

LIGHTING+**SOUND** *International*



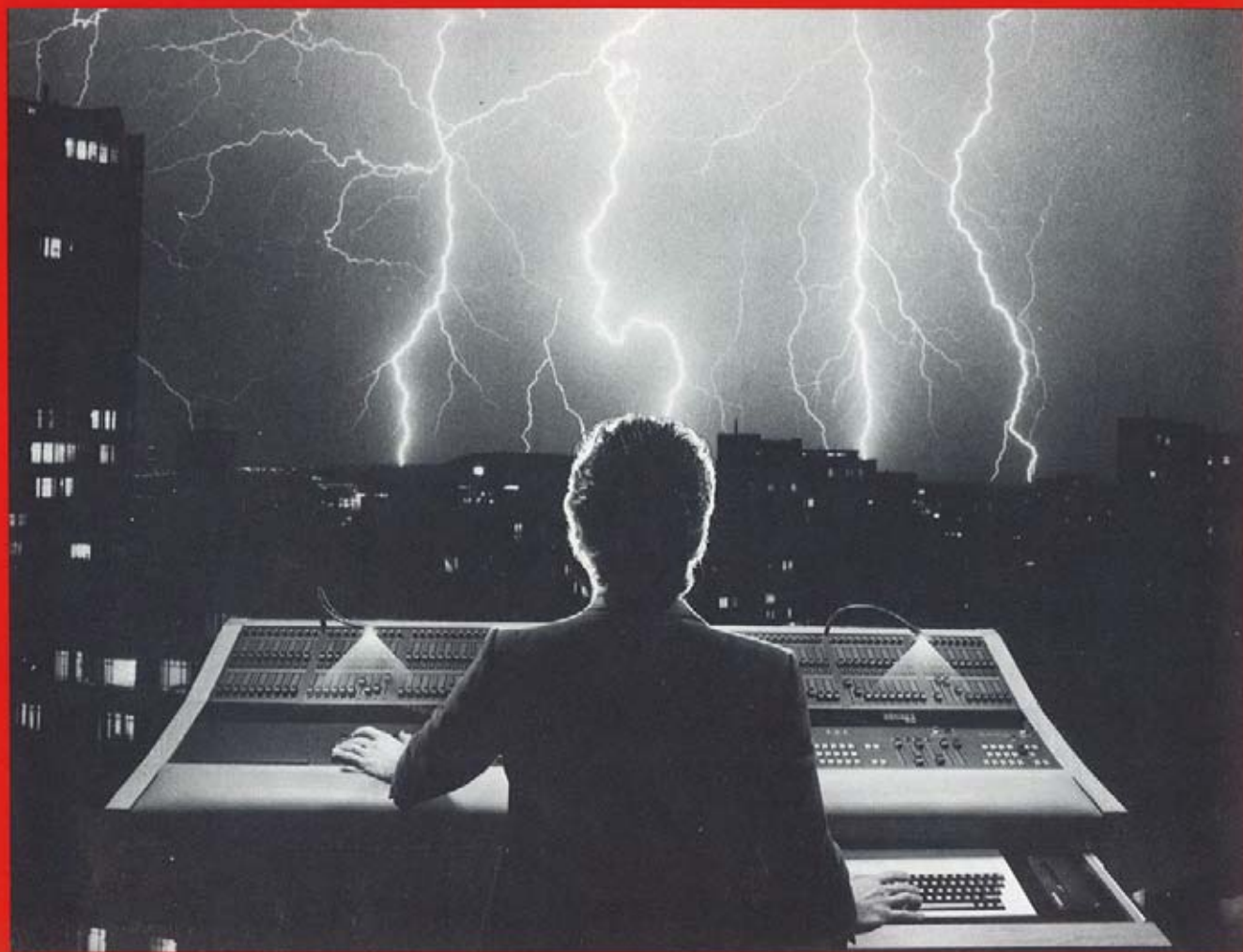
PLASA

published in association with the Professional Lighting and Sound Association

January 1986
Volume 1 No.3

£1.50

CELCO. SERIES 2 GOLD



The lighting control board

SERIES 2
Gold

The *Series 2 Gold* is one in a range of lighting control systems designed and manufactured by Celco Limited.
For further information please contact our distributors: U.S. Sales - Celco Inc. 262a Eastern Parkway,
Farmingdale, NY11735, U.S.A. Tel: (516) 249-3662 Worldwide Distributors - Cerebrum Lighting (Sales &
Hire) Ltd., The Stage & Effects Lighting Centre, 168 Chiltern Drive, Surbiton, Surrey KT5 8LS, England.
Tel: 01-390 0051. Telex: 892337 Celco G

Group Northern
created



for

FIRST LEISURE CORPORATION

Design and Contract Works

by

Group Northern Design & Contracts

Bentley Square, Oulton, Leeds

Telephone: 0532 823613



THANKS TO PULSAR, EVERYONE CAN NOW AFFORD A PROFESSIONAL LIGHTING SYSTEM.

If you'd like to turn your performance into a more effective production, turn to the Intelligent Interface and software from Pulsar.

With this most advanced, yet surprisingly low-priced system, you can link your stage lighting to a micro-computer and program all your cues long before the curtain goes up.

The Intelligent Interface, which is fast becoming the first choice amongst schools and colleges, can handle up to 36 channels of dimmers at once.

Better still, it comes complete with a cue controller and essential software for the BBC Micro, to provide you with a lighting board that has the performance of a memory system many times its price.

Even Scrooge wouldn't argue with that.



PULSAR
Lighting for Effect.

PULSAR LIGHT OF CAMBRIDGE, Henley Road, Cambridge, CB1 3EA. Tel: (0223) 66798. TX: 81697.

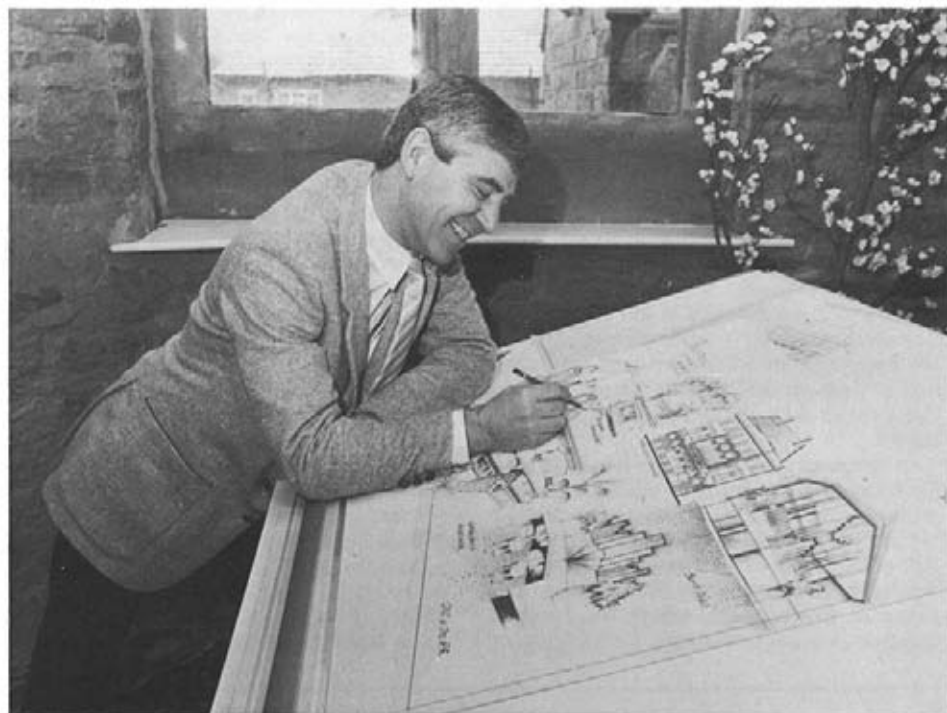
LIGHTING+SOUND *International*

JANUARY 1986

- | | |
|----|---|
| 6 | Sales Talk. |
| 7 | NEWS in Lighting + Sound International. |
| 17 | What Kind of Technician? |
| 18 | Creating the People Magnets. |
| 24 | Malham Man. |
| 30 | On Tour. |
| 32 | Southampton Gets Its Gaumont. |
| 35 | Equipment News. |
| 39 | Profile – Graham Walne and Leisureplan. |
| 40 | Show Page including Exhibition Diary. |
| 41 | PLASA Members. |
| 42 | Directory. |

Cover Picture

Congress Centre, Hamburg. The Strand Lighting Galaxy Memory Lighting System, 192 channels, installed in Hall 1. Halls 2 and 3 are also equipped with Galaxy. (See article "Sales Talk" on page 6 of this issue).



Designing the People Magnets

Terry Wheeler, managing director of Group Northern Limited at work on a new project in the company's office. Chairman of Group Northern Malcolm Brocklesby discusses the creation of "people magnets" in this issue of Lighting + Sound International – see pages 18-23.

LIGHTING+SOUND
International

Editor and Publisher: John Offord.
Advertising Manager: Ann Holland.

Published monthly by John Offord (Publications) Ltd.,
12 The Avenue, Eastbourne, East Sussex BN21 3YA.
Telephone: Eastbourne (0323) 645871.

PLASA

published in association with the
Professional Lighting and Sound Association

ISSN 0268-7429

© John Offord (Publications) Ltd.

No part of this magazine may be reproduced without the permission of the Editor.
Annual Subscriptions: UK £20.00; Europe £25.00; airmail £40.00; US \$70.00.

Sales Talk

with the help of Peter Brooks, John Lethbridge and Neil Rice.

With all the razzamatazz surrounding the recent stock market flotation of Andrew Lloyd Webber's Really Useful Group, the business pages of many dailies took on a totally different look, with pictures from 'Cats' predominating. And it gave the regular columnists the chance to spread their wings: "There's no business like showbiz for making lots of really useful money" headed up the Guardian's Financial Notebook of the day.

Hamish McRae, the man who wrote the column, wanted us to draw a lesson or two from the event and thought a big distinction should be made between publicity and substance: "Though this country is brilliant at the new, design and talent-based industries like theatre and fashion, we have yet to demonstrate that these industries can provide the employment to replace things like the motor industry".

As far as "theatre" is concerned it can be demonstrated in a visual and impactful way that Britain leads the world, and also markets this expertise internationally. From 'Cats' to consultancy, there is ample evidence of our status. In large part these are the "stars" in an overall performance that includes the design, development and manufacture of the tools of the trade: the lighting and sound equipment that resides in theatres, concert halls, clubs and discotheques in most countries of the world.

In this issue we take a look at the lighting equipment scene (sound is a much more complicated situation, and an altogether more diverse market to deal with). All the manufacturing companies in the UK involved with the production of lighting equipment for the entertainment industry export well over half of their output, and the average is probably about 60% across the field of our enquiries.

An "inspired guess" from our contacts puts the British share of the total world market for professional theatre luminaires and controls at around 40%. **Strand Lighting** attributes some 70% of their sales to overseas markets, a trend that has been enhanced by the recent restructuring of the business, which has brought together as a single company Rank's Lighting

for Entertainment activities worldwide. The American operation based in Los Angeles, with a sales office in New Jersey and a branch in Toronto, Canada look after sales to North, Central and South America. Strand Lighting in the U.K., West Germany and Hong Kong, and their overseas distributors cover the rest of the world.

Strand have been particularly successful in Australia, having equipped the Victorian Arts Centre with over 1000 luminaires and 4 Galaxy memory lighting systems, Sydney Opera House with 3 Galaxy systems, and television studios and theatres in Brisbane, Melbourne, Sydney, Adelaide, Perth and Canberra. Hong Kong, too is a success story for Strand with two Galaxys and a Duet memory system plus a manual control and dimmers for the Academy for Performing Arts; for Hong Kong stadium a Galaxy and 400 luminaires; also a Galaxy and 300 luminaires for Ko Shan Road Open Air Theatre. Installations for 1986/87 will include the Shatin Cultural Complex, the Tuen Mun Cultural Complex and the Tsim Sha Tsui Cultural Complex—to be equipped with a total of 5 Galaxys and over 1500 luminaires. One more for good measure in 1986 is the Ngau Chi Wan Market Theatre with a Galaxy and 380 luminaires.

Other recent contracts include a Galaxy and M24 memory lighting systems, dimmers and over 200 luminaires for the Putra World Trade Centre in Kuala Lumpur, and a Galaxy system and more than 300 luminaires for the Islamic Conference Centre, Kuwait. In Europe, a random selection of notable Strand installations include a Gemini system for Stadsteater in Stockholm, a Galaxy system for the State Opera House in Budapest, Galaxy and/or Gemini systems for Stadthalle Karlsruhe, Staatstheater Karlsruhe, Forum Leverkusen, Alte Oper, Frankfurt, Stadt Koblenz and Hochschule Fuer Musik, Hamburg.

Since 1967 when they designed and manufactured the first electronic memory system in 1967, Strand have clocked up around 1500 stage and TV memory lighting system installations worldwide, including some 500 Tempus M24 portable controls.

CCT Theatre Lighting send over 55% of their products to a broadly-based world market with Europe including Scandinavia particularly strong, and a fast-growing outlet for their luminaires becoming apparent in the Middle and Far East and Australia. Like most companies we talked to, they have very little to do with third world countries. Also, as with other manufacturers, the opening up of mainland China through Hong Kong is providing a useful boost for trade (see News section in this issue).

Moving over to manufacturers whose names are more closely associated with the club and disco area, but where many are finding their products naturally moving into much wider markets, the proportion of output for export takes a solid jump upwards. **Zero 88's** sales director Freddie Lloyd told **L+S** that 75% of their manufacture leaves the UK for foreign parts, with 50% going to Europe and the rest split between the United States and the rest of the world. Their "number one" country is Germany, and Freddie spends most of his overseas time either there or at their own incorporated company in the United States. Now Zero 88 have their own French agent things have picked up just over the channel, and Lloyd puts this down to having "the right person in the right country". Again, the Far East is now showing strongly with the Hong Kong door to China the news story for most companies.

Pulsar Light of Cambridge report that at least two-thirds of their product goes for export, and their main markets are Europe (they have their own companies in both France and Germany), the United States, Australia, the Far East and South Africa with the occasional "splash" in the Middle East at the latest Sheik's palace or hotel complex.

Cerebrum follow the same trend with John Lethbridge reporting 70% of sales for export with Germany strong in Europe, but with Hong Kong, Singapore and the United States (their own company) now probably the biggest sector of the company's overseas sales.

Every British company we spoke to made the point that equipment sent out from the UK was supplied ready for operation in the country of destination, with all necessary voltage changes and other requirements checked out. With such a large proportion of manufacture reliant on export, it's now "in the blood" to look after such things. Evidently this is not the case with many American operations, where a huge home market sucks up most of the sales, and export is not an urgent matter.

Optikinetics wide range of products is supplied to very much the same markets as those previously mentioned. They have their own distributor in South Africa, and like the others, China is opening up for them, too. Said managing director Colin Freeman: "If only one in every 100 Chinese bought one of their products they could all go and retire on the proceeds!" Opti export over 60% of their manufactures.



31st Aug - 3rd Sept 1986
NOVOTEL
Hammersmith London

Open:
11 a.m. - 6 p.m. Sunday - Tuesday
11 a.m. - 5 p.m. Wednesday

Tickets available at the door.
Children under 15 not admitted.

The Light & Sound Show is Britain's top professional trade show with exhilarating displays of the latest innovations in lighting, sound and video equipment currently available from Britain's leading manufacturers and suppliers.

Enquiries concerning the exhibition should be addressed to David Street at:
10 Barley Mow Passage, Chiswick, London W4 4PH
Telephone: 01-994 6477 Telex: 8811418

continued on page 14

Easy Street on Crown Hill

To those who don't really know it, Croydon is just another of those sprawling London suburbs.

Locals know better, though, for Croydon is effectively a city in its own right with a "mini-Manhattan" business centre full of tower blocks housing the national headquarters of many major companies and with one of the country's finest shopping centres.

Entertainment is well catered for too, with dozens of fine restaurants, the superb Fairfield Halls concert and theatre complex—still unsurpassed anywhere in the country—and numerous night clubs.

One of the longest established entertainment sites in the town is at 12-18 Crown Hill, just off the bustling high street. In previous guises under such names as Boob's and Scamp's there has been a discotheque operating since at least as far back as the sixties. Now the venue has undergone a major re-fit as Easy Street, under the control of Whitbread's burgeoning Aureon Entertainments subsidiary.

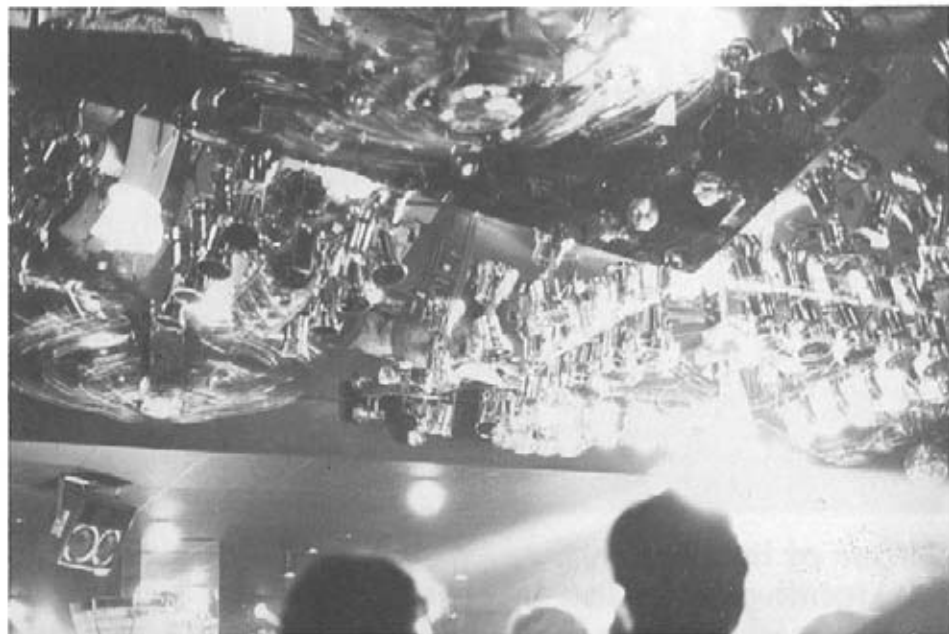
Main contractors were the Michael Gibson Design Group with Dick Carrier of Light and Sound Distribution, handily based in Croydon, responsible for the lavish and very clever light and sound system.



Samantha Fox declares Croydon's 'Easy Street' open.

Page Three's most famous daughter, Samantha Fox, was on hand to declare Easy Street officially open at a huge and highly enjoyable celebrity party attended by many industry notables. If the drinks flow as freely when the general public uses the place it'll make a fortune!

Main feature of LSD's installation is a multi-dimensional suspended ceiling over the 17ft by 23ft dance floor, of Deralam mirror laminates on aluminium.



First night lights at Easy Street.

Lighting centrepiece is a Neutron Star surrounded by some 20 x 100-watt pinspots, four 16-head helicopters, eight 360-degree spinners, 20 90-degree scanners, 24 70-watt spots, 32 pinspots, two white lightning strobes, four 12-lamp harvesters and 16 Par 56 300-watt floods with Dichroic filters on minispot motors. All the lighting units are chrome finished.

Four 12-inch mirrorballs are also used, the whole rig being controlled by a system comprising a Light Processor 436, Light Processor 434, two Light Processor System Sensors, and one Light Processor 12-way dimmers.

The main sound system comprises six Black Dwarf Pro 2 speaker cabinets, two Black Dwarf sub-bass units, two H/H V800 amps and a C.S. mixing system. The turntables are twin Technics 1200 fitted with Stanton 680 EL cartridges and styli and there is a Technics CD player and a Phillips cassette deck. The sound in-fill system comprises eight Black Dwarf Pro 1 speakers and a V200 amp.

LSD also fitted all the front-of-house and interior neon and the Tivoli style illuminated stair nosings, as well as fitting a sound, light and video system in the Office Bar cocktail bar and diner which is part of the same complex.

Black Light broadens Edinburgh Base

In addition to a move to larger premises, Black Light have announced that they have been appointed distributors for Powerdrive audio and lighting stands and are now holding a comprehensive cross-section of the range in stock.

January 1986 will see the launch of their trade price list which will cover the full range of products held in stock from major manufacturers such as Zero 88 Lighting, Coemar, Roscolab, Arri, Duraplug Electricals, C.C.T. Theatre Lighting and many more.

Based in the Festival City of Edingburgh, and in addition to covering Scotland and Northern England, Black Light operate a next-day delivery

service throughout Britain, which often surprises many people who have an image of Scotland as merely single track roads and heather clad mountains!

For further information, or to be included on their mailing list, telephone 031-551 2337.

The Next Chapter

A massive £600,000 capital scheme commences this month, and it will change the face of Wales' premier arts centre, Chapter, in Cardiff. There will be a totally new entrance to the building (an old school in the capital's Canton district) complete with landscaping outside.

Extensive refurbishment will take place in the foyer areas, and extensive work will be carried out to the Chapter Theatre with new bleacher seating, soundproofed walls, and a new lighting grid.

The construction work also includes fitting out two cinemas—one of them a completely new building.

Don Larking becomes Full Range Soundcraft Dealer

From January 1st 1986 Don Larking Audio Sales, based in Luton, became a full range dealer for Soundcraft Electronics. This extends his existing range of professional recording consoles to include the Series 2400 and TS24 in line console. Don Larking will be one of only two full range dealers in the U.K., the other being the recently formed Stirling Audio Systems in London.

Don Larking Audio Sales have been a Soundcraft dealer for over six years and are well known for their success in the sales of Soundcraft tape machines. This new agreement will mean that Larking will now be able to supply complete Soundcraft studio packages.



Roger at the Ready . . . for Lighting + Sound International

Roger St. Pierre brings a wealth of discotheque experience to the pages of **Lighting and Sound International** having been involved in the industry since the early sixties.

Probably the first record company promotion manager ever to embark on a nationwide tour to promote his product through the clubs, Roger eventually set up Funk Function which, in the late seventies cornered the market in independent disco promotion. He has also been one of the most successful independent press agents in the music business, having no fewer than six number-one records to his credit and having worked with such varied artists as Marvin Gaye, Jerry Lee Lewis, David Soul, the Crusaders, Glen Campbell, Diana Ross, the Jacksons, George McCrae, Don Williams, James Brown, Blood Sweat and Tears, the Drifters, the Temptations, Frankie Lane, War, and Slade.

Author of more than 500 album sleeve notes over the years, Roger also has many books to his credit. He co-wrote the best-selling *Rock Handbook* and the *Encyclopaedia of Black Music* and recent titles include books on Marilyn Monroe, James Dean, Tina Turner, Bruce Springsteen, Prince, Bob Marley and Sylvester Stallone.

As a journalist, Roger has contributed to the Times, the Daily Mirror, the London Standard and a wide range of trade and consumer publications. On the music front he had his own long-time columns in *New Musical Express* and *Record Mirror* and has contributed to *Sounds*, *Music Week* and *Blues and Soul* besides being music editor for *West Indian World* and for *Focus* magazine.

On the disco front, Roger was founder editor of the original *Disco Mirror* magazine, published by Spotlight, and played a major role in helping Jerry Gilbert and Alan Donaldson to set up *Disco International* for which he wrote the bulk of the copy in the early days.

Besides handling press publicity on an independent basis for such industry clients as Rank Leisure, St. George's Taverns, the award winning Flick's club in Dartford and other independent venues, Roger has produced catalogues and promotional material for various light and sound equipment manufacturers over the years and is currently in at the deep end of the business with his own venue, The Townhouse, in Enfield, Middlesex, which he operates in association with Nicholas Leisure Ltd.

Roger understands the end-user's problems well for he is also a seasoned deejay having hosted his own R&B shows on BBC local radion and on pirate radio.

Quad Eight/Westrex equip new Twickenham Studios complex

Quad Eight/Westrex, part of the Mitsubishi Pro-Audio Group, has just completed the first phase of a major order by Twickenham Film Studios.

Phase 1 represented the delivery and installation of film recorders and projectors worth around £150,000. In Phase 2, the contract for which was awarded only 2 months ago, Twickenham Studios will receive additional recorders and projectors to a value of £250,000, and these are scheduled for delivery next June.

The third phase of the order is perhaps the most prestigious for Quad Eight/Westrex; a specifica-

tion for a custom-built audio console, complete with the Compumix IV Automation System with Intelligent Digital Faders. This desk will be one of the central features in the new complex being built at Twickenham. Costing £2¼ million, the new building will house 2 dubbing stages, and is due for completion in August 1986.

The Quad Eight console has been specified by Gerry Humphreys, Director of Sound at Twickenham Film Studios. With film credits such as 'Gandhi', 'Bladerunner', 'The Emerald Forest' and 'Plenty', Gerry's expertise was fundamental in the design of operational facilities for the console.

The Twickenham console will feature 72 inputs, using Quad Eight's new input module specifically designed for film recording. 24 mixing busses allow selection of any recorder from any position, and also included are ten echo/effects send

busses and independent three channel and two channel pan busses.

The console will be fully automated with Quad Eight's new Compumix IV Automation System, which uses an 80-megabyte hard disk, a 32-bit multi-tasking computer and the exclusive Intelligent Digital Fader (IDF) with touch control panel and direct digital encoder for absolute accuracy.

Internal processing gives a 10-bit control range and instant assignment of up to 16 groups. Any fader can become a group master without changing its individual identity. Feeding the console will be a 96-input, 48-output electronic matrix routing switcher, also supplied by Quad Eight.

The console will be built in California, and fully coordinated by the Quad Eight/Westrex team in London.

Squire's Over The Caribbean

An ugly duckling into a beautiful Caribbean Swan? This was the challenge presented to Squire Light & Sound when Martin Labarrie of Entertainments Antigua Ltd. approached the Company for a total rebuild project for Tropix.

Due to a personal recommendation from the Imagination pop group, word reached the tiny island of Antigua that Squire's would be the ideal Company to undertake such a demanding project, and whilst other companies were invited to tender, Squire's came up with the best package at the most competitive price.

The interior design contract was placed with John Belcher, of Belcher Hall Associates who have worked with Squire's on many successful contracts during the last 12 months. It was a tough assignment, mainly because of the cost and difficulty of freighting out specialist bar fittings to this tiny Caribbean Island. Recently a supply boat missed its connection at Barbados and as a result the opening has been delayed a couple of weeks!



Ugly duckling into a Caribbean Swan?—Tropix shown here in its raw state before the Squire Light & Sound refurbishment.



Tropix—Interior view of the Club prior to refurbishment by Squire Light & Sound Ltd.

A full Squire PA System is currently being installed and the colour and design scheme is evidently being carefully co-ordinated to fully reflect a tropical island paradise.

We look forward to showing you the new "Tropix" in a future edition of **L+S**.

Take the lead...



...and get rid of it!

Imagine how much easier it would be, and safer, to use a microphone without trailing a lead behind you.

PIKAMIC 11 EDC's NEW miniature radio conversion unit for all leading microphones, giving you instant cordless freedom of a radiomicrophone system to broadcast standard.



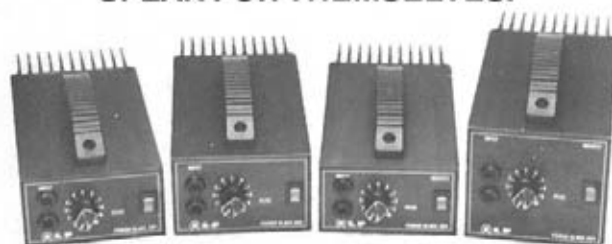
Simply disconnect the lead from your microphone and plug in the Pikamic 11 Radio transmitter

For detailed literature contact:
NORTHERN LIGHTS
89 SCOTFORTH ROAD
LANCASTER LA1 4SD Tel: 0524-62634



ILP ELECTRONICS LTD.

**PRICES AND PERFORMANCE FIGURES
SPEAK FOR THEMSELVES!**



£79.95 £99.95 £89.95 £109.95

RANGE OF SLAVES	US12	US20	US32	US42
Output Power - full impedance	60W rms into 4Ω	120W rms into 4Ω	60W rms into 8Ω	120W rms into 8Ω
Total Harmonic Distortion (Typical @ 1kHz)	0.01%	0.01%	0.005%	0.005%
Frequency Response (-3dB)	15Hz - 50kHz	15Hz - 50kHz	15Hz - 100kHz	15Hz - 100kHz
Signal to Noise Ratio (DIN AUDIO)	100dB	100dB	100dB	100dB
Input Sensitivity	500mV rms	500mV rms	500mV rms	500mV rms
Input Impedance	100kΩ	100kΩ	100kΩ	100kΩ
Weight in grammes	410	520	430	850
Size in mm	120x78x40	120x78x50	120x78x40	120x78x100
Fuse A.C. 20rms Fuse Speaker 20rms	A/S 500mA G10 5.5A	A/S 1.25A G10 3.15A	A/S 500mA G10 2.5A	A/S 1.25A G10 2.5A
Weight	2.5 kgs	3.3 kgs	2.5 kgs	3.7 kgs
Size	7cm = H, 12cm = W, 29.5cm = L	8cm = H, 12cm = W, 29.5cm = L	7cm = H, 12cm = W, 29.5cm = L	11cm = H, 12cm = W, 29.5cm = L

THE ILP GENERATION OF MUSICAL PRODUCTS



GRAHAM BELL HOUSE · ROPER CLOSE · CANTERBURY · KENT CT2 7EP
Telephone: (0227) 454778 (4 lines) Telex: 965780 ILPAMP

ESSENTIAL READING

For every Club Owner and Manager

64 glossy pages

32 in full colour

Over 200 product/club pictures



Whether you wish to read about the most up to date Lighting Controllers, check out the best up-market Speaker ranges, or simply study design ideas for Club Interiors — Squire's new Catalogue and Design book is a must. Full Price Guide included. Clip the coupon, or post us your letterhead for our latest Catalogue by return of post.



Please send Squire's latest Catalogue —

Name _____
Club/Venue _____
Address _____

Send to Squire Light & Sound Ltd,
176 Junction Road, London, N19 5QQ.

coemar



take off in '86

Don't forget — not only are we constantly developing new stunning effects but also have a well proven range to back them up:-

- ★ Par 36 pin spot
- ★ Par 56
- ★ Par 64
- ★ Helicopters
- ★ Scanners
- ★ Projectors
250W - 2500W
- ★ Venus
- ★ Galaxi's
- ★ Comet
- ★ Trisball
- ★ Dance Floors
- ★ Lamps
- ★ Plus many
many more!

W.B. Lighting Limited,
4 Tenter Road,
Moulton Park Ind. Est.,
Northampton NN3 1PZ
Tel: (0604) 499331

Coemar S.R.L.
Via Inghilterra,
Castelgoffredo, 46042,
Mantova, Italy

Please send me details of your product range and list of dealers.

NAME _____ POSITION _____
COMPANY _____
ADDRESS _____
TEL _____

Squire's New Wholesale Company

Roger Squire has announced the launch of a new wholesale division under the name "Squire Wholesale".

Squires now has a number of important sole agencies including Lampo, Sapro, and Program-sistem, and the primary function for Squire Wholesale will be to provide a fast trade supply service to major dealers and distributors around the UK giving them attractive trade and volume discounts plus good credit facilities.

The product range available on a wholesale basis will be limited to sole agency products only with a total product list numbering only 30. They will include a number of very popular items such as the new Lampo Krypton I and Krypton II effects, plus some of the major Sapro motion lighting effects. "Programsistem Xenon Strobes and Starballs are also expected to be popular items," Squire told L+S.

"It is very important that major dealers and distributors talk direct with our head office in London dealing only with Jackie Ward or myself as the directors in charge," said Squire. "There is absolutely no embarrassment about supplying companies that are also our competitors as we are simply interested in increasing our distribution throughout the UK as a whole."

Squire branches will continue to offer cash and carry trade terms to installation companies from all 4 of their branches, but it was emphasized by Squire that major trade buyers will only get the right terms by dealing through Squire Wholesale at company head office. The address for this Company is 180 Junction Road, London N19 5QQ telephone: 01-263 7272 telex: 261993.

Audix Group Promotions to Supply Kuwait's Islamic Conference Centre

Audix Group Promotions, specialist electronic equipment suppliers to the Middle East, have been awarded a substantial contract to supply and install systems for the Islamic Conference Centre under construction in Kuwait. The order, worth nearly \$6,000,000 to the company, was won after fierce competition with a number of international companies.

The Conference Centre, sited on an area of 50,043 square metres, will be used to host all future meetings between the Islamic nations. Apart from providing theatre and conference facilities the venue will also accommodate all visiting Heads of State.

Audix Group will have full responsibility for supplying and installing the theatre sound and communication systems; audio visual conference equipment; simultaneous interpretation equipment; motion picture, slide and tv projection equipment; television studio systems and a 600 trunk, 2500 line PABX system.

The entire contract has to be completed within 13 months and Audix Group Promotions own staff in Kuwait will be installing the systems during the first half of 1986 ready for commissioning in August 1986.

**FOR DETAILS OF
ADVERTISING IN
LIGHTING + SOUND
INTERNATIONAL
RING ANN HOLLAND
ON (0323) 645871**



Nottingham Royal Centre with award winning sculpture (left).

photo: Christine Ottewill.

"Art and Work" award for Royal Centre Sculpture

Ron Haselden's sculpture for the facade of the new Royal Centre at Nottingham has been awarded a Certificate of Merit, and was one of 4 winners in the 'Art and Work' competition. Awards were presented last November at the "Art at Work" conference at the RIBA, sponsored by Capital and Counties PLC.

The sculpture consist of three integrated sections of coloured neon tubing that fold and bend across the top two levels of the building. The work, the electronics for which were created by the artist Julian Sullivan, can be programmed into flow, fade and switch, with infinite variety. Best seen in colour, of course, so next time you're within driving distance of Nottingham City Centre at night, take a small detour . . .

Architects of the Royal Centre were the Renton Howard Wood Levin Partnership, and the neon work was carried out on site by Pearce Signs Limited.

H.H. Electronics on the Move

H.H. Electronic have announced the purchase of a new factory at Huntingdon. The expansion of business since the new management took over in March 1984 has enabled the change which the company report will give them improved manufacturing, production and sales facilities. The move, only 6 miles up the A604 from Bar Hill, commenced in late November, and by early January, 1986, all departments will be operational at the new factory.

H.H. report that the new facility gives a marvellous opportunity for planned expansion in the future without a change of location.

The new address is: H.H. Electronics Ltd., 9 Clifton Road, Off St. Peter's Road, Huntingdon, Cambs PE18 7DW telephone: (0480) 432227 telex: 32789.

Fibre Optics within reach

The Eurotec Fibre Optics "Ensign" display system launched at Design 85 at the NEC in November is considered a major breakthrough in technology that will put fibre optics in a realistic price band, and within reach of the average budget.

The tungsten halogen lamp is fitted at the back of the display and the light is focussed by a special heat filtering reflector onto the end of the fibre optic harness, and passed through a colour wheel to achieve the colour changing display. The fibres are led to the rear of the display and arranged so as to provide the desired image.

Combinations of multiple units form single or alternating messages, to any scale.

Full details from Eurotec Fibre Optics Limited, Shaw Lane Industrial Estate, Doncaster DN2 4SQ telephone (0302) 61574.



H.H. Electronics' new Huntingdon factory.

Back Door Lampos

Roger Squire sent L+SI a press release to highlight the fact that "back door" importing of the Krypton and Wheeler Disc effects has evidently been taking place courtesy of another European trade source.



Lampo: look for the original.

He suggests that any UK dealers wishing to sell Lampo should talk to Squires first "for the best trade terms".

And the sting in the tail, according to Roger Squire, is that his company has the exclusive contract from the Italian factory to fit 240v motors, and he says reliability is at risk without the correctly specified UK motors.

£3¼m. Order To Bangladesh

Quad Eight/Westrex, a subsidiary of the Mitsubishi Pro-Audio Group, has just completed delivery of a major order worth £¼ million to Bangladesh.

Commissioned by the Bangladesh Film Development Corporation, the order was for 5 Quad Eight mixing desks, and 28 Westrex magnetic film transports for 35mm and 16mm film projectors.

The equipment is destined for a new complex which will incorporate 4 re-recording studios and 1 music recording stage.

Winning Through With New Towngate Plans For Basildon

Plans for the first phase of a massive investment programme which will complete development in Basildon Town Centre and give the district an exciting new theatre and community building, have been revealed by Basildon Council.

A new building to replace the present Towngate Arts Centre and Theatre opened in 1968, will be built on the present car park site bounded by Towngate and Pagel Mead opposite. A start on site is programmed for March 1986 and the construction period is expected to be two years. Total cost is expected to be £6¼m.

Architects Renton Howard Wood Levin Partnership, have designed a building which in addition to being a home for the performing arts, will be so flexible that it can easily be transformed for major spectator sporting events and a whole range of social and community functions. These will include exhibitions, trade fairs, social gatherings of all kinds and special events such as professional snooker.

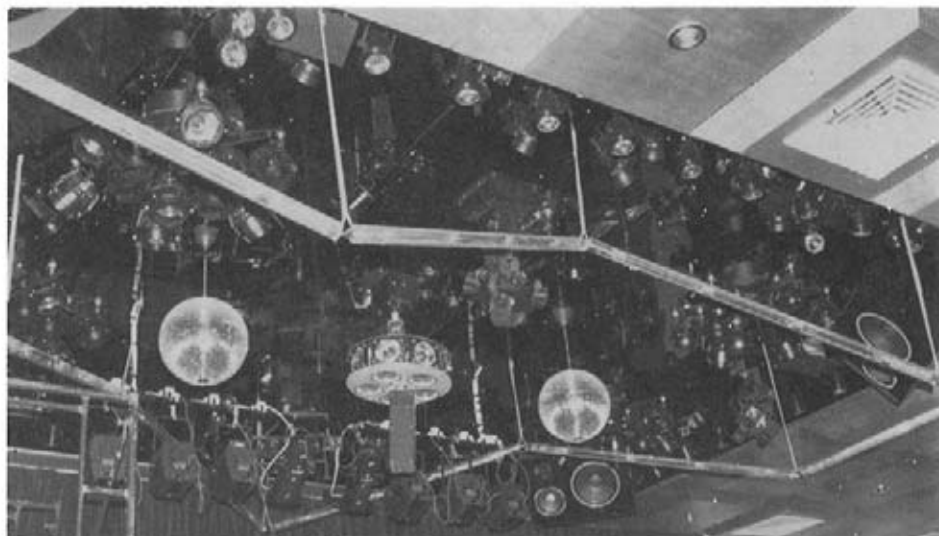
In addition to the multi purpose main auditorium with seats for 550 on three levels, the design includes a 200 seat studio. The theatre is a combination of architectural expertise and new technology. It has to be an attractive building and must be seen in the context of a new Town Square for Basildon when the present Town Square becomes a closed shopping precinct.

The overall investment programme which is



Moving East

Laser Theatre Lighting, CCT agents in Hong Kong, have now moved from their offices in Jaffe Road to more pleasant and spacious premises at 16 Dorset Crescent in Kowloon. It includes a well equipped demonstration studio from which equipment and rigging goes out for exhibitions and demonstrations, such as the one above photographed in mainland China. Laser's Lawrence Chan has been successful in exporting equipment from Hong Kong into China and installations at Shenzhen (Honey Lake Country Club), Guangzhou, Beijing and Amoy.



Laser Theatre Lighting's demonstration studio at Kowloon.



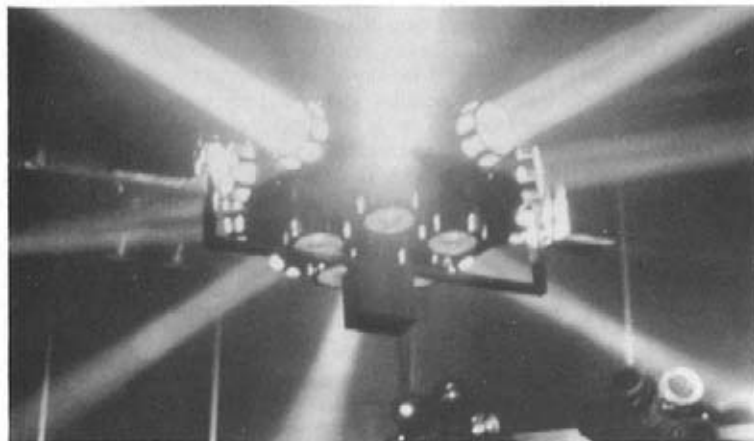
A perspective of the New Towngate Theatre at Basildon in Essex—architects RHWL Partnership.

funded entirely by financial institutions, will eventually provide new accommodation for the Council, community facilities, major new private sector

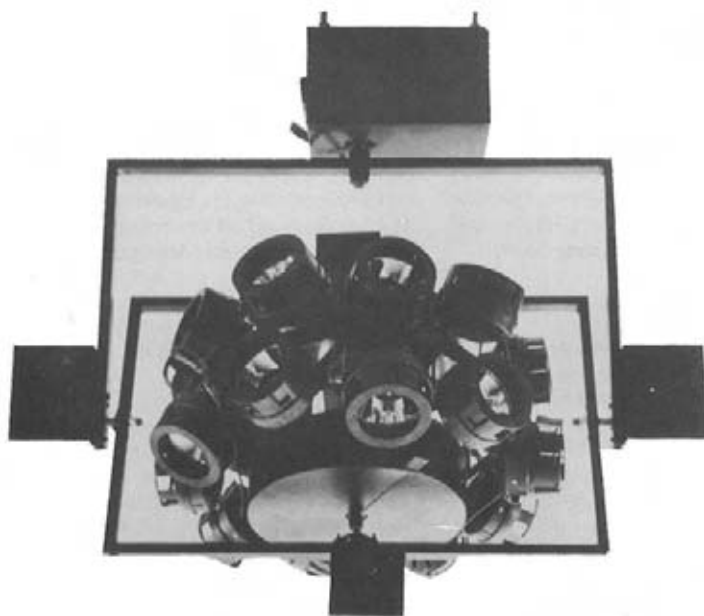
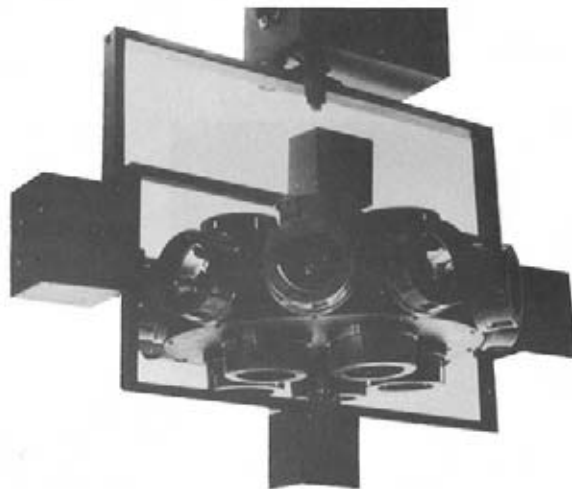
development on the Fodderwick site now occupied by the Council offices and Library, and possibly a face lift for Basildon Market.

The *SEAR* Electronix Brand ...

... not for the faint at heart!



Power UFO 3



Starlight

Duowave

Avitec's latest agency acquisition, a compelling range of powerful light fittings from Italy.

All products use the high power long life Halostar 24 volt 100 watt quartz lamps, with specially designed reflectors giving near parallel meteoric shafts of light!

Power UFO 3

This three motor giant UFO has two lamp circuits, and spins, tumbles and gyrates to give an incredibly exciting, dynamic display! Dimensions: 1220mm diameter, 1040mm drop, Weight: 45kg.

Starlight

If you thought that moving light fittings had already reached the limit of imagination – think again! – The Starlight breaks previously known barriers! The whole unit spins, rocks and tumbles as with the Power UFO 3, but additionally the twin sets of searchlights probe up and down in synchrony – a stupendous effect!

Dimensions: 1350mm diameter, 1200mm drop, Weight: 60kg

Duowave

Ten meteoric fingers of light stab the darkness and twist back and forth in the horizontal plane. The twisting motion can be duplicated simultaneously or independently in the vertical mode!

Dimensions: 2650mm width, 900mm height, Weight: 20kg

The rest of the Sear Electronix brand giant effects will be shown in Avitec's supplementary catalogue shortly available, and a selection is on demonstration in the new Hitchin showroom.

AVITEC Electronics (UK) Ltd
80/81 Walsworth Road,
Hitchin, Herts SG4 9SX.

AVITEC

THE ATMOSPHERE CREATORS

Tel: Hitchin (0462) 58961.
Tlx: 825682 AVITEC G.

Another lighting revelation from Avitec!

Sales Talk continued from page 6

Last December three of PLASA's leading lights left the UK on around-the-world exploratory tours. Two of them, Zero 88 and PLASA chairman Peter Brooks, and John Lethbridge, PLASA vice chairman and managing director of Cerebrum Lighting, joined the British Overseas Trade Board sponsored mission to Australia and New Zealand, with other stopovers on route.



Peter Brooks.

Peter Brooks reported his impressions for L+S:

My overriding feeling after the trip was that there is never a substitute for visiting customers and potential customers on their own ground. Suddenly you realise that the request for a knob here or a handle there is not just another attempt to upset the design team, but is merely the norm for the particular market place. In Australia, for example, lighting hire departments are full of locally produced dimmers which all appear to be descended from an Australian Strand design. As a result, if your product does not look similar, it does not sell. Similarly, visiting is the only way to discover how the market actually operates, which company is in the ascendant, and which individuals are the 'live wires'. As many people are aware, both Australia and New Zealand are desperately trying to establish their own manufacturing industries and have large import tariff barriers which affect most areas of the lighting and sound industry. As a result, locally made equipment often offers good value compared with imported products.

Being thousands of miles away from the rest of the world can produce interesting products, however. I shall never forget the story of a New Zealand distributor who was taken aside by one of his local lighting operators. 'I have seen moving lights being used on the big name tours' he said. 'What would they cost to import?'. On being told it would be a small fortune he wandered off disconsolately. About a month later, the operator returned and asked for time in the demonstration room to set up some equipment. Half an hour later the distributor was invited in and a passable moving light system was demonstrated in the dark. When the house lights came up again, on display were two stands of lights moved by the use of compressed air from a couple of diving cylinders. Simple, but clearly effective.

This trip was sponsored by the Department of Trade and Industry as an Outward Mission. Throughout, I was most impressed by the help given to us by UK Consulate staff, and they are well worth contacting, preferably well before your trip, through your local DTI rep.

One of the more amusing incidents that occurred was hiring a car in New Zealand which was called a 'Pulsar'. As Managing Director of Zero 88 I felt that arriving at a customer's in a 'competitors' car was a little incongruous!

John Lethbridge spent a total of 23 days on his trip. He stopped off to visit regular contacts in New York and San Francisco before going to Hawaii where Cerebrum have just appointed a Celco distributor and some bulky orders have resulted.

He was not impressed by the way the market was tied up in New Zealand—that is by the Government and the main established companies. In a determined endeavour to manufacture at home, and save the country the cost of imports, duties are high and local companies are given the option to "say whether they can produce" first before an import licence is agreed. With the exchange rate as it is, and possibly because of general anti-feeling over Britain's entry into the EEC, Lethbridge felt that this area of the globe was a tough one to crack.

The Australian market interested him in many ways. The answer evidently was to "get a good distributor working on your product". Manufacture under licence (CCT have cracked this one) was also a possibility. Certainly, as with New Zealand, the import duty coupled with freight costs and a bad exchange rate didn't help matters for British firms. John Lethbridge was amazed to find how many small companies there were in the field "down under", and how many of them manufactured some piece of equipment—presumably under Government incentive. Overall he was impressed. "They all seem to be making money"—and wondered if they might provide a "threat in reverse" later on! However, backing up Peter Brooks' comment about actually getting out into the field yourself and visiting potential clients, he was confident his company would see results, and will be doing business "in the long term."

Neil Rice, chairman and export sales director of Optikinetics, was also on a world tour in December—an estimated 45,000 miles in just under five weeks. His trip had already been planned by the time the BOTB/PLASA tripped was announced, but he did meet up with Brooks and Lethbridge in New Zealand.

First port of call was Singapore where Rice saw two of Optikinetics' oldest customers, Hawko and Juliana's South-east Asia operations. Both have recently moved to impressive new premises despite the current economic dip.

In Hong Kong Optikinetics' two distributors Laser Theatre Lighting and the recently restructured and re-named Strand Lighting are



Neil Rice.

both enjoying the blossoming trade with China. In fact, Rice visited the Honey Lake Country Club on Shin Zhen, China with Lawrence Chan and Edward Cheung of Laser to see the Company's products in use at this multi-million pound 'Disney Land' style complex.

In Taiwan many clubs operate illegally and ten minutes after arrival at one hostess club the house lights were brought up as early warning of a police raid, and in thirty seconds flat every female left by the back door, a carpet was unrolled to cover the dance floor, with tables, chairs and plants positioned over it.

In Japan Optikinetics products have been distributed for many years by Matsushita's Import Division. Whilst the country is prosperous and westernised, in most respects many clubs have superbly designed interiors yet the lighting has not reached western standards. In Rice's opinion it is the expertise that Avitec have given Europe that is needed here. Following his visit to Matsushita, one of the internal sales and manufacturing divisions of the company are planning a new showroom for Optikinetics products at their prestige twin-tower building overlooking Osaka Castle.

In Australia Rice toured Jands CCT's dealers in Perth, Adelaide, Melbourne, Brisbane and Sydney with Tony Cochrane, national marketing director of Jands CCT. Whilst in Brisbane Cochrane presented a paper on entertainment lighting, with the help of local dealer Lightmoves, to an Illumination Engineering Society convention and Rice followed, giving a lightshow to the now familiar superdisco anthem from Logic System. Majoring on Optikinetics effects, the display received an overwhelming reception.

The newly-opened Metropolis in Auckland, New Zealand, with the lighting designed by Jeremy Collins and interior by Gilliam Bailey, was where Rice met up with John Lethbridge, and Peter Brooks coming the other way with the B.O.T.B./PLASA mission. This cocktail/disco bar with Mode Touch Sensors, Optikinetics Super Slave Strobes, Fanlites and Beam Effects together with its decor and creative use of neon for wall and ceiling washes, impressed all assembled, and no doubt made Rice feel good too.

22 hours and two Thursdays later Rice collapsed at the L.A. home of ex-Radio One's Emperor Rosko, an old friend of Optikinetics, and still busy using their equipment at house parties in the star spangled homes of the city of the angels. His final port of call was New York, where he was scraped off the tarmac at Kennedy by Ceko's Norman Wright, before doing his Christmas shopping in Manhattan.

One of PLASA's main ambitions is to trail-blaze the export path for British lighting and sound equipment manufacturers. By co-ordinating experience and organising future trade missions, seminars, and so on, they can play a key role in doing just that.

What is very good to note is that the beginnings of co-operation are already under way, despite the fact that many companies compete with each other in various sectors. Perhaps one of the main reasons for this is that there is a high degree of pioneering spirit about such ventures, and although it's a serious business, it can be fun, too, and completes the creative circle started by the consultants and designers.

John Offord.

A Month in the Life of . . .

Over a hectic four-week period, Light and Sound Distribution's Dick Carrier completed a full installation at Croydon's Easy Street and The Office, installed new systems at Gables in Wellingborough, Northants, and the Millionaire, Birmingham, and carried out an additional lighting project at Busby's in London's Charing Cross Road.

Creating the Atmosphere

Just a week or so short of the Christmas celebrations, Avitec opened their new showroom and demonstration space which takes up about a third of another 1800 square foot extension to their Hitchin, Herts base.

Avitec's Tony Kingsley told L+SI that the new space was "lavishly equipped" and that for the first time "the company will be able to show major effects in action such as the Krypton and the German manufactured Psund laser simulator".

The new facility will also provide a better acoustic for bigger sound systems—a fast increasing part of the company's business.

Further development in the spring will see a new reception area come into use, and this will show off decorative lighting—an area of the business that Avitec plan to attack in the future.

And it was generally celebration time all round at Avitec. Business across the board was at an "incredible level" said Kingsley.

New Future for Futurist

Scarborough's new 2200-seat Futurist Theatre has been purchased by the Borough Council for £320,000 from Property Pension Holdings. A joint refurbishment programme has been agreed in principle, with details currently being negotiated.

Advance details given to L+SI reveal that a new sound system is expected to be high on the priority list. New seating is also expected to be provided and some structural work will also take place.

The Council will be paying for the theatre over a three year period, and have leased the venue for the same period to MAM Promotions who have staged summer productions in the town for the past four years.

Sightline 2/85

The Winter 1985 edition of 'Sightline' the Journal of the Association of British Theatre Technicians, and edited by Ian Herbert, carries a busy selection of articles.

John Leonard, head of sound at the RSC goes in search of the ideal desk; Jason Barnes of the National describes the transfer of the Mysteries; Peter Kemp looks at the stage engineering behind 'Mutiny'; Joe Aveline of Central School looks at teaching in Zagreb; Jean Hunnisett discusses the ABTT costume courses; and Richard York takes a technical look at 'Red Noses'—appropriately at the Barbican.

There is also a feature on the work of designer of 1985 William Dudley, a review of the first ABTT

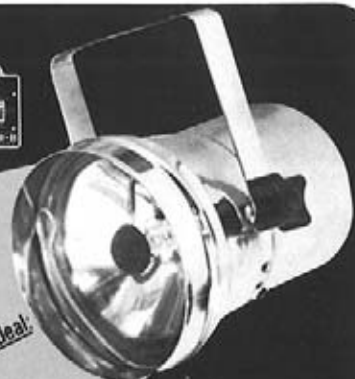


North trade show by Fred Bentham, and a look at two new London arts centres, the New Half Moon in the East End, and Brentford Watermans by Ken Chubb.

A year's subscription (2 issues) costs £5.00 from the ABTT at 4 Great Pulteney Street, London W1R 3DF.



Lights up at the new Avitec showroom and demonstration space.



SPOTLIGHT ON QUALITY

LUTON SOUND & LIGHTING

75 & 82-88 Wellington Street, Luton, LU1 5AA, England.
Telephone: 0582 411733 (5 lines).
Telex: 825353/825562 CHACOM G LITECO.

- ★ Sound, Lighting and special effects for leisure, promotion, entertainment and the arts.
- ★ First class technical back-up.
- ★ In-depth stocking, at sensible prices.
- ★ UK and Worldwide Supplies.

Also Suppliers to Trade

Hours of Business:
Mon-Fri 9.30 am - 5.30 pm,
Sat 9.30 am - 4 pm.

- We guarantee you quality equipment at the best prices
- You can discuss your requirements and the best all-round deal:
 - by telephone, with Sales Manager Eamon Hailes, or
 - by visiting our Luton Showrooms and speaking to our experienced Sales Team.
- Credit facilities available. Instant Credit to qualifying customers
- Express Mail Order and Export Service.



Please send me a free copy of the Luton Sound & Lighting Product Guide.

Name

Address

Type of Business

Please include UK Postcode or Area Code if overseas.

LS1

LASER DISCS HAVE DONE FOR VIDEO WHAT COMPACT DISCS HAVE DONE FOR MUSIC

PICTURE QUALITY BETTER THAN T.V. RECEPTION
SOUND QUALITY BETTER THAN RECORDS
ACCESS TIME TO ANY TRACK WITHIN SECONDS
30 TRACKS (2 HOURS) AVAILABLE EVERY MONTH



TEL: (0242) 577910

Appointed Distributor of Thomson Video Projection Systems.

What Kind of Technician?

Richard York

The Association of British Theatre Technicians celebrates its Silver Jubilee in 1986, and L+SI invited its chairman Richard York to discuss the increasing demands that will be made on technical staff as technology leads the entertainment industry into the Twenty-first Century.

It could be said that the word "technician" as used in the entertainment industry is over-worked. Or even abused. Since a strict dictionary definition certainly includes "one having skill in mechanical or industrial techniques" the noun is too often loosely applied. And yet there is no other convenient single name that may be applied to those who exercise the range of skills, semi-skills and no-skills that make live entertainment happen in the United Kingdom.

It is a matter of interest and should be one of concern, that the industry continues to remain apparently unconcerned about the skills and qualifications of those it employs for its technical requirements—a situation that appears to run quite counter to the general trend of a society that is increasingly concerned about demonstrable qualifications. It is perfectly possible for a major theatre to employ as chief electrician a man or a woman who does not know one phase from another. Sophisticated equipment, increasing technical demands and a properly growing consciousness of hazards (more than ten years after HASAW) must limit how long the under-skilled can be given positions of responsibility.

As far as I am aware the rise of the modern theatre technician is unchronicled. The evolution of the theatre through the 17th and 18th Centuries presumably caused the technician to evolve with it. As lighting developed from the use of daylight to candles and oil, the introduction of the relatively controllable gas to the beginning of electricity, so, on a rising curve of technology did the lighting man develop. Sound effects too remained a manual affair of thunder sheets, wind machines, glass boxes and musical instruments until well into the 20th Century and the introduction of the gramophone, the panatrope and eventually the ubiquitous Ferrograph.

Stage effects in the 19th Century were sophisticated affairs, using the skills of carpenter and painter to the full, relying on the application of levers, weights, ropes and prodigious quantities of inexpensive labour to achieve results. By 1985 the mechanical engineer and the electronic genius are at work to create the same satisfaction.

Post-war Britain has seen many changes and the live entertainment industry is no exception. The expansion of canned entertain-



Richard York

ment both inside and outside the home, the increased competition for the customer's leisure budget, the blurring of boundaries between various entertainment forms, and the borrowing of entertainment techniques for the promotional and advertising industry have wrought considerable change. The world has moved, and in doing so has dumped the weekly rep, variety houses, major touring circuits and a West End dependent on the "anyone for tennis?" school of light theatre.

Much has been lost forever, particularly many of the buildings which housed these performances. But some segments of the industry have been replaced or at any rate revived in a modern form. New factors have come to bear—the stimulus of central and local subsidy from the public purse, the passions and pressures of individuals and groups, the reaction to establishment theatre and perhaps most importantly, the growth in demand from a public increasingly dissatisfied with entertainment from a tin. And it should not be forgotten that there are still many who back their judgement with private money to provide a commercial theatre for private profit. These developments have brought with them opportunities for technical innovation, and with it a raising of demands upon those who provide and operate technical equipment.

If the last forty years have seen a considerable change in theatrical technique, then they have also seen the arrival of a new environment. Sophisticated equipment calls for sophisticated disciplines, from the examination of the benefits that arise from the investment of capital or the spending of revenue, to the creation of proper data storage where performance depends on computers. The technician who can master modern skills and who can ally them to creativity now has, arguably, a wider range of opportunities to practice them than ever

before, even ignoring the transfer of those skills to broadcast or recorded media.

The playhouses, of various sizes and philosophies still exist, of course, and opportunities have grown to work in the opera and dance theatre. An increasing number of successful multi-purpose buildings have opened in the '80s—the modern technician in one of those will find himself lighting a symphony concert one day and showing slides of how to replace a hip joint the next. The pop concert scene offers a form of grand scale touring not envisaged by Donald Wolfitt, and the growth of discotheques and night clubs all require theatrical techniques. I should not forget that comparatively modern phenomenon, industrial theatre with its massive budgets and apparently insatiable appetite for technical novelty.

The title of this piece poses the question "what kind of technician?". As the twentieth century totters to a close it is not hard to predict that technicians will increasingly not be able to operate on a wing and a prayer backed by traditional enthusiasm. He and she, in all branches of the industry and in all areas of skill, will have to be computerate, numerate, literate, conscious of formal management techniques, financially aware, and with a capacity to keep abreast of new technology, new materials and the demands of legislation.

If the training of technicians is a matter of concern, and recent Theatres' Advisory Council report reinforced that it is, then it must become more so to meet the demands of a future that is already here. The TAC has just embarked on a second stage of enquiry to try and establish the content of training for technicians. And when that is achieved the major question will concern the sources of funding for training.

The withdrawal of the Arts Council's modest investment in the training schemes administered by the ABTT, puts current pre-entry and in-service training at risk. A fragmented entertainment industry may have to dig into its purse if these paragons of virtue are going to be found to provide the technicians of the Twenty-first Century.

Richard York is deputy director of the Barbican Centre for Arts and Conferences and chairman of the Association of British Theatre Technicians. The ABTT, an Association of some 1600 people involved in the technical aspects of the live entertainment industry, is a charitable body. It provides training schemes for technicians, publishes journals, codes of practice, information cards, and manages trade shows on an annual basis in London and the regions. It is widely consulted by the Home Office, British Standard Institution, Office of Fair Trading and other public bodies on technical matters concerning live performance.

Creating the People Magnets

Group Northern Design Limited has a proven track record of designing profitable discotheques which remain successful for longer than most before needing a major refurbishment. This does not happen by chance, and we invited **Malcolm Brocklesby**, Chairman of the company, to explain their approach to projects, and in particular to The Dome and Paradise Lost, two new First Leisure Corporation venues featured in the first two issues of **Lighting and Sound International**.

The Design Process

The conception of a disco is a complex process involving a mixture of commercial judgement, inspiration, and basic practical experience on the part of both client and designer. This relationship between client and designer is crucial, and it is important for us to tune in to our client's style and method of operation as quickly as possible as an established relationship can save a lot of time. When you are discussing abstract ideas such as the ambience or the feel of a venue it is a great help to have a common data base of completed projects for reference. On the other hand, a new client can frequently trigger an entirely fresh line of thinking.

Most projects start with a client assessing the potential of an existing venue or perhaps a new site, and establishing the main commercial parameters. This is the stage when we usually become involved. The main information we need really boils down to answering three basic questions: what type

of customer does our client want to attract? what does he want them to do once they have come through the door? and what is the capital budget for the project? In addition, there may be other specific requirements such as a theme or a particular house style.

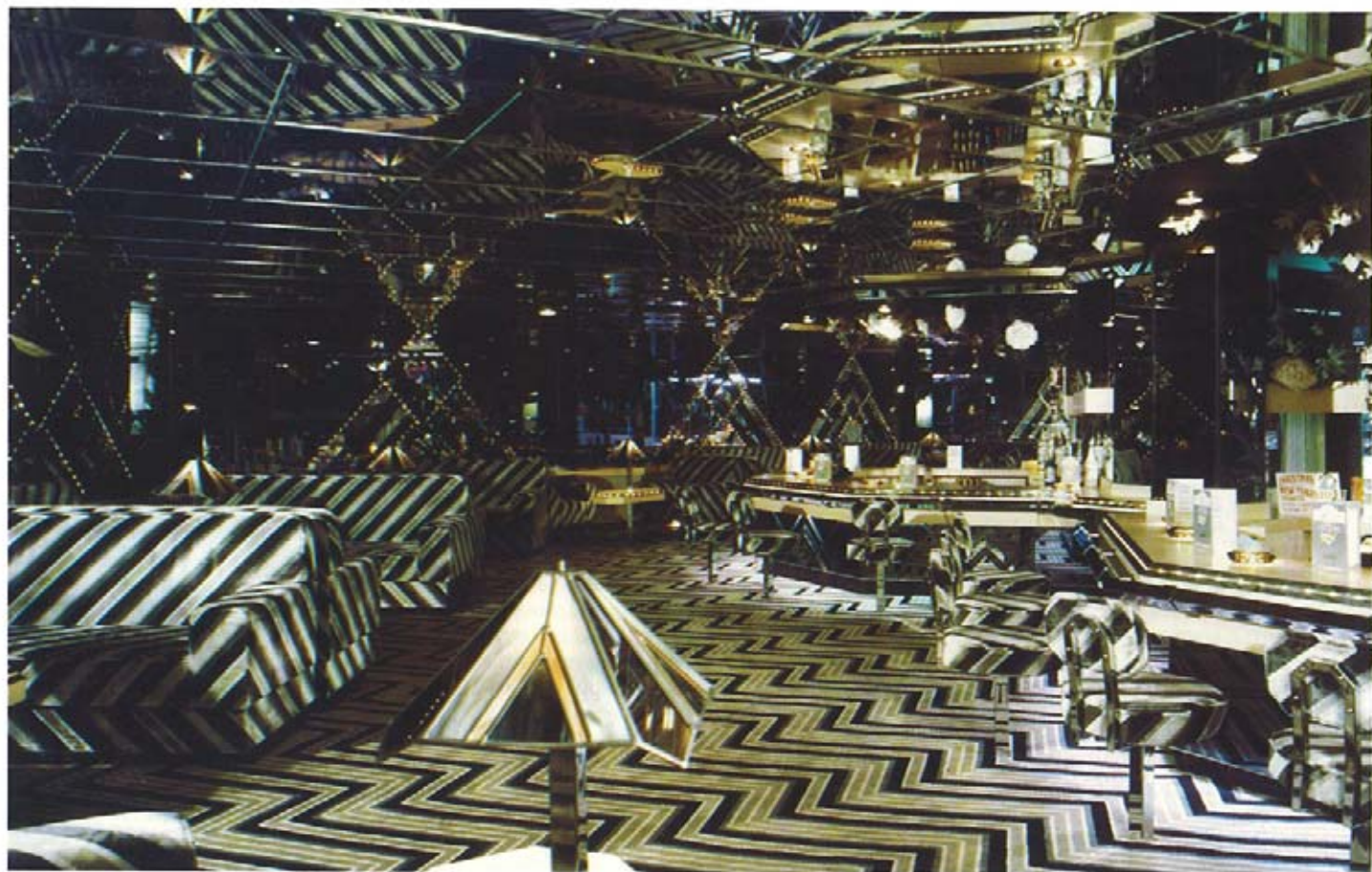
Our first job is to develop the design concept, and right from the word go our approach must be based on the commercial facts of life. Disco design is not about trendy designs or flashy light shows: it is about pay back on investment. A white elephant, however gorgeously decorated and brilliantly illuminated, is still an elephant and is still white!

The careful thinking through of the project at this stage is absolutely vital and Terry Wheeler, Group Northern's managing director, takes personal responsibility for the initial development of the concept. Firstly the basic layout must be worked out. Is the venue a single focus operation with the visual emphasis concentrating on one point or is it to be a multi-focus operation with a

number of individual areas? Where is the best place for high impact spots like the dance floors, the DJ console, the promenade and the main bars? Where do the quieter places, the smoochy sitting out areas, and the restaurants want to be? What changes in level are needed? How will the circulation floors work when the venue is full? Are the secondary bars in the most strategic locations? Are the service areas suitable? Does the plan make the best use of the available space? Does it involve any unnecessary structural work? And most important of all, are the fire exits adequate?

This is where experience counts. Group Northern has twenty years background of working for most branches of the leisure industry—on pubs, bistros, restaurants, theatre clubs and seaside amusement venues as well as discos. And we believe we have learnt the hard way what works and what does not, and how to exploit existing buildings to the full.

The skeleton of the project has now been mapped out. The next stage is to clad the



Paradise Lost—a romantic and sophisticated setting to attract the upper end of the disco market.



A fantasy setting in South Yorkshire—The Seventh Heaven, Doncaster (First Leisure).

bare bones with the bars and balustrades, with screen and visual features, and with finishes and furnishings. The style of the decor may be influenced by a required theme or perhaps by the local competition; but in all cases it must be geared to the type of customer we are seeking to attract. Whatever approach is adopted, however, basic principles apply. Decor is not just passive decoration, it is an active ingredient of the project. Each feature has a job to do: it may be leading the eye in one direction or breaking up the sight lines in another, it may create interest to lead people up to a higher level, it may encourage people to stay in a particular place for a while, or it may even create a cold spot to move people away from an area where congestion might occur. It is all a subtle form of social engineering, but on no account must it appear to be so.

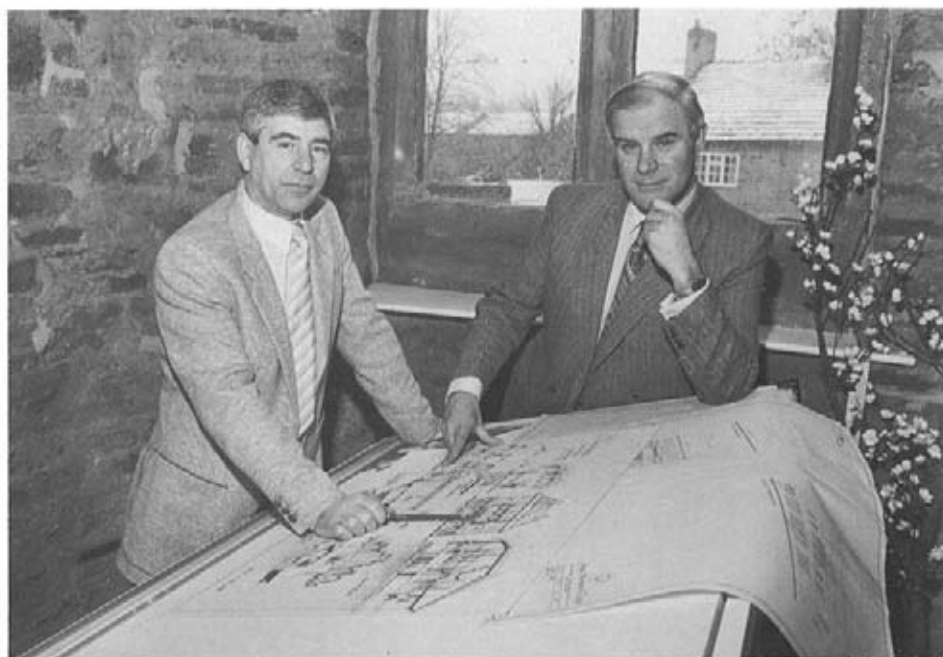
We have created the static setting and now we introduce the vital element of excitement, movement and vitality, the lighting. I have put this last because that is its logical place in the description, but the ideas have been evolving along with other aspects of the design and, like the decorations, lighting is not an end in itself—it is there because it has a job to do.

Let us take the general lighting first. There must be sufficient light for people to move around in comfort, but as far as possible this should be used to highlight design features and enhance the effects they have been designed to achieve. But such lighting can and should do much more than just point up static features. It should be parts of the total ambience control system with dimming and sequence control, capable of suddenly lighting an area by bringing in neons or introducing movement by chase lighting, tivolis or mechanical devices such as mirror balls, or cross-faded to bring in an entirely new colour scheme. Each of the main areas should be separately controlled so that they can be lifted or softened during the course of the evening.

Finally, we return to the focus of activity, the dance floor and the lighting rig. Group Northern does not have its own in-house effects lighting designer. It is a complex and rapidly moving technology and we have found it better to make use of the services of a company specialising in this field. In our projects for First Leisure we have worked closely with Effects Lighting of Leicester. We create the setting and explain the type of effects which we are seeking to achieve, but we do not usually become involved in the detailed technology.

Contract Control

Now we come down to earth with a vengeance—the total concept has to be turned into fact. Time is money for the operator, and a whole army of trades have to be integrated and controlled within a very tight contract period. The key is running the project on a commercial rather than a 'professional' basis. Group Northern usually take full contract responsibility and here, too, experience is vital. Our management team, headed by John Galbraith, have been doing this kind of work for many years and have developed a particular expertise in running



Terry Wheeler (left), Group Northern's managing director, with chairman Malcolm Brocklesby.

such contracts. The Dome was a £1.25 million project and was completed in 18 weeks. Paradise Lost was somewhat larger and took 20 weeks, and for most of the time both were running together. To be sure there were occasions when things became somewhat hectic on site, but without detailed planning such time-scales would have been impossible.

The Dome

Late in December 1984 First Leisure asked us to put forward ideas for converting the Birmingham Night Out into a discotheque. This posed a particularly difficult problem for us because the venue was only a few hundred yards from Pagoda Park, a highly successful disco we had completed for First Leisure a month or so before. A key element of our brief was that whatever we proposed, it should be totally different from Pagoda Park.

Pagoda Park is a multi-focus operation on two main levels with a Japanese garden theme. The setting is soft and romantic, designed primarily to attract the girls. It is, in effect, an oriental fantasy setting and the dance floor lighting, although providing excitement and vitality, is by no means hi-tech.

Terry Wheeler based his scheme for the Night Out on the concept of a 50-ft. diameter geodesic dome filling the well of the auditorium and rising up to the full height of the ceiling. In contrast to Pagoda Park this was very much a single focus venue which named itself The Dome.

The lighting effects were well covered in the November issue of *Lighting & Sound International* and there is no merit in repeating them now. All I would say is that Effects Lighting have achieved the impact we were seeking, and have created a brilliant focus over the dance floor. At times it resembles something out of *Close Encounters*, at others the feel of a nuclear reactor about to go critical. But at all times it is **there**, in the centre of the venue, pulsing with latent vitality.

The point I would stress, however, is that while the dome is the focal point of the

venue it is by no means the whole story. The hard, space-age aspects of the geometric steelwork of the balustrades are balanced by the vibrant colouring of the pink and blue fluorescent stripes in the black carpet. Coupled with this, the reflections from the countless mirrors on the walls and screens tweak double and treble visual mileage out of the high impact features. These in turn are off-set and softened by the warmer colours for the fabric upholstery and the decorative treatments in the peripheral areas. Around the dance floor four spectacular fountains, which also incorporate the base speaker bins, introduce a natural visual and audible feature which contrasts with the surrounding technology.

People can dance within the dome beneath a light show second to none. In addition the voyeurs can watch the action from the high level balconies or from the bridge which spans the old stage area behind the DJ console. The venue is served by nine separate bars and on different levels around the auditorium there are seating areas for people to watch the show or where couples can relax and talk. There are three dining areas including one a la carte restaurant with a quiet and sophisticated ambience to match the menu. There is also a totally separate area where customers can dance and drink to a resident group.

In short, dramatic and exciting as the dome itself is, there is a lot more to **The Dome** than just the 'dome'!

Paradise Lost

Paradise Lost, another major project for First Leisure, is a very different story. Here the brief was to convert the wide open spaces of Bailey's at Watford into a romantic and sophisticated setting to attract the upper end of the disco market. The original premises comprised a large, rectangular room with a stage to one side. At first floor level there were two spacious areas at either end, linked by a balcony opposite the stage leaving a great open area in the centre.

The problem was how to break up the formal theatre club layout to create an interesting and romantic setting where people could wander from one area to another, yet always come across new and exciting places and unexpected views.

The solution was a new gantry which was installed to span the stage area and eliminate dead ends by giving full circulation at the upper level. In addition we slung a zig/zag bridge across the central void linking the two sides, creating an ideal spot for voyeurs looking down onto the multi-level cluster of dance floors below. On the ground floor, to the left of the entrance, a split level island bar was formed serving the main area at one side, and creating a secluded lounge area to the other. At the far end of the room further changes of level disguised by glazed screens were introduced, leading to a small bistro and burger restaurant. A similar principle was used to form an a la carte restaurant and other quiet lounge areas at first floor level. The two levels were linked by a dramatic mirrored staircase adjacent the entrance rising up around a spectacular fountain. A second feature staircase was sited at the far side of the dance floor.

On the back wall of the original stage Terry Wheeler created a stunning water cascade feeding a number of rocky pools and fountains around the dance floor which in turn are crossed by small bridges and walkways. The upper level decor is based on a zig-zag pattern of soft pinks and greys which is carried through the carpet, the upholstery, the bar finishes and the tinted mirrors to the walls and joinery features. The same patterns are repeated at the lower level, but in delicate shades of grey with the lighting playing a major role in creating the colours. Square section chrome balustrades pick up and reflect the theme of the design and the sparkle of the lights.

As at The Dome, mirrors form an essential part of the scheme. Around the edge of the balcony horizontal strips of mirrored glass are used to disguise the mass of the structure while at high level above, panels set at 45 degrees reflect the action on the dance floor and other areas from whichever angle they are viewed. Mirrors are widely used on the walls and bars, and in the lounge bar areas mirror patterns incorporating tivolli lighting create an intricate kaleidoscope of cross reflections. In two of these areas the problems of limited headroom was dramatically overcome by mirrored ceiling tiles.

In addition to creating a sense of subtle mystery and excitement, mirrors also have an important role in creating a visual link between the two floors, enticing people up to the higher level. This link is further enhanced by the rise and fall DJ console which can be hydraulically lifted up to the balcony level or any intermediate position.

By comparison with the Dome, the illumination effects at Paradise Lost are subtle and diffused. Instead of the dramatic highlighting of hard mechanical shapes the approach at Watford is to enhance the romantic sophistication of the setting by introducing an extra dimension of movement and fantasy. This is typified by the treatment of the trees which are positioned around the dance floors. We used natural, cut trees

adorned with delicate, silk blossoms and in addition we hung strips of star-tube from the branches like magic tendrils or fireflies gleaming amongst the foliage.

Wide use was made of star-tube in other areas, picking out the diagonal patterns of the tinted mirrors on the walls, the edges of the bar counters, tables and stair nosings. A tivolli chandelier above the main staircase was reflected many times over by the angled mirrors, creating the skyline of some strange ethereal city of the night.

In addition to the use of strategically placed downlights and pin spots, the general lighting was augmented by stained glass fittings, and these reflected the diagonal design theme and neons running around the periphery of the balcony. The fountains and the water cascade were illuminated by submerged fittings, and mirror balls, separate and in clusters, add further sparkle and movement.

Above the dance floors there are four chrome, space-frame rigs, highlighted with neon, and supporting a battery of coloured spots, scanners and helicopters with further high powered floods that can be brought into operation when live turns are performing. A smaller dance floor at the upper level has its own array of lighting effects. The whole of the lighting system is controlled from the main light and sound control room overlooking the floor. It is programmed for maximum flexibility, incorporating a wide range of sequences and light-to-sound operation.

Instead of following the hi-tech path, we developed an integrated scheme taking disco lighting into new and uncharted realms of romance and fantasy.

What Happens Next?

Let me start by considering the recent trends as we have seen and how we reacted to them. Firstly, I should qualify my comments by saying that the venues which Group Northern have created are aimed at the over-20 age-group and that this is the market sector I am really discussing.

One of the most noticeable trends has been the increased scope and cost of projects, and this has been only partially due to the cost of light and sound systems. In fact, the proportion of this element in the total scheme has reduced. The extra spend has been incurred by a more complex and imaginative treatment of the setting as a whole, and by improved detailing and quality of the fittings and furnishings. There has also been a move to provide much better catering facilities. Music and dance remains the focus, but the concept of the discotheque has expanded to enable a wider band of people to enjoy a wider range of facilities in an interesting and exciting environment.

Quality, in all its aspects, is important and provided the design and the management is right, it pays off. Quantity, however, does not come cheaply and such venues must have a reasonable life expectancy between major re-fits. There is a school of thought which believes the market is fickle and will always demand change and something new. But where does this leave us?

I do not believe that the disco-goer is inherently as fickle as is sometimes suggested. You cannot **bank** on their loyalty, but based on our experience over the last ten years, if a concept is right and well managed it does have staying power. The pop music scene is indeed a very transient one which is always wanting something new and different, but there is a reason for this. The music industry is geared to the sale of records and the last thing it wants is a static market. It looks for and encourages pop music with strong initial impact and little depth, something which will sell hard but not last. Instant obsolescence is the name of the game; the market is fickle because the product has made it so.

A discotheque, on the other hand, is a capital intensive project which needs a reasonable life-span to achieve the required pay back, and it must be designed accordingly. If you think about it, this can be done.

A late night venue is catering for something very fundamental and very long lasting. It is a place where young (and youngish) men and women can go to enjoy themselves and meet each other, and where couples and groups can relax in an exciting and different environment. Music and dancing will always be a vital part of the mix, but the key is to create a mini-world with an ambience far removed from that of their daily lives. The element of fantasy is vital. You may lead them through a romantic setting such as Paradise Lost or into the space age world of the Dome or into other different regions of the imagination. But wherever you take them, there are certain basic rules.

The setting must be one where the girls feel more glamorous and alive than they do for the rest of the week, and where men feel more assured and sophisticated. Then the layout must cater for the poser and the voyeur; there must be places where a boy and girl can meet easily and then talk and drink. There must be areas where couples or groups can relax and chat when they are not dancing, and there must be attractive eating places. The design must never be superficial: it must provide genuine interest. Detail and lighting must work together making different parts of the venue trigger the eye and the imagination in different ways and at different times, so that people will come back again and again without becoming bored. And finally, once someone has come through the door into the fantasy world it must be **real**. In this concept there is no room for the obvious impermanence of a stage set. The quality of everything they see and touch must reinforce the concept of making unreality seem real.

So what sort of picture does this project in our crystal ball? In technical terms I see an ever closer and more subtle integration of lighting and sound within an ever more sophisticated design concept that provides an ever wider range of experiences and facilities. And what will such places look like?

Here, I'm afraid, all my crystal ball shows is a bewildering kaleidoscope of countless alternatives. The key elements are fantasy and imagination, and with the technology and experience we have at our disposal, the potential seems endless.

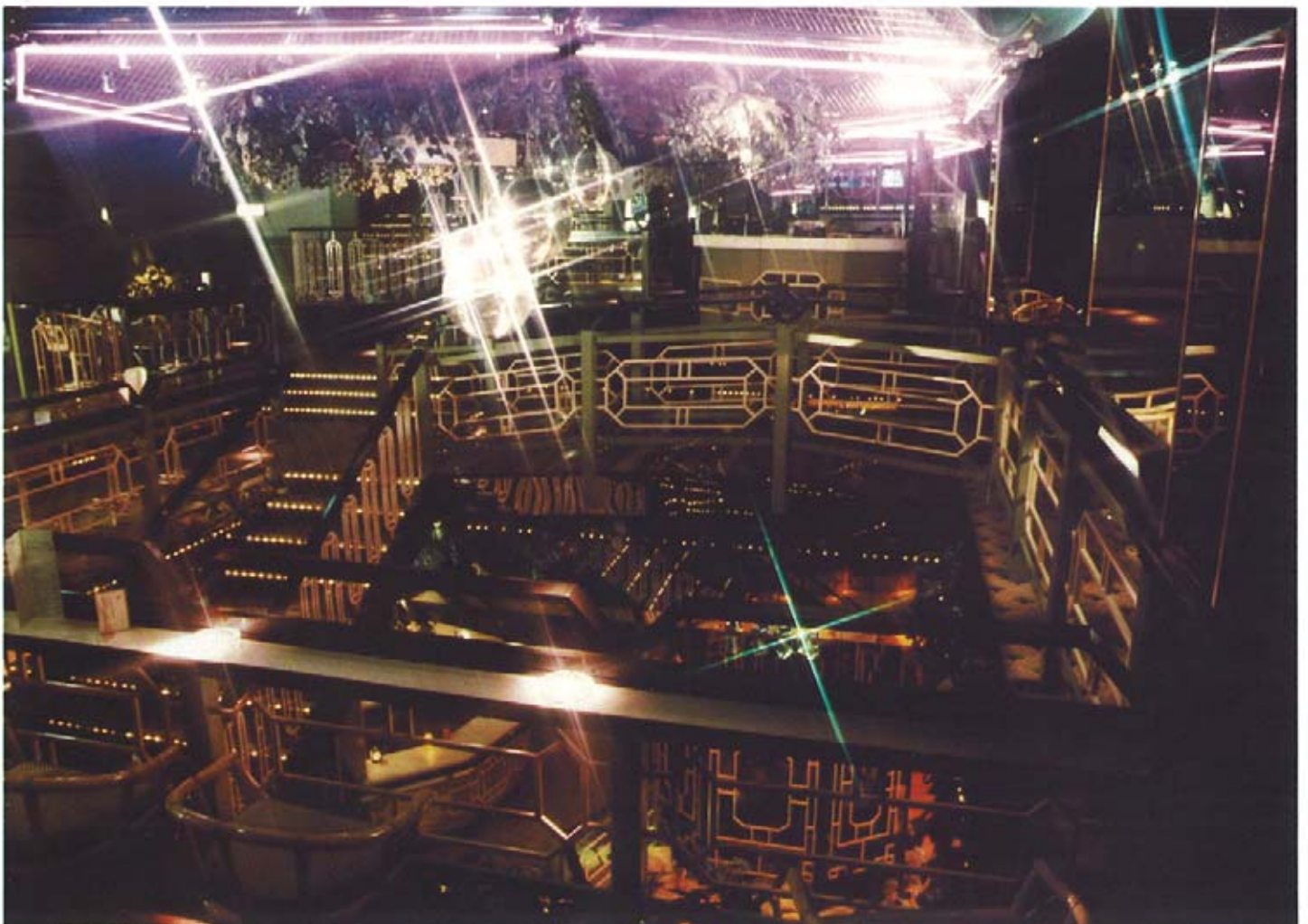
All I do know is that it will be hugely exciting and creative.



First Leisure's 'The Avenue' at Gillingham—for "pinstripes" at lunch time and the younger "trendy set" in the evening.



Down Town, Manchester—vitality and profit in the basement of the Hotel Piccadilly, Manchester (Embassy Hotels).



Pagoda Park, Birmingham—a touch of the Orient in the Midlands (First Leisure).

Malham Man

Roger St. Pierre talks to Dennis Eynons.

The sign on the door reads "Malham Photographic"—but in the discotheque industry the company is more simply known as plain Malham Ltd.

Not that the name is in fact as well known as it deserves to be for Malham and its founder Dennis Eynons—one of the great characters of our industry as well as being one of its true founding figures—has tended to keep a low profile, leaving its work to speak for itself.

The Malham building is in itself quite unprepossessing, being just about the only thing left standing in a quiet South London backstreet which is currently being redeveloped by the local council.

Says Dennis with that winning grin of his: "They wanted to pull our place down too till we told them we would want recompense not just for the building but for two murals we have on our walls. They were painted by an old friend and colleague Walter Mitchell who has become a major figure in the art world—it's hard now to put a price on their value but it's a lot of money!"

a spacious one, allowing Malham to be one of the few true manufacturers in the of the few true manufacturers in the business, rather than merely assemblers of bought-in parts. "Nobody in the game believes we do it all—but we do," said Dennis. "I'm a fully qualified metallurgist and we have our own foundry here. We cast in aluminium and also do our own sheet metal work and it's all finished in-house too, in our own paint shop."

All that work takes place on the ground floor while the electronics are put together on the first floor where Dennis's son James, who handles most of the design, also works.

And design is a major part of Malham's work for it's Dennis's fascination with finding solutions to seemingly impossible problems that has led to his company specialising in innovative custom-built one-off lighting pieces rather than mass production. "I spent 15 years in metallurgical research, principally in light alloys," Dennis told me. "The chief chemist where I worked was an internationally known portrait photographer and he fired my interest in photography which led to me studying modern art and the history of art. I started Malham Photographic in 1953 with the intention of providing photographers with reliable lighting equipment."

A Welshman from the Rhonda Valley—"Where men are men and women know it!" as he says—Dennis had moved to London and based his business in Malham Street, Forest Hill, from which the Malham Ltd name derives.

"All my years in research had shown me that no matter how complex the problem, the final solution is almost always simple. I became fascinated with the idea of achieving the supposedly impossible which is why if someone has a crazy idea we'll tackle it for



Dennis Eynons.

them and, believe me, some of the ideas these days really do seem outrageously crazy at first sight!"

It was at a photographic exhibition in Cologne in 1955 that Dennis met William Creamer from Paris: "I had a strong technical background and he had good knowledge of the stage, TV and night club industries so we set up a joint marketing arrangement. We were like two bloody twins and together we played havoc with the lighting scene."

"The world famous Lido, Crazy Horse Salon and Casino De Paris, son-et-lumiere displays at Versailles, lighting for the rose window in Notre Dame, the lighting for Canterbury

Cathedral, the dancing fountain at the Paris Gaumont, movie and TV studios, stage lighting—we tackled the lot. It was an incredible apprenticeship in the lighting game. New problems cropped up regularly, requiring new designs and production changes. It was a hectic eight years.

"During that time I met the radical architect Nicholas Schoffer, who had a studio in Montmartre and had the revolutionary idea that the final art format would consist of moving coloured patterns, created by mobiles lit by coloured spotlights which were to be operated from sound signals.

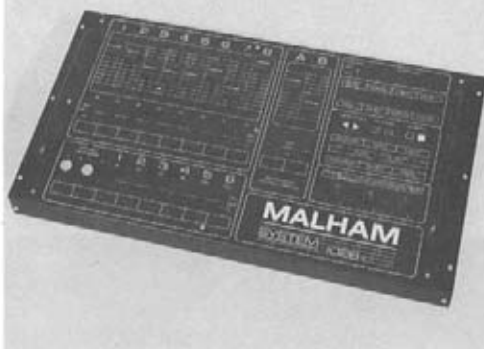
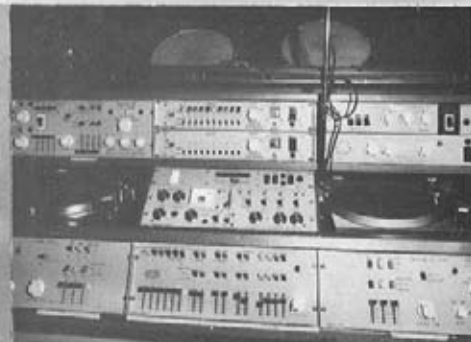
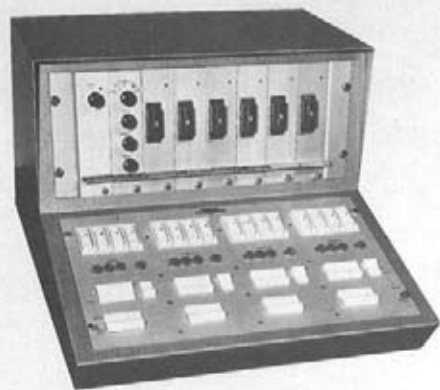
"His concept was first exhibited at the Institute of Modern Art in New York way back in 1938 and again at the Tate Gallery in London at the '10 Years of Modern Art' exhibition in 1963, which I visited. Schoffer was, I suppose, the original light jockey with his sound-to-light concept.

"His studio was fitted out with a four by three metre screen and a cinema organ equipped with switches behind the keys and the foot pedals. These switches controlled numerous spotlights, colour wheels, floods and so on. He'd put a record on, sit at the organ and 'play' the lights.

"Schoffer's major breakthrough came with his Formes et Lumiere display at the Congress Palace in Liege, Belgium, which, I firmly believe, was the birth of psychedelic lighting. A screen some 70 metres by seven metres was lit by a mass of spotlights via a control system using Thyatron valves as dimmers, activated by recorded sound or from outside microphones which picked up the sounds of the city. Creamer and myself worked on this project, building the special projectors which



Pioneers or Bandits? Dennis Eynon (right), his wife, and William Creamer pictured at Photakina Cologne in 1963.



The Malham Control Story ...

(Left to right in date order).
The first 500watt per channel, three channel light to sound controller (frequency controlled, bass, mid and treble) 1965; the light to sound Regulux Rainbow Strobe 1966; Regulux light to sound dimmable U.V. Strobe with amplitude control 1966; the Regulux 6000—a typical small installation for clubs in early 1969—note dual sound (frequency and amplitude) and also retention of autocyclus (colour change for slow numbers); a sophisticated control system for light to sound September 1966—because of vibration on a rotating stage on which the DJ pranced from turntable 1 to 2 it was necessary to play the records from the control room and consequently the turntable and tape decks were housed in drawers fitted into the console; a control system in 1972 in the refitted Valbonne—note drum kit (each drum had individual light to sound controller with individual mics built in); a typical controller in 1975 with built-in 3 and 10 channel sound to light (Cintra's, Croydon); typical controller 1982—the Malham System 1026/3, a fully automatic 3 colour with micro-processor and programme selection.

were later to become a standard tool in clubs and discotheques worldwide in the form of the Minimix.

"In 1963, again at a photographic exhibition, we were approached by the Rank people who came along and asked: 'What do you know about lights?' to which we replied that we knew it all!

"Rank Leisure had a livewire new Australian managing director named Jim Whittle who had been given the brief to build the Top Rank Suites chain of venues. He told me he wanted to change the concepts of dance halls, bringing them up-to-date to cater for the new, young audiences.

"We discussed the trends in Europe and the concepts of Nicholas Schoffer and Jim gave me the go-ahead.

"In August that year the Top Rank Suite opened with the first psychedelic light wall, using the Liege-style Mixlight pattern projectors.

"Cardiff was due to open a couple of months later and Jim said: 'We've got it on the walls in Bristol so why can't we have it on the dance floor in Cardiff?' and so we gave him the first psychedelic dance floor. There was a private opening on the Friday then on the Saturday afternoon the place was opened to the general public for the famous Rank tea dance. Such functions normally attracted 150 or so people but something like 1,200

teenagers turned out, doing dances I didn't recognise!

I remember one kid who was a fantastic dancer, his feet moving at twice the speed of anyone else's. I thought: 'He'd make a great deejay'—and that's what he ended up as. That evening, the Merseybeats did a show at the venue and the place was jam packed with screaming teenagers and that, for me, was the birth of the whole light show thing."

Altogether, Dennis and his rapidly expanding company built some 15 lighting schemes for Rank. "We were growing fast. We started off in just two rooms on the first floor and the terms of our lease meant that although people could come in through the front door materials had to be brought in through the window. The rest of the building was taken up by a firm that made shuttles and a firm that made wooden heels for ladies' shoes. The new fashion for stiletto heel did us a big favour because they had to be made of metal. That killed his business and we then acquired the whole building!"

The Rank Suites did more than build the foundations for Malham's prosperity; they provided the schooling for a wealth of talented people who went on to make a major impact in our industry. Recalls Dennis: "Their musical director was Gary Brown who went on to the Bailey's group of clubs then to Cunard where he put discos onto the

cruise liners; the manager at Cardiff was Ray Baines and his assistant was Athol Souter and they went to the top at Rank then on to Goodhews, Whitbreads and beyond; their assistant was Fred Lawrence, who is now top man at First Leisure, and the deejay was none other than master Keith Hardy. The development of mass market discotheques is an almost continuous story from those early days at Rank's Cardiff Suite. Certainly, those characters have very much influenced the way the disco business has developed.

"However, Rank and their big rivals, Mecca and EMI, never really thought that the discotheque was here to stay—they still thought in terms of dance halls. It was left to private entrepreneurs to really bring about the disco explosion.

"I suppose it was Regine, in Paris, who really started it all. She opened a cellar club on the Champs Elysees. No formal seating, just cushions on the floor. There was no booze, just soft drinks, and the music was all recorded. She called it a Disco-bibliothèque and that word soon became shortened to discotheque.

"I then met Louis Brown, who was then a photographer who was working a lot for the Daily Mirror. He was into the entertainment scene and decided to open his own club. That was the legendary Scotch of St. James in



Installation at "Papillon"—Stormont Hotel, Belfast.



"Cupids" at Newry, Co. Down, Northern Ireland.



The Top Rank Suite at Birmingham in September 1966—patterned floor and sophisticated lighting control.



Top Rank Bristol Suite—August 1963. The first use of psychedelic lighting of walls and dance floor using Mixlight Projectors in the "Schoffer Concept" as at the Formes et Lumiere at Liege in Belgium.

Mayfair which became the Beatles' favourite haunt when they moved down to London. It was a runaway success and soon Louis had a chain of clubs including Le Kilt, Lulu's, Die Fledermaus, La Poubelle, Birdland and, of course, La Valbonne.

"Louis was always looking for new gimmicks—like the indoor swimming pool which was the centrepiece at La Valbonne—and he helped push disco lighting ahead with his demands for more and more outrageous effects.

"I remember him saying to me: 'They can dim neon in the States so why can't you do it?'. I went away, worked on it and we achieved a means of fully dimming neon. I then went to the States and they said: 'Oh, no, we can only dim it half-way!'

"Louis' ultimate was the Studio Circus at Juan Les Pins in the South of France. That was a truly amazing club. He had so much lighting there that when we turned it all on for the grand opening we blew the main switches for the whole town—there was hell to pay!"

When Gary Brown went to Bailey's, Malham were invited to design the lighting for their La Dolce Vita in Birmingham. Recalled Dennis: "That was a big jump. The place was lit entirely with Minimixers. We did a string of places for Bailey's—it seemed like they were opening a new venue every 12 weeks."

Malham came up with the first true light-to-sound system at the Cavendish Club in Yardley in 1968 then did it in the grand manner in Blackburn a few months later: "That was a significant event because at the opening I ran into a guy who was proposing to open clubs in Germany. He loved what he saw in Blackburn and invited me over—and the disco scene exploded in his country. His first club was the Voom Voom in Augsburg and we did several venues for him. We sued him for three years trying to get paid for the work and eventually he died on us.

"The architect involved was an amazing character named Thomas Geyrig who ended up designing more than 300 clubs throughout Germany, many of which we worked on. He was opening a couple of new venues each week.

"Thomas was always coming up with amazing new ideas. At one club he had people dancing in what was, effectively, a shop window. Another place was so narrow that there was no room between the tables so he had a three-foot wide raised platform running down the centre of the club, passing over everyone's heads.

"Geyrig did a huge club in Munich called Blow Up. It was the first time I saw a 1,500 capacity disco—no bands, just records. His most exotic project was also in Munich, the Subway, which opened at the time of the Munich Olympics. They'd built a new underground railway and the entrance to the club was off the platform. Two authentic underground carriages were inside the club and served to provide the seating.

"Around that time Watneys were desperately trying to sell Red Barrel. They had a contra deal with Lowenbrau and through that connection they went to see Subway, were introduced to Thomas Geyrig and brought him to England to build their Birds Nest disco pubs. The first was in Kings

Road, Chelsea, and he did three more for them.

"That brought the discotheque limelight back to England from Germany and got the breweries heavily involved.

"Eddie Futrell opened Barbarella's in Birmingham and that's when Mick Gibson came on the scene—that was the first club he designed. It was on different levels, one floor being a cabaret room, with a basement cellar all lit with rainbow strobes—there's never been anything like it! Mick's assistant then was Neil Tibbetts and the first club he did on his own was Snob's in Birmingham.

"Later on we did the lighting for Neil Bartwick's scheme at Elton's in Tottenham. He beat Mick Gibson to the Punch in getting GLC approval for tivoli lighting. Mick introduced it at Le Chat Noir, in Richmond, three weeks later and used Neil's approval as a lever to get permission.

"One of Mick's jobs up in the Potteries, a converted pub, must rank as the quickest paying club in history. The guy who opened it got his investment back in just three weeks, it did so well."

Malham's continental involvement was continuous: "One of our early club light schemes was at an incredible place called the Monestre des Freres at Pau in France. The place was built as a replica castle, complete with moat, huge open fires and the deejay located in a turret. We got the lighting rig completed, all ready to open, and asked where the mains were, only to discover that they hadn't put any in—the house lighting was by candles!

Spain became a major market for Malham: "We did a big club called Ramoses at the Victoria Hotel in Madrid. They were doing the Pepsi Cola radio show from there, it was a beautiful club. From there, our business in Spain really took off and we also got into Portugal. Projel went into a licensing arrangement with us to make and market the Minimixer and they were selling hundreds of them. I asked where they were all going and they told me: 'Up and down the Pan American Highway!'

"We took a stand at a photographic exhibition in New York in 1969 and a Japanese fellow came along and bought the entire stand as it stood!

"When I arrived back from the USA there was a copy of the projector sitting on my desk. It even had 'Malham Mini Mix' on it. It had come from the Japanese guy. He offered to manufacture for us under license for \$11 a piece which was \$4 cheaper than we could do it!

"Mick Gibson did the Pink Pussycat in Singapore then used Malham equipment to do installations in Japan and New York—Act One was our first club there.

"The Irish market also became increasingly important to us. The first club we did was for Eamonn Andrews. It opened on Paddy's night. What an event that was—it was so packed they even had to dance on the stairs.

"Pat Gibbons, who was tragically killed in the Beaujolais race a year or two back, became a good customer with his partner John Ryan. They did fantastic work in opening up the discotheque scene over there, especially in terms of getting the previously restrictive licensing laws changed so they

could sell liquor and beers in discos. They created a really strong industry lobby in the Dail.

"They were friends of Louis Brown, who introduced us. The first club we did for them was Tomango's. Since then we've done lighting for more than 50 discotheques in Ireland and we've found that, in general, the standard of clubs is higher there than it is in England."

The industry had come a long way during Dennis Eynon's lengthy involvement: "The lighting side of discotheques is now a firmly established industry. I'm very keen on trade associations like PLASA which, I feel, have a major role to play in pushing for export trade.

"The technology and skill is here in the United Kingdom. We are much further advanced in these areas than any other country. Instead of in-fighting for the home market we should all be looking further afield. There's a vast overseas market."

Another organisation Dennis keenly supports is the recently incorporated Worshipful Company of Lightmongers of which, he is sad to say, he is currently the only disco lighting member: "We've been working on it since 1953 and finally, last March, the Lord Mayor and Aldermen of the City of London graciously granted us status as an excepted livery company, the chief objects of which are: 'To foster the art and science of Lighting by bringing together with those practising the many different skills involved and to promote goodwill in the industry.'"

Dennis feels there is a continuing need in the discotheque industry as a whole for people of imagination. "It's characters like Louis Brown and Peter Stringfellow who have made the business so healthy. If Louis was the king of discotheques Peter is the Crown Prince—but I reckon he'll have to wait a while before succeeding to the throne because Louis hasn't yet had his last word.

"Peter put up the first stainless steel ceiling of any kind, in Stringfellows, and the influence of all those wings flapping up and down from that massive lighting rig at the Hippodrome has been enormous."

Malham's own most impressive centrepiece is known as the Centaur, the castings for which are huge. "We're working on a special at the moment which will be nearly 30-feet across," said Dennis, showing me a clever cardboard model which will help in sorting out all the many problems. Son James showed me several mind-boggling schemes currently being undertaken for different clients, each with its own unique problems which explains why Dennis refers to the Malham works as being a laboratory rather than a factory. "We produce various standard items but even these are often customised specially to suit clients' requirements"

One recent scheme involved putting truly amazing "house lighting" into a huge jet aircraft being outfitted at a total cost of \$18 million—which underlines Dennis Eynon's philosophy that Malham Ltd is in business to give service to people who want something 'out of the ordinary'.

The Malham business card bears the opposite legend: "Lighting consultants to architects".

ENTERTAINMENT 86



FEBRUARY 4/5/6 1986

Bournemouth International Centre

COME AND JOIN US AT
ENTERTAINMENT 86

AT THE NEW BOURNEMOUTH INTERNATIONAL CENTRE
4th, 5th and 6th February 1986

The complete event for Entertainment and the Arts

For the first time, the only UK Convention for the Entertainment and Arts Industry:
Exhibition in one large hall
Every activity within the BIC, including support facilities for exhibitors
All evening and late-night events in the same Centre

Tuesday, February 4	7.30 p.m. - 9.30 p.m.
Wednesday, February 5	9.30 a.m. - 6.30 p.m.
Thursday, February 6	9.30 a.m. - 6.30 p.m.

... YOUR FREE ADMISSION TICKET IN THIS ISSUE.

ON TOUR

Keith Dale

Catriona Forcer had such a good time interviewing Phay MacMahon at Wembley that she couldn't resist an invitation to Brighton to see another show! And who could possibly object to that—the combination of Paul Young and Supermick must have made a memorable outing!

Meteorites start the New Year with an outing with AC-DC that takes them through the U.K. and Europe. It is interesting to note that the lighting design for this show remains the same, whether the lighting rig is flown or ground supported—using Thomas Ground Support Masts.

In next month's **Lighting and Sound International** we will be looking at the work of American designer Billy Heaslip and his current work with Barry Manilow. Until then, I wish all readers a Happy and Prosperous New Year.

Catriona Forcer talks to Lighting Designer Phay McMahon

When I went to interview Phay 'Phamous' McMahon in early December the Paul Young Tour had been on the road for nearly ten months and there were still many more gigs to be played. I asked Phay (nicknamed 'Phamous' by the irrepressible Bob Geldof) about the tour and his career as a lighting designer.



Phay 'Phamous' McMahon.

How did your interest in lighting design commence?

My brother used to be a DJ with his own mobile disco, and I used to look after the lights for him. I also started doing the lights for local pub bands in Dublin with a tiny

lighting system which I had built myself. Eventually I met a band, The Boomtown Rats, who were planning to come to England and I became their first roadie. I worked on everything from setting up the lights and sound to being chief bottle washer. I stayed with them until 1980 when they were at the height of their career and then I left to go freelance. Following that I worked for The Undertones for a while until I met up with a small band in Sheffield called Def Leppard, and I have lit all their tours since 1980. To date I have looked after lighting design for The Pretenders, Olivia Newton John, Adam Ant, The Three Degrees and many others.

Were any of these bands particularly good to work for?

I've found Paul Young great fun to work for and I really enjoy his music. I also liked working for The Pretenders because I always pick up from the drummer's beat and Martin Chambers of The Pretenders gives you a lot of good physical and dynamic drumming. Although I like to create some mood situations, I prefer a lively and raunchy rock show which I can dramatise!

Don't you take your cues from the lyrics?

No, not really. You can't with Paul because he ad-libs a lot. For example, on the song 'Women' he sings the first verse the same every night, but after that makes it up as he goes along. So both the band and I have to keep on our toes.



The Paul Young tour continues to Hong Kong, Bangkok and Japan in the new year.

Did Paul involve himself in the lighting design, or were you left alone?

Basically I was left to myself, but Paul suggested a few ideas. If they were good then we used them but if I thought they wouldn't work I would say so. There were no problems with him at all. Some people insist on having things you know aren't going to work. Adam Ant, for instance, was very insistent on what he wanted.

How do you feel about touring?

I enjoy touring, but not as much as I used to. I tend to be touring for about eleven months of the year which is rather a lot. I have a knack of finding tours to do continually, and it is very tiring. But if you like the artist and you're treated well then it's not so bad, and very difficult to say no.

Do you have any 'trademarks' in your designs?

I don't know! I tend to use plenty of spotlights and people tell me I'm good at cueing them. Also I always use masses of aircraft lights.

What shows have you seen and particularly liked?

I think the Dire Straits tour was very, very good. I know the designer very well (Chas Harrington) and I've always admired him. I also think Roy Bennett (Prince) and Ian Peacock (Elton John) are very good.

Is there anything in lighting design which really annoys you?

Bad spot calling. Although much of the time it's not the fault of the actual cue caller but a slack operator. That irritates me a lot and I give my operators hell if they mess up.

Is there any particular lighting company you like to use?

I always go to Supermick first for a quote because I've used them often and they've always been good. I get the same four lighting crew every time which means a lot to me because they know how I work. Supermick have a base in America as well as over here (both with identical equipment) so we only have to fly the crew between the two countries.

Tell me about the Paul Young Tour.

At the moment we're doing sixteen dates around Britain including six nights at Wembley finishing with two nights at Birmingham which are being filmed by the BBC to go out on New Year's Day.

We started last March with a British tour and then we went to Europe, had four days off, continued to Japan, Australia, America, had a week off, went to some European festivals, Jersey, Channel Islands, back for Live Aid, had a week off, then back to the USA for a couple of months, one week off, back to the USA for six more weeks, another week off, and now we're here! In the New Year we're going to Hong Kong, Bangkok and Japan again. And I think that's the finish!

What are your plans for the future?

I go on tour next with Def Leppard which I really enjoy. The set has been designed and built and has gone to Ireland where they are all living and recording now. That's perfect for me because I can have a look at it over Christmas. I've got all the ideas for the lighting—some of which are on paper, and some are in my head. Once I've seen the stage set I can think more practically about my ideas. But I do know what I want to get out of it.

Equipment on Tour

Sister Sledge

U.K. Tour
4th. December to 22nd December
Concert Light Systems
Tel: (0204) 391343
Lighting Design: Steve Nicholson.

Trussing:

5 x 8' Thomas 'A' type
2 x Super Towers
2 x 24' Genies

Lamps:

6 x 4 lamp AC Bars
10 x 4 lamp Par 64 Bars
4 x 6 lamp Par 64 Bars
4 x 6 lamp frames
4 x 4 cell groundrows
2 x single cell groundrows
4 x Harmony 1kW profiles

Effects:

1 x Genie Mk. 5 Smoke machine
Desk (control board)
1 x Celco Series 2 Sixty

Dimmers:

1 x 72 way Alderham Dimming System

Spots:

2 x Pani's

Shakatak

U.K. and Europe
13th November to 17th December
Lighting Design: Harry Box

Trussing:

5 x 8' Thomas 'A' type
2 x Super Towers
2 x 18' Genies

Lamps:

8 x 4 lamp AC Bars
10 x 4 lamp Par 64 Bars
4 x 6 lamp frames
4 x 4 cell groundrows
2 x single cell groundrows
36 x Raylights

Effects:

1 x Genie Mk. 5 Smoke machine
6 x Pressure pads
1 x Foot flash pedal

Desk: (control board)

1 x Alderham Showboard 604

Dimmers:

2 x 36 way Alderham Dimming Systems

AC-DC

U.K. and Europe
9th January for 6 weeks
Meteorlites
Tel: (0438) 317200
Lighting Design: Ronan Wilson

Lamps/Trussing:

56 x Thomas Pre-rigged Truss Sections
(c/w 660 Par 64 and 200 Par 36)
32 x Verlinde chain hoists
8 x Thomas one ton ground support masts

Effects:

The AC-DC Bell
2 x Cannons!

Desk: (control board)
Avo QM 500

Dimmers:

4 x 72 way Avolights Dimming Systems

Spots:

4 x Altman Orbitors

In addition to the lighting, Meteorlites are also supplying the complete flying system for the sound equipment. The Thomas ground supports allow the complete lighting system to be used in venues where flying is not possible with out any restrictions.

Lea Valley Ice Show

23rd December to 2nd January
Playlight
Tel: 01-965 8188

Trussing:

380' ladder beam

Lamps:

108 x Par 64
24 x 4 cell groundrows

Effects:

20 x 4' U.V. tubes
4 x 400 watt U.V.
8 x Strobes
Assorted pyrotechnics
Desk (control board)
Zero 88 48ch. Eclipse

Dimmers:

2 x Celco 36ch. Dimming Systems

LIGHTING+SOUND International

LOOK FORWARD TO SEEING YOU AT
THE INTERNATIONAL FRANKFURT MUSIC FAIR
FEBRUARY 15-19, 1986

Southampton gets its Gaumont

Theatre consultant ANTHONY EASTERBROOK describes the £4¼m refurbishment due to take place through 1986 that will transform the theatre into the major touring venue for the region.

The marriage has been arranged! It has been a long wooing, and during the course of many years the local public's anticipation of a wedding has frequently been dashed by what appeared to have been lovers' tiffs. But at last it is going to happen—no doubt whatever. And even though the bride is 57, rising 58, it has to be said that the groom is immensely older—although in strict legal terms this is not entirely true.

The marriage is, of course, that between The Gaumont Theatre and Southampton City Council, and herein lies the slight distortion of the truth. Following the best modern precepts, Southampton have set up a special limited company called Southampton City Leisure Limited. And it is this company which will be responsible for managing the Gaumont Theatre when it at last reopens in its new guise.

So what, actually, is going to happen in this matter? It would be simple to say that Southampton had made an offer to Rank for the Gaumont and were now engaged in a process of refurbishment. In truth the situation is more ingenious. It will be Rank who will carry out the necessary work (to Southampton's satisfaction) in accordance with a careful schedule of works drawn up by the City, and which has the agreement of both parties. To pursue the metaphor of the first paragraph, the Best Man is The City Architect's department which will keep a close watch on the overall work. They will be assisted by two Groomsmen, the Consultants Dale and Goldfinger as Mechanical and Electrical Engineers and John Wyckham Associates as Theatre Consultants, who will endeavour to ensure that the theatricality of the project is maintained.

Rank have appointed a full design team (listed at the end of this article) and work is already well advanced on drawings. Early in 1986 work on the building will start in earnest and it is expected that everything will be complete by the early part of 1987. It is intended that the essential character of the building will be retained as it is, after all, a rather good example of the architecture and interior design of the period. However, over the years, the accommodation in the foyer areas—particularly at the upper levels—has been much abused with partitioning and the hope is that these spaces will be dealt with in such a way as to reveal many of the original features as well as improving public facilities.



The 2250-seat Gaumont at Southampton will undergo a £4¼m refit during 1986 following its purchase by the City Council.

The box office will be reorganised to accommodate a computer system, and it is intended that there will be terminals in other places in Southampton, particularly at the Information Centre in Above Bar.

At present it is difficult, if not impossible,

for wheelchair-bound people to enter the auditorium. Plans will be developed to ensure that such people are not discriminated against in the future and of course, the necessary disabled toilet facilities will be provided.



The three-tier auditorium of Southampton Gaumont. Some seating will be lost in the circle because a new control suite is constructed at the centre rear.

The auditorium, apart from being completely redecorated, will have new seating and carpets. Some seating will be lost in the Circle because a new control suite will be constructed in the centre towards the rear. Patrons will no doubt remember the rather unsatisfactory situation in which a sound control desk was placed in the open circle (even when it might have been thought that such a facility was not vital to the performance) to the detriment of the sightlines of a number of highly priced seats. This situation is unlikely to occur in the newly planned theatre.

Much work will be done in the orchestra pit. At the moment the pit is a fixed one and for large orchestras such as those employed by the major touring opera and ballet companies, it has been necessary to remove a number of stalls seats and place some of the orchestra at auditorium level. This is a most unsatisfactory situation from a number of points of view. First of all it is unsightly (except, perhaps to musicians); secondly it is extremely labour intensive; and thirdly it plays havoc with the condition of the furnishings which have to be set and reset constantly.

In the future the orchestra pit will comprise two electrically operated elevators, so that small and medium sized orchestras may be accommodated under normal conditions, but when larger orchestras of up to 85-90 musicians are required then the second elevator will come into play. The pit will be designed in such a way that the elevators can form not only an orchestra pit, but when stationed at auditorium level can allow more seating to be set. At stage level, they will provide an extensive forestage for concerts, conferences or, indeed, dramatic performances.

As part of the technical upgrading of the building a modern computer-operated stage lighting system will be provided with a much greater capacity and flexibility than that at present installed. The opportunity will be taken to rationalise the auditorium lighting



The new orchestra pit will comprise two electrically operated elevators enabling any orchestral configuration up to 85-90 musicians. They will also enable the seating to be increased if kept at auditorium level, or provide an extensive forestage for concerts, conferences or even dramatic performances when raised to stage level.

positions so as to give less offence to the decoration of the building. The Gaumont is not so different from any other similar place in that, over the years, additional equipment has been bolted, hung or glued to every available space. The result is inevitably very untidy and, dare it be said, perhaps not in the best interests of lighting the stage anyway.

A similar situation has occurred with the sound system. This too has 'grown' like Topsy and the resulting mishmash of loudspeakers, microphones and so forth does little for the acoustic of the building and is hardly an advertisement for the state of the art in sound. Little wonder, therefore,

that many visiting companies ignore the theatre equipment and place their own loudspeakers, tastefully fed with draped flexible cables, all around the auditorium. It is almost certain that major pop groups touring to the future Gaumont will still wish to use their own equipment, but it is hoped that the new sound installation will be suitable for use by all but the very largest companies. At least the principal sound installation will provide for digitally delayed sound in the rear parts of the auditorium so that when electronically reinforced sound is required it will be apparently as good as the natural acoustic: an acoustic which, it should be said, is extraordinarily good.

As well as a completely new sound system suitable for both speech reinforcement and sound effects, a comprehensive stage management communication will be installed. It will have all the normally expected methods of communication, both by cue-light and a twin rig intercom, but will also include closed circuit television. This latter facility will enable those members of the public unfortunate enough to arrive late at the performance and perhaps finding their entrance to the auditorium denied for a time, to watch the performance on a television monitor. In addition a comprehensive paging and show relay system will form part of the communication system.



"The acquisition of the Gaumont Theatre Southampton by the City Council was one of my long-held ambitions—but with a difference. This one has been achieved.

"Every large town or city that has seen its only surviving theatre succumb to the developer has lived to regret the fact in later years. I know of many such examples, and as a result was keen to ensure Southampton did not move in the same direction.

"It is in the interest of residents, visitors and in the case of the Gaumont Theatre Southampton, the region, to see these assets in public ownership and their long-term future secured for present and future generations to enjoy. It is civic vandalism in the extreme to dictate otherwise. Theatres are as much a part of the infrastructure of the community as are good roads and sewers.

"Some local authorities never see beyond the bottom line accounting principle. Cost benefit analysis surely means social and financial benefit in that order.

"Residents and visitors to our region can sleep safely in the knowledge that in theatrical and musical terms the best is yet to come!"

John Bullock
Director of Leisure Services
Southampton City Council



Dennis Hall took up his appointment as Director of the Southampton Gaumont in December 1985, after spending all his previous entertainment management career in nearby Bournemouth where he was entertainment and events manager for the Borough.

The Stage Manager's desk will normally be installed downstage right—the bastard prompt long in use in Southampton—but will also be capable of being plugged in downstage left.

The stage area will generally be tidied up. (Easy enough to write about, but very expensive to carry out!) The present downstage right corner is much cluttered with brickwork supporting, apart from anything else, an electricians position and perch. The back wall has all manner of excrescences which will be swept away in the new form, and the stage entrances will be guarded with sound and light lobbies. The existing counterweight system will be overhauled and the control moved from stage level to the fly gallery, stage left. Provision will be made for a cross-over outside the stage volume, probably through the dressing room corridors.

The stage surface itself will be completely repaired and the existing traps restored to proper working order. In order to allow the maximum use of the stage, the scene dock upstage right will be enlarged and form part of the new get-in. The get-in itself is a great problem. It will be remembered by many touring companies that the ground behind the Gaumont falls away quite sharply in two directions. That, combined with the stage being at a tiresome height above ground level, creates enormous difficulties during the long dark nights at weekends.

What is now proposed is that the new scene dock will be served by a long gently-ramped lorry access so that all but exceptionally long pieces of scenery will be but a short carry onto the dock and, if all goes well, that carry will be protected from wind and rain.

Last, but as the cliché has it, not least, those on whom the prosperity of the theatre will depend—the artistes. All the dressing rooms will be refurbished to a good modern standard and provided with showers and toilets far beyond the numbers originally installed.

Additional dressing rooms (and band rooms) will be provided so that once more the Gaumont will really be able to act as host to the best (and largest) companies normally on the road.

This is a mere outline of the things that will be going on in Southampton, and we hope to be able to report from time to time on the progress that is being made there. Not least, we hope to be able to report soon on the new name which will be given to the finished building. For one thing is certain—it will not be the Gaumont!

Design Team

Project Manager	Hugh Corrance
Architect	B.R. Andrews, Dip Arch
Quantity Surveyors	Roger Lavington Associates
Structural Engineers	Patrick Parsons Associates
Interior Designers	Dry Butlin Bicknell & Partners
Lighting Consultants	Rank Strand

Ray Abbatt, who will direct technical operations at the Southampton Gaumont, joined the Rank Organisation in 1950, and was appointed stage manager/chief technician and based at the Gaumont in 1960. He has worked on shows for Rank at many of their major venues including the Dominion in Tottenham Court Road and at the Kilburn State. He has now "moved over" to local government and carrying on looking after things backstage under the new Southampton City Leisure banner.



Anthony Easterbrook, theatre consultant for the Southampton Gaumont Theatre project has been a partner in John Wyckham Associates since 1974. Prior to that he was general manager for the National Theatre of Great Britain, and had spent a total of twenty-five years working 'in' the theatre as stage manager, stage director, production manager, and company manager. He is a past chairman of the ABTT and has been a member of many national theatre committees.

His consultancy work has spanned projects as far apart as Aberdeen (His Majesty's) and Mosul (Iraq). He is joint technical co-ordinator (with John Wyckham) for the Royal Opera and Royal Ballet Companies and especially for liaison with the design team to ensure realisation of the technical needs of both these companies in the re-developed theatre for which project completion date is 1992.

EQUIPMENT *News*

Items asterisked ★ in this month's Equipment News will be launched or featured at the Frankfurt Music Fair in February

Carlsbro's Taurus ★

Carlsbro (Sales) Limited have announced that they will be exhibiting independently at Frankfurt this year following their rapid expansion over recent years.

They will be featuring their extensive range of PA amplification systems, ideal for use in installations or for live performance, and which now includes the new **Taurus** series. The stand will also feature their complete range of music instrument amplification products.

For full details of products contact Carlsbro (Sales) Limited, Cross Drive, Kirkby-in-Ashfield, Notts NG17 7LD telephone: (0623) 753902 telex: 377472.

Five-in-One Mercury ★

Mercury is the intelligent 'heart' of an integrated club system, say Zero 88 Lighting. The system includes two 4 channel power packs, one switching and the other dimming; each of which incorporates a unique circuit protection device and are rated at 1KW per channel. A range of installer friendly 'add on' extras are available such as a special Mains Conditioning Unit, a 4 way Zone/Channel faderpanel, and a touch sensor panel. The entire system is designed for console or 19" rack mounting.

Mercury is 'Installer Programmable'. By using a series of small switches located on the rear panel, the designer is able to decide on or before installation how the controller will perform. For example, the entire system could start up in a completely automatic light show. The programming switches are fully described in the installation handbook.

The Mercury controller claims to be 5 controllers in 1 box. **Effects Machine:** generates 5 different effects: sound to light, ripplesound, sound chase, varispeed chase and auto chase. Associated with the chases are 7 patterns, each of which may be modified both in direction and



The new Carlsbro 'Taurus' series.

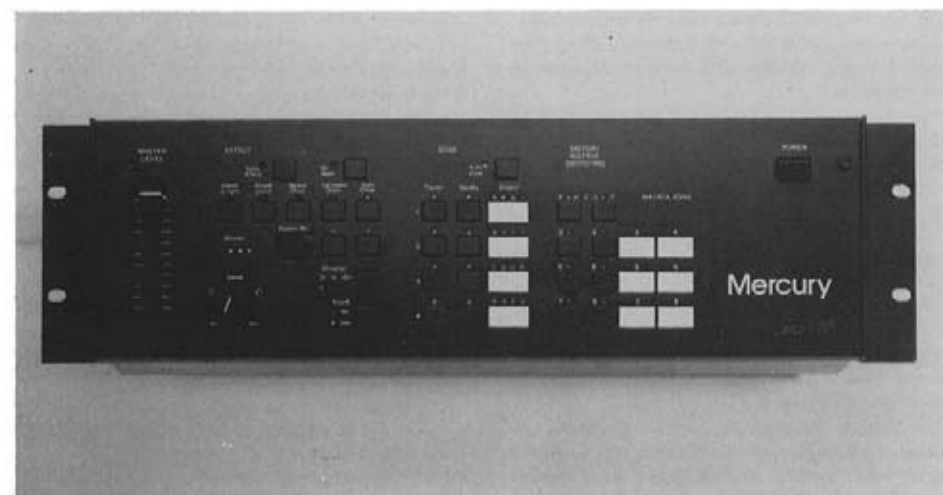
speed of attack (crossfade). An additional set of 7 special "crosszone patterns", operating on multiple zones, add a further dimension to what is already a very comprehensive machine. The whole of the effects section can be operated manually or run in "Super Auto", Zero 88's renowned automatic light show.

Zoner: once an effect has been chosen it is then electronically routed, at any desired light level, to any one of the 4 zones, so that different effects may be simultaneously run on different zones. Each zone has a standby mode, enabling the operator to memorise an effect 'blind' for later recall. A "Super Zone" button, behaving in a similar manner to "Super Auto" adds yet another dimension to the system.

Strobe Control: Zone 4 may be programmed at installation, using the rear panel switches, as a

strobe control zone. Effects, especially designed to run with strobes, are built into the Mercury, so that when Zone 4 is controlling strobes, its own special set of patterns will emerge.

Motor Switcher: 8 dual purpose push switches are mounted in pairs on the Mercury front panel. Firstly, these may be used for simple switching of a Sigma or Delta power pack to control motorised effects, projectors or anything else that may be necessary and secondly as **Matrix Control**. Rather like Strobe control, the designer or installer again has the option of programming these push button switches to control Zero 88's Sigma and/or Delta power packs to create matrix effects. When used as a matrix controller, selected pairs of push buttons become X and Y matrix switches, with each pair of push buttons ergonomically associated to a zone, and the output of that zone is assigned to the matrix. In other words, providing a matrix zone has been set up, any effect generated in the effects section of the Mercury is transmitted to the matrix by simply pressing one or other for X and Y, or both buttons together to produce Z.



Mercury, the "intelligent heart" from Zero 88.

Stellar Fets 2 and 4 ★

To complete the trio of new products being shown at Frankfurt by Studiomastrer (see also pages 37 & 38), the company have also announced the introduction into their range of 'budget' high spec amplifiers.

The **Stellar Fet 2** delivers 200 watts per channel and the **Stellar Fet 4** 400 watts per channel, both into 4 ohms. Total harmonic distortion is less than 0.006 per cent for both these models. Also both amplifiers are a compact 3 rack units high.

Each amplifier is cooled by a large slow-running fan for quiet performance. They are both fully protected against thermal overload, direct current offset and short circuit.

Power with Sophistication *

The Sigma (Switching) and Delta (Dimming) 4 channel x 1Kw power packs neatly illustrate Zero 88's regard for the problems of installation. One main feature is the "Inhibit Function" which enables the power packs to be switched on or off remotely by an electronic control signal from Mercury. The packs also include the option of including built-in effects; Sigma with a 4 channel Chaser, and Delta a crossfading Flowlight. The speed at which these effects operate is determined at installation, and is internally adjusted within the power pack.

A number of notable features have been included: both Sigma and Delta share the same chassis and any 3 mounted together side by side fit a 19" rack. Standard cable knock-outs are provided on all sides and the back. Each channel in each pack is fitted with a unique circuit protection device which will effectively reduce the incidence of blown fuses. The majority of fuses blow because the conventional method of protecting the triac has been to use the 'quick blow' fuse. A good enough method, but it means that many fuses blow just because a lamp fails. Zero 88 have incorporated a circuit protection device which protects the Triac. This in turn enables them to specify an anti surge fuse which significantly reduces the number of occasions in which a fuse blows. In the unlikely event of a blown fuse, a neon fuse blown indicator will glow on the front panel. Each channel also has a green light which indicates whether a control signal is present. This greatly assists fault finding during both installation and maintenance.

Both Sigma and Delta have a chassis which splits into two parts. The top part contains the electronics and simply plugs into the bottom part which contains all the mains wiring. Fitting a pack is thus simplicity itself: mount the bottom on a wall or in a rack (using the Rack Mount and Venting kit), wire up the mains input, control input and mains output connections, plug in the electronics and it's ready for use. Fast pack maintenance is equally simple; you simply unplug the electronics and replace with a new set.

Full details from Zero 88 Lighting Limited, Hart Road, St. Albans, Herts AL1 1NA telephone: (0727) 33271 telex 22521.



Sigma and Delta power packs from Zero 88.

ILP at Frankfurt *

ILP Electronic's new amplifier is a staggering 1Kw RMS Stereo power amplifier—that's 1Kw per side into 2 ohms. It incorporates mono and bridging facilities and comprehensive protection circuitry for short circuit, temperature, D.C. and individual device protection. The price, although not yet finalised, will make it an extremely competitive product for one with so many features, say ILP.

They will also be launching a new Bass Combo, the second in their range of combos. It will be 100 watts incorporating a 5 band eq section, a very effective compressor and full bi-amping facilities.

At the Music Fair these will be shown alongside ILP's existing Lead Guitar Combo, Unibase Slaves and 350 watt 12" Bass Speaker.

For full details contact ILP Electronics Ltd. at



ILP's new 1Kw RMS Stereopower amplifier.

Graham Bell House, Roper Close, Canterbury, Kent CT2 7EP telephone: (0227) 454778 telex: 965780.

Additions to W.B./ Coemar Disco Range

W.B. Lighting with Coemar have recently enhanced their range of static and motorised effects for Disco with the addition of a number of powerful new products.

The 'Pictor' range of projectors has been increased with a 2500W CID unit giving immense power for all special effects, this unit being particularly useful for multi-coloured 'laser' effects—without the high cost and licensing problems. The 'Venus' and 'Mantra' series of multi-axis effects, the 'Piovra' sound controlled multi-mirror unit and the fully programmable 'Robot' spotlight which offer a Rock Concert Quality at an affordable price, complete the range.

On the Club side the range of eight follow-spots means there is one suitable for every venue from the smallest pub to the largest theatre.

For further information on the products announced above and on all Coemar stage lighting equipment, contact W.B. Lighting at 4 Tenter Road, Moulton Park Industrial Estate, Northampton NN3 1PZ telephone (0604) 499331.

Quatro Intelligent Mains Packs

Quatro Electronics launched their new range of 'intelligent' power packs at this year's Club Catering & Licensed Trade Show in Blackpool in late October.

Although not an entirely new idea, mains transmission has never before been adapted exclusively for use within the sound the lighting industry. Advancements in technology have not only made the development of this product possible but also economically viable. The introduction of Impack can now greatly reduce the number of mains cables used and ease the complexity of installation, say Quatro Electronics.

Quatro Impack's have the advantage in that data is transmitted to them via the mains and not via a separate multi-core control cable. This allows the power packs to be placed next to the lighting effects and not at a central location, giving a vast reduction of mains/control wiring. The range may also be controlled by just one twin cable, giving complete mains isolation if required.

Intelligent switch, dimmer, matrix and strobe outputs are available and the range is compatible with almost all low voltage controllers.

For details contact Quatro Electronics, 1 Stanley Road, Ansdell, Lytham St. Annes, Lancashire FY8 5QX telephone (0253) 737139.

Soundcraft Launch * "new standard" SA Range

Soundcraft decided to take a fresh approach and appointed an international design team from Scandinavia, the UK and the US, to develop their new SA Range of Power Amplifiers. These amplifiers feature some radical new design concepts which enable them to achieve new standards of performance. Combining the advantages of both Mosfet and Bipolar output devices they are capable of the exceptionally rapid transient response to peaks which have created the new "Pulse Power" specification. Pulse Power specs on all models far exceed those on similarly rated amplifiers, say Soundcraft.

Advance news is that the most modern laser trimmed thick film p.c. technology has been employed to enable a totally discrete hybrid front end to make the Soundcraft Amps compact and highly serviceable, without the limitations of performance resulting from the use of integrated circuits.

The range comprises four amplifiers: The SA150, designed for use in small full-range high performance audio systems, and ideal for driving the HF section of a multi-way system, is rated at 2×135 Watts RMS into 4 Ohms, at below 0.05% THD. The Pulse Power design allows it to produce 450 Watts per channel for a 10ms dynamic peak.

The SA600, a general purpose amplifier suited to full-range studio, touring or broadcast applications, and to a two-way system where it can be used to drive the LF section, in conjunction with the SA150 amplifier, is rated at 2×220 Watts RMS into 4 Ohms, with a Pulse Power peak capability of 700 Watts per channel for 10ms.

The SA1000 has been designed as the ideal general purpose amplifier appropriate for full-range studio, touring and broadcast use, or as the LF driver in a 2-way system, in conjunction with the SA150. It is rated at 2×525 Watts RMS into 4 Ohms, yet it will produce 1400 Watts per channel on 10ms transients. The SA1000 is also equipped with a specially designed force cooling system.

The SA2000 is the most powerful in the SA range, designed for top quality full-range studio or broadcast use, permanent installations and high power touring applications. It can achieve 2×740 Watts per channel into 4 Ohms with an exceptionally high 3000 Watts per channel peak power capability (2 Ohms). The SA2000 is equipped with a force cooling system as well as 1.5m of custom heat sink extrusions.

After nearly 3 years in development, Soundcraft Electronics believe they have achieved a new standard of amplifier technology which produces a sound quality unmatched by conventional professional amplifier design.

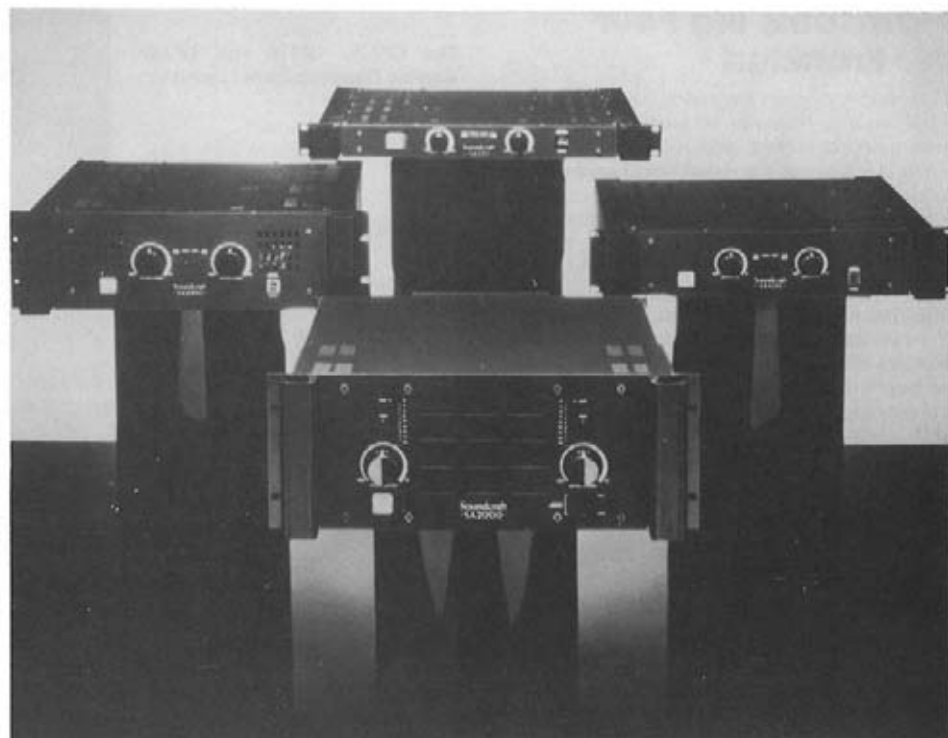
For full details contact Soundcraft Electronics Limited, Unit 2 Borehamwood Industrial Park, Rowley Lane, Borehamwood, Hertfordshire WD6 5PZ tel: 01-207 5050 telex: 21198.

Audix Innovations

Audix have just announced the launch of a range of power amplifiers introducing the latest generation of Mosfet power devices.

Mosfet 'Powerbloks', developed by Audix engineers, are an entirely new, compact and efficient 60 watt module which can be fitted in parallel into any Audix power amplifier to provide a wide range of outputs. This allows an amplifier chassis to be fitted with an individual or a combination of 60 watt Powerbloks to provide 100 volt line outputs of 60, 120, 180 or 240 watts RMS.

The Audix Power Amplifiers are first in a line of new introductions. The MPA Series Mosfet Modular Amplifiers, a series of Mains or 24 volt DC Powered Slave Amplifiers, are available now. The successful Audix 'Wenden' series—a high



The Soundcraft SA range of power amplifiers features some radical new design concepts.

quality modular mixer/amplifier range—incorporating Mosfet Powerbloks, will be available from the end of January 1986. From early Spring 1986, the versatile and low cost Audix 'Newport' integrated mixer/amplifier range will also be available to complete the line-up.

Enormous benefits result from introducing Mosfet circuit techniques. All Audix Mosfet Amplifiers are short and open circuit without any of the elaborate protection circuitry normally associated with bipolar designs. By combining the Powerbloks into one amplifier, it is possible to utilise multi-channel output within one 3U rack, offering real advantages in compactness. Audix have been first to apply this innovation in power amplifier engineering, and managing director John Billett explained "The desirability to have power and mixer amplifiers with a wide range of power ratings was obvious. The challenge has been to produce an extended range of amplifiers whilst taking advantage of cost effective volume production, using as few basic 'building blocks' as possible. With the Mosfet Powerblok, we've achieved the best of both worlds."

For further information contact Audix Limited, Wenden, Saffron Walden, Essex CB11 4LG telephone: (0799) 40888 telex: 817444.

New series of Mixing Consoles from Studiomaster *

Studiomaster will be launching a new series of mixing consoles at the Frankfurt Music Fair, to complement their current range of desks.

The Series II will be more expensive than the current range, but will have a host of new features, say the company. The equalisation on the input channels has been updated to 4-band parametric, 6 Auxiliary Send busses are available plus other input facilities such as: 20dB Pad, Phase Reverse, Discrete 48V phantom switch, separate mono jacks for Send/Return inserts, Mic/Line selection plus a separate jack for Tape Return, allowing Remixing or Monitoring.

The 16-16-2 has the same external dimensions as the 16-8-2, as the groups 9-16 are above 1-8 to save space. A feature incorporated here is the 'Fader Reverse' button which allows change from

linear to rotary fader between channels 1 and 9, 2 and 8 etc. This is far superior to the usual 16-8-16 format, say Studiomaster, and has advantages over their previous 16-16 model. This layout allows the operator to simultaneously record up to 16 tracks if required. Admittedly, this may rarely be needed, but should the need arise to record a complicated drum and keyboard rig at the same time, the ability to lay more than 8 tracks could be appreciated.

Auxiliary Returns consist of 6 separate mono returns or a combination of 2 stereo plus 2 mono returns with full routing including a patch to the 'Cue' monitor (Stereo Headphones).

Auxiliary Sends 5 and 6 are on every input and every group and are arranged so that they can be used as usual for recording or mix-down Auxiliary Sends, or can be used for a left/right feed to the 'Cue Monitor' (Stereo Headphones).

Another unusual feature of the mixing consoles is a 'MIDI' interfaceable muting system which enables a complete series of muting patterns to be set up in advance and activated by any MIDI sequencer. Hardware and software will be available for the Commodore 64 and Spectrum computers to enable multiple patches to be stored.

Output display bargraphs are all housed in a meter bridge above the groups. This attractive 'pod' design also houses a high quality talkback mic. There is a bargraph on all the desks for each group, left and right masters and solo. They all feature assignable talkback facilities, 3 slate oscillators (100Hz, 1kHz & 10kHz) headphone monitor, a pair of 2-track outputs, a control room monitor output and stereo cue output (for Studio Headphones).

Faders on all channels are 100mm ALPS masters. The Series II's utilise state-of-the-art semi-rigid foam moulding technology for the side cheeks and elbow pad. The mixers are all externally powered by a rack-mountable P.S.U. Desks will have blanked off holes ready for an easy self fitted EDAC Multicore kit.

Desks will also be expandable. Extra inputs will be blocks of 8 allowing a maximum of a total of 40 inputs. These add-ons will fit either side of the main console. Other add-ons may also be available, such as an 8 track monitoring section which would convert a 16-8 to a 16-8-16 or a 16-16 to 16-16-24.

Harrison's Big Four for Frankfurt *

Harrison Information Technology Limited have announced that they will be launching four major new products at the Frankfurt Music Fair.

The **D.S.A. series** is a digital amplifier range that uses the latest Ultra Linear Pulse Width Modulation technology, resulting in big benefits in efficiency and performance over normal Class 8 designs. Substantial reductions in size and weight have been achieved whilst structural strength and reliability have been maintained say Harrison.

Outperforming previous designs and with more features than existing models the new **G.P. Series** of graphic equalisers are precision units which incorporate the most advanced microchip technology. Third in line the **A.C. 400** is a state variable Active Crossover unit with added capability. This product features built-in limiters, adjustable filter cards and maximum accuracy across the audio spectrum.

The **S.P.7 Stereo Mixer** has been developed as a result of many customer requests for a "truly professional stereo mixer" say Harrison. Incorporating the latest Logic based monitor system the S.P.7 is intended for use by commercial sound installations and leading discos.

Full details available from Harrison Information Technology Limited, Unit 3, Button End, Harston, Cambridge CB2 5NX telephone: (0223) 871711 telex: 81687.

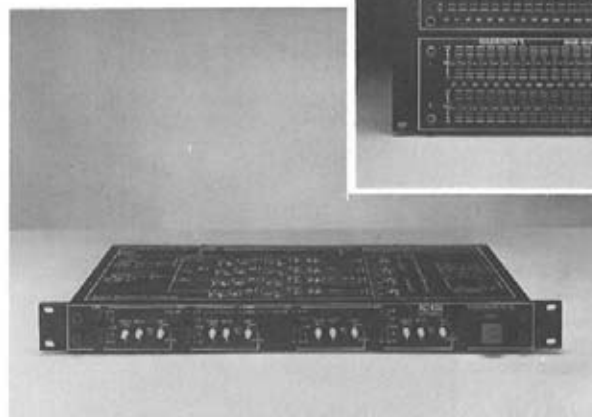
The 102 "Invisible" PA from Bose

Unobtrusiveness is not a quality that normally distinguishes a PA speaker, but the new 102 range from Bose performs "with both accuracy and power" contained within a near-invisible enclosure, say the company.

It is not a traditional ceiling speaker, but a carefully optimised 200-cubic inch flush-mounting acoustic enclosure specifically designed for unobtrusive installation or retrofitting. Compact, flexible, and easy to install it is able to offer a full bandwidth response at high sound pressure levels, with wide dispersion and high reliability. The system is designed for shops, hotels and any background applications, but it is also capable of handling a full-blown disco.

The dual-port reflex design gives the best possible bass end. It includes a pre-wired 5-position level switch and factory-installed multi-tap transformer. Front and rear wiring access plates are provided and the whole unit requires only 3/4 in wall or ceiling depth. The Bose 102 (which

The GP215, GP130 and GP230 Graphic Equalisers from Harrison.



Harrison Technology's AC4000 State Variable Active Crossover.

comes in flush-mounting or surface mounting configurations) is available in a number of variants for 70 or 100 volt line operation at 8 or 25 watts, or 8 ohm, 25 watt, giving up to 101dBa SPL at 10 ft at 1 kHz. The frequency response is an impressive 80 Hz-18 kHz \pm 3dB. With identical performance specifications, the sound contractor can choose any combination of surface and flush-mount Bose 102 enclosures.

The third element in the 102 system is the System Controller, a unique unit offering two channels of music equalisation, allowing stereo or two-zone mono operation. The channels feature balanced differential inputs with sensitivity switches that can be set up for 100mv or 1 volt.

The exclusive Optivoice circuitry in the System Controller automatically reduces the music level for voice-overs, and then gradually restores it after the end of the message. Band-limiting equalisation and compression maximises voice-channel intelligibility, giving a smooth and easily understood announcement quality.

Overall, the Bose 102 is a commercial sound system that combines all the traditional Bose qualities of ruggedness, reliability, sound and power, with cost-effectiveness and ease of installation, adding up to a system that is unique in the marketplace, say the manufacturers.

For further information contact: Bose (UK) Limited, Trinity Trading Estate, Sittingbourne, Kent ME10 2PD tel: (0795) 75341.

Studiomaster 12M Monitor Console

Launched in October, Studiomaster's new **12M Monitor Console** will also be making an appearance at the Frankfurt Music Fair in February. It was the first product in the new range of mixers and amps now progressively being introduced into the market place. The 12M brings state-of-the-art monitoring equipment within the reach of the smaller band.

Starting with a 24 into 12 format, the console permits expansion to 32 input channels. Each input channel features 4-band equalisation, 20dB pad, phase reverse, 48V phantom, 2 assignable pre/post sends, and, unusually, a high Q, infinitely variable notch filter. Each of the 12 outputs has full parametric equalisation which, in most cases, allows the user to dispense with outboard equalisation. A 12 segment, 2 colour LED display is fitted to each input and output channel. Other features include high quality ALPS master faders, inserts on inputs and outputs and assignable talkback facilities.

For full details of all the Studiomaster products previewed above contact Studiomaster at Home Farm, Northall, Nr. Dunstable, Beds. telephone: (0525) 221331 Telex: 825612 G.

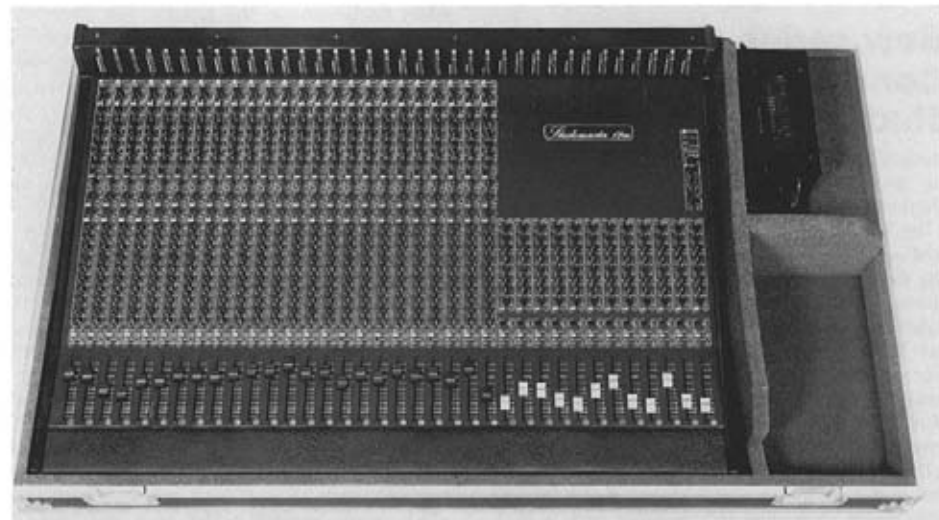
Mosfet 2000 Amplifier *

The latest and most powerful addition to the Studiomaster range of Mosfet amps is the **Mosfet 2000**, and this will also be launched at Frankfurt.

This high specification model is a very powerful yet compact—only 3 rack units high—power amplifier. Unusually, it contains 4 discrete amplifiers and can deliver 450 watts per channel into 4 ohms. It will also run comfortably into 2 ohms in this mode. Bridging the channels into 2 pairs provides a power output of at least 1000 watts per channel into 4 ohms. This model can operate in input-linked mono, stereo or bridged format.

The full power bandwidth provides a consistent performance over a frequency range of 5Hz to 200kHz, a fast slew rate of more than 100 volts per microsecond and low total harmonic distortion of typically 0.003 per cent in 4 channel mode and 0.006 per cent in bridged mode are further features of the amplifier.

Input gain controls permit direct control of each amplifier and 4 2-colour LED meters provide individual monitoring facilities. Each pair of amplifiers has its own power supply to ensure reliable performance.



Studiomaster's new 12M Monitor.

Graham Walne and Leisureplan

Graham Walne's undiminished 36 year-old love affair with theatre began, he believes, when he was three. His father, a master silversmith with his own successful engraving company, and mother, "an organiser—currently big in the WVS", took him on a trip from their home in Accrington to the Blackpool Tower Circus where he fell not so much for the artistes, but for the mechanics of the show: the circus rings and the fountains. This was compounded by further theatre trips to Blackpool and to Manchester where he watched pantomime, variety shows, and revues from the London Palladium that required the use of the famous revolves. Somehow, the experiences triggered in the boy a desire to create his own theatre. From the age of 7 he began to build a series of models using Meccano, Bako, hardboard and cardboard, which he called "The Palladium". Increasingly, as his knowledge of the London theatre accumulated, the models became more and more like the actual thing. A local newspaper got to hear of what he was doing, and printed a piece that found its way into the hands of Jack Matthews, then Stage Director of the Palladium. In one of those gestures that seem insignificant at the time, Jack Matthews invited Graham, aged 11, down to London to see the dream theatre.

It was a major turning point, for Jack Matthews, sadly now dead, and the then Deputy Chief Electrician, Bill Platt, happily still alive, gave the boy the run of the Palladium. They took his model-making very seriously, always ensuring that he had the right information, plans, pictures, and working out with him how and why things happened or didn't happen. He spent some time at the Palladium during every school holiday over the next three to four years.

The culmination was Graham's final model that measured 41" deep (from the proscenium to the back wall) by 90" wide, was 52" high to the grid, and filled most of a 9' cubic room. It contained of course the working twin revolves, as well as a 48 way switchboard, motorised dimmers, and of course, scaled down lanterns. What had started as a small boy's dream, had become a hobby, then an obsession, and finally the template of a career.

There was no doubt in his mind or indeed in those of his parents or schoolteachers what he was going to do. Jack Matthews had promised him a job at the Palladium, but recommended that he first go to RADA where he could study Stage Management. RADA took him on, accepting fully that while his aim was to work in stage design, he wanted a thorough grounding in stage management. At RADA, he met another major influence in his life: Francis Reid, who was teaching the lighting course. Apart from opening up the fascination of the theory and practise of lighting and lighting design for Graham, Francis ("I taught him everything he knows!") Reid brought to him three keys for



Graham Walne

survival and success: the importance of retaining a sense of humour even at the worst moments; the importance of remembering that one is lighting for the show and the audience, not for oneself; the importance of not wasting the client's time or money. This last hallmarks Graham Walne's lighting: every lamp does and means something: take it away and there's a hole.

During the 4 term-course at RADA he joined forces with another student, Geoffrey McNab. Somewhat precociously, in view of their lack of practical experience, in 1966 the two of them set up "Theatreplan"—a company that "offered itself in an advisory capacity to theatres to recommend how they could improve their technical facilities". If "Theatreplan" was short on experience, it was long on careful thought, and provided some of the primary elements that lie behind their present company "Leisureplan". Perhaps the most important of these is the alliance of the simple question: "Why should good advice have to be expensive?" to the equally simple concept that a building is better off having a single day of good professional advice than having none at all. This idea, seemingly so reasonable, has swum against the tide of consultancy philosophy, management and costing which has looked by and large for global projects.

Graham's practical experience, meanwhile, was accumulating. A year was spent with RADA as their lighting designer and chief electrician, lighting some 40 shows in the three theatres. Freelance work began when Frances Reid invited Graham to assist him to light operas. Graham then joined Rank Strand assisting Owen Clark in the sound and projection department, designing systems for cinemas, lecture halls and theatres. Graham remembers Owen Clark as the best salesman he has ever seen, never consciously making a pitch, but always helping the

client to solve problems, and thereby selling equipment. Graham also learnt from him cost-awareness, and the importance to the long-term relationship between sales force and customer of having the freedom to recommend other people's products, where this was appropriate to the client's needs.

In 1974 Graham left Rank Strand, and joined Theatre Projects for a brief period as sales manager for their sound equipment section. He opposed the marriage of TP Sound and Rank Strand, and resigned when this took place. However, he counts working with David Collison, whom he regards as having virtually single-handedly dragged theatre sound yelling and screaming into the 20th century, as "a permanent and utter delight". In 1975 Graham went freelance.

Since then his work has revolved around four areas of activity: consultancy, through the development of Leisureplan; lighting shows; writing for trade publications; and eventually his book "Sound for Theatres"; and teaching. The relative significance of these areas has varied necessarily from year to year, but the component parts have remained the same.

He finds that people abroad tend to have a very different understanding of the role of the consultant. They are used as expert information banks, libraries of experience to be drawn on again and again, not just for the implementation of a project, but during its life, and most important whenever it is upgraded. This type of positive attitude towards consultancy will lead Leisureplan to more and more work abroad.

With regard to design he feels that there is a philosophy current in this country that physical and budgetary limitations are irrelevant. He cites not only the more obvious targets of the national companies, but tours that have not taken place because the set design concept was too complex for the theatres. This state of mind has crept into lighting and indeed sound design. Although current, it is also self-destructive, and he sees the pendulum beginning to swing the other way.

In the short term, his timetable takes him to Guernsey, Boston, London, and back to Boston for the US premiere of "Taverner". He will be setting up a new in-service training scheme, and keeping his hands firmly on the lighting desk by going out on the road and staying with a major tour. Every year, one hopes, will be a vintage one, but for Graham Walne 1986 looks like being a classic.

Asked to describe what he was like to work with, a production manager said, "when you're up to your eyes in the hairiest get-in with all hell breaking loose around you, you pray Graham will walk in and start lighting, because you know he'll bring peace, sanity, good sense and order to the proceedings." I can find no greater compliment to pay him than to repeat this remark.

SHOW PAGE

Sound Eighty Six

Despite the close proximity of the Frankfurt International Music Fair, this year's ASCE show "Sound Eighty Six" is well set for its usual successful run at the Novotel Hammersmith—its home for the past 10 years.

Across the 3-day show (February 18, 19, 20) organiser Ken Walker of the Association of Sound and Communications Engineers told L+SI that he expects the usual 2000 or more visitors to turn up for the event.

The accompanying seminar programme has a very strong line-up of speakers across a wide range of subjects and disciplines, and it will obviously firm-up this aspect of the event. "Last year we saw the seminars get off the ground properly, and this year's show will see a big strengthening in this area," Brenda White of the ASCE office told L+SI. The complete line-up of subjects and speakers is given on the reverse side of the leaflet inserted in this issue.

In the exhibition halls, 60 major exhibitions have so far booked space and it is interesting to see two new Japanese majors, Panasonic and Yamaha Pro-Audio amongst the list.

For further information contact the Association of Sound and Communications Engineers Limited at 4b High Street, Burnham, Slough SL1 7JH telephone (06286) 67633.



Attention to detail at previous ASCE Sound Shows at Novotel.

Exhibition Diary

Entertainment 86

February 4-6, 1986.

Bournemouth International Centre.

John Offord Publications/Exhibitions,
12 The Avenue, Eastbourne, E. Sussex BN21 3YA.
Telephone: (0323) 645871.

Frankfurt Music Fair

February 15-19, 1986.

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

Sound 86

February 18-20, 1986.

Novotel, London.

Association of Sound & Communications
Engineers, 4b High Street, Burnham, Slough
SL7 7JH.
Telephone: (06286) 67633.

ABTT Trade Show

March 20-22, 1986.

Riverside Studios, London.

Association of British Theatre Technicians,
4 Great Pulteney Street, London W1R 3DF.
Telephone: 01-434 3901.

USITT

March 19-21, 1986.

The Hyatt, Oakland, California.

David Hand, c/o The Stage Engineering
International, Box 2699, Colorado Springs,
CO 80901 USA.

Pub, Club and Leisure Show

April 8-10, 1986.

Olympia 2, London.

Angex Ltd., Europa House, St. Matthew Street,
London SW1P 2JT.
Telephone: 01-222 9341.

Audio Visual 86

April 14-17, 1986.

Wembley Conference Centre, London.

EMAP/MaLaren Exhibitions Ltd.
PO Box 138, Token House, 79-81 High Street,
Croydon CR9 3SS.
Telephone: 01-688 7788.

SIB Rimini

May 6-9, 1986.

Rimini, Italy.

Ente Autonomo Fiera Di Rimini,
PO Box 300, 47037 Rimini, Italy.
Telephone: 0541/773553.

UK enquiries: Disco & Club Trade International.
Telephone: 01-278 3591.

Lighting World 4

May 11-13, 1986.

Los Angeles, California.

Robert Weissman, National Expositions Company
Inc., 14 West 40 Street, New York NY10018 USA.

Showtech 86

May 13-15, 1986.

ICC - Berlin.

UK enquiries: Spectrum Communications Ltd.,
183-185 Askew Road, London W12 9AX.
Telephone: 01-749 3061.

Scottish Pub, Club and Leisure Show

June 3-5, 1986.

The Scottish Conference and Exhibition Centre,
Glasgow.

Ian Macfarlane Exhibitions Ltd., 15 Elm Grove,
Didsbury, Manchester M20 0RL.
Telephone: 061-434 5300/0050.

NAMM Exposition

June 14-17, 1986.

McCormick Place, Chicago, USA.

Larry R. Linkin, 500 N. Michigan Avenue,
Chicago IL 60611, USA.

PLASA Light and Sound Show

August 31 - September 3, 1986.

Novotel, London.

Enquiries: (exhibition bookings) David Street.
Telephone: 01-994 6477.

Enquiries: (general) PLASA secretariat, c/o Roger
Saunders, 1 West Ruislip Station, Ruislip,
Middlesex.
Telephone: (08956) 34515.

Sonimag 86

September 15-21, 1986.

Barcelona, Spain.

Feria De Barcelona, Avda. Reina M.^a Cristina,
08004 Barcelona.
Telephone: (93) 223 31 01.

Photokina

September 3-9, 1986.

Cologne, West Germany.

UK Representative: Tony Pittman.

12/13 Suffolk Street, London SW1Y 4HG.
Telephone: 01-930 7251.

National Club, Pub, Hotel + Catering Show

October 7-9, 1986.

G-Mex, Manchester.

Ian Macfarlane Exhibitions Ltd., 15 Elm Grove,
Didsbury, Manchester M20 0RL.
Telephone: 061-434 5300/0050.

A.D.D.A. LIMITED

26 Mead View, Oakington, Cambridge CB4 5BH.
Tel: (022 023) 3101.
Contact: Monica Saunders (Managing Director).
A.D.D.A. Limited produce fibre cases for many purposes such as make-up cases -cases for lighting consoles and records. Leaflet available.

ASTRON

Hallowsgate, Flat Lane, Kelsall, Tarporley, Cheshire CW6 0PU.
Tel: (0829 51) 133.

AUDIO EQUIPMENT LTD. (AUDIO FACTORS)

Audio House, Robin Lane, Pudsey, Leeds, W. Yorkshire LS28 9HY.
Tel: (0532) 561949.

AVITEC ELECTRONICS (UK) LTD.

80/81 Walsworth Road, Hitchin, Herts SG4 9SX.
Tel: (0462) 58961.

BOSE (UK) LTD.

Unit G2, Trinity Trading Estate, Sittingbourne, Kent ME10 2PD.
Tel: (0795) 75341/5.

CALNE CABINET MAKERS LTD.

64B Anchor Road, Calne, Wiltshire SN11 8DX.
Tel: (0249) 812656.

CEREBRUM LIGHTING (SALES AND HIRE) LTD.

The Stage and Effects Lighting Centre, 168 Chiltern Drive, Surbiton, Surrey KT5 8LS.
Tel: 01-390 0051/01-390 4841.
Telex: 892337 CELCO G.
Contact: Colin Whittaker, Sales Director; John Lethbridge, Managing Director.
Distributors and exporters of most leading brands of entertainment lighting products. Worldwide distributors for 'Celco Ltd.' and 'Powerdrive' equipment stands.

CITRONIC LIMITED

Halifax Road, Bowerhill Estate, Melksham, Wiltshire SN12 6UB.
Tel: (0225) 705600.
Contact: Mr. A. Briggs, Sales Manager; Mr. M. Gerrish, Sales and Marketing Director.
Manufacturers and designers of electronic audio equipment.

CLOUD ELECTRONICS LIMITED

511-515 Stanforth Road, Sheffield S9 4RA.
Tel: 447051.
Contact: R. Millington, Director.
Cloud Electronics produce a range of high quality sound reinforcement equipment for the discotheque industry; consoles, mixers, amplifiers, loudspeakers, etc.

COURT ACOUSTICS SALES LTD.

(Member theatre projects group)
10-16 Mercer Street, Covent Garden, London WC2H 9QE.
Tel: 01-240 3648/5411.

DISCO & CLUB TRADE INTERNATIONAL

410 St. John Street, London EC1V 4NJ
Tel: 01-278 3591

FORMULA LIGHTING & LEISURE SERVICES LTD.

Formula Sound Ltd., Stuart Road, Ashton Road, Bredbury, Stockport, Cheshire SK6 2SR.
Tel: 061-494 5650.

ICELECTRICS LTD.

131-132 Blackdown Rural Inds., Haste Mill, Haslemere, Surrey GU27 3AY.
Tel: (0428) 2015.

LASER CREATIONS LTD.

55 Merthyr Terrace, Barnes, London SW13 9DL.
Tel: 01-741 5747.
Contact: Mark Brown, Sales Manager; Patti Devaux, Sales Assistant.
Lasers for lighting displays and installations featuring the series 9 state of the art controller as featured in the Hippodrome.

LASER SYSTEMS LTD.

Unit 11, Lanterham Park, Cwmbran, Gwent NP44 3AX.
Tel: (06333) 62500/73222.

LE MAITRE LIGHTING & EFFECTS

316 Purley Way, Croydon CR0 4XJ.
Tel: 01-686 9258.
Telex: 883220.
Contact: Mick McManus, Partner; Rodney Clark, Sales Manager.
Manufacturers of pyrotechnics, smoke machines, lighting and other related products for the entertainment industries.

LIGHT ENGINEERING

64 Eden Road, Walthamstow, London E17.
Tel: 01-520 2336.

LIGHT SYSTEMS

Unit 3, Bartlett Court, Lynx Trading Estate, Yeovil, Somerset BA20 2PT.
Tel: (0935) 26743.

LIGHTFACTOR CONTRACTS LTD.

11 Fairway Drive, Fairway Industrial Estate, Greenford, Middlesex UB6 8PW.
Tel: 01-575 5566.

LUTON SOUND & LIGHTING LTD.

75 & 82-88 Wellington Street, Luton, Bedfordshire LU1 5AA.
Tel: (0582) 411733 (5 lines).
Contact: Mike Henden, Sales Director; Eamon Hailes, Sales Manager.
Supply and service of sound, lighting and special effects equipment to all areas of leisure, entertainment and the arts, UK and worldwide.
Also: Handy Distribution: Supply and distribution to the trade of: Sound, lighting and special effects for entertainment, leisure and promotion UK and worldwide.

MCCORMACK ELECTRONICS LTD.

35-37 Sefton Street, Liverpool L8 5SR.
Tel: 051-709 6351/051-708 0346.

M-JAY ELECTRONICS

Albion Mills, Church Street, Morley, Leeds, West Yorkshire LS27 8LY.
Tel: (0532) 524956.

MALHAM LTD.

65-67 Malham Road, London SE26 1AJ.
Tel: 01-699 0917.

MANHATTAN SOUND & LIGHT

Unit L1, Multistore, 49 Atlanta Street, London SE6.
Tel: 01-385 2487.

MARTIN SOUND & LIGHT

70a Blackstock Road, London N4 2DR.
Tel: 01-354 2254.

MICO LIGHTING LTD.

Troydale Lane, Pudsey, Leeds LS28 9LD.
Tel: (0532) 567113.

MODE ELECTRONICS LIMITED

Chelsing Lodge, Tonwell, Nr. Ware, Herts. Tel: (0920) 2121.
Contact: Richard Stewart, Technical Director; John Bradbrook, Commercial Manager.
Manufacturers of discotheque lighting control equipment, dimmers and effects.

MULTIFORM LIGHTING

Bell Lane, Uckfield, East Sussex.
Tel: 0825 3348.
Contact: Iain Price-Smith, Managing Director.
Designers and manufacturers of electronic lighting control equipment. Trade distributors of parcans, spotlamps, cables, etc.

NIGHT FLIGHT & SOUND LTD.

Torwood, Bowling, Strathclyde, Glasgow G60 5AB.
Tel: (0389) 79261.
Contact: Bill Smith, Senior Partner; Nik Fraser, Office Manager.
Design, installations, repairs and hire with full time experienced staff on call 24 hours. Agents for most manufacturers. Large stocks.

NORTHERN LIGHTS

89 Scottforth Road, Lancaster LA1 4SD.
Tel: 0524 62634.
Contact: Ray Wilkinson, Partner.
Sales, hire and wholesale distribution of sound, lighting and special effects products.

OPTIKINETICS LTD.

38 Cromwell Road, Luton LU3 1DN.
Tel: (0582) 411413.

ORTOFON (UK) LIMITED

Denmark House, Tavistock Industrial Estate, Ruscombe, Twyford, Berks RG10 9NJ.
Tel: 0734 343621.
Contact: Alastair Jack, Area Sales Manager; Patricia Carvell, Product Manager.
Distributors of high quality domestic and professional pick-up cartridges.

P.A. INSTALLATIONS

Enterprise House, Inkerman Street, Llanwell, Dyfed.
Tel: (0554) 752490.

PANCAN LTD.

25 Powis Terrace, London W11 1JJ.
Tel: 01-221 1455.
Contact: Peter Roberts, Sales Manager.
Manufacturer of light moving systems. Control is either direct with joystick, via computer for preset positioning or from a lighting board.

POWERDRIVE DRUM CO. LTD.

9A Clarendon Road, Luton, Bedfordshire LU2 7PQ.
Tel: (0582) 423395.

PROJECT ELECTRONICS LTD.

983 Great West Road, St. Pier, Brentford, Middlesex TW8 9DN.
Tel: 01-568 4578.

PULSAR LIGHT OF CAMBRIDGE LTD.

Henley Road, Cambridge CB1 3EA.
Tel: (0223) 66798.
Contact: Derrick Saunders, Director; Ken Sewell, Director.
Manufacturers of lighting equipment for stage, discotheques. Products include dimmers, control desks, effects controllers, strobes, stage lanterns, disco spots, etc.

R.K. LIGHTING LTD.

4 Steep Hill, London SW16 1UL.
Tel: 01-769 5714.

RICHARD ALLAN RADIO LTD.

Bradford Road, Gomersal, Cleckheaton, West Yorkshire BD19 4AZ.
Tel: (0274) 872442.

ROSSULA LTD.

11 Fairway Drive, Fairway Industrial Estate, Greenford, Middlesex UB6 8PW.
Tel: 01-575 5566.

SS LTD.

240 Wellingsborough Road, Northampton.
Tel: (0604) 32965/30559.
Contact: D.P. Mitchell, Managing Director; I.P. Brown, Sales Director.
Discotheque equipment.

SHUTTLESOUND LTD.

Unit 15, Osiers Estate, Osiers Road, London SW18 1EJ.
Tel: 01-871 0966.

SOUND ELECTRONICS LTD.

124 Junction Road, London N19 5LB.
Tel: 01-272 6044.

SQUIRE LIGHT & SOUND LTD.

176 Junction Road, London N19 5QQ.
Tel: 01-263 7272.

TANNOY LIMITED

The Bilton Centre, Coronation Road, Cressex Industrial Estate, High Wycombe, Bucks.
Tel: (0494) 450606.
Contact: Martin Bailey, U.K. Sales Manager; Martin Kelly, Area Sales Manager - Music P.A.
Design and manufacture of studio monitors, hi-fi loudspeakers and live music PA loudspeakers.

W.B. LIGHTING LIMITED T/A COEMAR (UK)

4 Tenter Road, Moulton Park Industrial Estate, Northampton NN3 1PZ.
Tel: (0604) 499331.
Contact: Roman Walanta, Director.
Suppliers of lighting to the entertainment industry.

WATKINS ELECTRIC MUSIC LTD.

Unit 119, 62 Tritton Road, London SE21 8DE.
Tel: 01-735 6565.
Cables: MUTELTRIC, LONDON.
Contact: C. Watkins, Managing Director; B. McLaren, Chief Engineer; A. Watkins, Manager.
Manufacturer of loudspeakers. Loudspeaker cabinets. Amplifiers.

WILMEX LTD.

Compton House, 35 High Street, New Malden, Surrey.
Tel: 01-949 2545.
Contact: Peter Merrick, Managing Director; Clive Lincoln, Sales Manager.
Distribution - Stanton pro-disco cartridges + styli. Ramsa professional loudspeakers. Monster professional loudspeaker cable and connectors.

ZERO 88 LIGHTING LTD.

Hart Road, St. Albans, Herts AL1 1NA.
Tel: (0727) 33271.
Contact: David Catterall, UK Sales Executive; Freddy Lloyd, Sales Director.
Specialist manufacturers of advanced technology lighting controllers for both the club and theatre market.

For full details of membership of Professional Lighting and Sound Association contact Roger Saunders, 1 West Ruislip Station, Ruislip, Middlesex WA4 7DW Tel: (08956) 34515

DIRECTORY

VEL

- Leading developers and distributors of video projection systems
- Video high-quality picture screens up to 20 ft.
- Hire, lease or purchase as a package with superb disco sound
- Agents for: BARCO, THOMSON, J.V.C., CITRONIC, VEE-JAY.
- Video horse and greyhound racing systems available for charity, social or fund-raising events.

For full details contact the professionals.
VIDEO ENTERTAINMENTS LTD
 Unit 11, Algrin Industrial Estate, Starmoor,
 Newcastle upon Tyne NE27 0NB. Tel: (091) 2514514

Concord Controls

THEATRE LIGHTING

- Good Design
- Reliability
- Systems Designed Free of Charge
- National Distributorship

Phone us for Further Information
 Unit 3, Dawson Road, Mount Farm
 Bletchley, MK1 1LH (0908) 644366



W.B. Group
 cover the complete
 lighting spectrum
 from film to T.V.,
 theatre to disco
 special & motorised
 effects

Only the best is good enough

W.B. Group
 4 Tenter Rd., Moulton Park Ind. Est.,
 Northampton NN3 1PZ
 Tel: (0604) 499331

LIGHTING HIRE & SALES

Philip L. Edwards
 (Theatre Lighting)
 5 Highwood Close, Glossop,
 Derbyshire SK13 9PH.
 Telephone: 04574 62811.

NIGHT FLIGHT

Sound and Lighting
THE BIG ONE IN SCOTLAND
 Installation, Design,
 Hire, Repair and Service
 0389-79261

MUSICRAFT LTD.

LIGHT AND SOUND

LEADING STOCKISTS OF ALL
 LEADING BRANDS INCLUDING:
 CITRONIC - FAL - PULSAR
 OPTIKINETICS - ICE - BOSE - SHURE
 MCKENZIE - CELESTION
RSC Franchise dealer
 Manufacturers of sound to light units,
 pre-amps, high voltage amplifiers,
 speakers and cabinets.

OVERSEAS ORDERS TAKEN —
 303 Edgware Road, London W2 1BS.
 Tel: 01-402 9729/01-402 2898.

NORTHERN LIGHTS

**Sound & Lighting
 Distributors**

Trade representation for
**OPTIKINETICS
 POWERDRIVE
 LE MAITRE
 TEXTLITE
 ZERO 88
 PULSAR
 CLOUD
 SHURE
 SATEL
 MODE
 EDC
 ICE**

89 Scotforth Road, Lancaster.
 Tel: 0524 62634.

MAC manchester

**Professional sound
 hire nationwide**

•
**High quality
 communications
 systems**

•
**Sales and
 service facilities**



Telephone 061-969 8311

1 & 2 Attenburys Park,
 Park Road, Altrincham,
 Cheshire. WA14 5QE.

"That's blown it!"

"Veh! quick phone
PRIMARC
 for replacement
 lamps NOW!"

For all your
 stage &
 studio lamp
 needs

READING
 (0734) 596777

121 Loverock Road
 Reading, Berks. RG3 1DZ

A.C.T. SOUND & LIGHT

Professional Sound
 Hire & Sales
 Tel: Guildford (0483) 275808

We Supply, Install and
 Maintain:

YAMAHA SENNHEISER
 MICH AKG TURBOSOUND
 ANYtronics TANNAY
 SOUNDTRACS

Hire and Sales brochures available
 on request

UNIT 6, MANFIELD PARK IND. ESTATE,
 GUILDFORD ROAD, Telephone:
 CRANLEIGH GU8 8PA Guildford 275808

SOUTH WEST LIGHTING

SALES: PAUL GOODY, 2 STAPLAKE ROAD, STARCROSS, EXETER
 STARCROSS (DIXIE) B90006

QUALITY GUARANTEED

Pinspots £6.35
 Helicopters £65.00
 and many more

Send for details to:
 Paul Goody, South West Lighting,
 2 Staplake Road, Starcross, Exeter
 or telephone 0626-890806

Area Dealers/DJ's required

Audio Electronics Ltd.

Elm Place, Station Road,
 Rustington, West Sussex.
 Telephone: Rustington 0903 786483.
**Manufacturers of High Quality
 P.A. Loudspeakers and Units.**

LIGHTING HIRE SALES SPECIAL FX

STAGE CONTROL LTD.
 STATION PARADE,
 WHITCHURCH LANE,
 EDGWARE, MIDDX. HA8 6RW
 TEL: 01 952 8982
 TELEX: 924896

J.S.G.

104/6/88 Main Street, Bingley, West Yorkshire, BD16 2JH.
 Telephone: Bradford (0274) 568843/564388/561044.

For Professional Planning, Supply,
 Installation & Commissioning
 of your Sound System

Main Agents for:

TURBOSOUND · MARTIN AUDIO · BOSE · TANNAY
 JBL · ELECTROVOICE · TOA · STUDIOMASTER
 PEAVEY · CARLSBRO · HIT · H/H · SOUNDCRAFT

For Information and Advice
 phone PAUL SMITH

CCT
01-640 3366

- MANUFACTURE • SALE
- HIRE • Theatre and T.V. Studio Lighting
- Projectors and Effects
- Sales Conference
- Product Launches/Presentations
- Installations
- Lighting Designers

CCT
theatre lighting
 Head Office
 Windsor House 26, Willow Lane,
 Mitcham, Surrey. CR4 4NA
 Telex: 946648

Western: CCT Theatre Lighting Ltd.
 Unit 9, Ferry Steps Industrial Estate,
 St. Phillips, Bristol BS2 0XW.
 Tel: (0272) 774074

WL
WHITE LIGHT
 57 FILMER ROAD, LONDON SW6
 TEL: 01-731 3291

THEATRE LIGHTING HIRE & SALES

FREE POCKET HIRE CATALOGUE ON REQUEST

NORTHERN BRANCH
 Saw Hill Farm, Dean Lane, Triangle,
 Nr. Halifax, West Yorkshire.
 Tel: Halifax (0422) 822016

T.M.S.

Lighting Design
 Equipment Rental
 Lighting Engineers

London 01-928 0622

UPDATE

★ Sound and lighting equipment hire
 ★ Le Maitre special effects stockist
 ★ Installation service and one night stands available
 ★ Special promotions
 ★ Competitive rates and efficient service

Call us for colour brochure and price lists

STAGE TWO LTD
 197 Watford Road, Croxley Green,
 Herts WD3 3EH
 Watford (0923) 30789

Give Them YOUR Business ... Please Support our Advertisers



CCT
SUPERSTORE
SALE

- LAMPS • SPARES • ACCESSORIES • TOOLS • TAPE
- CABLE • PLUGS • SOCKETS • CREW
- THEATRE BOOKS • RECORDS • COLOUR MEDIA AND MANY OTHER ALLIED PRODUCTS
- LIGHTING CONTROL EQUIPMENT
- RIGGING • EFFECTS
- SMOKE MACHINES
- STANDS • ICE MACHINES

HIRE

Weekdays 9 - 6pm
Opens Sats 10 - 1pm
01-622 6240

Order by telephone, pay by Access or Barclaycard.

28a Grafton Square, Clapham, London. SW4 0DB

ANYtronics
 manufacturers of high quality-

- ★ Strobes
- ★ Lighting Control Equipment
- ★ Amplification

trade & export enquiries most welcome

Anytronics Limited
 6 Hillside Ind. Estate
 London Rd., Horndean
 Hants. PO8 0BL, England
 Tel: (0705) 599410
 Telex: 869185

TRAFALGAR LIGHTING LTD.

01-360 0936
 LIGHTING SALES-HIRE
 SECONDHAND KIT BOUGHT & SOLD
01-360 0936

Strand Lighting

- Stage & TV Lighting
- Lighting Control Equipment
- Effects Projectors
- Colour Filters
- Dealers Throughout the UK

Rank Strand Limited,
 P.O. Box 81, Great West Road,
 Brentford, Middlesex TW8 9HR
01 568 9222

ADVERTISERS INDEX

A.C.T. Sound & Light	42
AMark	16
Anytronics	43
A.S.C.E. Ltd.	Insert
Audio Electronics	42
Avitec Electronics	13
CCT	43
Cerebrum Lighting (Sales & Hire) Ltd.	2
Corcord Lighting	42
Coemar	10
Philip L. Edwards	42
Group Northern Design	3
L.P.P. Electronics	9
J.S.G.	42
Luton Sound and Light	16
MAC Sound Hire	42
Muscraft Ltd.	42
Night Flight & Sound Ltd.	42
Northern Lights	9
Primarc	42
Pulsar Light of Cambridge Ltd.	4
South West Lighting	42
Squire Light and Sound	9
Stage Control	43
Stage Two	43
Strand Lighting	43
T.I.S.	43
Trafalgar Lighting Ltd.	43
Video Entertainments	42
WB Group	42
White Light (Electrics) Ltd.	42
Zereo 88	42

Back Cover

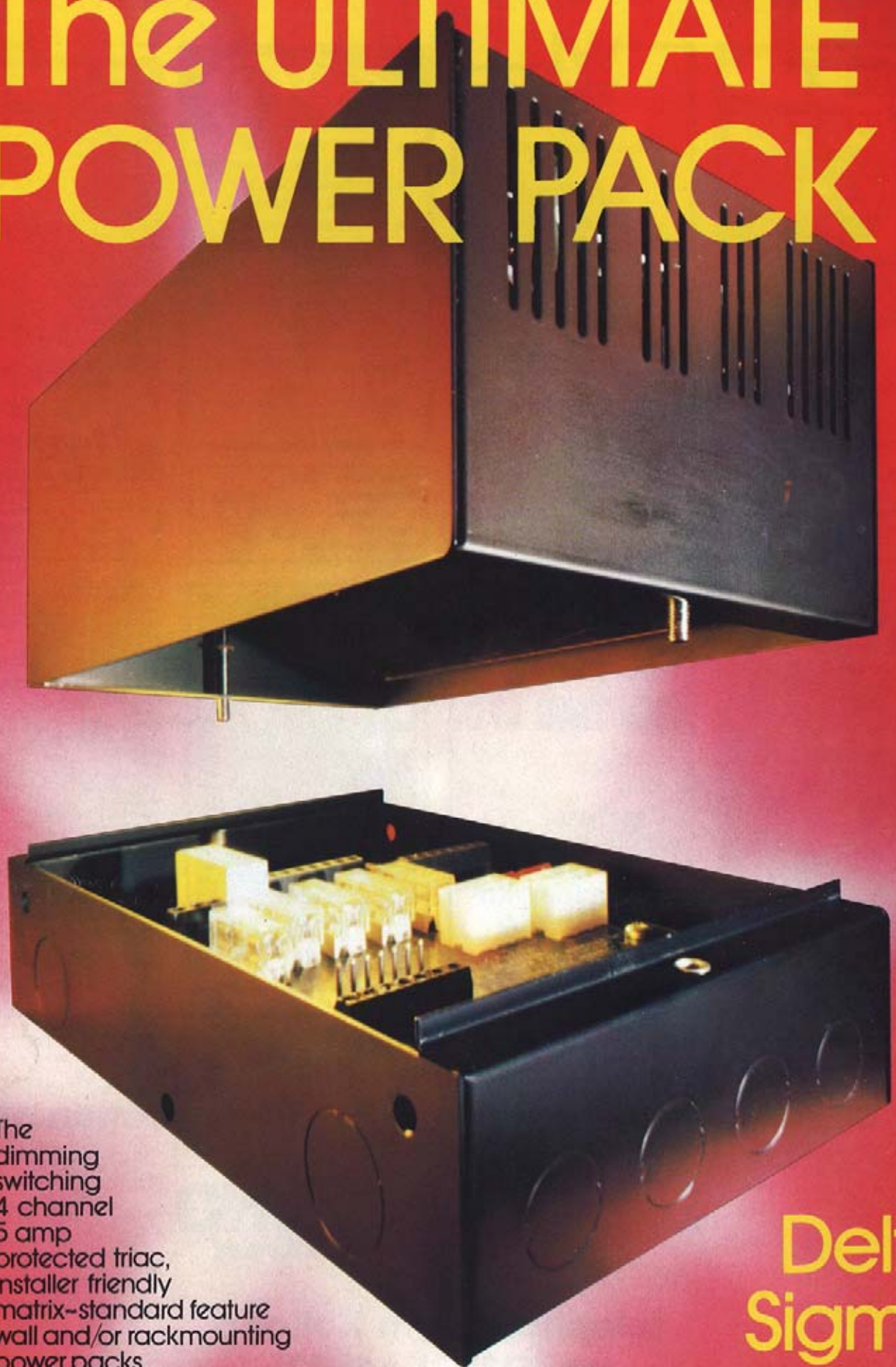
For annual advertising rates in the **DIRECTORY** section of

LIGHTING+ SOUND International

telephone Ann Holland
 on (0323) 645871

or write to Lighting + Sound International,
 12 The Avenue, Eastbourne, East Sussex BN21 3YA.

The ULTIMATE POWER PACK



The dimming switching 4 channel 5 amp protected triac, installer friendly matrix-standard feature wall and/or rackmounting power packs...

'The quality will remain long after the price is forgotten.'
Henry Royce (Rolls-Royce) 1923

Delta
and
Sigma

FROM  ZERO 

Hart Road, St. Albans, Herts, AL1 1NA, England.
Tel: (0727) 33271 Telex: 22521 ZLightG