Shift -84)
Coral 1 (Mired Shift +39)	85C (Mired Shift -81)
Fluorescent FL 3600 - B (Mired Shift +35)	Coral 3 (Mired Shift -79)
81B (Mired Shift -21)	81D (Mired Shift -42)
	81C (Mired Shift -26)
	81A (Mired Shift -16)
	81 (Mired Shift -6)
226 Lee UV Neutral Density ND 0.9 ND 0.6 ND 0.3	258.15ND 209.3ND 209.6ND 209.9ND 209.12ND Neutral Density
213 White Flame Green	239 Polariser
243 Lee Fluorescent 3600K (Mired Shift -34)	238 CSI to Tungsten (Mired Shift +48)
242 Lee Fluorescent 4300K (Mired Shift -29)	237 CID to Tungsten (Mired Shift +31)
241 Lee Fluorescent 5700K (Mired Shift -17)	236 Quarter CTO (Mired Shift -64)
	235 Half CTO (Mired Shift -108)
	234 1/8 CTO - 203 - 202 (Mired Shift -113)
	233 Eighth CTO (Mired Shift -126)
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# The Art of Light

## revealed

Lee Filters Limited does much more than manufacture high quality light control media for the film, television, theatre and stills photographic markets. The company offers – whenever it can – to make an additional input to benefit the industries it serves.

That's why it has developed a series of technical posters – available free of charge – to help filter users make the most of its products. To understand more fully how the art of light works. To create better images.

The first poster in the series – shown on the opposite page – has been designed to provide a simple and instantaneous reference for the calculation of filter requirements when converting from one light source to another.

Each type of conversion filter is listed in its appropriate place on the scale together with neutral density, UV and polarising filters.

To get your free poster (size 33" x 23½") simply clip the coupon, and send it to:

**Lee Filters Limited,  
Central Way,  
Walworth Industrial Estate,  
Andover, Hampshire SP10 5AN,  
England.**

This is what you've come to expect from Lee Filters. The art of light. And more.

Please send my free copy of the Lee Filters Light Source Conversion Calculator poster.

Name \_\_\_\_\_

Job Title \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Turbine Generation

On Tuesday 27th November I was unfortunate enough to be at the fourth Nottingham DJ convention at the Black Orchid, Nottingham. Not that it was poorly attended or badly organised, I don't think more could have been crammed into one night. Now I know that video has been around for a long time in discotheques and has failed to stir up much more than a passing interest, so why is this concept so different? The answer is that the monitors are the lighting effect. A face appears on one monitor then jumps from one screen to the next in time with the music. Too simple? then select a sequence out of any four of eight video sources and scratch that sequence back and forth. If that's still too simple try adding a 'Digital Effects Unit' enabling the operator to distort the picture, change it to a negative image or change the colour. Add to these facilities the ability to freeze frame and the storage of several sequences and the combinations are endless.

The hardware used was well designed,

easy to use and very versatile, comprising a 'Central Powerhouse and Control Panel', a video disc player interface, a fully featured two-way MIDI interface, matrix effects unit with 16 channels and seven additional four channel matrix cards.

Xylo have a new concept with their Turbine system that just might be the answer that video has been looking for to bring it into the forefront of discotheque effects instead of just a peripheral.

Kevin Hopcroft

## Joint Venture

The R & G Group of companies and Imax GmbH Berlin have a joint marketing and development strategy aimed at promoting both Novalight and Imax products worldwide.

Greg Moger, chairman of the R & G Group, is keen to hear from companies who are interested in either marketing completed goods or with a view to local badging and assembly agreement. For further details, contact R & G in Cinderford on (0594) 823197.

## Samuelson/Vari-Lite/Theatre Projects Get Together



Faces from all round the industry turned up at the pre-Christmas bash.



Roger Dix (managing director) with Warwick Fielding (LWT).



David March (Vari-Lite) with LD Jonathan Smeeton.



Joanne Butler (Rosco), Daryl Vaughan (Samuelson), Ruth Rossington (L+SI), and Colin Whittaker (Celco) with his wife Christina.



Peter Marshall (lighting production), John Singer (lighting rental) and L+SI editor John Offord.



Christopher Coates (YTV), Eric Wallis (BBC), Brian Croft (Vari-Lite operations) and Vince Price (BBC).

# S o f i s c o t e c h

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Martin

NJD

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TEAC

HARRISON

OHM

STANTON

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LAD  
LONDON ACOUSTICAL  
DEVELOPMENTS (LTD)

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COMPUTERISED LIGHTING CONTROL SYSTEMS

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### FACT

Squire is Europe's largest disco equipment supplier with 5 branches across the UK.

### FACT

Squires has been around for almost 20 years, supplying clubs and discos all over the world. Recent countries supplied include:-

- Kenya ● Hong Kong ● Italy
- Cyprus ● Zimbabwe ● Nigeria
- Malta ● France ● Yugoslavia
- Greece ● New Zealand ● Spain
- Zambia ● Germany ● UAE
- India ● Turkey ● Egypt

### FACT

Current work includes:-

- A full club installation in New Dehli, India
- Supply of intelligent lighting for the QE2
- A major installation of lighting in Mirage (formerly Blazers) of Windsor

### FACT

Squires has a design team ready to specify your club system. We can even send out a top designer to work with you in your club

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**GLASGOW** • TEL (041) 946 3303  
**GUILDFORD** • TEL (0483) 502121  
**LONDON** • TEL (081) 451 5556  
**MANCHESTER** • TEL (061) 866 8075

The Squire 1991 Catalogue - Order your copy today!

# CALLING ALL CLUBS & DISCOS ACROSS THE WORLD

## SOME FACTS & FIGURES ABOUT SQUIRES



Another successful Squire installation - Mirage, Windsor

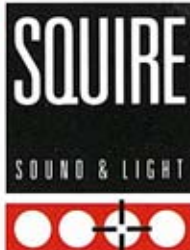
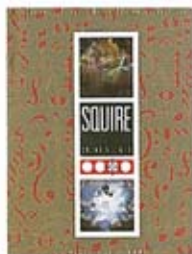
### FIGURES

You only need 3 figures.

**PHONE (0483) 301319** - The hotline for Squire's Managing Director Simon Cummings, who will deal personally with your enquiry.

**FAX (0483) 301314** - Fax directly to Simon in the Squire Head Office.

**PHONE (081) 451 5556** - Our export hotline - if you want to place an order, or simply request a catalogue.



$$C = \pi d \quad (\text{Archimedes: 250 B.C.})$$

$$I = E/R \quad (\text{Ohm: 1827 A.D.})$$

$$F = M.a \quad (\text{Newton: 1687 A.D.})$$

$$E = mc^2 \quad (\text{Einstein: 1905 A.D.})$$

led to new possibilities in life

$$4 \times 2 = 1u \quad (\text{Citronic: 1988 A.D.})$$

can do the same for you.



## SPX5-41

the revolutionary new Dual Four-way State Variable Crossover  
from

# CITRONIC PRO AUDIO

Citronic Limited  
 Bowerhill, Melksham SN12 6UB  
 Wiltshire, England  
 Telephone (0225) 705600  
 Telex 444131  
 Fax (0225) 709639

## SUCCESS BREEDING SUCCESS

## Society Seminar

The Society of Theatre Consultants is arranging a seminar on January 22 covering the consultant's role in theatre systems design. Steve Friedlander of Artec, who has been responsible for performance lighting installations at the Birmingham International Conference Centre, will lead the discussion. It is hoped that the issues raised will be discussed in general terms and that contributions will be forthcoming from delegates on related topics. The seminar will take place at Donmar's premises in Whitechapel, London and further information can be obtained from Ethel Langstreth on 071-434 3902.

## Levell join AET

Levell Electronics has recently joined the Advanced Electronic Technologies Ltd (AET) Group, and will now operate from their base in Hertfordshire. Levell manufactures test and measurement equipment. Its core products are RC oscillators, insulation testers and AC/DC voltmeters.

Levell will continue to manufacture these products and the substantial investment being injected by AET promises improvements to existing products, with more being launched in the future.

## Smart Move

Sound Products Ltd, acoustic engineering consultancy and sole UK distributor of Ivie and Goldline equipment, will be exhibiting at Sound '91 (Heathrow Penta, February 5-6) for the first time following its takeover of the Smart Acoustics product line last year.

## Clair Brothers appoint Elliott Bros

Touring sound company Clair Brothers Audio recently announced its intention to enter the installation market and has now appointed Oxford-based Elliott Bros (Audio Systems) Ltd, to represent their systems services in Europe.

The first European Clair Brothers installation contract was recently awarded for the Lewisham Theatre, South London, where a sound system including eight of Clair Brothers' new design R4 cabinet and four Clair 12 AM monitors has been installed.

## Nexo Sound

Nexo sound systems have now become a standard specification in the UK's thriving conference market. Major supplier to these clients, Delta Sound Inc (UK) Ltd., based in Chessington, Surrey, uses Nexo systems exclusively for this application. Recent contracts include the ICL Unicorn and SX launches at the NEC, Birmingham and the BMW Series 8 launch, also at the NEC.

## Noise at Work

A new acoustic and noise consultancy service has been set up by pro-audio specialists Bill Webb and Jim Cousins. Available from Webb Associates, the new service will complement their individual activities and is designed to meet the leisure industry's growing demand for independent advice on Noise at Work legislation and environmental noise control. For further details contact Webb Associates in London on 081-985 0945.

## Camelont Distributors

Following successful showings at Plasa in London and LDI in Orlando, the newly-opened London office of Camelont AB of Sweden, manufacturers of the Rainbow Colour Changer system, has now appointed nine new dealers worldwide. With London as the focal point for international sales, dealers appointed so far are: Multi-Lite, Germany; Regiscene, France; Avab, Norway; Gogler Lus, Denmark; Light and Sound Tech, Finland; Power Light, Switzerland; Tom Aukes, Holland; Fuse, Japan, Team 108, Singapore, Christie Lites, Canada; M & M, London.

Dealerships are still sought for other areas and interested companies should contact Camelont in London on 071-722 6032.

## Sparks at Marks

Program Lighting have recently completed the installation of feature lighting at Marks & Spencers' major store development at Meadowhall in Sheffield which offers 1.2 million square feet of retail space in 223 units.

## Autograph Just So

'Just So', a new musical play opened recently at the Tricycle Theatre, London features a band of 'silent' musicians and a sound system, including over 50 different sound effects, designed and installed by Autograph Sound Recording. The music from the 'silent' band is fed directly to the main sound system, with no local amplification in use on stage and all monitoring taking place via headphones. Three sampling systems are in use, with full MIDI communications.

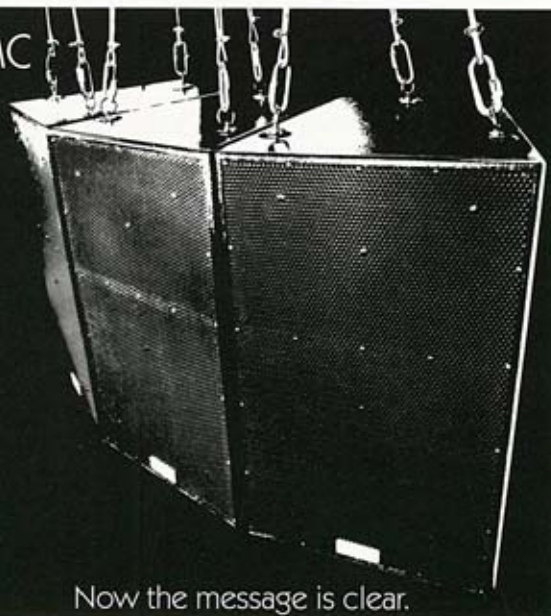
Martin Cook has been appointed general manager of Fostex UK Ltd. He was formerly managing director of Video Time, part of Carlton Communications.



GB Professional Audio have now moved to new larger premises. Based at Unit D, 51 Brunswick Road, Edinburgh, the new facility will offer more scope for the expansion of the hire department and the growing sales department.

Celestion have recently been presented with an award under the Government's Business Sponsorship Incentive Scheme, following the company's sponsorship of the Sinfonietta at Snape Maltings concert, in Suffolk.

Eastern Acoustic Works at LMC



Now the message is clear.

LMC Audio Systems Limited  
unit ten, action vale industrial park, cowley road, london w3 7aq  
telephone +44 (0) 81 743 4680 facsimile +44 (0) 81 749 9875

Peavey Electronics (UK) Ltd sound reinforcement products will be on show at the Sound 91 exhibition, February 5 and 6, in addition to the company's Architectural Acoustics division products.

Bournemouth-based St. Peters School have begun the collection and restoration to full working order of all theatre and studio lanterns, and control boards. Once the restoration process is complete, the units are to be displayed in an exhibition centre on the school campus. The centre will then be open to students, members of the theatrical professions and the general public. For further details, contact St. Peters on (0202) 428843.

Reynolds of Raphoe County Donegal have been appointed exclusive Irish distributors for the complete range of Lampo effects lighting products.

## Bedford Leisure Park

MAM Communication Systems have recently installed extensive audio and video facilities in Allied Leisure's latest development at Bedford Leisure Park. All under one roof, there's Megabowl, a 34 lane ten-pin bowling centre, Buzzz-bar, a theme pub and two nightclubs, Venue 1 and Venue 2. Altogether, they're equipped with seven sound systems and three main video systems.



The sound systems utilise JBL Control series monitors in the theme pub and Bose 301s and MIP 500D ceiling speakers in the Megabowl. The dancefloors in Venue 1 and 2 are equipped with the first EAW installation in the country, comprising KF-600s flown above the floors, and SB-250-PD2 subwoofers. JBL Control monitors are

used for fills and in the VIP lounge, restaurant and reception areas. The nightclub systems are equipped with Toa's SAORI digital domain crossover/equaliser/delay units. The SAORI's remote setting function allows the units to be mounted in the central amp racks, yet allows the crossover points to be tuned for optimum sonic quality and least external noise leakage. Power amplification is a mixture of C-Audio RA-2000 and 3000s, and the latest TR-850s for the EAW speakers; together with Citronic PPX series amplifiers for the JBL Control speakers. Both dancefloor systems are protected from abuse by Formula Sound's Guardian CX4 units, which also dim the music in the event of a fire alert.

The video installations in Venue 1 and Venue 2 alike comprise two Memotech 4x4 System 2000 high resolution video walls containing Barco's latest (Mk.2) SCM2840 monitor, a Memotech computer, electronics and associated reflex controller for FX. The system 'front-end' comprises two Toshiba VHS stereo VCRs, a Spanish Ecler MAV41 video mixer, two Microvitec 14" colour cue/preview video monitors and a Limelite animated text and ambient graphics software, installed on a Commodore computer. In addition, Venue 1's video system supplies the lounge and VIP reception. Since their foundation in the early 70s, MAM Communication Systems have completed many thousands of installations, but this is nonetheless their biggest project to date; it took 145 days to complete, employed 3½ miles of cable and was finished 'bang on' schedule.

## RG Jones to distribute Renkus-Heinz in the UK

R.G. Jones, the London-based PA rentals and installation company have been appointed sole UK distributor for Renkus-Heinz compression drivers, horns, drive-units, and their processor-controlled 'Smart' system. They're also able to supply Renkus-Heinz' advanced EASE (Electro-Acoustic Simulator for Engineers) software, for acoustic design and prediction.



The company recently supplied a Renkus-Heinz system for Maria Ewing's performance at the Royal Festival Hall, last December, to which potential users and installers were invited.

Send your news stories  
direct to L+SI on  
Fax: (0323) 646905

**NEW GENERATORS! NEW PREMISES!**  
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# We'd rather you saw as little of our speakers as possible.

*No one wants to look at speakers they just want to hear great sound. As a rule, you don't get a great sound without huge enclosures. The Celestion SR Series of sound reinforcement systems is the exception. Your ears just won't believe what your eyes are telling you.*

*The tough, injection moulded cabinets of the SR Compact, SR1 and SR3 house a revolution in speaker design. Unique, hemi-spherical hard dome radiators have been combined with extra-long, edgewound voice coils, to produce cone assemblies so rigid they won't twist or flex, even at maximum output: 100w (SR Compact) to 1000w (SR2 Sub-bass).*



*But we're not just talking about power. The SR series produces clean, confident hi-fi sound at both high and low sound pressure levels, with a clean top end and solid bass.*

*So from solo musician to major night club, operation of the SR Series is simple. A full range of mounting options enables you to fix SR's to walls, ceilings, tripods or instrument stands.*

*Being so small, your audience is unlikely to notice them. But just wait until they hear them.*

*For more details send for a free, full colour brochure or visit your local Celestion dealer.*

## **CELESTION**

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# Light innovation in a system

## SUPER SCAN

The powerful, reliable projector, assuring professional features, for top quality effects in show lighting.



On March 27, 1988 the Academy of Motion Picture Arts and Sciences awarded an OSCAR for best technical development to HMI daylight discharge lamps.

HMI daylight discharge lamps represent a new generation in lighting design. With their compact



dimensions, short arc, daylight spectrum and long lamp life they are an unbeatable light source and are particularly suitable for projection units and effect luminaires.

# OSRAM



### BUILT-IN EFFECTS

#### COLOURS

- Eight standard colours: yellow, red, orange, green, blue, violet, pink, white.
- Seven dichroic filters, selected for colour uniformity.
- Colour changer: with fixed positions or continuous (\*).
- Bicolour beams, by positioning the colour wheels in intermediate positions (\*).
- Colour change with or without blackout (\*).
- Rainbow effect, by continuous rotation of the colour wheel (\*).
- Wide range of rotational speeds.
- If required, a filter may be inserted to convert the colour temperature from 5600°K to 3300°K (useful for TV studios).

#### COLOUR MIXING

- Vaste range of colour available by mixing the primary colours Red, Green and Blue.
- Virtually all possible hues and levels are obtainable.

#### GOBOS

- Two wheels with 4 Gobos each. You can project each pattern separately or in combination.
- A total of 16 different patterns are available.

- Gobos change with or without temporary blackout (\*).
- An evocative rolling effect is available by shifting of two superimposed Gobos.
- Gobos are interchangeable and easy to replace.
- A wide range of Gobos is available on request.

#### IRIS

- Fully variable beam size.
- Iris speed is totally controllable by the operator.

#### PRISMS

- Three trioptic prisms create multiplication and overlapping of projected patterns.
- The prisms have 3, 5, 9 facets.

#### STOPPER/STROBE

- High speed stopper to cut the beam as long as required.
- Strobe effect rate fully adjustable from 1 to 7 flashes per second.

#### DIMMER

- Mechanical. Full adjustment of light intensity from zero to 100%.

#### OBJECTIVE LENS

- 1:3/250 mm achromatic doublet lens, giving the best colour and transmission performance.
- Focussing remotely controlled.

#### INPUTS

- The SUPERSCAN can accept either analogue or digital control signals, from controller or computer.
- analogue input: 0-10 V.
- digital serial input: RS 232/43 - DMX 512.

#### MOTORS

- 17 high resolution steppers motors, controlled by internal microprocessor.

#### CHANNELS

- 12 control channels:
- Channel functions:
- channel 1 = Iris
- channel 2 = Colour disk
- channel 3 = Gobos
- channel 4 = Stopper/Strobe
- channel 5 = Pan

- channel 6 = Tilt
- channel 7 = Fading Dimmer
- channel 8 = Prism
- channel 9 = Focus
- channel 10 = Red colour Mix control
- channel 11 = Green colour Mix control
- channel 12 = Blue colour Mix control

#### SAFETY NORMS

- The equipment is manufactured according to the latest safety regulations.
- Protection degree: IP 20.
- Power supply cable in compliance with CEI 20/22 III norms.

#### DIMENSIONS

- mm. 430x230x1320
- weight 50.7 Kg.

(\* ) Option to be pre selected directly by users.



CLAY PAKY s.r.l. - Via G. Pascoli, 1 - 24066 PEDRENGO (Bergamo) Italy - Telefono 035/663965 - Fax: 035/665976 - Telex 305242 CLAYPA I



# CONTROL BEYOND IMAGINATION



*Imagine a lighting controller that will run Golden Scans, Par Cans, Strobes, Pinspots, tubelights, theatre lanterns, display spots, downlighters, floods, multi-mirror lamps, neon, etc., etc., and produce every effect you could ask for.*

*Now imagine a controller capable of doing all this simultaneously, but with every effect in its own individually programmed and timed sequence. Guess how much it would cost? Well, the answer is a lot less than you might think - less, in fact, than virtually any memory control board on the market.*

*Masterpiece is in a class of its own, the second generation of integrated lighting controllers. It is designed not only to get the best from intelligent lighting, but also to replace a collection of controllers that might previously have been needed for the job. We have tried to include every feature needed in modern light control.*

## MASTERPIECE

### • 108 CHANNEL MEMORY LIGHTING DESK

- add Masterpieces, switched to slave mode, to expand 108 channels at a time, without theoretical limit.

### • DESIGNED FOR:

Theatres, Bands, Discotheques, Intelligent Spotlight and Environmental control.

### • CONCEPT:

A synthesis of Pulsar's Touch Panel, Control Desk, Rock Desk and Modulator technology - plus a little more! 70 Touch Pads, 25 Sliders, 108 LEDs, 4 Digit Display and Joy Stick.

### • STRUCTURE:

108 Channels, 216 Scenes of the 108 channel levels with fade in and out times, 54 Scene Chases, 48 Environments of Scenes and Scene Chases, 6 Environment Chases.

### • FOR THEATRICAL USE:

Fully automatic crossfades or manual crossfades using the A and B masters. Fade In and Fade Out time sliders to create/override the values stored with each scene. Add in any amount of the other 216 scenes at any time. Individual control of the 108 channels always available. Grand Master. Black Out.

### • INPUTS:

Audio for Sound to Light and Chases. RS232 and MIDI for total remote control of ANY feature.

### • OUTPUTS:

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

### • SPEED:

The ultimate in both programming and operation thanks to its conceptual simplicity and having one touch pad for every requirement.

### • MEMORY:

Internal memory non volatile. RAM card for backup, changing shows and transfer between Masterpieces.

### • SOUND TO LIGHT:

Pulsar Modulator's Sound to Light circuits built in, 3 zones of 4 channels, each patchable at any level over the 108 channels.

### • SECURITY:

Using his security code, the 'Programmer' may deny access by the 'Operator' to any touch pad or slider.

### • OTHERS:

18 Keyboards of 18 pads, Latch/Flash/Swop/Solo keyboard modes, Sound to Light monitor, Joy stick with position/velocity, Change security code, Freeze output, Master/Slave desk, Chase section: Manual step fwd/rev, Speed, Slope, Baseline light, One-shot/Repeat, Use scene fade times, copy chase...

... THE  
SPECIFICATION  
SAYS IT ALL

FOR FULL SPECIFICATIONS CONTACT

**PULSAR**  
LIGHTING FOR EFFECT

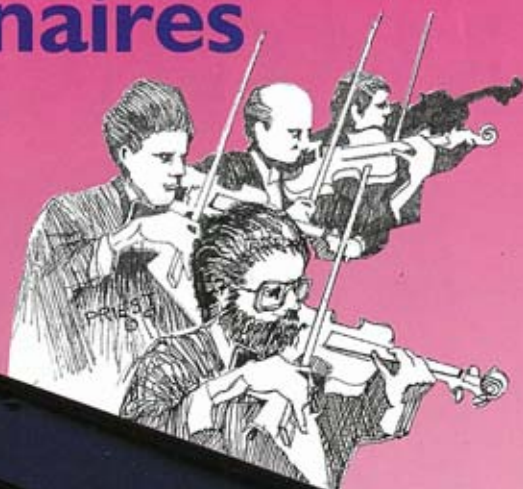
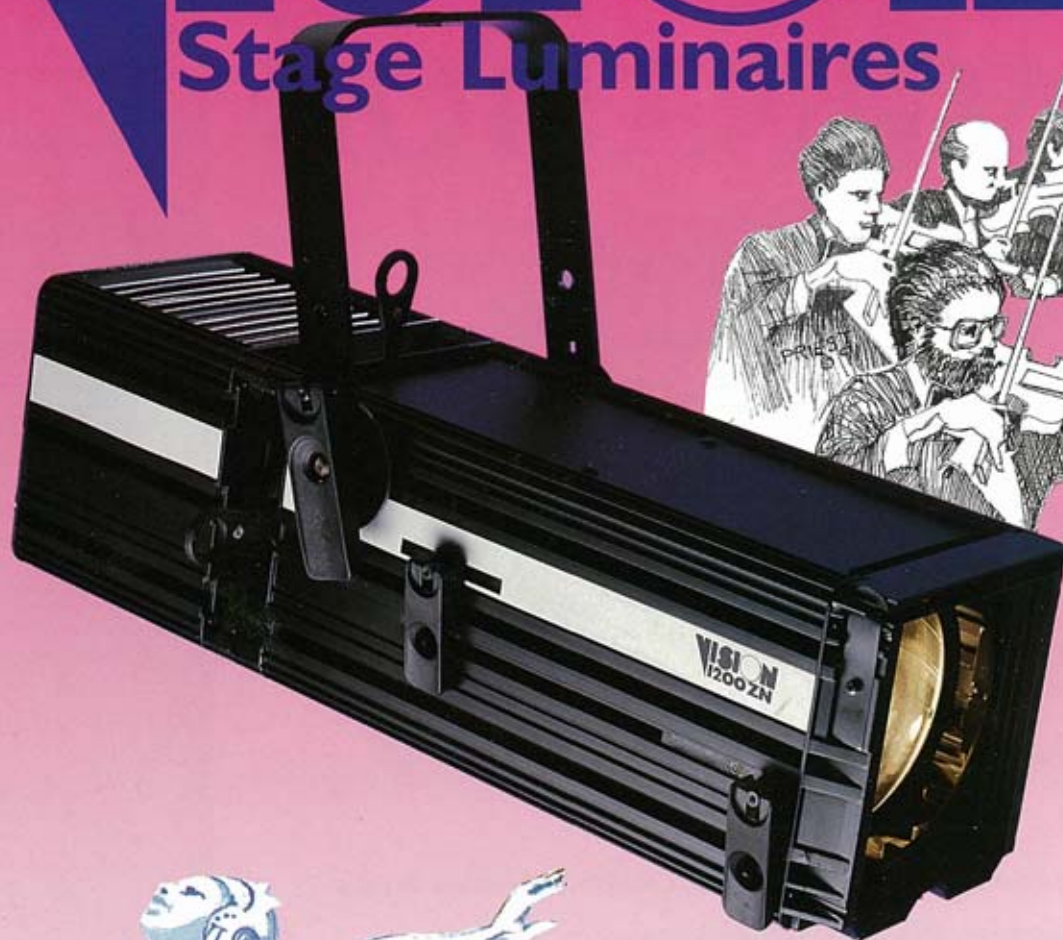
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Henley Road, Cambridge CB1 3EA,  
Tel: 0223 66798 Fax: 0223 460708

Pulsar France Sarl,  
19 Avenue du Fresno,  
14760 Breteville sur Odon, France,  
Tel: 31 741001 Telex 171237

Pulsar GmbH,  
AM Vorent 23,  
D-4630 Bochum 7, West Germany,  
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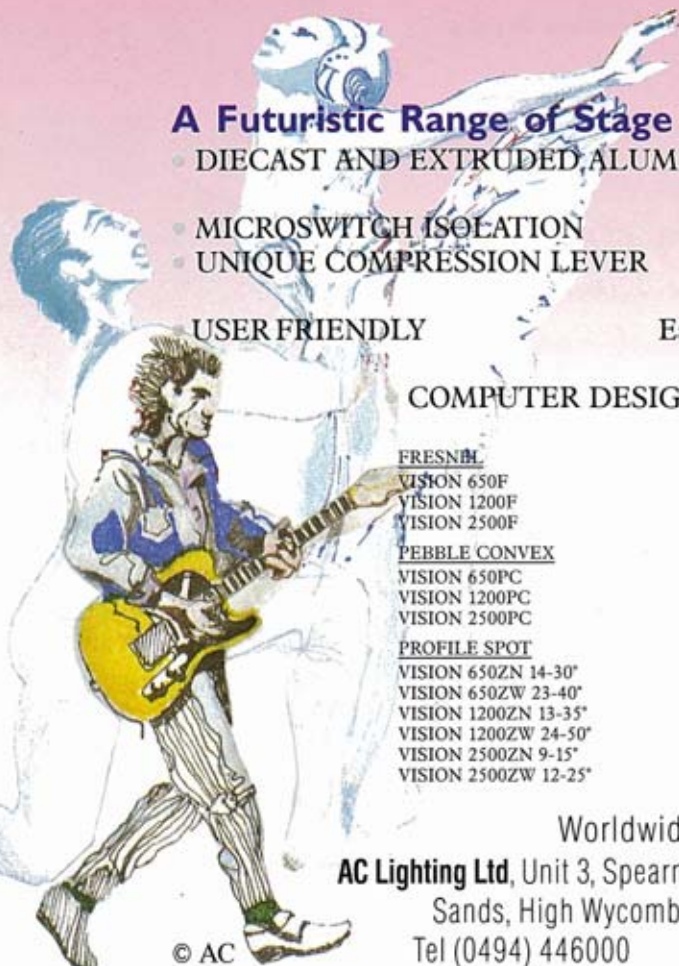
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# WIND IN THE WILLOWS

Catriona Forcer and Ben Duncan take a look at the technical artistry behind the National Theatre production



The rotating and rising drum revolve stage showing the interior of Ratty's House.

The majority of the shows produced by the Royal National Theatre are for adults, so the decision to stage Kenneth Grahame's 'The Wind in the Willows' was quite unusual. The book itself was ideal for the purpose, being a gentle tale, well known by everyone. Alan Bennett was commissioned to do the adaptation taken from the original book.

Nicholas Hytner was appointed as director and he subsequently contracted Mark Thompson as his designer. Together they spent several weeks working on the concept and construction of models before being joined by Andy Peat, production manager.

The show was to be staged at the Olivier Theatre making full use of its rotating and rising drum revolve stage which, 11 metres in diameter and weighing 80 tonnes, is the largest of its kind in Europe. The elevator was to be used for the three interiors – Ratty's house, Badger's house and Mole's house. It was also established very early on that a rim revolve would be needed to accommodate either a river or a road, two key elements in the play.

"Mark Thompson came up with various designs," explained Andy Peat. "The overriding factor he had to work towards was the weight restriction of the elevator – you can't just load as much as you like onto the elevator. There is a limit of 3½ tonnes which is not a great deal when you want to build a big scenic structure. The first drum model had to be abandoned because it was on three levels and there was no way it could have been built to three tonnes. Then Mark came up with the current proposal which is the same shell with three different interiors."

A scale model was constructed but while it revealed the concepts, it didn't define the

precise dimensions or method of construction. A number of staging construction specialists decided that the job was not for them due to the difficulties enforced by the weight limitation. Eventually the task was taken on by Total Fabrication Ltd, a company recently acquired by Light & Sound Design of Birmingham.

"Because of the weight problem I gave Total Fabrication a weight limit of 2 tonnes," said Andy Peat. "They had that to work to and P.L. Parsons, scenery makers, had a 1 ton limit. Obviously I wouldn't be doing my job very well if I didn't have a bit tucked up my sleeve that they didn't know about! To a certain extent they are experienced enough to know I keep something tucked away. I left about 2-300 kilogrammes up my sleeve because I knew all the contractors would slightly overrun on their weight calculations.

"Various other things had to be taken into consideration, one of them being that on any shape that size there's going to be a little flex and movement; added to the fact that the elevator is counter weighted and any counter weight system will have a slight bit of movement on it. I had to decide how much to reduce the whole semi-circular structure by, and it was agreed to take 50mm off the front and back and 50mm off each side so it was basically shrunk by about 1½%. As a result, when the structure moved up and down, any slight side to side movement was contained within the drum."

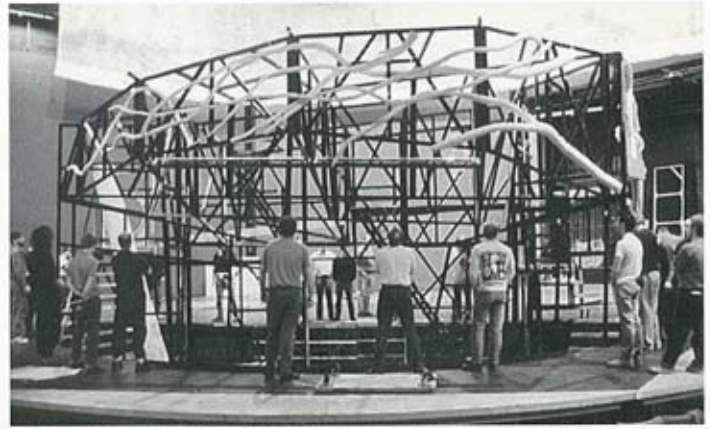
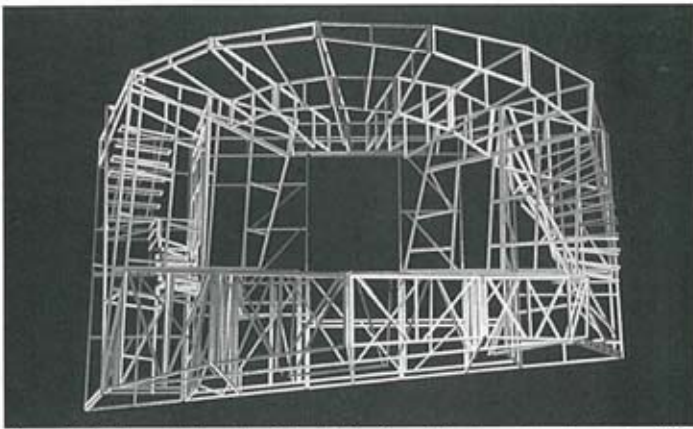
Chris Cronin, managing director of Total Fabrication, decided that the only way the set could be constructed was by Computer Aided Design which is not exactly a first for theatre, but it is the first time that it has been used to such an extent. Chris employed the skills of 3D Auto-CAD designer and programmer Adam

Maitland, and his company CADenza. CADenza's expertise with 3D Auto-CAD proved its worth right from the beginning when a latent 'fatal error' concealed in the scale model, was uncovered.

"We found out from the National Theatre what scenery services were needed and where they were to go," Adam elaborated. "I then had to come up with a structure light enough to hold all this, but tensile enough to keep in place as it travels up and down, and round. Technically, we were working backwards, I suppose. You put the wallpaper up and then you attach the walls. There isn't really a straight edge anywhere in it and, what's more, if you place weight, people for instance, on top, some of the structure tends to tilt. Visually it's designed to vanishing point perspective, but engineering wise it's a nightmare. It needed a lot of cantilevered beams along the top to transfer the weight onto the back wall which is straight. I'm glad to say it's been a success because the only place the whole structure flexes now, if you put people on top, is along the back floor. It means we've managed to transfer all the weight through the structure so it only lives on the bottom, and you can't beat gravity. From an engineering point of view we've done the job and achieved, hopefully, the improbable."

"Time was very short," added Chris Cronin. "We started the work in early October and the brief was to have it ready for the scenery people by November 1st. We actually turned up with it on November 2nd! But, having said that, the job grew considerably and developed dramatically from the original plans. Although we were officially a day late, we were essentially early on what was finally asked of us."

To produce plans accurate to a fraction of a



Above left, Adam Maitland's animated design of the stage structure using 3D studio software (image transferred to 35mm transparency by Autocim) and right, the end product installed at the National Theatre.

millimetre, Adam wrote a custom routine in a computer language Lisp to check and verify the planes each member connects to, and enter it into the 3D mesh. To meet the tight deadlines, Adam Maitland's finished plans were immediately relayed by modem to Total Fabrications' premises in the Cotswolds. There a second Auto-CAD station revealed CADenza's progress and Chris Cronin then made additions and changes of his own. The result was that component parts of the structure were approved and on their way for assembly within 24 hours of the plans emerging from CADenza.

"In comparison, working with traditional drawing boards and a team of draughtsmen would have taken months," explained Adam Maitland. "Also it's a lot easier to modify a model on computer rather than having a draughtsman start all over again."

Adam Maitland subsequently animated the design using 3D Studio, AudioDesk's new software, which CADenza is beta-testing before public release later this year. This enabled Olivier Theatre's production team to see the stage movements and even a simulation of the lighting.

Once Chris Cronin delivered the aluminium structure it was assembled at the workshop of P.L. Parsons — one of the largest in London. It was their job to clad the structure as well as manufacture the stairwell coverings, the floor coverings, together with the ceiling and access doors. They also constructed the flown and standing trees. The scenic mounds and greenery above the stage were built by Cardiff Theatrical Services, the scenery making division of the Welsh National Opera. The National Theatre's

own paint shop painted the flown and stage cloths, whilst the prop department made the car, train and caravan. There was only one company that Andy Peat was prepared to use for the rim revolve and that was Peter Kemp Engineering.

"You have to bear in mind that all the cladding, roofing, flooring and decking of the entire structure could not be constructed in the usual material of timber because it would be too heavy," explained Andy Peat. "Instead a lot of lightweight and extremely expensive covering called Aerolamb was used. It's like a honeycomb beard covered in either aluminium or fibre glass. All the flooring and staircases are aluminium Aerolamb, whilst the ceiling is twin wall Macrelen. The whole of the roof is made from 25mm fibre glass Aerolamb.

"Throughout the project an eye has to be kept on the weight. After the close of the show in June 1991, the whole structure will be dismantled, so the whole thing has to come apart. Everything has had to be blocked or pinned together, whereas normally it would be glued or welded."

Once the mound was established it was shaped, carpet felted and then covered with custom-made canvasses which were then painted. The root work on the main structure would normally have been made of fibre glass, but that would have proved too heavy. A simple solution was to make them out of steel rods bent to the required shape. These were then bandaged in foam, covered in muslin and then textured with a paint called Idendon. Everything on stage had to be fireproofed, particularly as

the Olivier Theatre does not have a safety curtain, and that limits the materials that can be used. Consequently a lot of the materials specified are not normally to be found in the theatre and the suppliers are not accustomed to next day delivery. As a consequence, Andy Peat found himself buying his way up the queue.

The table, barge and Toad Hall were all built and painted by Streater and Jessel Ltd. The table is 7m long and has to fly in on its side, whilst the barge has to be able to split in two because of its size. Besides making the large props, the National Theatre's prop department also had to sort out the furniture and the dressing for the three interiors, a lot of which had to be made in perspective. Liz Ainsley was responsible for buying all the hand props from antique shops and auctions to fit the turn of the century.

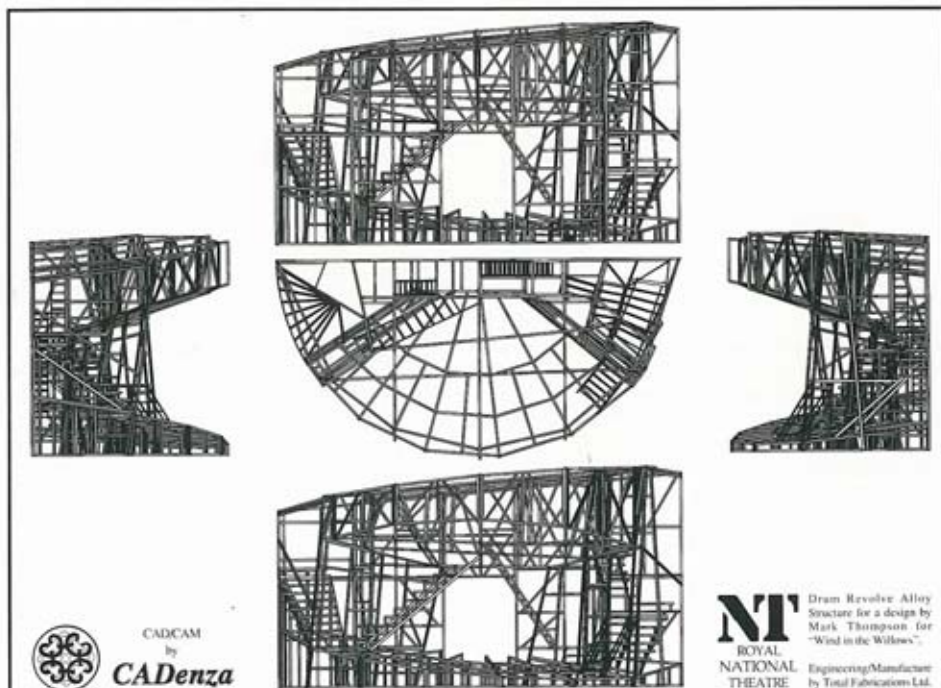
The lighting designer for 'The Wind in the Willows' is Paul Pyant who, since 1974, has been mainly associated with Glyndebourne. Last year, he was nominated for a Tony for Best Lighting on the Broadway production of 'Orpheus Descending'.

"This is my fifth show for the National and my first in the Olivier Theatre which is a very daunting space to light. Mark Thompson has designed on every square inch of it which, of course, isn't necessarily meant to be lit. It's been the age old chestnut of making a little go a long way as effectively as possible," Pyant explained. "The Olivier has a large, basic repertoire rig consisting of almost 1000 lamps, it sounds fantastic but in fact it isn't. Of those, 800 are always locked on permanent focus. As the show is in rep with other productions the stage needs to be divided into permanent focus to facilitate the incredibly short turn around times. Change over has to be about four hours but that's impossible with 'The Wind in the Willows' which is taking about eight hours. I've been able to rig about two dozen special lamps and I've recoloured a lot of the rig, but not everything. Basically we're talking about minimal refocus between the two shows. It's difficult to get a show this size, which is much bigger and more complex than they normally have here, out of the repertoire rig. You have to be very economic.

"You also have to remember that the show is now in rep with Racing Demons and The Crucible but it plays until June, by which time there will be three new productions in rep with it at the Olivier. It has got to be compatible with all of them.

"As far as the artistic input of the show goes we've drawn all the images from the watercolour drawings of E.H. Shepard who illustrated the original 'Wind in the Willows'. We're trying to portray that nostalgic, English watercolour feeling. We do the whole gambit of spring, summer, autumn, winter and we also do the morning, noon and night of each season, sometimes over a matter of just 15 seconds.

"One major problem was getting power and lights within the drum revolve itself. We've had to feed about 12 circuits to the structure, by



**NT** Drum Revolve Alloy Structure for a design by Mark Thompson for "Wind in the Willows".  
ROYAL NATIONAL THEATRE Engineering/Manufacturer by Total Fabrications Ltd.



CADCAM by **CADenza**

Computer Aided Design: CADenza's 3D visualisation of the Drum Revolve Alloy Structure.

various means, to make the interiors. The rim revolve has to change from a river to a road by means of David Hersey KK wheels with various gobos. It then becomes a railway and we've made up a set of slides for projectors to make a railway track. There are also the more common effects like snow projectors.

"The Olivier has a Galaxy 3 control desk which I'm very fond of, as a control system it's one thing that Rank Strand have got right because they have years of experience backing them. There are other theatres that will use more rock type boards, but I don't get on well with them. I think it's got to the point now where the control systems are too sophisticated and you need so much more time to programme them. Really, what they are controlling tends to be rather crude as it's only a light bulb, and there is very little intelligent light source. I'd love to have the sort of lights you get on a rock rig but you couldn't possibly work it in this system because of the amount of maintenance and expertise required. They are not 100% reliable which is something we depend on.

"Here at the Olivier we have enough problems with the 125 colour changers which tend to stick a lot. It's not the theatre's fault as it's a question of money. They have had almost a complete refit in the last three years and there is a huge mixture of lamps from ADB to Rank Strand to Silhouette. It represents a vast capital outlay and, simply because there is very little time in a week and electricians are expensive, there is limited time to maintain or overhaul equipment.

"This has been a huge challenge. It took a lot of working out and a lot of rehearsing. I was in rehearsals from almost day one which is a huge luxury. I can't afford to do it too often because lighting designers are paid so abysmally. You have to do so much to earn a decent living. Scenic designers would be working hard if they did five shows a year. In 1989 I did 35 shows and this is my 21st for 1990. It means my input has to be, not as great, but in effect more concentrated."

A lot of the National Theatre's resources were channelled into this production of 'The Wind in the Willows' which is certainly much larger, both in physical and budgetary terms, than they are used to staging. Andy Peat's budget for the set and costumes alone was over £250,000. Fortunately the show is sold out until April 1991 and booking for May and June has not yet opened. Had the show been staged in the West End the fit up period would have been two weeks but, because the theatre cannot afford to close for that length of time, the team had two working days to set everything up for the first rehearsal. Technical rehearsals took about four days during which time, other technical work had to take place. The pressure on the staff and production team to physically build the set, put it up and get it working, was quite intense. The expertise and professionalism of the Olivier staff, particularly the production team of Andy Peat, Annie Gosney and Guy Nicholson, have ensured a truly marvellous staging of 'The Wind in the Willows'. Add to that a star studded cast, including Richard Briers (Ratty), Griff Rhys Jones (Toad), David Bamber (Mole) and Michael Bryant (Badger), and ingenious, breathtaking sets



3D AutoCAD master Adam Maitland seen in action.

and it makes a show not to be missed — that is if you can get a ticket!

### Catriona Forcer

The Olivier was the first theatre to be completed when the National Theatre opened in 1976. It's also the largest and has a thrust stage, with the audience seating extending around some 240 degrees. For all its valuable theatrical qualities, the lack of anything solid to mount speakers on over such a wide zone presents some recurring challenges to sound designers. The man in charge of sound on 'The Wind in the Willows' is Paul Groothuis ('Dutch' to his friends). He trained as a stage manager, then worked in a multitrack recording studio before going to the National in 1984. His team's responsibilities extend beyond performances; they have to look after all the communications systems throughout the theatre, including the CCTV. The need for continued maintenance stretches the already limited budget for sound, but as is the way in theatre, the sound crews' ingenuity works overtime to devise economic ways of implementing or jury-rigging any desired effect or improvement. Paul also makes savings by involving suppliers of equipment, rented gear and custom assemblies in forward planning, up to 18 months ahead.

### Preparations

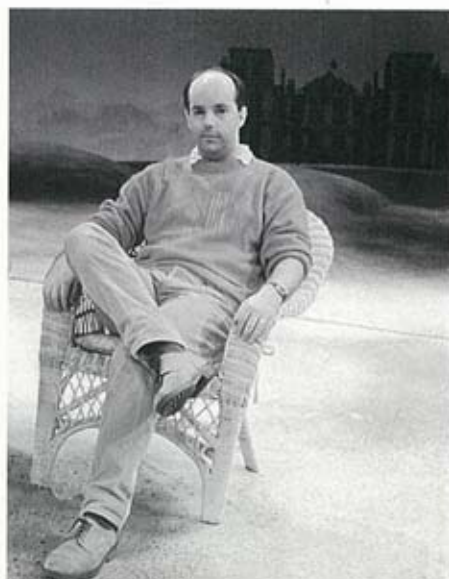
The sound production studio contains a Soundcraft 800B 24/8/2 mixer, Sentry III monitors, a Tascam 4 track reel-to-reel machine, and a stack of high-tech tools which includes a digital stereo tape machine kindly donated by Sony. Sound effects for 'The Wind in the Willows' were initially laid down and edited on a Steinberg Cu-base then assembled using a pair of Akai S-1000 samplers, with some help from an Akai MIDI trigger. Paul regards the S-1000 as a studio workhorse. He admits it takes time to 'get his head around it', but once the creative process starts, it saves not just time, but reels of tape. Working in the digital domain has also improved the quality of the end product, which is still a broadcast standard tape cartridge. Cart recording is via a Soniflex with dBx noise reduction.

### Auditorium Sound

The mixing console operated by Freya Edwards, the No.1 sound operator, is a 32/10/10 Cadac with a 10 by 10 matrix. The name Cadac is primarily associated with upmarket recording studios. All the switchable functions (for example, routing, polarity, EQ in/out) are actuated by relays and controlled by an inbuilt computer. The mixer is actually a prototype that the manufacturer went on to successfully produce in quantity, although the onboard computer was abandoned in favour of hooking up to a PC. The Olivier's console is five years old. That's a long time for a theatre that works from morning to midnight 363 days a year, and it's a tribute to Cadac's engineering standards that it's still going strong, after over 2,000 performances.

During the performance, cart players are in the front line, as Paul feels it's too risky at the moment to rely primarily on a hard disc to cue live sound effects. And even a relatively large disc of 44MB only carries eight minutes of full-range sound, or 16 minutes if the hf is cut off at 10kHz. Nonetheless, there's an Akai S-1000 next to the cart machines, loaded with four key samples as a precautionary back-up.

Backstage, Jonathan Suffolk is the stage sound operator, responsible for the radio mics worn by nine musician rabbits, who appear at strategic points to play strings, brass, woodwind and accordion, considerably enriching the drama. The mics are Sennheiser MK2s, linked to Micron transmitters and diversity receivers. Some of the



Andy Peat, production manager.

musicians have the mics on their foreheads, with the cable swept back over their head and woven into their hair. This prevents the mic snagging when they're called upon to make rapid changes of costume.

The PA is a mixture. Bose 101s are hung from the walls on either side at stalls level, while on each side of the seating mid-way up, are two EV S-200s. Hidden high amidst the lighting grid, there's a number of EV horns, supplied by Shuttlesound. Immediately behind the rotating stage, there's a pair of Turbosound TMS-2 cabinets. The backdrop curtain attenuates the high frequencies, so Paul Groothuis has placed two EV S-200 cabs alongside, driven by the high frequency side of the active crossover, to boost the output. A completely different PA enclosure rests further along. It's an elderly EV system, comprising a mid-sized 'W' Bin with two radial horns and four ST-350A tweeters on top. The associated power amplifiers are HIT, old HH's and Quad 501s. For deep bass needed for explosions, thunder and similar sound effects, there's a sealed enclosure containing a pair of 30" EV drivers, located in the 'Vomitorias', alias under the front row seating. The position is immaterial, as the source of the very low bass sound it creates can't be pinned down, as we shall see.

The props and stage fixtures for this production of 'The Wind in the Willows' are quite involved. The fixed speakers on and inside the rotating stage 'drum', like the cuckoo clock in the Badger's den are connected by audio slip rings, along with the comms and cue lights. The Toad's infamous motor car contains a 14" full-range speaker driven by a Kenwood car booster amplifier. A 'reverse' radio link (the opposite of the familiar radio mic system) conveys the sound effects to the vehicle. The railway locomotive has real brass pipes and levers. Inside are a pair of Bose 101s to make 'Jssh, Jssh' noises, again driven from a radio link, and powered by a Kenwood amplifier, for reliable operation from a 12 volt car battery. The solidity and realism of the car and railway engine's sound effects are aided by the sub-woofer discussed above. For example, the sub-bass cab provided the 'bump' of the railway engine, but along with the rest of the audience, my ears were completely fooled, preferring to hear the whole sound come from the engine!

During the performance, the sound was to be uniformly high standard despite the mixture of different speakers and less than ideal locations. Sitting on the back row at the centre of the lower tier, my ears (and eyes) were taken in by all the sound effects, while the musical interludes were clear and without strain.

Ben Duncan

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# A PRODUCTION IN THREE ACTS

## John Offord visits the new HQ of Samuelson's Lighting and Sound Division

As you've read before in these pages, the three major industry names of Samuelson Concert Productions Ltd, Theatre Projects Services Ltd and Vari-Lite Europe Ltd form the lighting and sound division of Samuelson Group plc. 'And so what', you are probably saying. More interesting is the fact that they are now under one roof out in Greenford in Middlesex and are pushing into the nineties with a purposeful new image and probably the UK's biggest lighting equipment inventory.

Frequently, the grouping together of previously independent-minded outfits doesn't work; the old team-leaders get the hump and move on to pastures new. A well-lead reorganisation, however, that can offer a few cherries and spark fresh imagination can have the opposite effect.

I spoke to Daryl Vaughan, the man whose role it is to project the new image of the division and who works closely with managing director Roger Dix, the man charged with making it all work commercially. Formerly with Vari-Lite as head of promotion, Daryl Vaughan is now marketing services manager for the three companies that work together as the division, and he has been closely involved with the recent changes.

The central part of the operation's smart new premises houses an attractive reception area, hospitality and board rooms, office facilities, showroom/theatre, training areas, etc., but if you turn left as you enter, you come across a suite that incorporates meeting areas and a drawing office. I didn't have to wait long for an explanation about the use of this area — it's

something they are keen to promote.

"We want to try and persuade people to use our facilities here in a way we haven't had the opportunity to do so before," explained Daryl Vaughan, "either at Blundell Street (TP's old place in North London) or particularly at Cricklewood (SCP and Vari-Lite's previous home). So therefore we must put as much effort as possible into making this complex rather like a retail premises in that we want to encourage people to come in through the doors, just to look at the range of facilities we have. If by doing that we can offer people the kind of facilities they might not have, such as a simple drawing board, or just an office with a telephone, and the facility to sit down and talk through designs and plans and so on with their associates or indeed our people, it will start the ball rolling in the right direction.

"Already, with a number of projects we have been able to sit people down in an environment which is conducive to creativity and with the added advantage for them of literally being able to walk no more than 20 yards or so into a packed warehouse to play around with pieces of equipment they're thinking about using. They can actually get their hands on it within minutes of discussing it."

I asked Daryl Vaughan to describe the new structure in detail and what he saw as the advantages, now the three companies had been together as one group for three months following their September move.

"There are of course a good many benefits to ourselves in the sharing of certain resources, be it premises, base servicing areas, or more

esoteric services like financing, accounting, or indeed marketing. But really these are internal benefits and don't necessarily interest a potential client. What matters is what's in it for them. We're not in the business of pushing the idea of one-stop shopping down their throats. I do believe, however, there are benefits to be gained for clients to be able to come to a place with such a wide range of resources, with lighting and sound equipment from a very broad spectrum.

"It might be that they only come here initially to discuss a Vari\*Lite project or a conventional lighting project, but almost inevitably they'll run into other items and hopefully an interest will be created there. Whilst we're advertising ourselves as being in one building, the fact that we all share these resources doesn't mean to say that people coming here are expected to use the facilities of all three companies. However, if they want to do so, we will of course take advantage of the situation.

"But we want to be more than that. We also want to become a genuine facility and give people a reason to come here, and to that end we have a design office and a drawing office — a combination of facilities where people can lay out plans and discuss them, either on their own, or with the crew, or with our own production people.

"Going on from there we have a very substantial demonstration theatre, the like of which we've never had before. This is as purpose-built as one could get. It's got a good trim height of at least 22 feet which is reasonable, although everyone would like more. It will be



The Greenford HQ of the Lighting and Sound Division of Samuelson Group plc.



Managing director Roger Dix (above) and (right) with his general managers Alan Thompson (lighting operations); Fiona Thomas (sound operations); and Brian Croft (Vari-Lite operations).



permanently equipped with examples of equipment from all the companies and include sound, and it gives us the facility to put on a show, almost at the drop of a hat. It's a sufficiently flexible arrangement in that we can take the equipment down very quickly and put up a specific rig. The room therefore has a dual role in being a ready-made theatre with a pre-choreographed show of our own, and also an area where we can try out new ideas. Obviously it is also useful for us if we wish to hold social functions, such as major open evenings. We don't have to look outside to hire a place."

In the same part of the complex is a specific Vari\*Lite area which includes a training studio. How fast had the Vari-Lite operation expanded, and what were the main advantages of the move to Greenford?

"Each company has its own maintenance and services' area," continued Daryl Vaughan. "However, they all share certain common resources. It's not as if we've pooled all maintenance or distribution people all into one pot. Each company still has its own specific needs and we have insured that they continue to have these serviced. Vari-Lite in particular, because of the sophistication of the product and because it is still unique, demands a level of service far greater than one would expect for conventional lighting. It therefore has a dedicated service area, very substantial in size, and many times bigger than we had at Cricklewood. This reflects both the amount of attention we're paying to this requirement, and also the increase in our Vari\*Lite inventory which has doubled in only two years."

"There have been vast increases, particularly with the new VL4 wash luminaire which by definition is a 'quantity-type' luminaire. It's not an individual luminaire in the way that the VL2 or VL2B's are. There is also a training studio which is a separate entity to the showroom. It means we can carry on a training course, of which there are an increasing number, whilst retaining the ability to continue to use the showroom for purely promotional purposes."

The Vari-Lite company is easy to understand in operational terms — the Samuelson Concert Productions and Theatre Projects Services operations less so, particularly as their equipment usage overlaps.

"For our own convenience we are grouping certain equipment together. Inevitably TPS lighting and SCP share a good deal of equipment, be it Parcans, trussing, followspots, smoke machines and so on. What we have now done is to group equipment together, and we

have departments responsible for followspots, controls, cabling and dimmers, and another one specifically for luminaires. They serve the interests of both TPS and SCP.

"The difference between the companies is more to do with the markets they serve, rather than in internal arrangements. As far as a client is concerned, for example a tour manager or lighting designer, he will still deal with the people he has come to know and trust; his point of contact remains the same. It's in preparing for jobs that the shared resources come into effect, and that is of benefit to the client, because it keeps the cost down and makes better use of the space that we have here."

I asked Daryl Vaughan to go into detail on the rationalisation of the two market areas applicable to SCP and TPS.

"SCP will now concentrate on three definite areas. Predominantly it covers the concert touring business. That is their pedigree and that's what they do best. And they have a reputation almost without equal in that business in particular for the quality of the people they employ. This will continue, as will its emphasis on putting a specific package together with a team of people — the very opposite of dry hire. Secondly, they will deal with one-off major musical shows, the likes of the Mandela tribute or Knebworth; very big and complex events that demand as much attention as a tour but don't last as long. Thirdly, there is television outside broadcasting. This is an area we are very keen to develop and we've already started making inroads. However, there's a lot more work to do particularly in upgrading equipment and buying specific new gear. We are sure there's room for SCP to expand in this area, and certainly in 1991 we intend to exploit whatever talents we have. SCP's methods really suit the way outside broadcast lighting is developing."

"Theatre Projects Lighting will obviously push in the direction of theatre, the area it currently serves, and which doesn't conflict with the interests of Samuelson Concert Productions. It's in their name after all, thus they will pursue contracts in traditional theatre — musical or otherwise — in the West End and the regions. They will also continue to service the trade show, conference and product launch markets — indeed the whole area of live presentation for commercial use be it the unveiling of a new car, or an AGM. It is a business which, in pure value terms, significantly involves traditional theatrical-type rental. Finally, they have straight forward dry hire. Anybody who wants some luminaires for whatever purpose can get them from TPS,

sure and simple."

Historically Theatre Projects has always maintained a high reputation in the field of concert sound, but in recent years it appears to have taken a back seat as lighting stole the headlines. However, sound is still around, and I asked Daryl Vaughan about its future.

"In terms of the market, it shares many of same clients as TPS lighting operations, along with a number of their own. However there is one other area which is unique to sound by its very nature, and this is the recent trend to sound reinforcement for classical music, and in particular the London Chamber Orchestra. It's something they pioneered during last summer, and we hope to be doing another tour of their's early this year."

"I hope that TPS Sound can carve a bit of niche for themselves here because — to a lot of people — they are somewhat overshadowed by the lighting element of what we do. If they can create an image of their own which is distinct, then it will be of real benefit to them."

"Within TPS Services I have to find ways to raise their profile as a distinct entity rather than as just a part of TPS. I need to make people more aware of what 'Sound' can offer, especially the talent we have on board and the equipment which will also stand alone as being quality gear should people want to dry hire it."

Space-wise, the division now occupies something over 60,000 sq.ft. which is divided almost equally between the three companies, with common areas. For example, there is a common pre-delivery setting up area. "This is of great benefit," explained Daryl Vaughan, "because often rigs are mixed. You can have a mixture of conventional and Vari\*Lites for instance, and now we can put all these elements together."

A brief glance at the stores, bearing in mind any self-respecting hire company will always have the majority of gear out on the road, still indicates a huge capital sum tied up in equipment. "I'm not sure what the total value of the equipment is, but it must run into many millions," continued Daryl Vaughan. "I would be surprised if we didn't have one of the largest stocks of lighting in Europe with the integrated stock of SCP and TPS. It is very substantial indeed, and I don't know that there are many lighting companies that can boast this size, if any."

"Really however that's of little benefit to a client, other than it's nice to be able to say we've got the biggest stock. What matters is the quality, whether it's the right price, and that it gets to where it needs to go at the right time."





The four customer operations managers: John Coppen (lighting production), John Singer (lighting rental), Fiona Thomas (sound) and David March (Vari-Lite).



The two 'shared resource' managers: Daryl Vaughan (marketing) and Niall Nolan (finance).



Peter Marshall, Steve Moles and Lee Frankcom of the lighting production team which also includes Ian Bagshaw.



Carol Welsh and Chris Jones — the lighting rental team.



Stafford Rowley, Simon McGowan and Roland Hemming of sound operations.



Daryl Vaughan, marketing services manager, with his assistant Gayle Dewinter.



The Vari-Lite production team consists of John Sinden, Kahren Williams and Jim Douglas (in picture) plus Derek Jones and Ruth Parkinson.



The Skytracker/SkyArt team of Jonathan Wood and Sean Burke.



At reception: Nicky Ilott and Pat Boswell.



The two equipment preparation managers, Hugh Fraser-Mann (lighting operations) and Adrian Bell (Vari-Lite operations).



A little camera shy on this occasion are the three technical operations managers Roger Harding (lighting operations), John Watson (sound operations) and Marco Van Beek (Vari-Lite operations), normally to be found at some point in the enormous storage facility at Greenford.



The equipment preparation area.

There have also been changes for the Group on the international scene and they now have a close association with Vanco Stage Lighting Inc. who are based in New York and Orlando, Florida. The SCP American stock inventory was sold to them, and taking into consideration the start points of many international tours, the association between the companies should prove mutually beneficial.

"Vanco seemed the ideal choice, given that they are already on the East Coast of America and representatives for Vari-Lite," said Daryl Vaughan. "Their experience is predominantly in theatre rental, but they were very keen to expand their horizons into touring. Given that the majority of world tours either emanate from the UK or the States, in order to remain as a company fit to service the market as an international company, we have to have some form of association. The negotiations came to a successful conclusion and they now own the inventory of SCP. I'm delighted to say we're doing our first major project which is the Rock in Rio concert series this month. We are hoping for a lot more in this area."

I suggested moves into Europe might well go on the back of natural Vari-Lite expansion.

"Vari-Lite is a logical place to start, because we've already established sub-distributors in Spain, France and most recently Germany. It is very much the intention of Vari-Lite as an organisation to make the product as widely available as possible, and that's a major key to the success of the company and the success of the product. The thrust in development is to expand the network around the world, and for our part we are charged with the responsibility of establishing a complete European network. We hope to have done this certainly by the mid-nineties at the latest, hopefully well before. We're now looking towards Scandinavia, Italy and the former Eastern block countries."

I returned to the expansion plans for

Samuelson Concert Productions and Theatre Projects Services. Were there any plans to set up European operations or working partnerships with mainland European companies?

"I think there is room for TP to exploit areas in Europe and TP Sound are currently involved in consultancy for the Madrid Opera House and in Seville for the World Fair in 1992. TP Lighting are already active on a number of projects in France, but there is no specific tie-up with any other companies. At this stage we're not looking to establish any kind of offices in Europe, but who knows in the long term? With Europe opening up, it is something we'll look at if the opportunity presents itself.

"As far as SCP is concerned and given the nature of the business where tours almost invariably emanate from London, New York or Los Angeles, we're perfectly well served already. I don't think we can gain by establishing operations in any other European country."

The continuing success of the Vari-Lite system will surely be a cornerstone of the division's future plans, and its growth still astounds even the most pragmatic of lighting punters.

"The difficulty with the Vari-Lite products is to know where it's going to plateau out, given it's relative new-ness in lighting terms," continued Daryl Vaughan. "We're still feeling our way. As every month goes by the level of demand is still taking us by surprise, and the level of demand this year has been exceptional. We had fully expected the business to take a gradual downturn towards the autumn last year and this didn't happen. We are still faced with the dilemma of turning some jobs away.

"We're expecting another shipment of VL4 luminaires very soon. In terms of quantity of equipment I think I'm safe in saying we have almost as many here in London as in America — which is astounding, even though we have to cope with the whole of Europe. We have in excess of 1,500 luminaires, which, when you

consider that only five years ago this figure was in the early hundreds, is a phenomenal increase. As I said, we don't know when it's going to level out notwithstanding increased competition from other automated luminaires of which we're very conscious.

"We're determined to stay ahead technologically — that's up to Dallas — and continually develop the product."

Other 'exclusives' for the group are the Skytracker and SkyArt mobile automated search-light systems for which they are distributors, and these are marketed under the Theatre Projects banner.

"We hope to find similar projects like these that TP can exploit and indeed use as icing on the cake for all their other inventory," stated Daryl Vaughan. "A lot of the Skytracker and SkyArt development has really come from us in the UK and we're promoting them very vigorously. They're very much an effects luminaire and still very exciting."

I turned to Lighting and Sound Division managing director Roger Dix for the final word: "One of the great benefits of the integrated operation at Greenford is that staff are finding a wealth of shared experience," he said. "Lighting's a funny business. It's often been said that rock and rollers won't talk to theatrical lighting designers or the TV people and vice-versa. We have found that our people here are getting together very well. They are a marvellously enthusiastic group of people who are responding accordingly."

Dix went on to explain that 'optimistic growth' was projected for 1991, and having completed the major rationalisation of the division more developments will take place in 1991, particularly on facilities and equipment provision at Greenford. Wearing his impresario's hat, Roger Dix's three-act show appears to have got its production well sorted after a very short rehearsal period.

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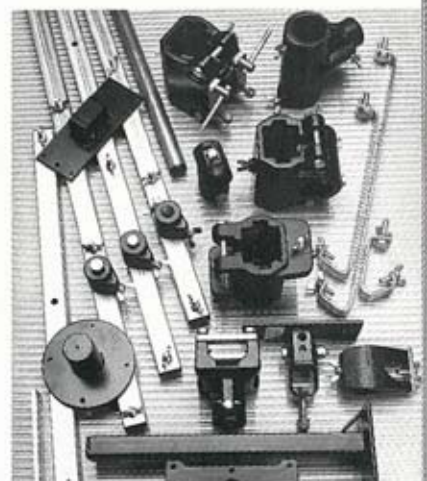
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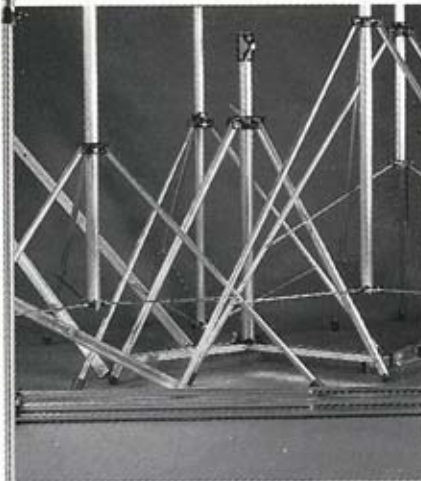


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# WORLD CONGRESS CENTRE, MELBOURNE

Denis Irving discusses the technical background to this major international conference centre



The interior of the Latrobe Theatre with the motorised screen panels open.

To reinforce the 'international' of this journal's cover name, a few words from Australia seem appropriate. A year or so ago, wearing a different hat, I was involved with a bid (successful, we're glad to say) to bring an International Quadrennial Conference to Melbourne, finding during the process that many Northern hemisphere residents still (a) regard Australia as an impossibly long journey away, and (b) think it is populated mainly by kangaroos and/or sheep, hence would not have facilities of international standard.

As for the first, if Australians can be regular attendees to US or European functions, which they clearly are, then surely the reverse should apply. For the second, although it must be admitted that our kangaroo and sheep populations are currently very high, Sydney and Melbourne are cities of over three million people each, Canberra, Adelaide and Perth about one third that size, and all five have conference/convention centres with large auditoria, varying from good to excellent.

The most recent of these, entitled (rather grandiosely) the World Congress Centre Melbourne, is the focus of this article. It is the final part of a scheme begun a number of years ago, comprising a group of multi-storey commercial buildings surrounding a large galleried space, plus a hotel and convention centre, all being a re-development of old wharf and dock areas on the bank of the Yarra River, which forms the southern boundary of the City of Melbourne. The original brief for the convention centre was written by government and advisory staff who had little realisation of the requirements for contemporary presentations, and the rapidly developing techniques of audio, video and lighting which are part and parcel of most conference events. Our first introduction to the job was in 1987 following the appointment of a project

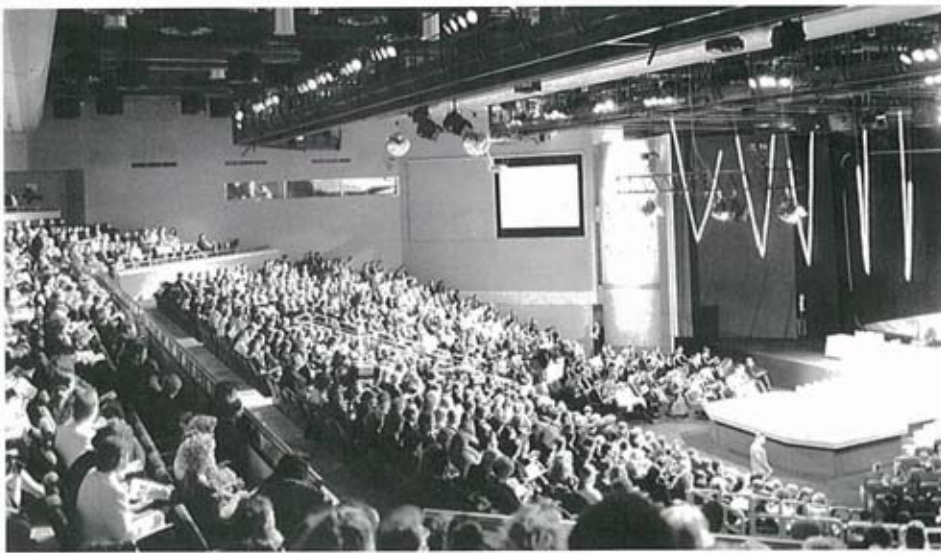
management team to oversee design, construction and equipment by first formalising the design and performance specification, and then monitoring costs, standards and timetable. The team comprised project controller; architect; quantity surveyor; structural, electrical, mechanical and hydraulic engineers plus acoustic consultant and Entertech as theatre and special equipment consultants. Aside from overseeing design and construction in the normal way for the building itself, the team had in effect to act as surrogate operator until such time as the eventual management group and its technical staff were appointed, which was not until quite close to completion date.

The task was compounded by rapid changes taking place in the convention world, whereby presentation and communication techniques previously confined to theatres or television studios became normal requirements in a major centre, not only during convention working sessions but also linked with banquets or other social gatherings in other areas of the building. These sordid technical details are usually far from the minds of policy makers and brief writers. WCC Melbourne being no exception, there were significant changes incorporated during the initial review period, after careful consideration of points raised by Entertech. These were mostly related to the Latrobe Theatre, John Batman Hall and banquet spaces, and included increased ceiling heights; provision of lighting catwalks and rigging points; audio and lighting control rooms and upgrading of the audio visual and technical communication provisions. The latter was mainly to provide more than simple speech reinforcement in the theatre and plenary hall, and to provide a full sound system capability in the banquet hall.

As can be seen from the plans (page 28), the aim is to provide exhibition spaces; accommo-

datation; meeting rooms; catering areas and theatre spaces under the one roof, with some areas convertible so as to accommodate varying sizes and styles of event. This being a technical publication, we will assume the drawings are self-explanatory, and turn our, or rather your attention to those areas used for presentation or entertainment, i.e. the John Batman Theatre (1500 seats), the Latrobe Theatre (500 seats) the Bellarine Banquet Hall (2000 seats, variable) and a whole collection of smaller spaces. The first two have tiered seating with good sightlines, noting that the John Batman has the rear six rows on a permanent balcony. The remaining 12 tiered rows are demountable from a Japanese designed retractable and relocatable tiering system thus allowing conversion to 2500 seat flat floor (ugh!) operation good for political rallies, or extension of exhibition space by opening operable wall sections at the rear. The task was to see that the various spaces could be used for a whole variety of functions from simple meetings through to elaborate trade presentations, television broadcasts, video conferencing or whatever. Broadly, this means each meeting room having at least simple sound reinforcement, video connections, lighting control, and provision for lectern, slide projection with permanent screens. The Latrobe and John Batman have complete systems, and the banquet hall a variable rig, described later.

As design developed, and after discussions with various intending users, it was realised that the original separate venue philosophy could be a limitation so it was decided to extend the systems to include tie lines to a central patch area. The final scheme has patch bays in the main control room (rear of the John Batman Hall) to which come lines for audio, video, intercom and data from small patch fields in each venue, in exhibition spaces, and two outside broadcast van connector points.



The AFI awards night in the John Batman Hall.

For video conferencing, a 3m dish on the roof receives direct satellite signals, which are fed into a broadband reticulation throughout the centre, reappearing on monitors, or Barco 1500 video projectors where required. Outward video can go by either fibre optic tie line or portable micro wave link to nearby satellite transmitter units rented by the hour when needed. Fixed cameras enable viewing of any area via the broadband (with patchable disable when security requires) and two national F15 cameras are used as re-locatables.

The two data highways linking all areas have two main uses — one is for transmission of data during conferences, e.g. speakers may have PCs linked to the Barcos for graphics display, and the other is housekeeping. The latter includes display of event schedules on monitors, operation of signage, connection of point of sale units and so on. Mixing allows overlay of text onto video for re-distribution, extending into the hotel's separate system as needed.

Moving into the larger spaces, the Latrobe Theatre is a modified lecture theatre. Seating 500 in a 90° fan around a small open stage, it has a fixed, tilted screen behind motorised solid wall panels, pictures thereon come from a Barco which descends from the ceiling; from a Fumeo Xenon 16mm projector or up to three Kodak 400W carousels. A large central control room at the rear (with windows opening enough to get direct sound) houses audio, video and lighting control and equipment racks. The end sections are divided off, and can be used for follow spots or as interpreters' booths. A single catwalk runs overhead for FOH lighting, there are side bars and stage bars in addition. Which is the cue for reference to stage lighting, an item which suffered from initial budget restrictions. In this small theatre, there is the conventional arrangement of 3 pin lighting sockets distributed along the various lighting bars and floor traps, fed via a patch panel of 3 phase plug points, each with a DMX512 connector alongside, so

that the portable dimmer racks are used as active plug boxes for connection of lighting units. This same approach is used in the other two major areas, where 3 phase power and DMX512 are run to various points overhead, on stage or in floor traps so dimmers and lighting can be rigged wherever the occasion demands. Visiting VIPs are not forgotten either, there are ceiling mounts and cabling for OB lighting in the lobby/reception area, and the VIP/press room has a pipe grid over (polished stainless steel, no less) with its own lighting patch and dimmer-DMX provisions. Equipment provided comprises two Strand Lightboard MS (1x60ch, 1x96ch) and one Action 24 plus 180 dimmers in 18 portable dimmer racks.

Going now to higher levels, there is the Bellarine banquet/exhibition area on the same floor as the rear of the main John Batman Hall balcony, and the main hall itself. They have a similar design of barrel vaulted roof, indirectly lit with three colours of cold cathode lamps, plus myriad low voltage dichroic reflector lamps (a prevailing disease amongst our lighting designers at present), in the case of the banquet hall low brightness louvred fluorescent fittings for higher lux level occasions. The John Batman has Toshiba HPS lamps in deep bowl reflectors for the same purpose, as have all the exhibition areas.

Stage lighting provisions in the banquet area were a problem — firstly to convince 'them' that stage lighting would be used there, ("It's a catering or exhibition space not a theatre") and then to find a solution which did not spoil the

already designed interior and did not require floor standing units. The solution was to put heavy duty standard diameter rails along each vault edge, and make up aluminium tri-truss spanning the 7 metre gap. It would have been nice to include small dimmer packs in each truss, but finance dictated standard units. The trusses can, of course, also suspend video projectors, screens and other paraphernalia. As the centre has from the outset owned a Cougar lift and a self-propelled scissors lift, rigging can be fairly readily achieved anywhere in the banquet area. I forgot to mention, by the way, that there are three large lifts, one of which can accommodate a loaded three ton truck, which connect all levels to the street loading bay.

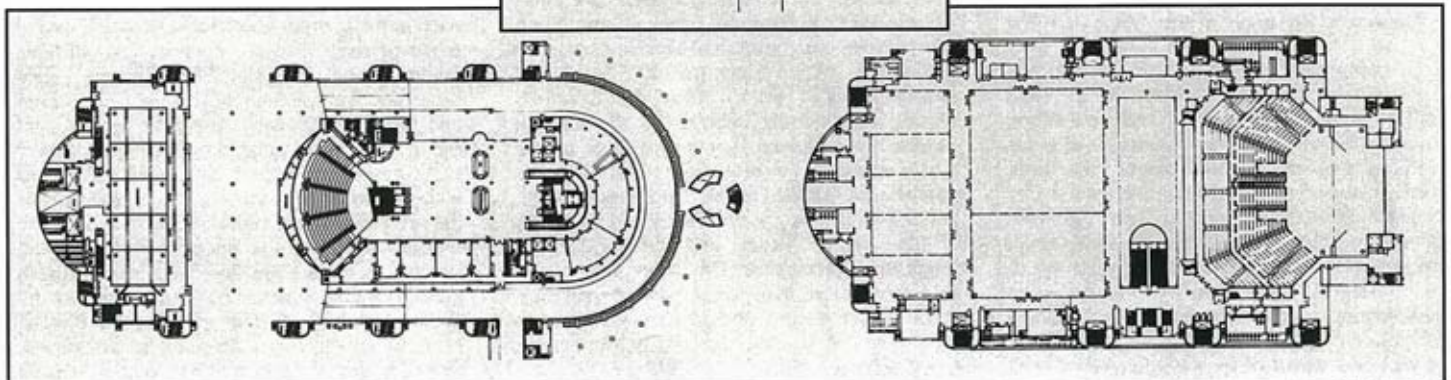
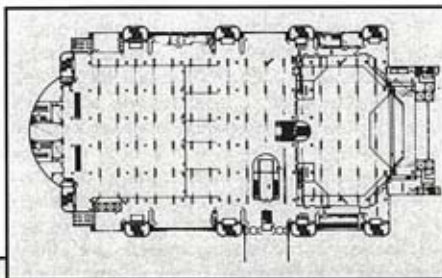
The main hall, first conceived as a large lecture theatre, but with added catwalks over, some wing space, and extended rear stage now serves as a passable show theatre but without flying height. Curtain tracks and handwincches provide basic staging, and overhead steel can support the usual truss rigs, a moderate kit of which is kept in-house, with a small collection of Pan cans. Strand profile and fresnel units, DeSisti 5k fresnels and cyclorama floods, and, after much agonising over delivery delays, 4 MSR 1200 follow spots, two CCT (with two different front lens assemblies each) and two of the latest Teatro models also feature.

For video in the main hall, after discussions on various expensive large screen projectors, scanning lasers, Jumbotrons and other exotica, it was finally decided to use two side screens (normally hidden behind motorised panels) and one centre screen all used with ordinary 3 tube projectors. This also means that three different images can be seen simultaneously for video conferencing. The centre screen is 11m wide, motorised roll up variety — all screens are matt white because of wide viewing angles.

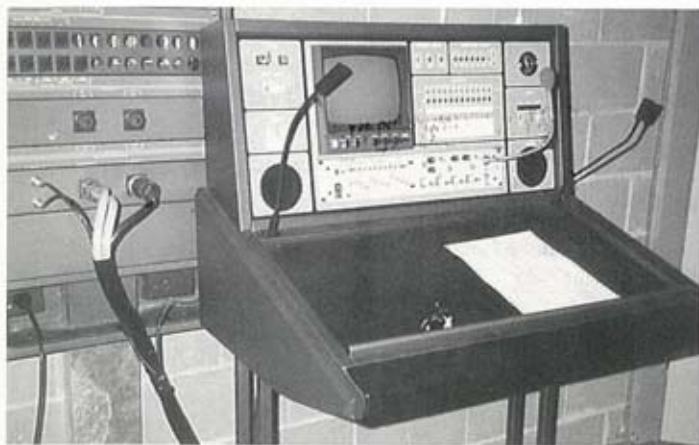
Those more astute readers who have kept with me so far will note that sound has not had much of a mention yet, and also realise that a great deal of committee time and argument would be involved in deciding what methods to use. In fact, there are several systems for the centre, ranging from a fairly standard paging/background music/emergency evacuation system, through to performance rigs.

Each meeting room has its own distributed ceiling speaker system, fed via a portable lectum and amplifier rack unit plugged in when needed. Larger multi use spaces have mic lines and loudspeaker lines run to local patch bays, for use either with local sources/mixer/amps, or fed down from the central patch field.

The banquet hall, which is divisible into up to seven smaller spaces is harder, not only because of the divisions, but also as the temporary cabaret stage may be anywhere in the room. So, basic speech and low level music (more correctly muzak) are reproduced via 70 JBL Control 1s mounted on the aforementioned lighting rails, driven by a rack full of modular amplifiers in turn fed via a matrix patch field from the signal source. It is hoped later to add a computerised programmable delay system so



Pictured above are the schematics for the Latrobe Theatre (left), the Bellarine Banquet and John Batman Theatre (right) and (inset) the main exhibition hall with the flat floor of the John Batman Theatre.



Jands Stage Managers console.

the JBLs can be arranged to follow correct imaging for support of main systems, irrespective of their particular location in the room.

For moderate productions with staging, composite boxes (wait, I'll tell later) are ad hoc hung from the lighting bars on trusses, and for louder sessions the centre has a portable concert system usable anywhere.

One particularly interesting process in which design team, project managers and operation staff were all involved was the selection of loudspeakers for each principal area. Starting point for the discussion was whether to use composite boxes or horn and bass clusters — this led to consideration of various brands, until it was clear that only a listening test would decide the issue. Hence Jands, the A/V contractor, assembled some 18 or so different speaker combinations behind a black scrim on their loading dock facing a yard area and roadway approximating free field conditions. These, unidentified except by random number, in turn reproduced the same CD test track to an audience of WCC and other personnel of varying background and expertise.

The best five systems selected by vote were then identified, and re-run using a selection of test recordings supplied by those invited, and another vote taken. The result was an overwhelming majority in favour of Apogee systems which were chosen for the theatre and banquet hall, although JBL clusters were retained in the plenary hall for the sake of speech clarity in that large volume, this after a further direct comparison test in the hall itself.

Main mixing desks are Soundcraft; foldback consoles Yamaha; EQ by Rane amplifiers by Jands Electronics of Sydney who were the main contractors for supply installation and commissioning of the whole A\$3.5 million equipment contract for all the audio/visual works, except for stage lighting and general paging.

Still on sound, the aim is to provide the main areas with three systems, i.e. one for general speech and music re-inforcement, one for enhanced, directional sound, and one for major

concert or performances. For the two theatre spaces, a further arrangement is known as the delegate interactive system. All seating in the Latrobe, and the upper rows of seating in the John Batman main hall are covered by a series of ceiling mounted Sennheiser shotgun microphones fed via Altec automatic mixers into amplifiers and loudspeakers directed towards the chairman on the stage, thus avoiding the need for roving microphones. In practice, with careful operation and using anti-feedback amps, it is also possible for delegates speech to be relayed back into the main reinforcement system, albeit more successfully in the smaller theatre.

To complete the brief run down on equipment, each lecture space has a Lectrum lectern unit with inbuilt microphone and controls for lights, slides, video etc. using a York Controls system operable either manually or as a programmed sequence. The house lighting is operated by Strand Environ processors, with handwired or wireless remote stations, as well as interface with the York systems.

Each main venue has a ClearCom SM four ring talk-back master station, again with links to central patch so the whole building can be controlled by one SM for a major event. Finally, there is an array of Eleco radio microphones for general use, and induction loops for the hearing disabled.

Seeing that we started with a building looking remarkably like a multi level car park with a few holes punched into it, one must pay tribute to the design and construction team, Grocon Ltd, John Andrews Architects and Lincolne Scott engineers, and Pizzey Noble Atkinson as project managers that technical change and development were achieved without undue extensions to the two year construction programme or the A\$110 million budget.

If present use and future bookings are any measure, then it is a successful project — the biggest problem at present is finding free time for the inevitable maintenance and minor reparation work. An important factor was the appointment of WCC's technical manager Bob

Champion at least 12 months before completion, as removing some of the guesswork on operating methods and preferences. So, we'll conclude with some contributions from him:

The World Congress Centre Melbourne has enjoyed a successful entry to the local and international convention and function market. Current usage levels, if maintained, point to a bright and prosperous future.

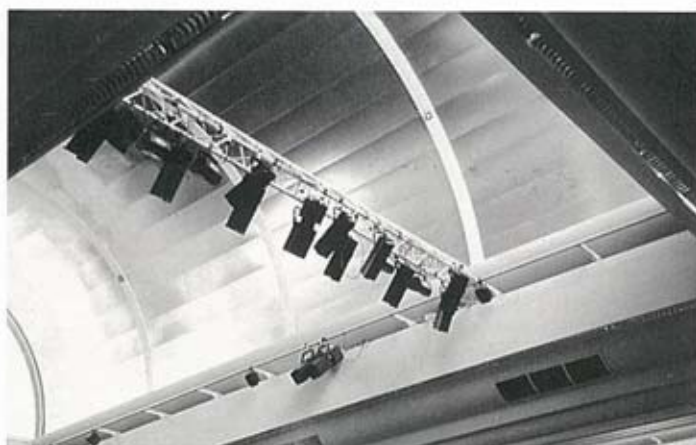
Having the opportunity to be involved in equipment selection, the actual layout and, to a lesser extent, interconnection of the systems, has certainly been a major contributor. This being my second such project, it has been an unbelievable improvement on the first, in which I was not appointed until actual commissioning and handover. I spent the next four years trying to cope with gross inadequacies created by well meaning people of short vision.

With the WCCM, a major goal was achieved when the board was convinced that a well equipped centre would be an attractive centre, and approved a substantial sum for a central store of portable equipment. We have the resources to cope with all but the highest and most unusual of demands boasting an inventory that would make smaller audio visual hire companies envious. With a possible combination of up to 21 different venues running at any one time the investment is paying off.

Having the opportunity to plan my methods of hurdling some of the less pleasant architect inspired problems for some 16 months prior to opening, has made the whole process of turning the place inside out for over-zealous set designers and producers all the easier and I am grateful for having had the opportunity.

Next time though, I'll make sure we get in on the act before it's too late to include the all important fly tower!

**Denis Irving runs Entertech, a technical design consultancy in Australia, for theatres, convention centres and the like. He and the rest of the team for WCC would now like to use their hard won experience on another major centre, this time starting at the very beginning!**



Tri-truss section spanning fixed lighting rails in the Bellarine Banquet Hall.



The control room for the John Batman Hall with Strand's Lightboard M in the foreground.



The modular amplifier rack room, with mobile Yamaha audio console in the Bellarine Banquet Hall.

# FROM A DISTANCE

## Catriona Forcer and John Offord at Wembley Arena for Cliff Richard's latest sell-out tour

Photos: Nik Milner

Cliff Richard's current 'From A Distance' tour started last January in Australia as the 'Stronger Tour' where it was on the road for three months, and also took in New Zealand. After a four week break it then went to Europe for a month.

"Most of the summer was off, apart from the planning for this show," explained lighting designer Bob Hellyer. "Cliff wanted to do a special show for the British audience combining the 'Stronger Tour' with the Wembley Stadium gig we did in 1989, taking essences from both to produce a special show. Hence the 'From A Distance' tour. It was to be a large arena gig with a large rig incorporating lasers. It took a lot of planning, in fact 90 per cent of the summer period was spent at the drawing board.

The lasers were hard to work out and I went to Laserpoint with the ideas I had. I wanted to put everything on fibre optics so that the lasers could stay on the ground. We put the laser heads where we wanted them rather than where they had to go because of physical restrictions. To produce the desired effects we had to have the heads in certain places. Laserpoint came up with the ideas along with the positionings that I wanted.

"I then sat down at the drawing board, working out the angles because the scanners can only scan a maximum of 40% and the head

had to be in the right place for the effect. I did a series of drawings which was quite time consuming but worked out right in the end. Everything I wanted to do, we could do. Apparently the Health and Safety people came to see the set up and they said it was the most tidy and safe system they had ever seen in Wembley.

"Apart from the laser heads we've got about 300 Par lamps of varying types and 60 Vari\*Lites, mostly VL4s with some VL2Bs. The Vari\*Lites help fill out the extra size of the stage, in fact whilst trying to modify the 'Stronger' rig we ran out of physical space to put lamps. Because we needed a bit more light we've added a front truss which is not on any drawings. There are neons around the edge of the stage and also a couple of treble clefs in the stage set for the first half. There is quite a bit of Arcline in the trussing and stage set which adds a bit of sparkle. There are also strobe Lekos, which I won a small hire stock of, to allow us to strobe just the downstage area of the set for a dance sequence."

The first half of the show is entitled 'Oh Boy' where Cliff sings many songs from the fifties and sixties and the lighting is subdued and mainly white. The stage set is quite different during this half with the drum kit on the risen walk-way which skirts the stage. For the second half of the

show it flips over, together with the keyboards, so that the bottom becomes the top. The stage gear for the second half comes out of the stage and the drum kit slides up at an angle from upstage to fill in where the steps were earlier. The keyboards on stage left and stage right are housed under the stage set on rollers and pushed out. It isn't until the second half that Bob Hellyer's lighting talents come into full and obvious effect.

"Our original idea was to leave the stage set during the interval as it was and then begin the second half with a laser show," continued Bob Hellyer. "This would distract the audience whilst the stage change-over took place, all in two minutes. When finished the band would then all be in different places. But because of the spill from the lasers you could see everyone on stage and it wasn't quite as magical as it ought to have been! We still start the second half with a laser show, however.

"The main problem with the show is getting it up in time. The first time we had to put it up on a show day we were an hour behind sound check time which actually wasn't too bad. Also, all the memory in the desk corrupted the other week and I had to quickly patch up the 20 way matrix panels to 'busk' through the show. It wasn't as hard as it sounds because the Vari\*Lites do most of the lighting and I just





'From a Distance': the 'Devil Woman' scene (above); a scene from the sixties (above right); the all-action laser display that starts the second half of the show (below).

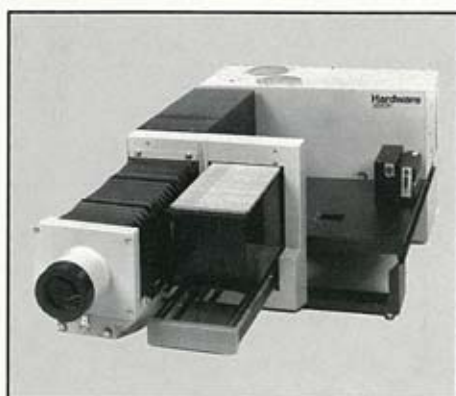
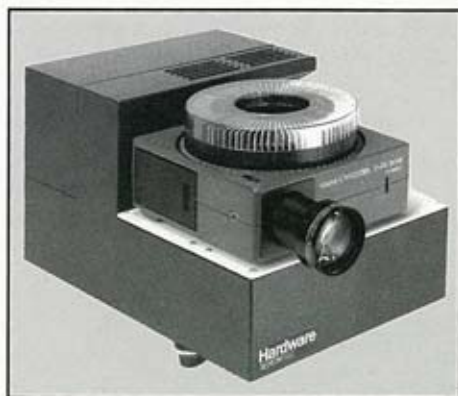


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punch in the special effects and generic lighting. It was impossible to get another 180 channel desk to load my disc into as there wasn't one available. I could have had a 90 way but basically I could have done a better show just on the 20 way matrix and that's the way it stood in the end."

Some people might have noticed a few 'disco effects' in the Cliff Richard 'From A Distance' show — which is hardly surprising as Bob Hellyer has been making a name for himself as a disco lighting designer as well. Last year he designed the Vienna night club in Maidstone and also the Hard Rock Café entertainment area in London. It is work that Bob describes as hard, not that rewarding, but certainly a challenge!

**Lighting, trussing, rigging equipment, smoke and cracked oil machines, etc, from Samuelson Concert Productions Ltd.**

Lighting designer: Bob Hellyer  
Lighting crew boss: Jerry Mott  
Vari\*Lites: Derek Jones

## Laserpoint's special custom-designed touring package

When planning the Cliff Richard 'From A Distance' tour LD Bob Hellyer turned to Cambridge-based Laserpoint Communications for the show's spectacular laser effects. Having used them on Cliff's Silver Tour in 1980, he contacted Laserpoint's Ron Turpie and told him what he had in mind. In due course Turpie produced five different configurations for Hellyer who eventually opted for a combination of two of five suggested schemes.

Ron Turpie told L+SI: "What they wanted was to have the lasers flown as part of the lighting rig. The system is using seven individual lasers with an eighth as back-up. It simply wasn't possible to position all that weight and volume in the lighting rig, this meant taking the laser light from the power source to the truss mounted effects head by use of fibre optics."

The system had to be custom-flight cased, and the services, i.e. water and electricity, had to be able to be connected into the lasers and ready to within two hours at each venue.

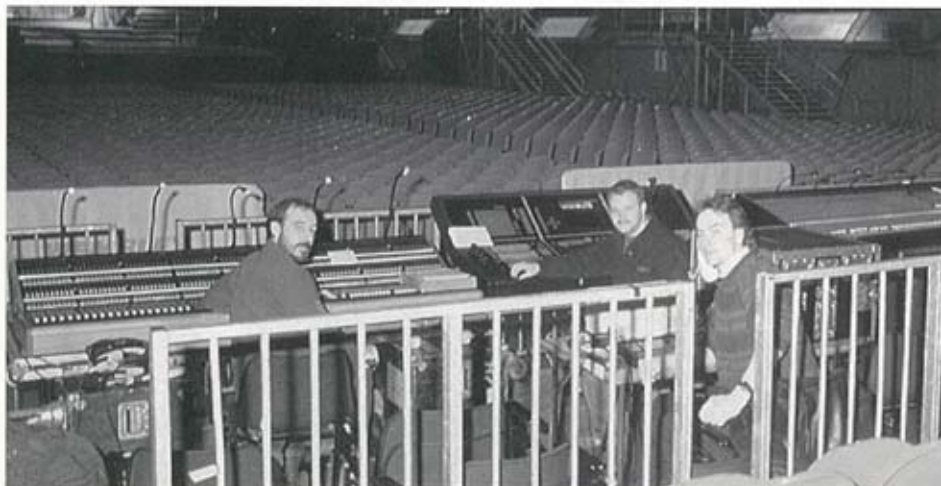
"Developing such a laser system meant combining a number of original and established design ideas to create a unique touring system," continued Ron Turpie. "At each stage of the development Laserpoint considered the logistics and safety aspects of the show in order to deliver on time and to specification."

The system's seven lasers (and additional back-up unit) are all 2011 Spectra Physics 5 Watt Argon with power supply unit and remote controls. Within each flight case are two lasers with their exciters, and the remote control and connections for power and water are at the back. To enable the services to be connected easily a mains distribution and water pump were specifically designed by Laserpoint's operations manager Paul Johnson.

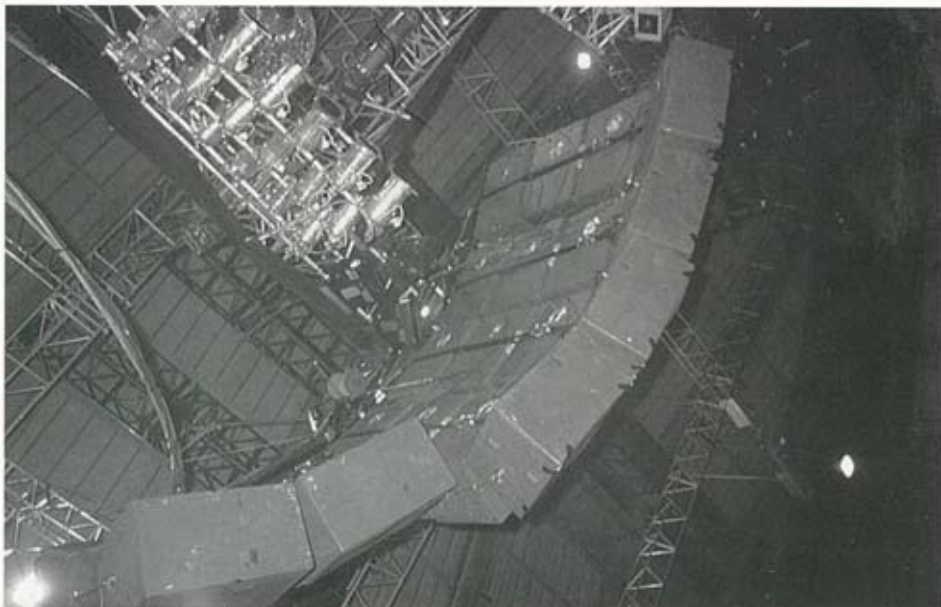
The fibre optic and coupler fed from the front of each laser to the remote effects head measures 50 metres in length and the seven remote effects heads are complete with Z blanking and five effects servos. They have a TV style spigot and hook clamp, and the head also contains the optics and drive electronics, making a very compact and easy-to-rig unit. The whole laser display rig is operated by a Laserpoint Aquarius controller in eight channel mode, located in the lighting control area in the centre of the auditorium, which is completely MIDI/SMPTE compatible.

### For Laserpoint:

Ron Turpie (system sales)  
Paul Johnson (laser operations)  
Brent Watson and Ian Twerl (laser operators)



Lighting/Laser trio of Bob Hellyer, Derek Jones and Ian Twerl.



Turbosound units viewed from stage.

## Bob Hellyer: Lighting Designer

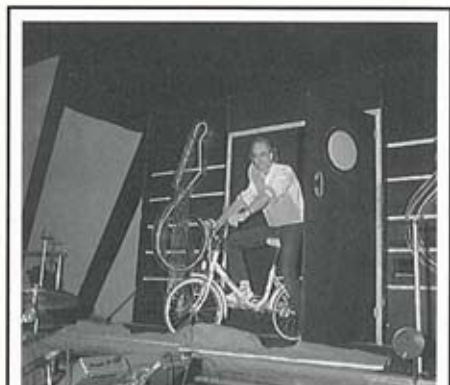
In the early seventies computer engineer Bob Hellyer started a mobile disco with a couple of friends and hired his lighting effects from Entec. One summer Entec turned and asked him to look after followspots at the Reading Festival and, originally just for fun, Bob agreed. What had started off as a two-week break from the heady world of computer engineering ended up as a full time career in the unstable world of lighting design.

Bob Hellyer worked for Entec for two years during which time he did his first major tour, with Black Sabbath. "I was actually doing the PA work at the time," explained Bob. "But that's just heavy boxes and loud noises so I asked for a lighting gig. It was quite a large rig for those days with 60 lamps. They were all beam lamps and 743s with T11 bulbs that all fell apart. I started the tour with 20 or so spare lamps and it ended with 20 lamps down!"

In 1976 Bob met Peter Clarke and consequently went to work for him at Supermick where he had the opportunity to design for many bands including The Buzzcocks, The Pretenders, The Three Degrees, Elvis Costello, and Ian Dury. It was in early 1976 that Supermick first got hold of a Cliff Richard gig in the form of a gospel tour. It was a 2 x 12 lamp genie tower rig which Peter Clarke designed and started on the road and which Bob took over later in the tour. Since then Bob Hellyer has worked on every Cliff tour except one which clashed with a Pretenders tour he

was doing at the time.

"Lately I've been working so much with Cliff that people tend to write me off thinking I'm with him full time," he complained mildly. "There are times when I need other work and I can turn my hands to quite a few things! Since working with Cliff I've been getting lots of middle-of-the-road bands like Shirley Bassey and Barbara Dickson. However, I don't like getting into the rut of being called a middle-of-the-road designer and I'd love to get my hooks into something like a heavy metal band. Whether the grief factor is worth it is another matter! You get stifled if you are in one vein too long and you become jaded in what you do. You need the excitement of something else to give you ideas and inspiration."



A special appearance for L+SI: Cliff Richard's production manager and set designer John Seymour.



Wembley Arena: a view from stage showing speaker positions.

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- 1 x Roland SDE 3000
- 2 x Drawmer gates
- 4 x BSS compressor/limiters

**Monitor Effects rack:**

- 2 x SPX900
- 2 x SPX90
- 2 x BSS DPR402 compressor/limiters

**Standard Drive rack:**

- 1 x Klark Teknik DN60
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- 1 x BSS MCS200 crossover cassette machine, CD player

**Monitor Drive rack:**

- 4 x BSS FDS320 crossovers
- 2 x BSS FDS340 crossovers
- 4 x Klark Teknik DN360

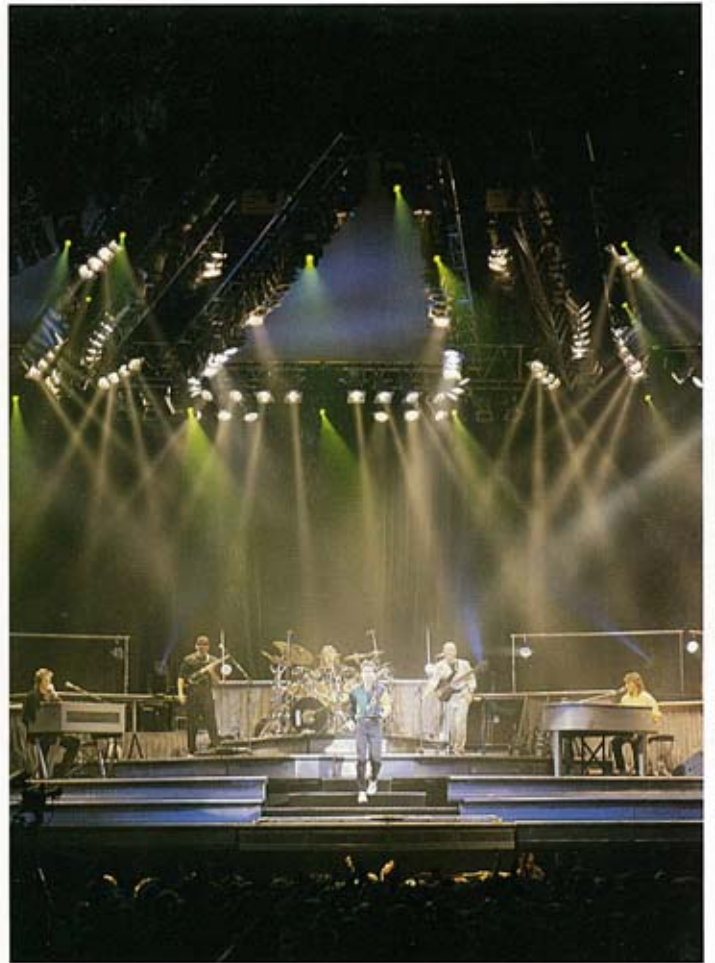
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# LIFE BEYOND DMX 512

Tony Gottelier chaired discussion panels held at the Plasa Light and Sound Show and at LDI on standardisation and the future of control protocols. Here he reports on the outcome of these deliberations and makes some hopeful long-term predictions



Top: Tony Gottelier (right) with Steve Terry, Charles Woods, David Bertenshaw, Francis Reid and Simon Temple at PLASA and in the lower picture at LDI in Orlando with (left to right) Charlie Richmond, Andy Meldrum, Matt Deakin, David Bertenshaw, Steve Terry, Anders Ekvall and Gordon Pearlman.

I suppose it is typical of a good argument that it takes some considerable time for the various sides to find out what it is they are really arguing about. Which, once established, may in itself provide a consensus, or at least a compromise.

Indeed, this seems to have been the case with the great DMX debate. No sooner had it been suggested that the USITT protocol might not be all that it was cracked up to be, than articles by myself, Steve Terry and others started appearing in the professional press pleading the case for retention and, or, extension, on the one hand, and total replacement on the other. Several thousand words and SMX later, (SMX is Strand's second generation protocol intended to offer an open alternative beyond DMX for the professional theatre and AV user), the discussion continued at a formal seminar at

the PLASA Light & Sound Show in London at which the battle lines were well and truly drawn. It was only when the smoke had cleared from that session and we all arrived at LDI in Orlando for the sequel debate, that it became obvious where the real problems lay, and we were able to get down to finding some real solutions.

So let's have a brief reprise for those who aren't up to date with the history. (Don't worry, this will be non-technical in order not to lose the wider audience who will have, at least, a commercial interest in the subject.)

It was in 1986 that the USITT dimmer standards committee, chaired by Steve Terry, first grasped the digital nettle and gave us DMX512 as a universal protocol and digital alternative to the old analog 0-10 volts system. They recognised that a common standard in the relatively new language of

microprocessors was essential in order to avoid mayhem in the market place. (Just imagine what life would have been like for the previous 15, or so, years if the manufacturers hadn't all gone down a very similar analog route, and of course there was no real reason for them not to do so.)

In the intervening period, from 1986 onwards, DMX512 has been widely adopted by board manufacturers for the control of dimmers as it provides a fast and economic method of dimmer control and direct soft patching of outputs at the desk. However, the speed with which events have overtaken the original requirement for a protocol only to control dimmers has been truly breathtaking, and this is what has led to the current controversy. For USITT intended the system to be good for dimmers only; they had not considered intelligent lighting. It was not part of their brief; nor at the time could they have seen it as necessary.

Nevertheless, in less than three years there was a veritable explosion of these devices coming on the market and all sorts of other peripheral equipment, such as colour scrollers, besides. Some designers, in their search for a quick fix, saw an unintended potential in DMX512 and used it successfully to control these peripherals, including driven lighting. (I am one of those and I have to say that I have not yet had any cause to regret it. But then my requirements are certainly quite different from those of a David Hersey, or an Andy Bridge.) Others, as the result of lack of information - many designers of digital equipment in Europe, at least, recruited from outside the industry, or working freelance, were unaware of the existence of DMX512 or for misplaced commercial reasons, or because, like Vari-Lite, they thought they needed something more, and went for their own dedicated protocols. The result, predictably, has been anarchy and probably only Vari-Lite, because of their astute and highly successful marketing policy, have really got away with it.

Picture the situation at companies like Strand and Coemar where, almost without realising it, they ended up with as many as three different dedicated protocols in-house - none of which was mutually compatible to the other! Mixing these products in the same scheme became a nightmare: control, at best inefficient, at worst, incomprehensible and future-protection zero. Imagine not being able to offer combined control to a single user wanting to integrate PALS, Parscan and Showchangers.

At the same time a parallel requirement came to light with all this new and highly sophisticated gear, and that is the need to centralise cueing via a master desk talking to various sub-boards where the specific programming is carried out on the individual boards and the combined show cues are called from a central desk. However, although I shall come back to it, we shall see that this requires a totally different solution

from the control of external peripherals, and this may have been one of the confusions which has tended to cloud the debate until now.

Nevertheless, no sooner had people started using the USITT interface for a purpose for which it was never intended, DMX512 was intentionally a lowest common denominator solution, than they started to find holes in it. The absence of error checking and consequent lack of security, insufficient precision for today's highly sophisticated moving luminaires, restricted bandwidth and lack of logical room on the data link, the absence of bi-directionality and intelligent message targeting, were all identified as weaknesses. I don't want to go into all the arguments and potential solutions here, as these were all well worn and fully aired at the Light and Sound Show seminar. It is sufficient to say that simple solutions have been provided for many of these problems by Zero 88's Richard Thornton-Brown, Oska's Mick Martin, Charles Woods and others, the problem in implementation being that effectively this could mean a new standard anyway, which is fine if it can be made compatible with the old one, but a disaster if it spawns yet another, but intermediate protocol. The modifiers are basically happy to retain DMX albeit in an improved form as far as error checking, mode byte definition, and so on, are concerned, but they are unlikely to see the need, nor to support the extra cost of 'bi-directionality or volume expansion.

These last items are exclusively the preserve of those designing instruments demanding a high degree of precision, for example resolution to one third of a degree, or two inches at 30 feet (solutions to this are also available to the ingenious within DMX, witness the 512-based Summa HTI system to be distributed by Celco in the UK, which claims a resolution of 0.0055°), and along with the designers of moving rigs, requiring constant monitoring of state and position. And those who envisage the necessity for as many as 2000 control channels. (Not so huge a number as it may seem in these days of mega rigs, if you calculate at ten control channels per instrument for articulating lights, thus 200 receivers as opposed to the 32 envisaged on a single line within DMX).

Clearly, there is resistance on all sides to expanding the DMX standards to embrace all

## Statement from Charlie Richmond, chairman of the MMA Working Group and Midi Show Control

MIDI Show Control (MSC) is an extension of the MIDI protocol which is intended to work along with all existing MIDI messages on the same MIDI network without adversely interacting with them. This proposed standard is being developed by a wide cross section of theatrical, lighting, sound and show control systems manufacturers and represents a method by which the most complex live (or preprogrammed) performances of all types may be controlled via a unified protocol. It currently incorporates defined commands and responses for the following general categories (with specific sub-categories defined in all cases): Lighting, Sound, Machinery, Video, Projection, Process Control, Pyro. Beyond this, we cannot at the moment disclose but wish to assure the industry that we believe it will both address all the current and future needs (because it is expandable) as well as provide a uniform and easy-to-understand user interface for controlling all forms of entertainment technology. One final comment: this is not intended to provide an alternative to DMX512, SMX or any other console-to-device interface, nor will it ever become such.

these sophistications, as Steve Terry says, "I don't want DMX to be the last communication standard in our industry." So an additional new standard, not a replacement for DMX but an alternative protocol for the more sophisticated application, is required. Such a solution should solve everybody's problems while satisfying those, such as myself, who have argued for the retention and improvement, where practical, of the DMX standard and its use by those Europeans who could, because their demands do not exceed its limits, but don't at present for what they may perceive as the legitimate commercial reason of restricting compatibility to their own product range.

In an attempt to solve the problem within their own organisation, and to provide a solution for the demands of the more sophisticated user, Strand Lighting came up with their 'beyond DMX' protocol which they have opened for industry scrutiny and offered via USITT as a possible new standard, though it should be noted that it is unlikely to be accepted as such in its present form. Nevertheless this should be an encouragement to others, like Vari-Lite, to make a coherent contribution to the debate, instead of standing on the boundary shouting Ya, Boo, Sucks. For they certainly didn't get it right first time around and had to rewrite for Series 200.

SMX attempts to solve these problems by using the ISO (International Standards Organisation) open system interconnection structure, intended for the computer industry, which they have adapted to enable inter-

desk communication and to talk to numerous receivers via a bus. However, for some it is, variously, intimidating, too complicated and too costly, notwithstanding the many animal epithets thrown about at LDI (dead duck, dog meat, 800lb gorilla, monster etc.). For others it doesn't go far enough. For example, though data-rates can be ten times faster than DMX, Strand had previously acquiesced to the result of a USITT deliberation, which suggested that rates of between 10 to 100 Mbaud might be necessary in a big installation where a fully integrated desk-to-desk-to-dimmers-to-driven-lights system would be highly desirable. When tackled about this at the LDI debate, David Bertenshaw, Strand's director of R&D, defended the decision on the grounds of cost, which raised a considerable gasp from the room as the prospect of yet another stop-gap low common denominator protocol sunk in.

But this was as nothing to the hubbub which erupted when he announced, seemingly out of the blue, that SMX wasn't cast in stone and that, not only were Strand prepared to be flexible, but version 1.1 was already on the way!

Initially most responded with shock as it had not been originally presented in quite that way, and pooh-poohed the announcement by asking how they could possibly treat it seriously in such circumstances. But when Bertenshaw made it clear that he was prepared to consider any variant, using SMX as a transporter, even a new and well received MIDI protocol for desk-to-desk which had been outlined by



Richard Thornton-Brown.



Steve Terry.



David Bertenshaw.

**SMX**

**Why A New Protocol?**

- No current open lighting protocol supports bi-directional functionality
- A protocol with strategic direction is needed which will take lighting into the 21st century
- Recognition that two major protocol issues exist:
  - a. Transport Mechanism
  - b. Application Data Format



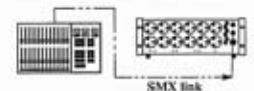
SMX is the first major protocol in the lighting industry that attempts to tackle both issues

2

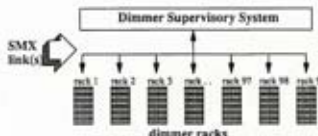
**SMX**

**SMX Applications**

- Control Desk to Dimmers



- Dimmer Supervisory System

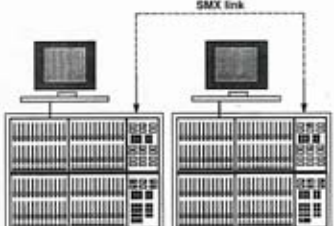


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**SMX**

**SMX Applications Cont..**

- Control Desk to Control Desk



8

SMX: Above, the arguments for a new protocol, and right its various applications.

Charlie Richmond, who chairs an industry committee on the subject and which simply awaits ratification (see panel), that some light began to emerge at the end of the tunnel.

What first became clear, of course, was that inside an individual manufacturer was not the ideal forum to resolve these definitions but then, as has been pointed out, very few others have the funds of a Strand available to enable them to participate, nor the backing of a super-rich Super Group like Genesis. So there we go, at the end of the day maybe it all comes down to cash.

So how can that problem be resolved?

Well, it came to me in a blinding flash while the discussion was proceeding in Orlando that if no single manufacturer could devote sufficient resources, then several would need to be involved and so the most likely vehicle for doing this, as least in the UK, is PLASA. For, not only do they represent many of the interested parties, but they also

collect subscriptions from them annually and, it should be said, from others outside the country indirectly via the annual London exhibition. OK, I accept that there might have to be a special tariff for those who indicate direct interest but that shouldn't be a problem.

All of this would enable the formation of a committee to implement the necessary studies and essential cross-border discussions with other comparable bodies abroad, such as USITT and MMA, which would be absolutely vital if such an initiative is to succeed. Indeed, I suspect that dear old DMX would have made far more rapid progress in Europe had USITT been able to cross refer it to such a body here, so why should not the reverse apply?

Anyway, typically, I didn't just think it, I said it out loud. And since nobody has come and castigated me from PLASA, or anywhere else for that matter, I assume it cannot be too bad a suggestion at that.

Furthermore, I was able to conclude the LDI panel with a positive summation: that DMX would remain the preferred universal protocol for most applications, possibly with

some compatible improvements, (which I understand Steve Terry, USITT's ambassador at large, has subsequently agreed should be considered within the context that a new, more advanced protocol will still be required and that DMX will never be a cure-all); that a new high level standard will be required for advanced applications; that Strand are prepared to see their SMX system operate as a transport mechanism for other protocols, such as MIDI, and are still flexible and open to discussion and feed-back; that the proposed MIDI Show Control standard looks the most likely contender for inter-desk communication. If nothing else, MIDI is low cost and very available. We eagerly await the MIDI manufacturers Association's adoption and approval of the standard.

So, if something positive is now going to happen we should be addressing ourselves to what these various changes might be and encouraging the production of suggestions. I shall kick things off with some of the suggestions I have received from interested parties in the next issue of L+SI together with a report on the changes proposed in SMX 1.1 and would welcome suggestions from all concerned.

Meanwhile, PLASA it's up to you!

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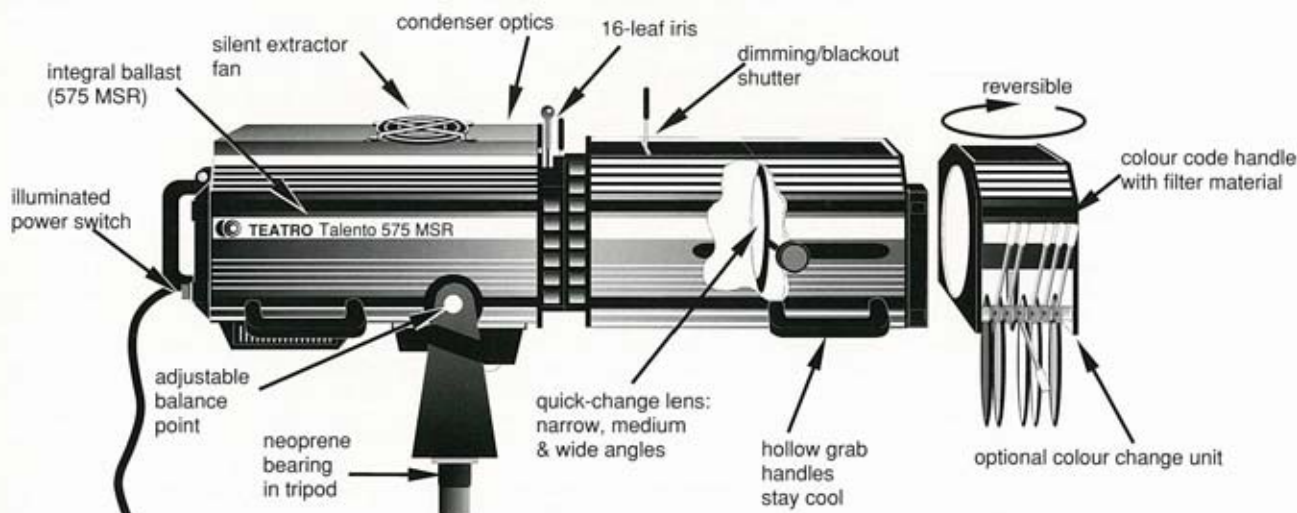
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"Mike Lowe applied his own sure touch to Teatro's new range of followspots and came up with what may well amount to a mini revolution in the science. He recognised that zoom is probably a nonsense when it comes to limes -----"

**Graham Walne, L + S Int- July '90**

"The best product award went to the 'Talento' followspot from Teatro. As an ex Palladium Stelmar operator I approach all modern followspots with in-built scepticism, but the Talento does have a good mechanical dimmer and should prove very popular with small to medium venues."

**Francis Reid, L + S Int- November '90**

"So let me just say that I continued to derive my usual pleasure from Teatro Talentos, Thomas Parcans, -----"

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# SOUNDING OUT THE EIGHTIES

Ben Duncan recaps on how live sound has changed over the decade 1981-1990

"Logically" said my editor, "the 21st century begins on January 1st 2001, so December 31st 1990 must be the end of 'The Eighties'." You don't agree? No matter, for if like the populace at large, you let the media con you into believing 'The Eighties' ended a year ago, it must be no bad thing to comment with twelve months' perspective.

## Hired hardware at opposite ends of the decade

In January 1981, UK PA systems were still predominantly either varying shades of own-design, or else Martin-Midas, a combination of Martin PA enclosures and Midas mixing consoles that had emerged about seven years earlier. Imagine the tour you undertook in 1980 was a particularly exhausting one, and you've just woken up after ten years refreshing sleep. On your first visit to a London venue, you find it exists no longer. Recalling the insecurity of many smaller rock and theatre venues you take this in your stride, and pick another. Inside, the immediate appearance of the rig hasn't changed much. Except there are not so many PA cabinets stacked up as you'd expect, or they seem smaller. Maybe there are none at all . . . until you stare upwards. And (assuming the auditorium's not too dark) there's a high chance that the cabinets you're looking at wouldn't be coloured black, but like denim, they now come in blue, grey or white. Flares, alias horn-loading, remains paramount, but holes, signifying ported loading, are equally in evidence.

After visiting several more venues, you'd probably notice that the range of equipment has broadened. The outfront and monitor boards may still be Midas, but they're just as likely to be from Amek, Soundcraft, Soundtracs, Ramsa or Yamaha. Many have VCA (remote control/ganging) facilities, and most have more sophisticated EQ and routing, numeric readouts, more LEDs, more knobs, lower noise and fewer breakdowns.

**"Modern FX rack contents are incomparably more versatile and sophisticated, yet inexpensive, relative to the £ in 1981"**

In 1981 radio mics were rare, primitive and pricey. Pioneered by Sennheiser, today's multi-channel diversity systems are reliable and inexpensive. It's a godsend to theatre and pass-the-mic seminars. Rock performers too can be dynamic on stage, but to what end? Many just strut up and down; the most basic elements of choreography have yet to be adopted amongst musicians . . . Roland's Space Echo was then an obligatory FX, the first Japanese product to be accepted into the touring professional's rack. Everything else was either made in the UK (Klark-Teknik, Pro-Audio, Rebis and Scamp) or in the US (Eventide, dbx). Modern FX rack contents are incomparably more versatile and sophisticated, yet inexpensive, relative to the £ in 1981, now worth somewhere in the region of only 45p. It's possible because the products are now made in high volume, mainly by Japanese companies (notably Akai, Korg, Roland and Yamaha) who've been able to take a long view, and risk setting up mass production for worldwide studio/broadcast/PA installations and rentals. Today's processors are increasingly heading into the 'digital domain', using purely numeric algorithms, look-up tables and other kinds of mathematical manipulations to generate and/or process analogue audio. How have we

process analogue audio. How have we benefited? First, the range of control permutations has long exceeded the time that engineers have to explore much beyond the makers' presets. Second, the explicit specifications (notably noise, bandwidth and distortion) of today's 'digital' FX processors are an order lower, wider and lower respectively, than the performance of most analogue FX processors a decade ago, and improvements continue.

In 1981, there were no CD players or DAT recorders. Whether for testing and evaluating sound systems, playing background music or cues, everybody agrees they are fundamentally a good thing, even if there are some reservations on reliability and the 'Perfect sound forever' slogan. For quality replay in '81, remember that heavy flightcase containing a masterpiece of Germanic electro-mechanical engineering called Revox? Onlookers speculated that analogue mixing desks would go the same way, but more than one company researching in this direction have found themselves in difficulties having underestimated the gap between making a digital console, and making one that costs no more than the better class of analogue mixers and performs as well, or better, in every way. The arrival of Dolby's SR system (1985) for tape noise reduction moved the goalposts into areas where even the *raison-d'être* of digital tape for master and multitrack recording (established since 1979) has been undermined, leaving R-DAT and CD (including recordable CDs) as the strongest evolutionary 'outcomers' of the billions of \$, Yen, £ and DM spent in pursuit of digital audio record/playback systems.

## Tour Technology

On touring rigs, the most frequently encountered power amplifiers used to be Amcron, RSD, Turner with a smattering of BGW and Phase Linear, while companies with low budget rigs swore by HH or PA:CE, alias MM. A few models could output just over 1kW when both channels were bridged. Since then, the power capability of the largest amplifiers has doubled or quadrupled, to a present ceiling of 5kW. Developments in amplifier efficiency, cooling schemes and packaging have caused the number of racks of amplifiers that have to be manhandled every night to shrink, while the power density i.e. the average number of amplifiers per rack, or watts per amplifier, has typically doubled. Makers responsible for spearheading improvements to weight/size/power ratios in the past decade have been BSS, Crown, Crest, Peavey, QSC and MST-Rauch. Today's popular makes in use across the board include C-Audio, Citronic, Hill, JBL/Urei, Ramsa, Toa and Yamaha.

In 1981 the active crossover could be an own design, a modular design from Brooke Siren Systems, or an SSE (Allington); or from one of a dozen diversifying non-specialist makers. A number of touring sound companies were experimenting with multi-way frequency division, with up to seven frequency bands driving the outfront PA, and with tri-amped monitors. In the intervening ten years, the business has come to use 2-way and 3-way band splits almost exclusively for small/cheap and large/upmarket systems respectively, although 4-way frequency division looks set to make a comeback in future concert systems. Today, Brooke-Siren are BSS Audio, and their FDS-360 and -310 models have established themselves as industry favourites on both sides of the Atlantic, with units from of the Atlantic, with units from Citronic, EV, HIT and

Rane as runners-up, mainly in fixed installations.

Yesterday's stage monitor system was either Martin, or a custom design. A decade on proprietary designs are still in use, but the majority are Martin, Meyer or Turbosound. And today's performers can opt for wireless monitoring, wearing earpieces instead. Returning to the speakers outfront, the early

**"In 1980, live audio was dealt with by a roadie. Today, it's dealt with by sound technicians. The self-indulgence remains, but the emphasis has shifted, from the mouth; today's sound crew are much more likely to be dedicated audiophiles than ten years ago"**

genre of horns, borrowed from cinema developments of the 30s and 40s have gone. The vanishing species include Voice-of-the-Theatre enclosures, W-bins (especially the original 8'2½m high variety made by RCA and Vitavox), plain exponential and radial horns and lenses that were strapped to the front of horns. In their place are constant directivity ('CD' – an unfortunate choice of name after the launch of Compact Discs) horns, bi-radials and many more odd-shaped horns, some with 'phase bungs' up the middle. Oddly, there have been no fundamental improvements to the sonic quality of compression drivers. But today's models needn't weigh as much if you can afford the cost of exotic magnet materials. And a wider range of quality models are available, optimised for midrange up to high treble. In the meanwhile, there's been a return to using pulp cone drivers and less efficient direct radiators in the midrange.

At the beginning of the decade, UK rental companies had begun to follow the lead taken by Claire Bros in the US, who'd packaged bass, mid and hf in one box for ease of handling. Ten years on, the approach has swung back a little, with two-box systems where the bass or sub-bass is separate. Meanwhile, a divide persists between the UK and US approach to concert speaker technology. Hollywood pioneered horn-loaded bass, but major US rental companies abandoned bass bins ten years ago, in favour of vented enclosures and brute force drivers, and as a result, systems are heavier and bulkier than they need be, plus delay towers are mandatory as few, if any, systems are capable of projecting the bass much more than 200'. Several US manufacturers still make bass bins (notably EV and Community) but the clear leaders in developing horn-loaded bass and supplying it for international concert sound throughout the decade have both been UK manufacturers: Martin Audio and Turbosound, with Nexo as runner-up.

In the meantime, EV have gained a reputation with their MT4 system. The first 'processed' speaker system for performance sound was arguably from Bose in the 70s, but the first to be accepted for large scale sound reinforcement was created by John Meyer, a few years before the decade in question commenced. Since then, every major speaker manufacturer has either a dedicated crossover/limiter/delay (X boxes condensed into one box) or else the same, but with 'intelligent' sensing lines to the speaker so the 'controller' can know whether to offer protection and how much. The outcome has been a succession of compact boxes – from Renkus-Heinz, Apogee, EV (Deltamax),



Celestion et al. Each enables a given set of drive units to be fully utilised and safely used all the way up to their limits, thanks to finely tuned protection. In contrast to the traditional approach of using over-rated speakers and amplifiers, the processor approach yields low cost enclosures, but high cost per controller.

In 1980, live audio was dealt with by a roadie. Today, it's dealt with by sound technicians. The self-indulgence remains, but the emphasis has shifted, from the mouth; today's crew are much more likely to be dedicated audiophiles than ten years ago. Irrespective of which side of the Atlantic they're working on, today's sound engineer has to be more technically on-the-ball. Every year, he or she will have to learn the ins and outs of a dozen new FX units and other completely new control surfaces. And live with the irony that a lot of fancy processors insisted on by bands don't have overall positive impact on sound quality, as they prevent the engineer concentrating fully on mixing. On the positive side, the best loudspeakers have got so much better that you're less likely to have to tweak for hours to get that

elusive good sound at successive venues.

**Business**

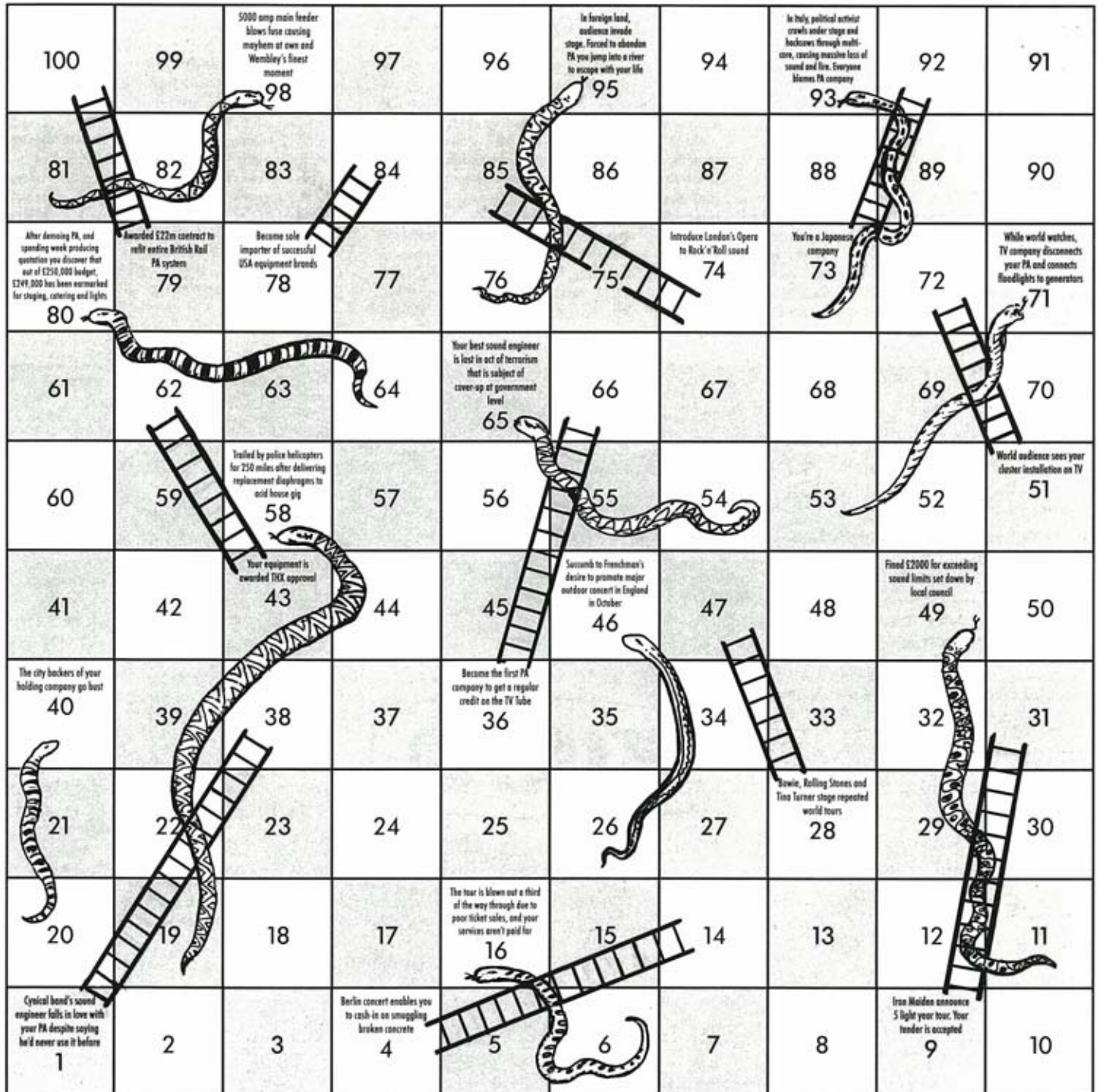
Changes in UK companies involved in sound system technology have accelerated in accordance with developments created by a monetarist and inflationist government, and much less by the process of European unification. Seeing spiralling rents, rates and increasing traffic insanity, many companies have moved away from central London, and some of the larger manufacturers have become plcs. As the decade draws to a close, several have been taken over by rather faceless foreign companies, principally Mark VI and Harman (from the USA), Siemens (Germany) and AKG (Austria). Many new companies have been founded since 1981, amongst them AMS, Autograph, C-Audio, The Hackney Cab Co., Harrison Electronics, Greystone, MST-Rauch, Precision Devices, Opussound, Shuttle-sound, Soundtracs, The Sound Department, Turbosound Sales, and UK Sound.

Some world-class companies who appeared to be losing their grip had taken steps to re-establish their position by the end of the

decade, notably Martin and Tannoy. In the same period, about the same number of companies have declined and several have become no more than brand names. Yet only a handful of names have vanished outright, notably Canary, Custom Sound, Gulton, MM, PA:CE and Simms.

How have rental companies developed? The 80s started with Tasco and TFA at the top. Tasco now has a very small profile in sound rentals. TFA (originally Tom Fields Associates) no longer exists. It was a decade in which the largest company in the USA, Clair Bros, set up in business in the UK, closed their UK operation down by the decade's close. Today, with just a year before most of Europe's economic boundaries dissolve, Britannia Row Productions is not just the largest in the UK, but Europe-wide.

In 1980 most PA companies weren't quite sure where it was all leading to. The touring sound business has always had a gentlemanly 'do it on a handshake' air, but it was also seen as something akin to open bandit country. The bandit was likely to be a dodgy promoter or manager, or hang-over of the 70s. Ten years on, it can still be bandit country, but it has become



AN IRREVERENT SERIES OF SNAPSHOTS OF THE WORLD OF LIVE SOUND AND INSTALL 1981-1990.

more subtle and sophisticated, a bit like the city of London. The bandit is more likely to be the tour accountant, playing games with paper. And today, the rental companies know their business is here to stay; areas outside rock'n'roll have become much more sound conscious, the market place has broadened, and so the business has a perception of longevity.

By the mid 80s BAN-Electromusic (jokingly referred to by friends as 'Bloody Awful Noise') changed its name to plain Electromusic. Less flippantly, in 1981, the TFA half of TFA-Electrosound was bought by Theatre Projects after the demise of city bankers Norton-Warburg. In 1984, Theatre Projects' sound division was sold to Samuelsons, who also purchased Turbosound's rental company. In 1988 they sold their sound hire division to Britannia Row who reformed as Britannia Row Productions, to become the biggest PA rental company in Europe. In 1982, the directors of Colac, another perpetrator of giant W-bins, sold up. Since then, many of the smaller companies run by enthusiasts have vanished, such as High-Life, Live-ware and Muscle Music.

#### The Paper Deluge

Today, anyone needing to be kept informed about entertainment sound technology and business could choose from Disco Mirror & Licensed Design, Disco Club & Leisure International, the one - Lighting and Sound International - that you're holding, Music Business, Pro-Sound News, Sound & Communication Systems, Sound & Video Contractor, and Studio Sound. Ten years ago 'was different'. Issues pertinent to club installers were just beginning to receive coverage by Disco International, as it was known then, while Pro-Sound News had to be sourced from the USA. In March '81, Electronics & Music Maker was launched to cover the mid

ground between DIY music equipment, home studio techniques and performance, while Sound International, which covered the same kind of mid-ground, albeit more from a musician's angle, ceased publication in the summer of '81. Anyone needing to reflect on current PA techniques had to rely on occasional technical articles in Studio Sound. Ben Duncan's fingers had only recently begun to tap out the first one million words, while Ken Dibble was busy reviewing concerts and testing professional drive-units in International Musician.

In 1981 Blandford published 'Rock Hardware', a 'coffee table' tome, about the instruments and technology of rock. As a rule, there weren't many books about sound engineering, contracting and touring, and the majority of titles in print were 20 or more years old. Today, the list of titles covering professional sound has grown but the field is still sparsely covered. At the end of the decade, our business is still largely devoid of qualifications for its practice. It will be some time before the efforts of T.I.P.S., Dave Ward's team, and other audio educators and sponsors (notably Sony and Shuttlesound) that have emerged in the past three years, 'come on stream'. In the meantime, the sound business has the benefit that the people in it, because they came to it, rather than solely being there because they qualified in X and Y and graduated in specialised Z, found themselves routed into sound engineering after making near inviolable choices earlier on in their lives. During the 80s, professional sound in the UK has been broadened by the fact that its foremost personalities include not just ex-musicians and drum-roadies, but also ex-patriot biologists, chemists, geologists and software writers. Back then, pro-audio was split between competing standards for connecting XLRs (was pin 3 or pin 2 hot?) and whether graphic equalisers with inductors or gyrators sounded

better. Today, manufacturers and operators across the UK and Europe are (or should be) concerned with idealistic and unrealistic EEC directives.

#### Paradise Remixed

Professional sound isn't very meaningful when it's divorced from the music it was created to serve. At heart more robust than all the other prevalent forms of modern, mass entertainment, the business of creating and performing new music has prospered in the past decade despite all the odds, and nowhere more so than in the British Isles . . . even if a lot of it has been recycled matter, and/or borrowed from city streets in the USA. Today's hottest Black music is as likely to be made in south London as Detroit, resulting in international tours with British equipment and services. During the decade, new avenues of doom, chaos, fusion, parody, reissue and simultaneous 50s/60s/70s revival have been explored. By the middle of the decade, with the arrival of FM synthesis, digitally generated waveforms have come to mimic all classes of traditional instruments; purchasers have only been cheated by the absence of human timing imperfections. As the decade drew to a close, budget computer automation (like Steinberg's MIMIX) and not-so-budget hard disc recorders offered the equivalent of word-processing and 'desk-top' publishing to musicians and producers. And as a new decade begins, installers are seeing the possibilities of computer assisted and diagnosed systems.

The last word goes to John Newsham, noted sound engineer and concert loudspeaker designer: "The rock'n'roll equipment manufacturers, anarchistic ex-musician technologists who began this decade on the outside - their equipment has ended up being adopted as the core of quality, by sound contractors worldwide."

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# PLAYLIGHT: THE REDS AT OLD TRAFFORD

John Offord reports on the team who play four up front

Setting itself up for expansion despite the recession, Playlight has recently invested huge sums both on infrastructure and equipment. Its move across Manchester from Swinton to much larger premises in Old Trafford in September last year, required an investment of well over £100,000 for improvements to their newly purchased freehold complex that boasts over 30,000 sq.ft of space. Much larger sums have been pushed into the equipment inventories.

Playlight's new operational base includes a two-storey office building at the front and one very large area of ground floor space at the rear. And it sits on its own 'block', giving easy vehicular access to the warehouse and workshops from two side streets. On the day I called, two of the company's most recent purchases were standing proudly in their shiny bright red livery after a routine check up. These handsome 60kW generators cost £70,000 each, and are the obvious evidence of Playlight's steady move into film and television lighting. Of £1m spent on new equipment over the past three years, £400,000 has gone to the film and TV side of the business.

There are no less than four companies working within the building. Playlight Hire and Sales provides lighting and sound equipment for the more traditional areas of the entertainment industry. The Film and TV division under managing director Bill Summers parallels this using the same massive equipment source coupled with the specialist items for its own sector. P & G Draperies has



Playlight: on the road to a sizeable stake in the film and TV business.

its own patch in the complex under the guidance of Neal Cartwright, and Barry Crudson manages P & G Stage Electrical, working mainly in the installation field.

Bill Summers joined Playlight a little over two years ago to put the Film and Television Lighting Division together. "I'm delighted to see how it's taken the company into another area and into a new phase of development," he told me. "Now all the Playlight hire

equipment is utilised."

With the seemingly regular buy-ins, buy-outs, starts and stops amongst the major hire companies in the film and TV area, the way has been left open for smaller and more flexible operations to grab a share of the cake. And there are other changes.

"The market is now more accessible to other companies because of personnel changes," continued Bill Summers. "People



'Clothes Show Live' — lighting and effects equipment from Playlight for this NEC December production.

Photo: Nik Milner



Tim Coles (left) with Bill Summers.



Front end of Playlight's new Old Trafford premises.

have moved on and a new generation and new blood has moved in. You can now get to talk to the guys.

"In the field of outside broadcasts we have had the opportunity to supply lighting and generators to many and varied OB situations. For the past two years we have supplied the lighting for ITV Sports' athletic programmes in such venues as Gateshead, Birmingham Alexandra Stadium, Portsmouth Mountbatten Stadium, and as far away as Edinburgh Meadowbank Stadium. The main lighting rig consists of discharge lighting and we also supply generation for the OB vehicles.

"One of our other epic outside broadcasts in 1990 was ABC News' 'Good Morning America' from the UK and Ireland. This show consisted of a large HMI lighting rig, all powered from our generators in such exotic locations as Princess Street Gardens in Edinburgh, York Minster, St. Andrews, Loch Ness, the Pump House in Bath, Westminster Pier and the Tower of London. The show consisted of two hours of live television daily for 10 days and this was sent by satellite to the USA every day.

"We have just completed the Hogmanay Show for Grampian Television recorded live from the Caird Hall in Dundee. This was a full stage show including a large amount of audience participation, and the lighting rig was tungsten. We used one of our Arri Imagine boards as control and the main lighting rig was pole-operated 5kW and 2kW tungsten units.

"In the world of television and film drama we kicked the year off by servicing Lorna Doone for ITV. This was shot on location in Ayrshire under extremely difficult weather conditions - 90 per cent of the movie was shot exterior - and our main lighting sources were large HMI units supplemented with Dinos



Playlight boss Mike McMullan: "Our capabilities are becoming unlimited."

and various other tungsten units. There were certain situations in some of the locations where we could not access any mobile generators and managed to recruit the assistance of a Royal Navy Sea King helicopter to fly in containerised gensets."

Another production undertaken for Thames was 'Sea Dragon', a children's drama based on a Viking story. This movie was shot on location in Wales and Denmark and required some special skills from Playlight's lighting group whilst shooting on board a replica Viking ship in Denmark. Again, the package was mainly HMI sources and 80 per cent was shot exterior.

On the feature film front Playlight sent equipment to Russia for the feature film 'Chernobyl - The Final Warning' for Carolco Television in Los Angeles. Logistically and

technically this picture was very demanding. Again the director of photography (Ray Goode - see picture) selected a mainly HMI package and Bill Summers reported that during the eight weeks of filming, their Strand equipment performed incredibly well considering the difficult locations e.g. the explosion scene at Chernobyl where the equipment was subjected to great buffeting, water and many other elements created by the special effects teams.

"In October last we started on 'Gare U'Male', a French feature film with Marion Borusso as DOP," continued Bill Summers. "This picture was shot in Inverary, Scotland and the theme was present day with flash backs to 17th century costume and design. Shot mainly on location in castles and Scottish stately homes, there were plenty of special effects as one would expect with a ghost movie. The equipment was mainly large HMI's supplemented with a vast range of tungsten equipment during the seven week shoot."

To assist in the rapid development of the film and television side of Playlight's operation, and as if to emphasise the changes currently taking place in the industry, Tim Coles, formerly electrical services manager at London Weekend Television, has become 'new blood' at the company, having joined them on December 1st as technical director. Apart from his big wide smile, Tim brings a wealth of experience to Playlight. He proudly told me he worked as a production electrician on the very first Independent Television production to go on air (from London's Guildhall). In the late sixties he served from the start on the original safety committee for location lighting.

Tim Coles will be based in London (there are also smaller Playlight depots at Leeds and Birmingham) where Mark Pitelan runs a highly



Barry Crudson runs P&G Stage Electrical.



Colin Smart checks an Arri control board.



**P&G Draperies: director Neal Cartwright (centre) and Steve Cartwright take stock of 'work in progress.'**

efficient operation, and one that looks set for the next phase of company expansion.

The man behind the business, and usually 'out front' too, is Mike McMullan. He told L+SI: "The sky's the limit, but we have natural cash limitations. We really need another £1m, London needs space, and so on. My problem is organising the cash to take advantage of the exceptional position we now find ourselves in."

"We have lifted the operation very significantly, and we are within five inches of doubling the size of the group. Like any business it's at its fulcrum point; well-balanced and waiting. Do we float it? No. I've chosen to take the slower, but safer road."

From being a respected but mid-size operation for many years, growing quietly and steadily, Playlight is suddenly out amongst the front runners when it comes to pitching for the lucrative contracts. A mass of recent projects bear this out.

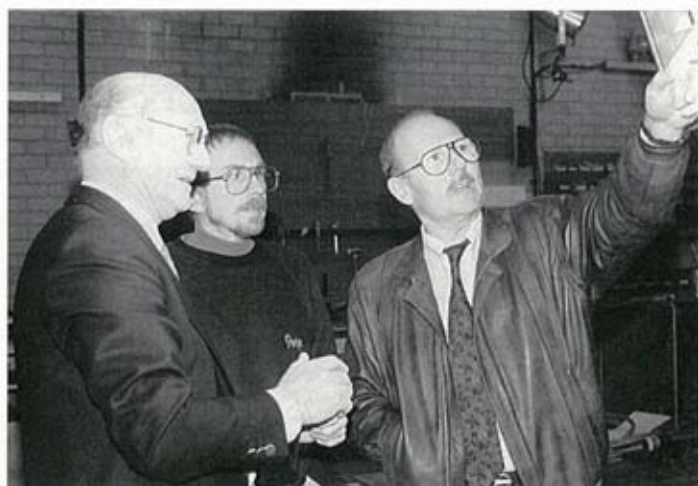
On the conventional lighting hire side recent projects have included provision of equipment for JCB for a new product launch and for a pharmaceutical conference in Monaco, lighting and effects for four stands at the Motor Show (NEC), architectural lighting of the Town Hall and Council Chambers for a lighting spectacular at Birmingham Town Hall for the Lord Mayor's Show, provision of lighting and effects for Granada TV for the Coronation Street 30 Year Celebration event, and most recently the lighting and effects for 'Clothes Show Live' at the NEC which involved over 200 channels of control, 400 lighting units and over 2500m of Socapex cable. And not forgetting that Playlight has a huge sound equipment inventory, the company has this

season supplied no less than 15 pantomime productions with sound systems.

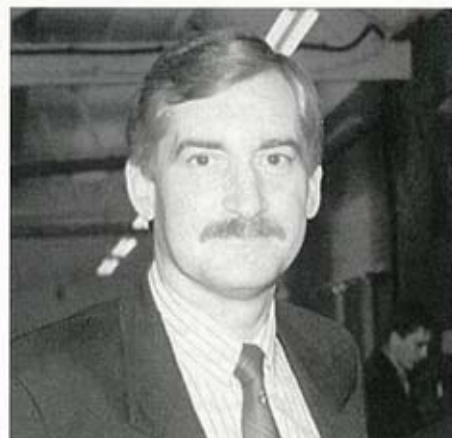
P & G Stage Electrical has just completed a highly successful year, with numerous contracts that range across the whole spectrum from colleges and leisure centres to television studios and theatres. Major installations have taken place at Southport Arts Centre, Granada Television (Stage One), S4C TV in Cardiff, Vector TV in Stockport and at the Pomegranate Theatre in Chesterfield.

On the Playlight equipment sales side a similar pattern of clients has been covered, ranging from Central TV in Nottingham where they supplied two Zero 88 Eclipse lighting desks and custom designed patch panels to provide back-up and effects for the existing studio installations to the supply of a flexible Ramsa Sound system to accommodate the complex requirements of the multi-purpose Maidstone Leisure Centre. At the JCB Lakeside Club, they provided a complete installation which consisted of stage drapes with motorised tracks and full-specification lighting and sound with Ramsa speakers and amplifiers and a Sirius 48 for lighting control.

P & G Draperies has a world all of its own. Apart from supplying most of the TV companies in this country, plus numerous theatres and local authorities, exhibition halls, scenery manufacturers and so on, they also export



**Playlight's Tim Coles and Brett Sefton discusses equipment with director of photography Ray Goode (right).**



**Barry Hampson is operations director for the north of England.**

filled cloth, sharktooth gauze and made up drapes to places as far away as North and South America, Australia, Hong Kong, Singapore and Japan, and nearer to home Hungary, France and Spain. And to finish with a few big names, they've supplied gauzes, cycs and drapes for the likes of Deacon Blue, Simply Red, Gary Glitter, Johnny Mathis, the Nelson Mandela Tribute, Knebworth and the rest.

As Mike McMullan understated: "Our capabilities are now becoming quite unlimited."

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# ADB: A STRATEGY FOR THE NINETIES

## John Offord in Brussels

My first and only previous visit to ADB's headquarters at Zaventem in Belgium (in 1987) was prompted by news of the company's recent move into membership of the massive Siemens empire, and the chance to meet the team who had put together an impressive TV production for that year's Eurovision Song Contest in Brussels, using ADB equipment, of course.

I had three good reasons for a repeat trip in December last. ADB had just announced a new initiative aimed at the UK market (see November L+SI), they had a newly-appointed group vice-president in Christian Léonard, and there was a complex simply called the Studio House they were itching to show me.

I'll start with the people. The chief executive officer of the ADB group of companies, which covers Siemens airport and stage lighting, is Manfred Bruns. And the fact that half the production of ADB at Zaventem is involved with aircraft landing light systems (ACL's in theatre parlance) reminds you of considerable extra strength in the Belgian operation.

In the field we are directly concerned with, the man in charge is Christian Léonard, the group vice-president, theatre and TV lighting systems division. Recently appointed to the position, he is French, and joined the ADB group four years ago as general manager of ADB-Sofair, its subsidiary in France. Whilst there he spearheaded a major re-design and productivity enhancement programme for the company's line of theatre and TV luminaires.

The next player is Russell Dunsire, busy jet-hopping from Siemens UK HQ at Chertsey to Zaventem. Luckily for him Brussels airport is actually at Zaventem and just down the road from ADB's offices. So provided the airport authority can actually manage to get the plane a



**Christian Léonard:** "We think of our customers as partners whose requirements we understand and want to satisfy. We need their experience to build it into our products: they need our technology to live a new experience."

gate or parking lot, he can be inside ADB's doors and out of the rain in 30 minutes from touch down. Dunsire is busy getting ADB's act together in the UK in a determined attempt to succeed this time where past efforts to ensure a presence in the British market have failed rather dismally.

Sitting strong at ADB's base are two more players. Sales manager Lucien Van Nieuwenhuysen has been in theatre lighting for 30 years and was, as always, calmly prepared for the next 'panic'. If it meant spending a long

over-Christmas period in Yugoslavia against the background of a threatening political crisis, then so be it if a major contract for ADB was the outcome.

Raph Janssens, sales supervisor for the theatre and TV lighting division, must be ADB's best poker player. Straight-faced to the limit, fast in manner and speech (in English as well), he's the sort of man who's read your notes upside down before you've even written them. His speciality for the day was the Studio House.

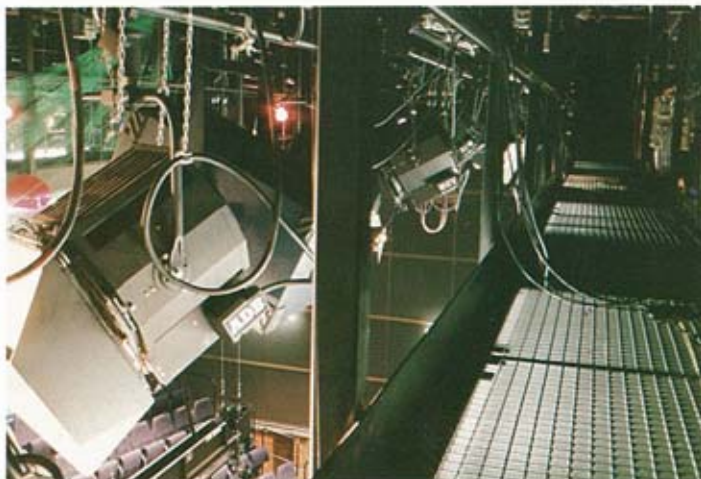
One of ADB's major strengths is its 'Total System Concept', and it has been winning numerous contracts as a result. The capability of custom designing and executing the most complex turnkey projects for both theatres and TV studios almost anywhere in the world is reflected in a list of references that include projects as far apart as the Teatro Colon in Buenos Aires to TV studios in Cairo and Madrid. The one I went to see was nearby in Brussels - the previously mentioned Studio House (well I couldn't do Cairo and Brussels in the same day, could I?).

The ability to complete the Studio House installation - it was started on 15 July 1989 and operational on 2 October 1989 - in such a short time revolved around a thorough understanding of several technologies such as heating, ventilation, structures, stage machinery, acoustics and sound proofing - not forgetting a bit of know-how about entertainment lighting systems.

The Studio House was conceived by its owners, a private company, as a totally commercial facility for the production of various TV shows, music, panel shows, and so on, and is a straightforward investment for profit project. It had to be built to time, come in on spec and



The Studio House (above) with view from the catwalk (below) and two different show sets (right). The complete installation including electrical and engineering, took just 10 weeks.



price, and then function in exactly the right way. The fact that the owners are now looking at building other studios on a similar basis is the best way of stating that the Studio House has proved to be a highly successful concept.

Raph Janssens saw the project through from beginning to end, working as one of a small team of specialists, and his role was to ensure that the various aspects of lighting technology were installed as part of an integrated construction project.

The Studio House is a purpose-built 1,000 sq.m. area equipped with a structural grid over the complete square floor area and with 360m of catwalk. There is 2,400 sq.m. of cyc cloth and curtain and a total of 112 x 120kg hoists. There are 320 special TV dimmers, 280 luminaires (1kW, 2kW and 5kW), and an S28 512 channel control system and numerous accessories. The complete electrical and engineering installation was carried out by ADB in 10 weeks. The area is totally flexible in that you can stage a show in any position within the four walls.

Raph Janssens explained the thinking behind the project. "The overall project specifications must meet the specific operating requirements of the user," he said, "and must be based on concrete and practical parameters rather than on theoretical values. The customer is more interested in the end result than in a bulky set of tender documents! Ideally he wants a guarantee on total performance of the studio in operating conditions. This is exactly where we scored with the Studio House project.

"The project specification called for a TV studio of the size mentioned with a seating capacity of 300," he continued. "There had to be full and direct access to all luminaires irrespective of their position, and the venue had to be capable of being fully operational around the clock with a staff maximum of just three people. To achieve this the architects and major contractors were involved in the design from the very beginning, so that everyone's know-how was actually 'built-in' to the project.

"I am convinced that the Studio House is one of the best TV studios in Europe, and features comprehensive equipment, optimal design and investment, and very low operating costs."

And a key point of interest here is that none of the luminaires is in itself automated. The key to a fast set up is in the location and control of hoists and their positioning across the complete studio area. The capital cost is therefore low, and the man-hours still kept to a minimum.

Back to the office, and discussion centred around the latest product offerings from ADB. They are rubbing their hands and smiling at Zaventem over the instant success of their new 120 or 240 channel Tenor memory lighting control system. Since its early summer launch it has been very quickly accepted, has already



ADB S28 Series II control system at the Studio House.



Raph Janssens (left) with Lucian Van Nieuwenhuysen in ADB's demonstration studio.

been shipped to more than 20 countries, and Lucian Van Nieuwenhuysen describes it as being as simple to operate as a manual desk but with the performance of a big integrated system. "It's the best system in the mid-range of the market today," he suggested. "It's not expensive enough for what it can do," said Christian Léonard.

The other major new introduction is ADB's Eurodim digital dimming system. These are fully digital dimmers working on the basis of plug-in drawers equipped with control electronics, a circuit breaker block and a microprocessor functioning ventilation system. The control electronics accepts two multiplex signals to USITT DMX 512 standard. There are nine



Eurodim digital dimmers at RTBF in Brussels.



The new Tenor lighting control console.



Christian Léonard (left) with Russell Dunsire (centre) general manager of ADB-UK, and Michel Musso, marketing consultant to Léonard.

drawers per chassis and three types of dimmer cabinet: 2, 4 or 5 chassis, with each chassis protected by a four-pole 100A circuit breaker. LED's provide a complete control diagnostic.

ADB has equipment currently installed in over 50 countries, and a few recent and on-going schemes are typical of many of these. During 1990 they replaced one of their first-ever memory systems (originally installed 20 years ago) with the latest S28 system at the Bratislava Opera House in Czechoslovakia. At the National Theatre in Belgrade they have installed a complete system of dimmers, spotlights and control for the main and studio

theatres. Control systems were an S28 and S25 and over 800 luminaires were involved. In the same city at the Atelje 212 Theatre another S28 and luminaires were installed. Due to re-open this summer, the Opera de Sevilla will have a complete S28 double system and dimmers, motorised spots, and Europe luminaires.

ADB's list of references is huge, and although the European venues itemised seem like blanket coverage, there are many far-flung places where systems have been installed, from New Zealand to Korea and Colombia.

However, the UK's where I flew in from, and where we will conclude this story.

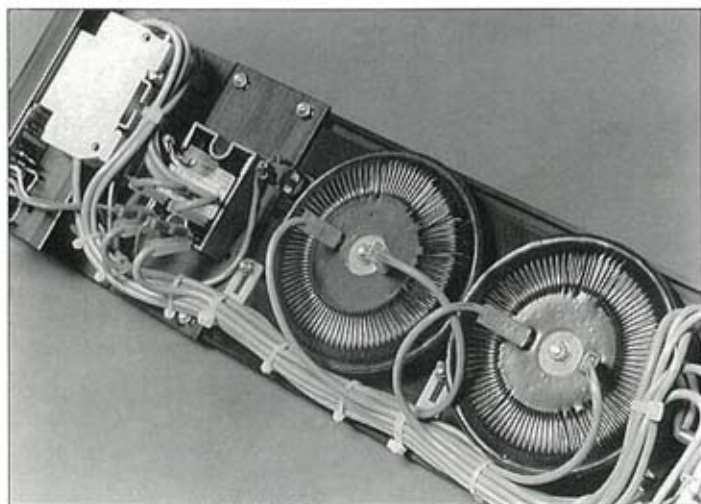
ADB's determined new attempt to gain a chunk of the British market has been placed in the experienced hands of Russell Dunsire, general manager of ADB-UK. "We see the need for an alternative major manufacturer and supplier in the UK who could provide a comprehensive range of products for both stage and studio applications," he told me. "There are many manufacturers operating in niche parts of the market but very, very few offering a full range for both applications. There are even fewer with the strength of Siemens behind them, and confirming a high level of on-going product development."

How would ADB approach the UK market? "Customer service is as important as the products themselves," he continued. "It is essential to ensure excellent after-sales service as well as easy access to ADB products, and the best way to achieve this is to create a national network of distributors. We will do this by using a number of the many established companies already considered to be providing good knowledgeable customer service."

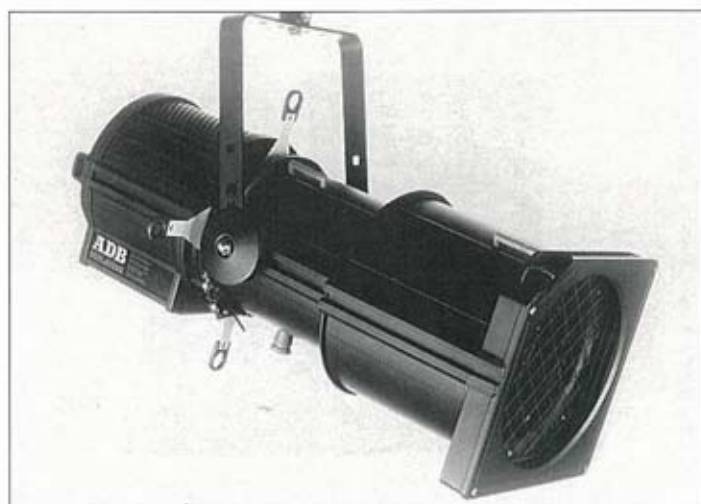
He continued: "Discussions are already taking place with various companies who had a desire to represent ADB within the UK, some who are looking for an exclusive range of products and others who were dissatisfied with their existing manufacturer/distributor arrangements. In addition to a distributor network ADB-UK will over a period of time build a team of their own, whose role will be to provide support for their distributors and their distributors' customers. 1991 will certainly be a busy and exciting time for ADB," he said.

Back in Brussels ADB has set out five major objectives as part of its immediate strategic planning. One of these is simply titled 'Penetrate the UK Market'.

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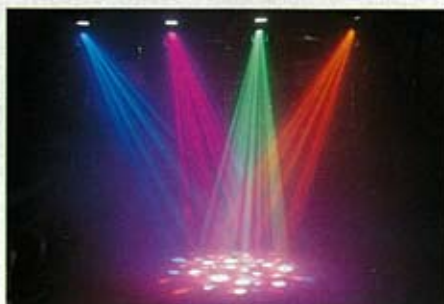
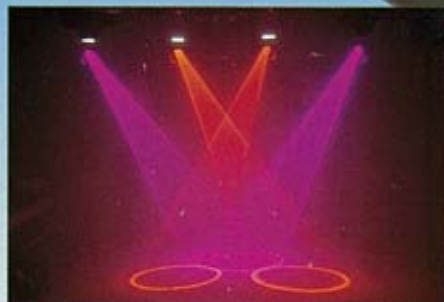
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# LEGENDS AND MIRAGE – NOT JUST FANTASY

Tony Gottelier visits Mirage in Windsor, whilst Ruth Rossington flies to Legends on the island of Gozo

“Turn left opposite the front gate of Windsor Castle into Peascod Street and the venue is in the next left turning,” went the faxed instructions for my visit. I looked up at the vast ancient grey turret of the Royal residence to see if HM was ‘at home’ as I passed, but from below in a car it was impossible to crane one’s neck sufficiently to even see the flagpole. And far too cold to stick one’s head out.

I couldn’t avoid the passing thought that this monarch, unlike Henry IV with Falstaff, would be likely to be rather disapproving of the activities occurring within spitting distance of the castle ramparts. Incongruous, perhaps, but then tonight was to be a night for incongruity.

Reception, at what was Blazers and is now Mirage, is a ground floor office-type entrance rebated from the street. There you wait to check your coats prior to being whisked to the third floor by lift, in our case via the basement. Having been body checked for offensive weapons, a sign of the times, you enter a large rectangular warehouse space jammed with refectory tables, in the style of a medieval banquet (come to think of it, that is exactly what one might expect, in an historic town such as this. You know the scene: Plantagenet banners, serving wenches, flagons of meade, baron of beef from the spit, or roast swan and 900 synthed shades of Greensleeves in the background.)

This is just my way of saying that the pseudo-Egyptian interior is another little bit of incongruity, especially when contrasted with the high-tech black-painted ceiling, although I suppose the latter might well be a throw-back to Tutankhamen’s tomb. Of course, I guess that Mirage and its attendant trappings, bewigged and gold emblazoned warriors like mummified bouncers, which is what they originally were after all, astride the walls, and hieroglyphed columns supporting webbed steel ceiling trusses, is designed to evoke the feeling of arrival at an imaginary long distance watering hole, an oasis in an otherwise barren landscape.

And I can understand that, having struggled through fog on the M25 to get there in time to eat!

So to the evening’s entertainment. A compere, a song-and-dance-act and a lewd comic in scene one, compere and fun fur toys in the interlude and yet another lewd comic in the finale. This last, one Jim Davidson, gave us his little Englander impression to the point where Alf Garnett would be an understatement. Sexist, racist and just about every other ‘ist’ on the list. Definitely not the place to take your liberal-minded merchant banker for a night out. Naturally, the punters, Sun readers to a man, loved it. So much so, that I began to realise that, if this were a more intense nation politically, Maggie would have been out of Dunrulin’ in Dulwich and back in Number Ten by dint of popular uprising, long before now.

He arrived to the strains of 2001 – A Space Odyssey and left to Rule Britannia!

Throughout, the PA was far too loud and rather boomy for my taste and the stage lighting patchy, with dancers performing permanently in shadow stage left and right. In fact, with the low ceiling and room layout, which required no less than three followspot operators, I could not understand why they hadn’t re-focused some of their ubiquitous Pars to boost the front line, or made more use in this regard of the Martin



Graham Barron’s lighting design is “innovative, modern, and full of movement and colour.” Photos: Paul Lewis.

Roboscans, recently installed by Squire Sound and Light as part of a new dancefloor installation slap in front of the stage.

Which brings me neatly to the real purpose of my visit, to take a look at this latest effort of the much reorganised Squire company. So kindly disregard all that has gone before in this context, which has nothing whatever to do with their efforts on the dancefloor rig and is reported only to set the scene. It indicates solely a lack of understanding and imagination, or cash, or all three, on the part of the owners.

Most of us remember Squire when it was the industry’s only attempt at creating a multiple retail operation under the benign and ego-centric Roger, who gave his name to the organisation. It specialised in supplying kit to the burgeoning mobile disco market in the seventies. But the eighties were not so kind, and the company felt the severe pinch of a fast contracting market at the beginning of the decade, from which it never really recovered. Indeed, it could be said that its greatest achievement, up to that point, was as the leading training ground for equipment salesmen, many of whom are now at the forefront of major companies in the industry: John Adams (Lightfactor), Nigel Morris (Jem) and Tony Kingsley (Avitec), to name but a few.

So eventually, Roger Squire, presumably seeing the writing on the wall, sold the business lock, stock and Par 36 to Piccadilly Radio in Manchester. They initially made some attempt to up-grade the company’s profile and go for some serious installation work, but the mobile tag stuck and eventually they did a deal with another commercial radio organisation, this time

Guildford-based County Sound. But this time these guys used their heads and immediately folded Squire into local installers Rough Diamond, at the same time returning to the original title of Squire Sound and Light. In this way they immediately acquired management with both local knowledge, and the appropriate skills, while, hopefully, dealing with the image problem in one fell swoop.

As part of that team they also obtained the services of the personable owner of Rough Diamond, Simon Cummings, who set about sorting out the Squirearchy with vigour as from last January and it was some of the first fruit of these labours that we were going to witness.

One of Simon’s first, and most commendable decisions, was to appoint independent lighting designers to design all their future rigs. (A highly intelligent move, if I may say so, although Simon says that it was a hard decision). In this case he opted for my old mate Graham Barron, keen to demonstrate that he doesn’t only work for Hi-Tech in Liverpool. As Cummings says, “Graham and I instantly hit it off. His design is innovative and modern, full of movement and colour.”

The idea was to provide a rig to span a new dance area, encompassing the existing central circular floor in front of the stage, and two extra wings to the left and right. This concept was intended to coincide with a switch to a more disco-based dancing facility starting in February, when a number of tables are to be removed to make this happen. There seemed to be some confusion over this, as the operators were still promoting acts as far ahead as May, and even for next Christmas, so how this will pay with less tables remains a moot point.

So, a black painted rig 13 metres long with two parallel trusses emanating to the left and right of a central circular section was designed by Barron. Mesh in-fill panels are suspended between the parallel sides, a material which is fast becoming a trademark of his structures and which he has used to great effect in the past. In this case these panels support neon chevrons in orange and blue.

A central feature is created with two Lynx Swings fitted with Starlight Design's 'Cross', a contra-rotating device which I had particularly admired at the Plasa Light and Sound Show. In the centre is a Coemar Bello and a single mirror ball, inevitably referred to by Jim Davidson as one of Gary Glitter's spare parts! Six neon palm leaves add a rococo touch to this feature, while eight Martin HTI Roboscans give the pzazz.

However, the items which impressed me most, despite the limited head-room, were the four Lynx Proteus pan and tilt 'stadium' frames, doubtless inspired by their TV racks at Hollywood, Romford, mounted to the extremities of the truss and each fitted with 16 multiplexed 100W Halogen spots. Their eerie, slightly threatening movements, and the graduated effect of red and orange gels, selected by Barron, when clamped by a dimmer, give an impression of a giant mutant with a single bloodshot eye and 16 pupils all desperately trying to focus at once, while seeking out its prey among the audience.

Elsewhere, 16 Coemar Multi-Tunnels were rather disappointing in this situation, which is a worry as I have recently specified some Spartans, a product from the same mould for use on one of my jobs. Elsewhere, there are some 88 F70 spots, many of which are situated over the rig extensions presently over tables, and were, sadly, left running continuously during



**Mirage: Possibly the country's last cabaret joint in the tradition of the old Batley Variety Club.**

the hour before the disco started. If they can't be zoned out, these should be re-focussed onto the dance floor, until such time as those tables are removed. And more thought should be given by the operators to co-opting the rig into extra support for the existing stage lighting.

All of this is controlled by assorted Light Processor gear and Anytronics power packs, with the exception of the Lynx products which have their own controls, and the Martin Roboscans which have a dedicated controller. I had not had the opportunity to study the latter item previously as it is rather new and I believe, only just made it to Orlando, so I was fascinated to see what solution Martin had to offer to the eternal problem of programming articulate lights. In fact, I found this quite interesting as it did seem that the combination of tracker ball and a simple menu on the in-built miniature TV screen made light work of the

problem. In fact, the venue had been experiencing some difficulties with loss of programs and the unit not accepting its back-up disk, but they had little difficulty in reprogramming themselves, pretty impressive with tedious plotting of this kind. Although dedicated protocol is used, this unit can also be accessed, via an interface, to any other product which accepts 0-10V control. (Yet another missed opportunity for DMX512).

So, with a few small reservations, an impressive effort by all concerned and if the Mirage management gets it act together with a clear operating policy, I feel certain that Squire's efforts will prove well worthwhile. Unless, of course, it does end up as a medieval banquetting hall!

In last month's article about Studio Circus in Hull, I made some somewhat injudicious remarks, following the owner's claim that he had been let down by a firm of lighting designers.

I now fully accept that, in reporting his remarks without corroboration, I gave a one-sided view of the situation. Having subsequently spoken to the designers in question, I can say that they are adamant that they provided an effective and workable design which would, in their view, be a reality now but for certain financial difficulties.

It is always my policy to promote independent lighting design and advice whenever possible, indeed it is a personal crusade, and any inference that my remarks may have carried to the contrary are unreservedly withdrawn.

As my views are not necessarily those of the magazine, I am grateful to them for this opportunity to redress the matter and to apologise fully for any offence which may have been caused to the people concerned.

**Tony Gottelier**

## Legends, Gozo

The eighties has been the decade of the refurb. Its ten years have seen very few nightclubs actually built from scratch, whilst other leisure facilities such as roller rinks and bowling alleys are nearly always purpose-built nowadays. The poor old disco has had to make do with a bit of high tech spit and polish, and not much else. A lot of the nightclubs that emerged during the 70s were later imprinted with an 80s image, the result being a new look, new name and new beginning.

Although Legends, on the island of Gozo, is only a young nightclub, it's followed a similar pattern. Originally Aurora, it opened five years ago, and three years later was modernised. Other local nightclubs followed suit, and also updated their facilities, so at the end of 1989, owners Franco and Michael Buhagiar decided on a complete new image. Surprisingly, Malta and Gozo have a thriving discotheque industry, for an island group that boasts only a small population, and as yet remains relatively undiscovered tourist-wise. Although there are less than five discos on Gozo, the standard is high, considering only 3,000 of the 25,000 population have disco-going inclinations. Now the new look Legends is raising the standards even higher.

Work began in April 1990 and finished three minutes before the doors were flung wide for opening night in late November of last year. The intimate atmosphere of the club is largely due to the efforts of local interior designer Jean-Marc Bianchi who has transformed what was originally a single level and somewhat characterless club into a much more professional and nineties style 'nightspot'. Through the introduction of a sunken dancefloor, a raised control booth and a gallery surround, the space has been put to much more effective use, and the end result is

an intimate, but not small, venue.

The onyx marble interior styling coupled with a grey mesh trim and a black granite colour scheme has enabled Jean-Marc to blend some of the club's less attractive features into the background. And whilst a philosophy of 'any colour, so long as it's black' might well focus attention on the light rig, on closer scrutiny the decor is perhaps rather too dark and heavy, and a little shoddily executed. Having said that, the overall impression is good.

UK company Avitec were originally approached through their Maltese agent and 'client liaison officer' Albert Galdes, to specify and supply a new sound system, but later Tony Kingsley and his team were also asked to produce the lighting design. The deal was struck, and in August a 20 feet container carrying all the installation equipment set sail for Gozo. Avitec were also asked to arrange the installation, and recommended fellow Plasa member company Neon Lite Associates which resulted in this company's first major overseas contract.

And so to the installation itself. The central, static rig, comprised entirely of Trilite, is flanked by two arrowhead moving rigs which travel, three metres in this case, away from the rig. The original brief had been for a full moving rig, but the low ceiling height proved to be restrictive even though the dancefloor had been sunk to a depth of one metre below the original, so linear movement was clearly the only choice.

The rig features a comprehensive array of lighting including, in the lead role, the Kremesa Tango, supported by Fal Ventaglios providing fingers of parallel beams of light, together with a variety of beam effects. The need for intelligent lighting was supplanted by the very effective use of the Fal Colour Stars which, whilst having synchronised control of five pure dichroic

colours, plus white and four gobos, utilise an XY amount of moving mirror which is sound activated via inbuilt microphones. Until this was pointed out to me, I have to admit that I assumed the unit to be fully positionable, and for a low budget effect, its range is quite remarkable. More synchronised effects, this time in movement, were provided by the twin banks of Lynx Synchropin single beam units mounted above the rig.

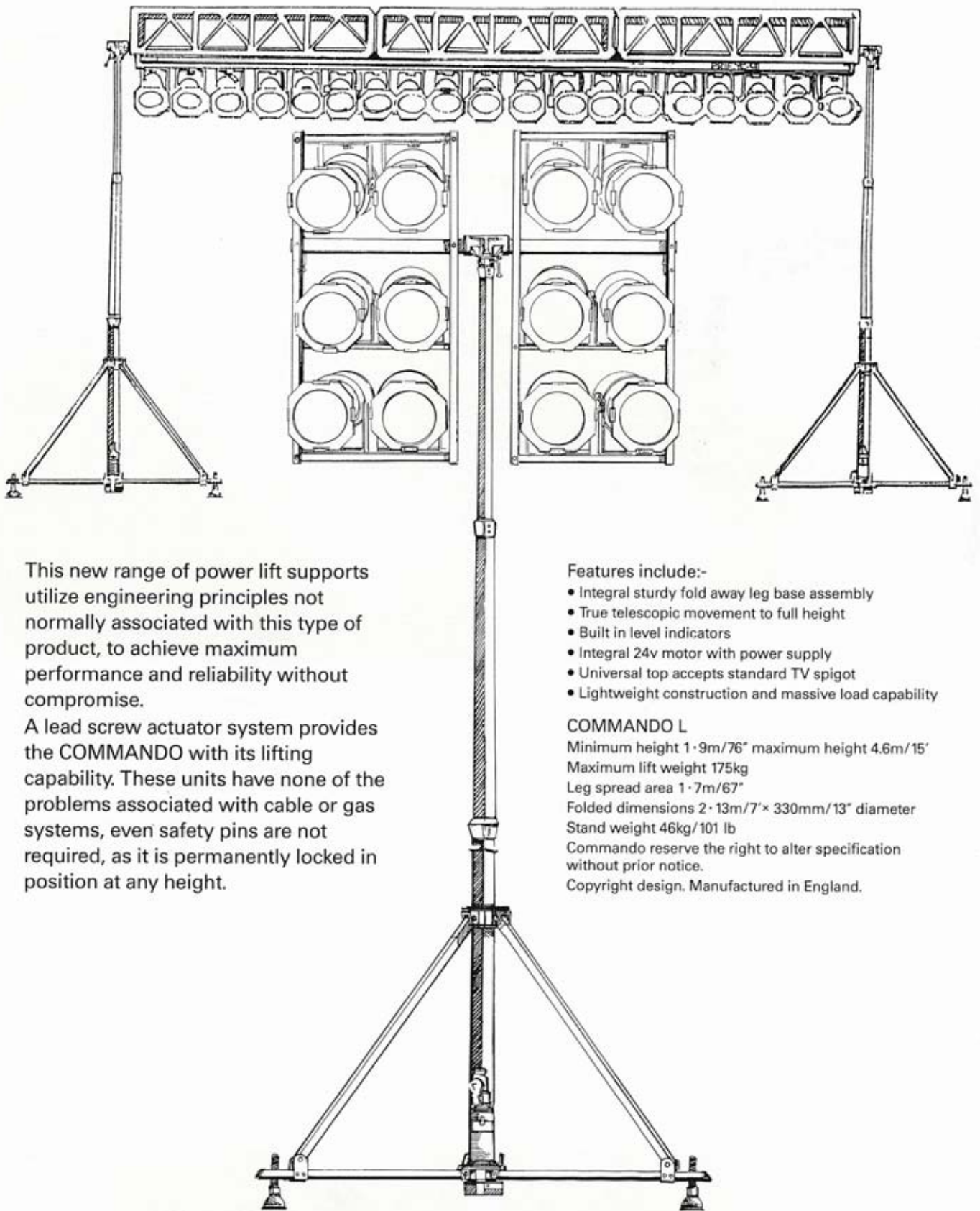
The rig itself is outlined in twin colour neon, purchased locally. These were driven by 20mA transformers, as opposed to the more usual high current transformers used for British disco neon. The more subdued style of neon at Legends demonstrated that whilst it is not always possible to dim neon effectively, it can be used for mood creation rather than sheer power. Perhaps British designers/installers could contemplate the use of low ampage in the same way.

The small stage, quite frankly a waste of time, was lit by a trapezoidal rig with 24 Par 64 Thomas lanterns mounted above and behind the stage with front lighting provided by a 2kW Fal followspot.

The control for the main disco lighting was provided by Mode Unit 16 Touch Sequencers. Three controllers, a Mode Unit 8 Touch Controller, a Fal Colour Star controller and Opti strobe controller, completed the disco control line-up, with the stage lighting controlled by a Zero 88 Sirius 24.

The sound at Legends is worthy of special mention because it overcame the difficulties presented by the unusual-shaped room, and kept sound levels high on the dancefloor, but at levels in the off-dancefloor areas which allowed conversation without strain.

Avitec held fast to their principle of point source bass with twin mid high speakers strategically positioned for maximum coverage. Here four Cerwin Vega SW 18 direct radiator



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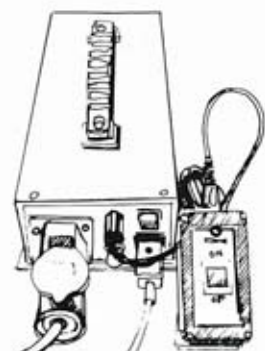
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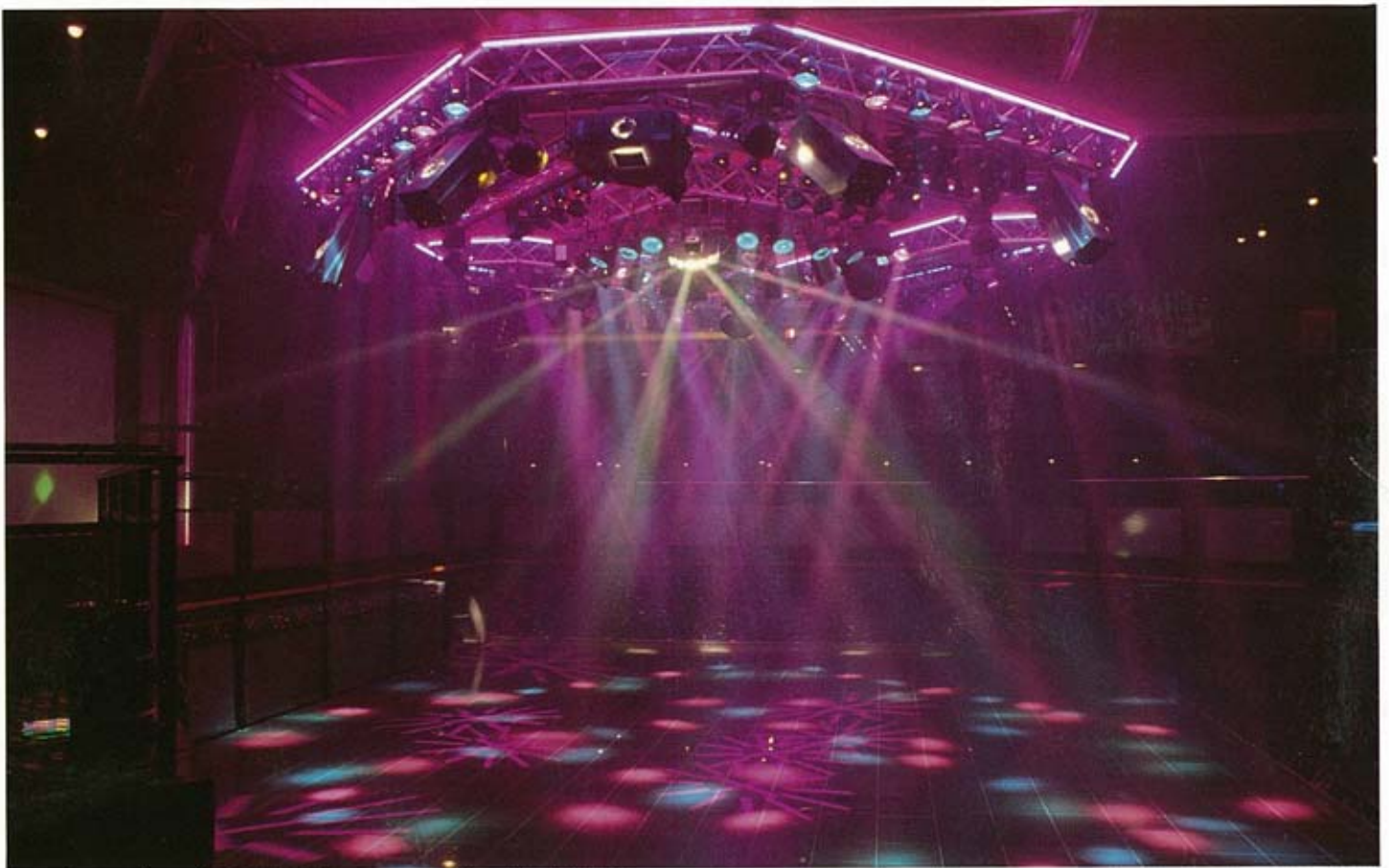
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**Legends:** A total spend of £280,000 has guaranteed the club a bright future.

bass cabinets were flanked by a pair of L36-JE horn-loaded bass cabinets known as the 'Junior Earthquake'; certainly this combination produced at the club the characteristic CV 'air-tugging, trouser-flapping, willy-wobbling' bass. The mid highs were again Cerwin Vega – the D32C horn-loaded cabinet with an additional JBL 2404 bi-radial tweeter. Even the best technical know-how requires a helping hand once in a while, and the cabinets had to be mounted upside down to allow the dispersion of the directional high frequencies which would otherwise have been restricted by the proximity of the rig.

Ramsa speakers, mounted close to the D32s, were used to cover what Tony Kingsley described as the 'sound shadow' area, in other words those areas to the side and rear not covered by the mid-high speakers. There are twin Ramsa 70s on the balcony side and a single Ramsa 200 covering the bar and main entrance. The foyer has an additional pair of Ramsa 70s. With his Ivie Spectrum Analyser, Tony Kingsley demonstrated to me the way that the sound design has achieved a virtually flat frequency

response right around the venue with the sound pressure level dropping by 7-10dB in the off-dancefloor areas. The venue acoustics were better than average which undoubtedly helped the system to achieve its maximum potential. With fewer sound sources, the bass, and indeed the whole sound, was a good deal clearer than in other clubs where the tendency has been to overstate the option and literally pepper all available space with cabinets, which creates multiple sound sources, and as a result a muddle of diffused sound, especially when driven at higher levels.

The trade-off with point source bass however is the 'boom' at the venue perimeters, thankfully not evident to any great degree at Legends. If I can be permitted one gripe it would be that the sound system was, on occasion, being pushed too hard (so, what's new I hear you ask) with the inevitable hearing shift for those on the dancefloor. Still, this is nightclub land, and it seems to go with the territory.

The system was fully protected by the use of three Symetrix 501 compressor limiters. As Cerwin Vega bass needs no help from the

extravagances of the recording engineer, Avitec are using more frequently a separate limiter for the bass end in order to control the excessive bass on house/hip hop music. To my ears, this appeared to result in a more balanced sound, and Tony Kingsley also claimed that it helped the 'tightness' of the bass. A Citronic MPX 931 was the main mixer, with the stage mixer being a Seck 18/8/2. Beta 7 series amplifiers manufactured by C-Audio are used throughout.

So, back to the club itself. I'm not a great fan of nightclubs, in fact I feel about discos, the way I feel about diets, but at Legends when the whole disco bandwagon is up and rolling – the subdued general lighting (in this instance some extremely unusual, but very effective mini spots from France with a diffractive spherical grille), the high tech light show (courtesy of invited British light jock, Alan Reid), the special effects, and the music – the club has succeeded in capturing that something a little bit special. Now the other nightclub owners on Gozo have their work cut out.

**Ruth Rossington**



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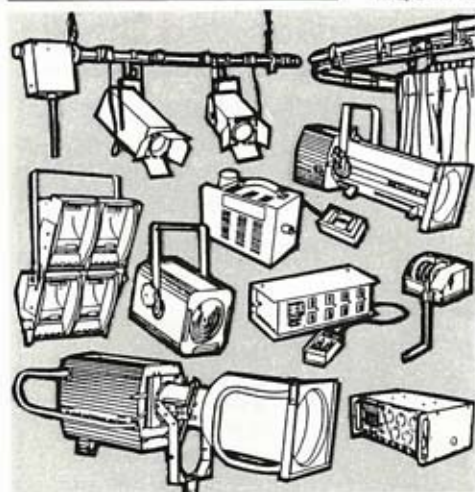
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# VIEWPOINT

## Kevin Murphy on Lighting Sound and Control

I do not really know how I ventured into my side of the industry, having drifted out of school, and gone straight into the Scientific Civil Service. I started with developing physics experiments, and this eventually led to involvement in the design of audio visual systems which has now spanned 14 years.

Now, a complete audio visual system for an installation is just that, all of the elements working together for the final effect. If you take away the loudspeakers, the projectors, the light fittings, the video monitors and anything else the audience tend to see, you are left with the control, my favourite part of any system. This is the part that makes every other item talk to each other at the right time, and in the right language.

I would guess that for a large part of the audience of this magazine, the control system intelligence is partly provided by yourselves, in real time. With a theatre, stage or a club performance that can vary every time — there is an obvious limit to how far you can automate the task. For permanent installations in museums, theme parks and other public attractions, the requirements are slightly different. The control technology that has to work reliably and automatically with no operator involvement for 12 hours or more a day, is fairly specialised.

My very first experience of an audio visual system, was in the Natural History Museum at a time when it was pioneering the use of technology in interpretation and display. I suppose to be totally honest, my first experience was not too glamorous, being presented with a pile of about 30 Kodak SAV projectors and an instruction to clean out six months of dust and grime. Well, I am still a believer in learning the only way — actively!

To get an understanding of control systems, maintenance is a good place to start. Never mind how wonderful or expensive the final display or show, without maintenance it could be a waste of time and money in a very short period.

To any article there must be a point or two, beside all the biographical



Kevin Murphy is the leisure market sales manager, at Electrosonic Ltd in Dartford. Electrosonic are manufacturers of specialised audio visual control equipment and complete audio visual and lighting control systems.

background waffle. During my years at the Museum, I was fortunate to work with virtually every aspect of audio visual and lighting technology, even down to designing control boards for the times when staff funding was fine, but capital expenditure was out of the question. I had some wonderful successes and some dismal failures, but as an end user, I was perfectly entitled to experiment as much as I wished. But when I started out as a supplier on the commercial road, I had to take two major rules with me for the users of audio visual techniques, who were not fortunate enough to have their own development teams.

Firstly, do not try to re-invent the wheel, and use as much standard equipment as possible in any design. There are plenty of suppliers out there, and it is really our duty to get to know as many as possible so that the right product can be used at the right price. One off specials are sometimes very necessary, but I have seen a lot of lower budget projects that are unserviceable after a while due to the original designer not being available, or

undocumented modifications.

Secondly, try and use the right people for a job. As the traditional audio visual industry and the entertainment industry become even more entwined, all too obvious from the Light and Sound show last year, I can already see problems. Too many people dabble already, with some control systems that I have found unbelievable in complexity or totally inappropriate. In the end the client is the loser.

It is extremely annoying for me to see suppliers that are brilliant at making programmes for example, going into a project with a cavalier 'I can do everything' attitude, taking on the systems engineering and putting themselves and the client in jeopardy.

For our combined industry to grow successfully, it should be clear that audio visual technology can be used effectively and correctly, in some pretty gruelling conditions. From wagging mirrors to DVI, the choice available for story telling or effects is tremendously exciting.

But please would all of those enthusiastic companies looking for a new challenge not learn at the client's expense, for the sake of an industry that I feel still needs a better image. To raise those standards, we all need to work more closely, combining all the talents our industry has to offer.

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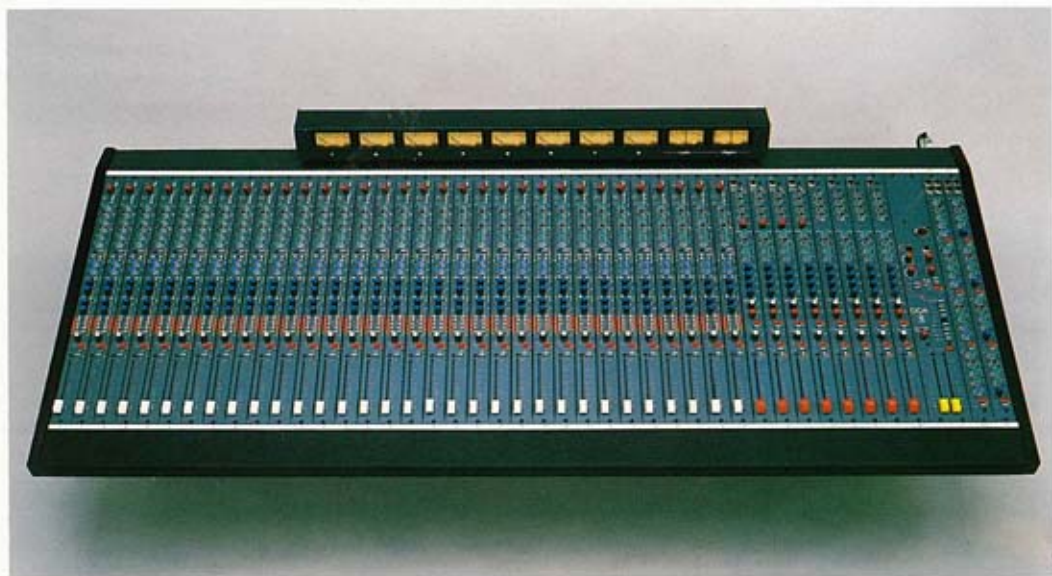
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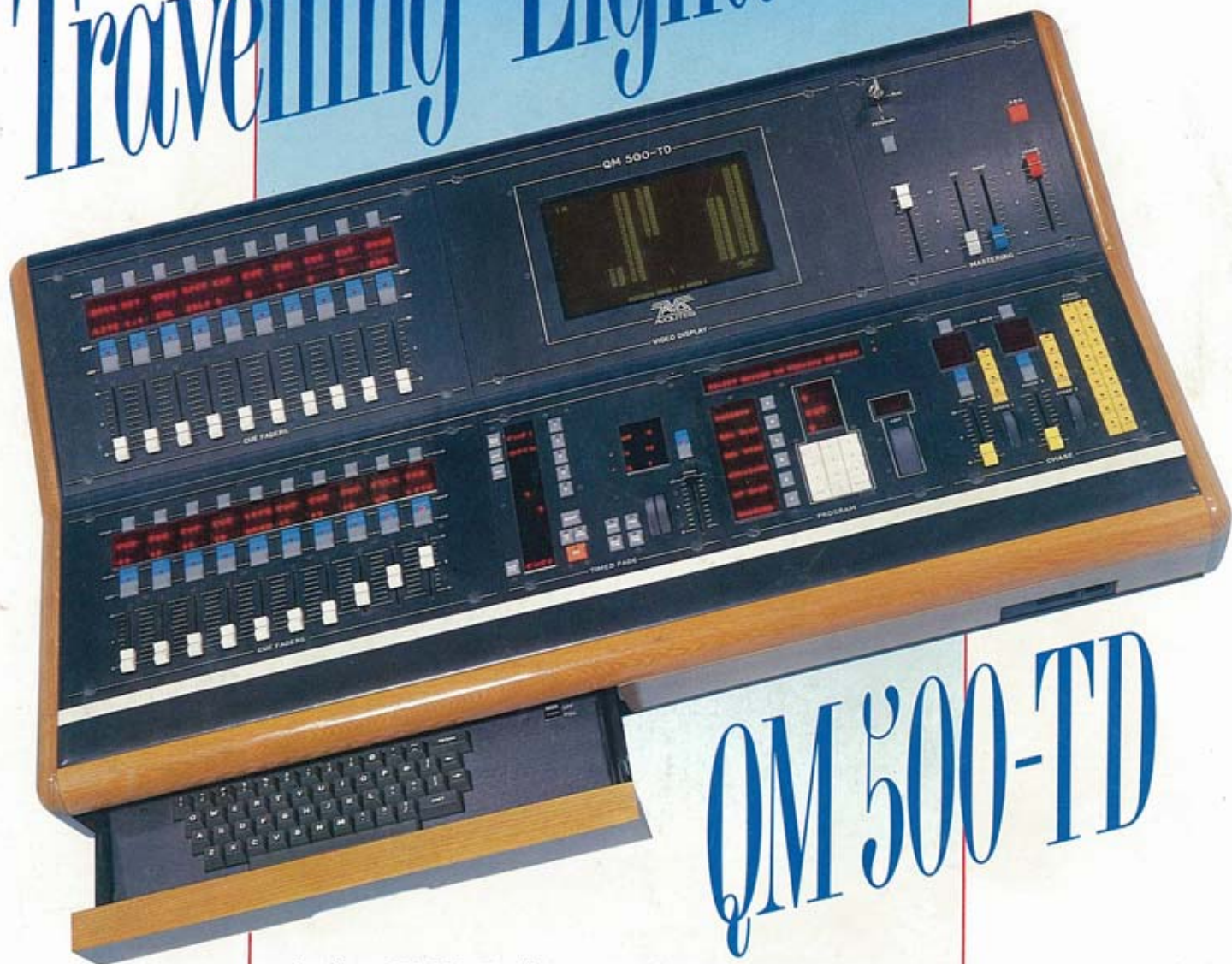
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