

LIGHTING+SOUND

International



ANDREW LLOYD WEBBER'S SUNSET BOULEVARD

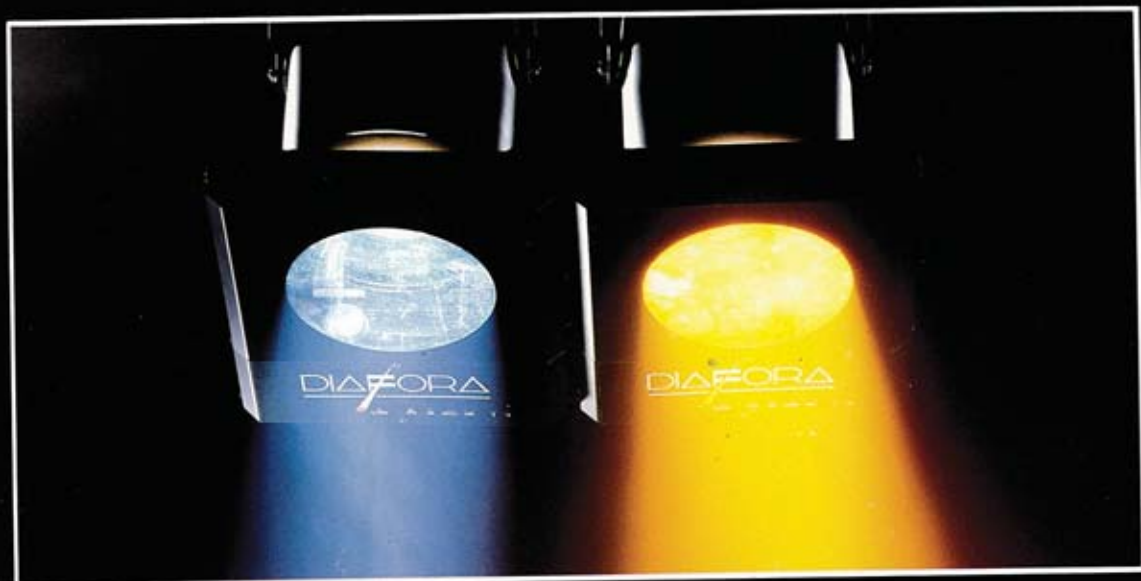
- Sunrise technology in Sunset Boulevard
- Phoenix from the ashes: London's Savoy Theatre re-opens
- Ken Dibble bench tests the new Carver amp
- Grease: a new production trend in the West End
- Pro Audio & Light, Singapore reviewed
- Technology on tour for Little Angels and Lenny Kravitz

AUGUST 1993

E. S. P. (UK) LTD

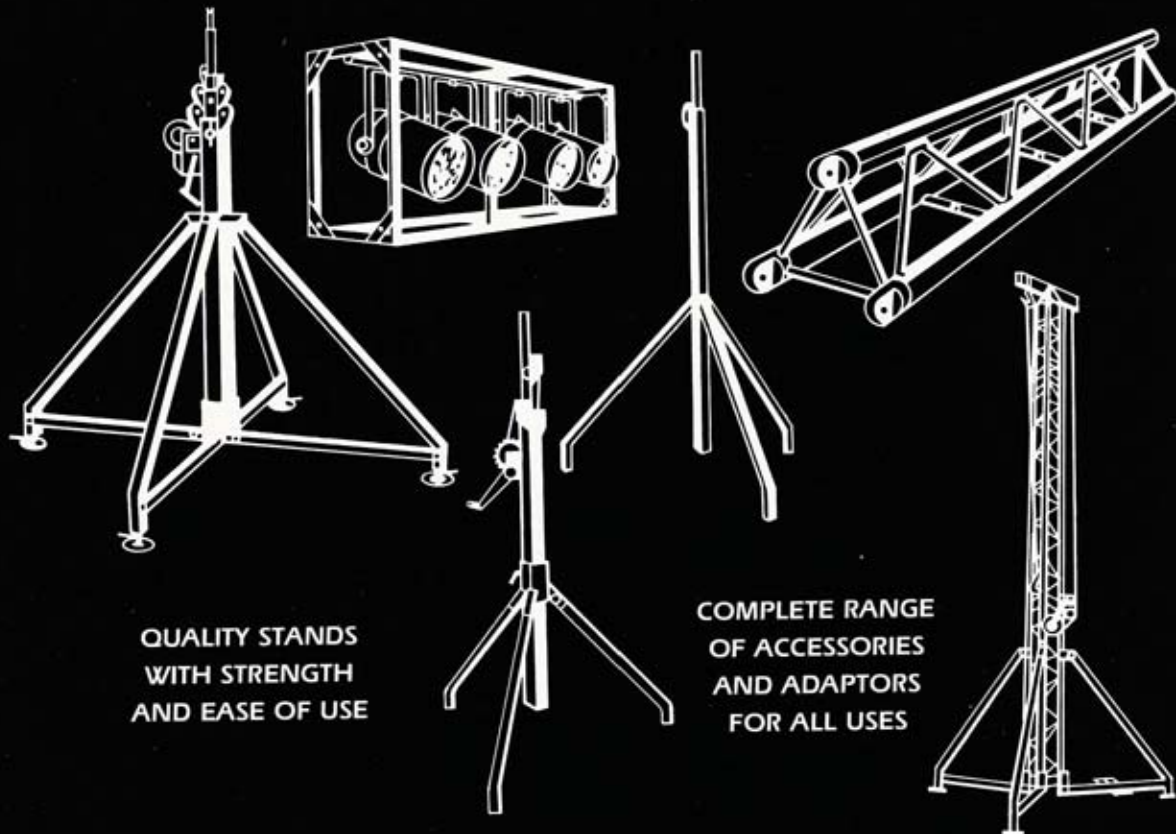
Distributors for . . .

THE MOBIL-TECH RANGE OF STANDS AND ACCESSORIES, THE R.V.E. RANGE OF DIMMERS AND DIAFORA COLOUR CHANGERS . . .



R.V.E. RANGE OF DIAFORA COLOUR CHANGERS

Easy to install · Excellent Quality · Tested under extreme conditions · Quiet
1000-5000Kw ANALOG or DIGITAL 'Diafora' – SIMPLY BETTER



QUALITY STANDS
WITH STRENGTH
AND EASE OF USE

COMPLETE RANGE
OF ACCESSORIES
AND ADAPTORS
FOR ALL USES

UK distributor **E. S. P.** (UK) LTD · UNIT 5 · FURMSTON COURT · LETCHWORTH · HERTS SG6 1EX
TEL: (0462) 482411 FAX: (0462) 673856

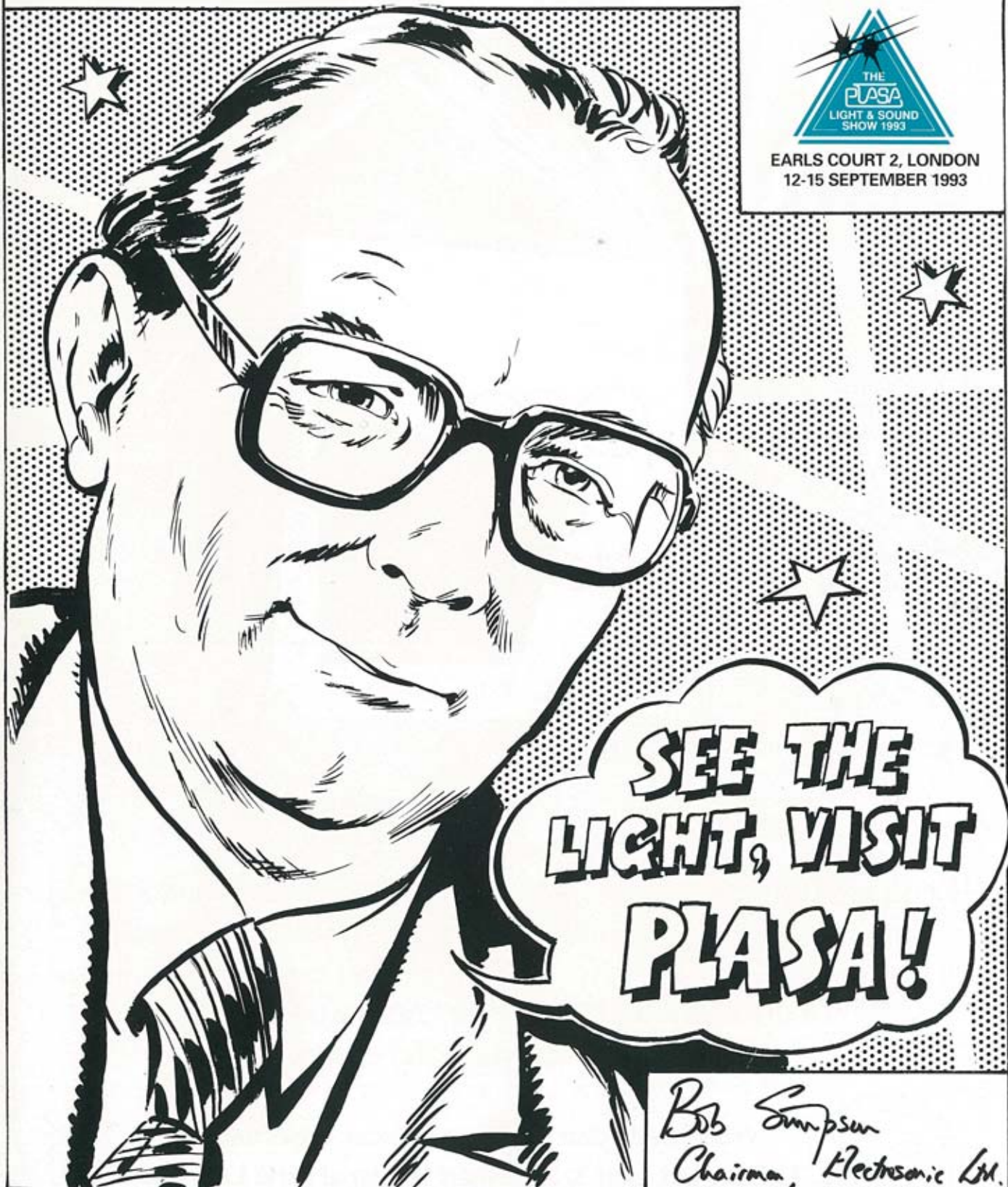
MOBIL-TECH · 27 RUE DU BOIS D'AMOUR · 08000 CHARLEVILLE MEZIERES · FRANCE · TEL: (33) 24.57.56.80
R.V.E. · 23 RUE BEAUSIRE · 93250 VILLEMOMBLE · FRANCE · TEL: 33. (1).48.54.31.63

A VISIT TO **PLASA** IS VITAL TO KEEP UP-TO-DATE WITH ALL THE EXCITING DEVELOPMENTS BEING MADE IN THE FIELDS OF SOUND AND LIGHT.

THE SHOW HAS DEFINITELY BECOME MORE AND MORE IMPORTANT TO OUR BUSINESS. IT IS THE MOST FOCUSED SHOW FOR SOUND AND LIGHTING TECHNOLOGY AND IS A VERY USEFUL BUSINESS FORUM.



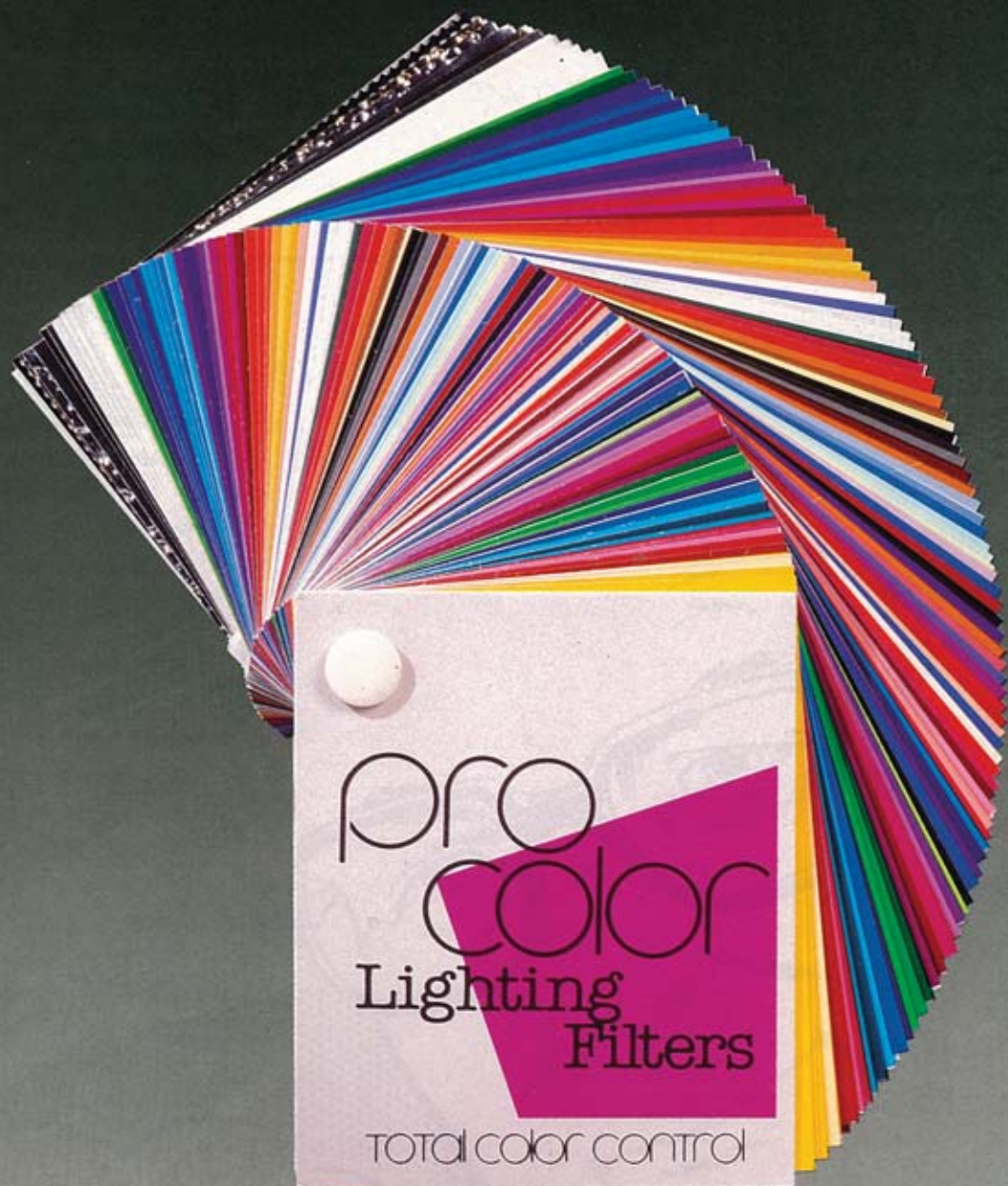
EARLS COURT 2, LONDON
12-15 SEPTEMBER 1993



**SEE THE
LIGHT, VISIT
PLASA!**

Bob Simpson
Chairman, *Electronic Ltd.*

FOR TICKETS OR ENQUIRIES RING THE **PLASA CREDIT CARD**
BOOKING SERVICE ON **071 370 8210**
SAVE £4.00 - PRE-REGISTER NOW! (STANDARD ENTRANCE)
FEE IS £8.00



TOTAL CONTROL

If you are lighting theatre, rock & roll, television or video, the new Pro Color Filter range is for you. With six specialist designer reflectors, 83 effect and eight soft cosmetic colours, 14 diffusion and 21 colour correction filters Pro Color gives you total control.



World-wide distribution and dealer opportunities:

AC Lighting Ltd, Unit 3, Spearmast Industrial Park, Lane End Road,
Sands, High Wycombe, Bucks HP12 4JG

Tel (0494) 446000

Fax (0494) 461024

LIGHTING+SOUND *International*

AUGUST 1993

VOLUME 8, ISSUE 8

**6 News In Lighting+Sound
International**

**24 Technology Stars
in Tinseltown**



Tony Gottelier reviews Sunset Boulevard and talks to Andrew Bridge

28 On Tour

Little Angels and Lenny Kravitz reviewed

31 A Classic Profile

Bob Anderson reflects on natural selection or survival of the fittest?

32 Savoy Theatre Re-opens



Gilbert & Sullivan's original London home goes multi-purpose. John Offord reports

36 Pro Audio & Light Asia



Ruth Rossington reviews a growing Far Eastern exhibition tradition

39 Carving Out a Name

Ken Dibble reviews the PT-2400 amp from Carver

41 On Stage Grease

Robert Halliday on 'new style' lighting and sound at the London Dominion

44 PLASA 93 Seminars

Full programme of seminars for the 1993 PLASA Light and Sound Show at Earls Court 2, London

46 International Directory

**48 Directory of Suppliers
and Services**

54 Viewpoint

The DMX debate continues. Three responses to Philip Nye's July Viewpoint

The views expressed in Lighting and Sound International are not necessarily those of the editor or the Professional Lighting and Sound Association

LIGHTING+SOUND *International*

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

Editor: John Offord
Assistant Editor: Ruth Rossington
Associate Editor: Tony Gottelier
Advertisement Manager: Barry Howse
Production: Sheila Bartholomew

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

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

The magazine is available on annual subscription
UK £45.00 Europe and rest of world £60.00 Airmail £85.00. Single copy price £3.50 plus postage

Editorial Advisors: Tony Akers, Peter Brooks, Wyatt Enever, Mike Gerrish, Matthew Griffiths, Kevin Hopcroft, Tony Kingsley, John Lethbridge, Ian de le Vingne, Iain Price-Smith, Neil Rice, Jackie Staines

Lighting + Sound International is published monthly for \$90.00 per year by The Professional Lighting and Sound Association, 7 Highlight House, St Leonards Road, Eastbourne, East Sussex BN21 3UH. Second class postage paid at Rahway, N.J. Postmaster: Send USA address corrections to Lighting & Sound International, c/o Mercury Airfreight International Inc, 2323 Randolph Avenue, Avenel, New Jersey N.J. 07001

PLASA
PROFESSIONAL LIGHTING
AND SOUND ASSOCIATION

APOGEE

SOUND UK LTD.

5 BROOKLANDS CLOSE

SUNBURY-ON-THAMES

MIDDLESEX

TW16 7DX

TEL: 0932 772241 FAX: 0932 771399

**Artist
SYSTEMS**
APOGEE SOUND

PLASA: The Big One Coming Up

The PLASA Light & Sound Show is now just over a month away, and the hugely successful 1992 format at the new Earls Court 2 venue is set to continue - but with added improvements and attractions. Exhibitors are currently putting final touches to their stand designs, and now that they're fully aware of the possibilities available to them as a result of the impressive height, 'feel' and facilities of the building itself, visitors should be prepared for a highly dramatic show.

And on stand, a huge number of exhibitors have either saved up or planned to make the PLASA Show the launch-pad for their 1993 international product debuts - so much so that much of the industry is now specifically gearing itself to an Earls Court 2 September dateline.

To come as a visitor, a 50% entrance cost saving registration card is enclosed with this issue of Lighting+Sound International. Send your's in today both to ensure you save money and the queues! To attend the seminars, full details of the programme are also included in this issue together with a booking form. And please note that if you attend, you get your entrance through the front doors free - provided you book in time! Space is limited at the seminars and some are bound to be heavily subscribed - so please act now to avoid disappointment.

To exhibit you'll have to be double quick - and lucky - if you still want space in a particular part of the hall. There are some small stands left, but there is also a waiting list for certain areas. Contact Caroline Clark or James Brooks-Ward immediately at Philbeach Events Ltd, PLASA's show organisers for the latest details on what might be left. The telephone number is 071-370 8215. More detail on the show will, as usual, be included in our big September issue.

Juliat Thru UK to US

The Los Angeles version on Sunset Boulevard will be using eight of the new 2500W SNX HMI profiles French manufacturer Robert Juliat are releasing at the coming PLASA Show. Through DMX512 the new profile has full digital control of lamp ignition and dimming.

"The West End production is using the 1200W version for gobo projection but with the larger venue LD Andrew Bridge wanted a lamp with greater punch," Tom Mannings, director of UK distributors Decoupe, told L+SI. "It will be a 'first' for Robert Juliat products in America."

AC in America . . .

AC Lighting recently opened its doors for the first time in Agoura Hills, Los Angeles. The operation, which is headed locally by vice-president Bob Gordon (formerly of GAM and Wybron), is modelled on the AC European office in High Wycombe in the UK where "service, value and availability" are the company's strong selling points.

President David Leggett told L+SI: "Our plan is to take it slowly at first and make sure that what we do, we do well. We believe in supplying from stock and backing up products correctly, so although we still have the full range of equipment and consumables available, we will initially concentrate our main efforts towards the promotion of a few main product lines. "The success of our European operation has given us credibility with the major manufacturers, and we intend to live up to their expectations."

For the time being AC Lighting Inc's main product lines will be Rainbow colour changers (see story right), Jands lighting consoles, Procolor lighting filters, Le Maitre smoke machines and Socapex connectors. AC Lighting Inc's contact numbers are (818) 707 0884 (tel) and (818) 707 0512 (fax).

J-M J at Mt St M



L+SI went to great lengths to bring you the above exclusive photograph of the Jean-Michel Jarre concert which took place at Mont St. Michel in Normandy on July 28th. Intrepid associate editor Tony Gottelier battled with massed ranks of obstructive French Gendarmes, the world's paparazzi, inadequate instructions and stropky security men to get the shot. His full report with more pictures of the performance, which he describes as both magical and humorous in its imagery, will appear in our September issue, to coincide also with Jarre's Wembley appearance.

. . . and Rainbow too



As noted left, M&M Camelont Ltd, the manufacturer of Rainbow colour changers, have appointed AC Lighting Inc as its US and South American distributor, and as from August 1st, the company will handle all sales and marketing for Rainbow colour changers for both the US and South American markets.

Chris Parry, former manager of Rainbow US (M&M Camelont's US office), has decided to concentrate on his award-winning career as a lighting designer and in this capacity will continue to act as consultant to M&M Camelont and AC Lighting Inc.

Pictured above is Mike Goldberg of M&M Lighting (left) with Bob Gordon of AC Inc.

Mainstage Buys Blakes

After fighting off stiff competition (so they report), Mainstage of Manchester have just bought Blakes Fireworks out of liquidation.

Mainstage director Mike Sweetland told L+SI: "Blakes is an excellent system of pyrotechnics, and it impressed a lot of people when it was first offered - particularly its quality and price. We are delighted to have acquired it." According to the release received from Mainstage, patent problems may mean Blakes Fireworks will be manufactured outside the UK and they are looking for a non-UK partner to further this strategy.

Broadway Design

Broadway Lighting Master Classes Inc are presenting their four-day 'Broadway Lighting Design Seminar' in New York City from October 14-17 this year. It will feature Tony award winner Jules Fisher and a distinguished faculty of lighting designers and production professionals. For details telephone/fax (212) 645 4977.

Automated people who want intelligent lighting get moving mirrors.

Intelligent people who understand automated lighting choose Syncrolite.

SYNCROLITE

The automated luminaire you can own.



Tel: 0932 772240 Fax: 0932 771399

Owners Wanted!

L+SI wants the owners of the following registration plates to declare their interest.

The DVLA in Swansea informs us that LIGHT was sold at auction in Nottingham for a mere £16,000. LITES went for the standard £740 fee.

So who's got them?

Kevin Hopcroft of NJD in Nottingham confirmed that he hadn't tripped out of the office to attend the auction, and all other likely industry luminaries we called such as PLASA chairman Tony Kingsley, Zero 88's Freddy Lloyd, Pulsar's Derrick Saunders and the whole of Strand Lighting have reported in no uncertain terms that they have no connection with the numbers mentioned. The nearest we got was leading lighting designer Andrew Bridge whose wife missed buying him LIGHT as a birthday present by two minutes. However, Andy thought it was far too expensive anyway.

L1 GHT

L1 TES

Action Lighting North Open Day

On 30th July Action Lighting North, the Manchester-based sales operation of the Lighting Technology Group, held an Open Day. Some 130 of their customers in the area attended what was an extremely successful event.

Representatives from some of Action Lighting's suppliers attended, most with a small exhibition stand or display, including CCT, Coe-Tech, Compulite GB, Doughty Engineering, Lee Filters, Le Maitre, Light Structures, Litton Connectors, Ohm Industries, Osram, Rosco and Zero 88 - and PLASA.

During the day a number of events were held including pyrotechnic displays by Le Maitre and performances of a play specially written by Action Replay, the resident drama group at the National Museum of Film, Photography and Television at Bradford, about the career of a lighting designer.

Lighting Technology Group had set-up a lighting and sound display which was available for demonstration throughout the day with pre-programmed light shows at regular intervals. Equipment on show included six High End Trackspots, two High End Intellabeams, four Coemar Mini-Ultra Scans, two Coemar Microscans, two Coemar Baby-Colors, two Vari-Lite VL5 and six Parcans with Compulite Whisper Colour scrollers, all controlled from a Compulite Animator 48 control desk. An impressive (albeit very loud) sound system was put together consisting of a pair of Ohm BR-30 full-range speaker cabinets driven by a Bell 9028 1kW per channel amplifier and fed with noisy stuff from a Sony DAT machine.

White Light (Halifax), Lightfactor, Coe-Tech, Ohm Industries and Vari-Lite Europe loaned equipment for the day and Keylight assisted with the get-in and out. To round off the day a prize draw was held with the first prize of a Sony Teletext TV going to Chris Batstone of Action Replay, and a bottle of Champagne to David Gilks of the Dorchester Club, Wolverhampton. Pictured below by PLASA's Anna Pillow are the assembled troops ready to do battle.



DESIGNED FOR THE NEW GENERATION



Technical System
Design, Product Advice,
Equipment Supply &
Installation
Over 80 Projects
Worldwide

Positions Available for TECHNICAL FIELD SERVICE & INSTALLATION ENGINEERS

Candidates must have a sound knowledge of pro-audio, effects and stage lighting:
must be self-motivated and have the authority to supervise a team of engineers:
must also be willing to travel.

Apply in writing to:
**LEISURE RESOURCES
INTERNATIONAL**
Studio 12, Shepperton Film Centre,
Studios Road, Shepperton, Middlesex,
TW17 0QD England.
Tel: (0932) 570117

SEE FACTOR

INDUSTRY INC.

37-11 30th Street
Long Island City, NY 11101
Tel: 718-784-4200 + Fax: 718-784-0617

**Providing production services
for over 20 years...**

Introducing

Light Coordinator.

Our solution for the 90's

In 1989 there became
a need to operate many
types of moving fixtures,
fixed lighting
and scrollers
simultaneously
with
one
desk.

Its now 1993
and we
couldn't
wait any longer . . .



**Now available in both
U.S. and U.K. inventories**

U.K. Rental Agent

**NEG EARTH
LIGHTS**

Unit E, Penny Road
London NW10 7RW
England
Tel: 081-963 0327
Fax: 081-963 0039

Only Golden Scan is better than Gold

Voted Best Lighting Effect worldwide four years running: only Golden Scan can say this. And now, from the same team, comes the result of this unparalleled technical success. A projector whose innovative features will set the new standards for scanner



GOLDEN SCAN "3" HMI 1200

CP&P
Clay Paky & Pulsar

FRANCE
CLAY PAKY & PULSAR srl
10 Avenue Du Fresnois • 14760 Bretteville Sur Odon
Tel. 33 - 31 741001 • Fax 33 - 31 734729

GERMANY
CLAY PAKY & PULSAR VERTRIEBS GmbH
An Der Talle 26, • D-33102 Paderborn
Tel. 49 - 5251.409051 Fax: 49 - 5251.409931

NETHERLAND
JAC VAN HAM LICHT, GELUID & BEELD bv
Kraaijenstraat 13 • 5048 Tilburg
Tel. 31 - 13.638585 • Fax 31 - 13.638435

SPAIN
SHOW TRADING sl. • Centro Comercial Ind. Pertasa, 3
Juan Ramon Jimenez, s/n - Nave 270 • 09007 Burgos
Tel. 34 - 947.213494 • Fax 34 - 947.235878

PULSAR

**PULSAR LIGHT
OF CAMBRIDGE** Ltd
Henley Road
Cambridge CB1 3EA - U.K.
Tel. 44 - (0) 223.66798
Fax 44 - (0) 223.460708

den Scan

Golden Scan "3",
technology.

Golden Scan "3"

30% more light output from the same lamp • Rotating gobos, interchangeable, fully programmable with accurately repeatable positioning • Frost filter, to produce a hard-edged focus or a soft-wash • Fully dimming, 0 to 100% • No less than 24 colours, 24 bicolour beams and rainbow effect • Prism for multiplying projected images • Shutter and strobe with twice the speed of previous models • Increased resolution in mirror stepping • In addition: interchangeable optics and iris • A special version is available which has been developed for professional touring applications (better portability, power factor correction, graduated yoke, etc.).

What about the control system?

Golden Scan "3" uses 6 control channels and is designed to operate with all industry standard protocols: DMX 512, 0-10V analog and PMX (Pulsar's RS 232/423 protocol), so you can be confident that your lighting desk will operate Golden Scan "3".

But the ideal controller is **MASTERPIECE** from Pulsar, who produce the electronics for Golden Scan "3" and whose experience of controlling scans means that Masterpiece offers every feature you might need. Effortless control of Golden Scans, Par Cans, Strobes, Smoke Machines, Pinspots, theatre projectors, moving structures, window spots, neon lighting, video walls - you name it - Masterpiece should control it.

What's more each effect can be controlled individually or simultaneou-

sly in its own timed and programmed sequence. What more could you ask?



Masterpiece

CLAY PAKY s.r.l. - Via G. Pascoli, 1
24066 PEDRENGO (BG) Italy
Tel. 035/66 39 65 • Fax 035/66 59 76



PROFESSIONAL SHOW LIGHTING

Commercial Audio Specification List



DP2/1T

- Sound Projector (White or Grey)
- 4 Watts – 100 Volt Line
- Sensitivity 94 dB 1W/1M



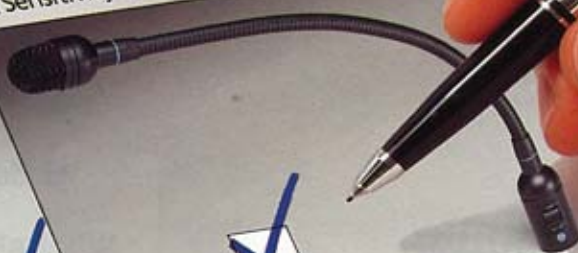
DS313/1WT

- White or Grey (4W – 100 Volt Line)
- Quick Fit Construction
- Sensitivity 92 dB 1W/1M



HD2220/T

- Impact Resistant Plastic
- 20 Watts – 100 Volt Line
- Sensitivity 112 dB 1W/1M



MD-4000F

- 360mm Gooseneck
- Internal Anti-Pop Filter
- 3 Position Switch – Momentarily/Off/On



7000N SERIES

- 30-60-120 Watts
- Universal Inputs
- Optional plug-in priority/chime boards

IN DARK GREY
OR WHITE



MONITOR 4T

- Two-Way Speaker
- 30 Watts Multi-Tappable 100 Volt Line
- 70Hz–20,000Hz Frequency Response



**The European Leader
in Sound Technology**

RCF Electronics (UK) Limited
2 Blenheim Court, Hurricane Way
Wickford Business Park
Wickford, Essex SS11 8YT
Tel: 0268 570808
Fax: 0268 570809

Specify the complete range of Commercial Audio from RCF

Known worldwide for our pro-audio products,
RCF is now expanding the commercial sound systems division
into the European Market.

- Public Address Products
- Voice Alert/Evacuation Systems
- Conference and Simultaneous Interpretation Equipment
- Hotel Systems

Contact RCF today for full product information and specifications

PEOPLE NEWS

There are two new faces in Arri's lighting control division in Heston. Plugging the gap left as Tim Burnham moves away from the lighting control business into marketing is **Adam Bennette**, who joins as product manager - lighting control products. Adam is a highly experienced designer of professional lighting consoles and dimming equipment, having spent some time at Avolites prior to developing the DMX Lab test device under his own trading name of AB Micro. His immediate involvement with Arri is with a new console to be launched at the coming PLASA Light & Sound Show.

Another new face on the Arri sales team is **Mark Thompson**. With a technical sales background in computing products, as well as industry experience with AC Lighting and a number of continental equipment suppliers, Mark has already been seen around the UK and Europe drumming up business for Arri lighting control.



Adam Bennette.



Mark Thompson.

Andy Meldrum has joined LSC's R and D team after eight years with Vari-Lite. He had been occupied over four years at Vari-Lite's HQ in Dallas, Texas where he was employed as a programmer in their R and D department. Prior to that he was involved in the establishment of Vari-Lite offices in Europe, Los Angeles and Australia.

Trevor Sykes has been promoted to join LSC's R and D department to undertake product design. He has been with the company for five years.

Tomcat USA, Inc has announced that **Frances Thompson** has joined their sales team and will open their new sales office in Tennessee. Frances already has an extensive background in technical sales of trussing and associated equipment.

Denis Bramhall, previously associated with the Verlinde range of products, has joined Pfaff Silverblue Mechanical Handling Ltd, the UK distributors for CM Columbus McKinnon Lodestar motors/hoists. His brief is to provide both

technical and sales support for users and hirers of inverted hoists on lighting grids, speaker racks and other entertainment sets.

The United States Institute for Theatre Technology (USITT) has welcomed to new employees to its national office staff team: **Valerie J. diLorenzo** as manager, marketing and public relations, and **Richard N. Dolson** as sales and exhibition manager.

Hoffend & Sons, Inc of Honeoye, New York have announced various management changes as part of a major reorganisation and reestablishment of its American management team. Those of interest to readers of L+SI will be the following: **Bruce W. Downer** is executive vice president, **Tom Young** is vice president sales and projects, **Robert L. Watson** is director of installation and after sales services and **William Liento** is vice president sales and marketing.

Meyer at Montreux

Meyer Sound has been a regular sponsor of the Montreux Jazz Festival over recent years, regarding the event as a showcase for introducing new equipment to the European market. This year's 27th annual Festival was no exception, witnessing the unveiling of Meyer's new MSL-5 cabinet in the all-new Congress Centre.

The main venue this year was the Stravinski Auditorium - a brand new hall primarily designed for classical music, with highly reverberant acoustics which presented major problems. The hall had to be extensively treated to reduce what was originally a six second delay, following the advice of consultant Jim Cousins, who used a SIM II acoustic analyser system to evaluate the venue and suggest the most appropriate treatment.

In total, 28 Meyer units were used in the Auditorium, with further units in the New Q's and off-Festival sites. The project comprised the MSL-5, plus DS-2s, 650-R2s, MSL-2As, UM-1 UltraMonitors and USM-1 High Power Stage Monitors, with their relevant control units. The Meyer SIM System II acoustic analyser was used to set up each of the systems, and a dedicated SIM System II was permanently in place to monitor the Main Hall acoustic characteristics for the duration of the Festival. The sound installation was handled by the German company, Jurgen Dudda Audio Service, with Audiolease responsible for handling the FOH, mixer and effects side of the project.

PLASA SEMINAR DETAILS PAGES 44-45

TSD Opening

The official opening of TSD Ltd, 'Sound Dept' took place on 22nd July, 1993 at the new company's sales, marketing and design offices in the centre of Oxford. An invited group of prospective clients including consultants, contractors, PA companies and audio dealers were met by the four directors, Rick Clarke, Steve Smith, David Whitehead and Paul Richardson. The latter two also representing Stage Electrics, the company which provides the warehousing, service and administration facilities to support this new enterprise.

Christine Howze from Community Professional Sound Systems, and Graeme Harrison from Biamp Systems, were also in attendance, providing manufacturers support. Sound Dept. is the UK distributor for Community Sound Systems, Biamp Systems, Ashly Audio, Galaxy Audio and Quam, and can be contacted at 33 Beaumont Street, Oxford OX1 2NP, tel (0865) 516800.

SLD Dartford Launch



Set Lighting & Design officially launched their new showroom in Dartford with an evening for invited customers and press. The new premises will push the investment in the fledgling business beyond the £1/4m mark by the end of the year. The company, set up by partners Guy Heselden and Jeffrey Sprigmore, is a main dealer for Abstract and Martin, but carries products from just about every major manufacturer in the industry. A comprehensive array of lighting and sound equipment is packed into the shopfront showroom, whilst in the rear, the showroom is one of the best equipped nightclubs in the UK for its size, complete with mini moving light rig installed by Danny Cross to whom Guy and Jeffrey owe a debt of thanks. Guests at the launch were treated to a professional lightshow of over 30 effects, followed by a spectacular firework display, which brought traffic to a halt, on the forecourt of the showroom.

ALISCAFF

Primary manufacturers/suppliers worldwide of aluminium couplers (scaff clamps), aluminium snap hooks and many other aluminium fittings to fit either 2" (50.8mm) or 1.29/32" (48.4mm) tubes
Ask for collage of full range - Custom design work undertaken



ALISCAFF LTD
Unit 2 Hotspur Ind Estate
West Road, Tottenham
London N17 0RJ
Tel: 081-808-5005
Fax: 081-801-9851

GUARANTEED
PERFECT.

POWER

With

SIMPLICITY

SEE US
ON STAND A80
AT PLASA

ESP III



ESP II has power, with a 68000 microprocessor and many of the functions of our acclaimed Event Lighting Console. ESP II also has something it's famous predecessor ESP offered. Simplicity.

Get your hands on ESP II and it all falls into place. The LCD Window prompts you while the Graphic Keypad spells out the functions available to you. Jands unique software allows you to work the way you want to, intuitively.

JANDS

Jands Electronics Pty Ltd, 578 Princes Hwy, St. Peters 2044 N.S.W. Australia.
Phone 61-2-516-3622, Fax 61-2-517-1045. (Australian Company Number 001187837)

WIDE MODE

- 48 Control Channels (ESP II-24)
- 96 Control Channels (ESP II-48)

SOFTPATCH

- Proportional to 512 Dimmers, 3 tables

MASTERING

- 10 Pages via 12 Scene Masters -ESP II-24
24 Scene Masters- ESP II-48
- 10 50 step chasers
- 100 random accessible effects memories
- 10 100 entry cue stacks, programmable dipless crossfade times
- Up to 498 memories

FEATURES

- One button recording and editing
- Random access to cues
- MIDI control
- Multiple chases via Scene Masters
- Set-up options

OPTIONS

- Analogue output (soft patched)
- M CARD storage

JANDS**DEALERS****Austria****M Tec**

Contact: Erwin Mittermann
Tel: 07242 60860 Fax: 07242 60740

Belgium**Stagelight NV**

Contact: Jan Franckx
Tel: 053 831726 Fax: 053 834054

Denmark**Highlight**

Contact: Jakob Hansen
Tel: 31 831288 Fax: 35 820020

Finland**RMC Showservice**

Contact: Rabbe Hjelt
Tel: 905 063010 Fax: 905 51220

TFP Markkinointi Oy

Contact: Fikret Saadedin
Tel: 931 143933 Fax: 931 133077

France**SPL**

Contact: Alain Jacquinet
Tel: 84 228961 Fax: 84 223521

ESL

Contact: Alain Cornevaux
Tel: 67 692717 Fax: 67 690089

Germany**Multilite Lichttechnik GmbH**

Contact: Andreas Fahrmaier
Tel: 040 6706154 Fax: 040 6706159

Greece**Alpha Sound**

Contact: Costas Constantinopolos
Tel: 01 363 8317 Fax: 01 360 6459

Holland**Jansen Jansen**

Contact: Rob Berg
Tel: 020 6821 821 Fax: 020 6828 326

Israel**Mazuz Bros**

Contact: Mazuz Zion
Tel: 3 476889 Fax: 3 476889

Italy**Spotlight Srl**

Contact: Augusto Andraghetti
Tel: 02 714078 Fax: 02 744721

Norway**PA System AS**

Contact: Svein
Tel: 2 2679313 Fax: 2 2682101

Portugal**Frei Audio**

Contact: Fernando Frei
Tel: 01 9416870 Fax: 01 9419976

Slovenia**SST**

Contact: Jernej Podbevsek
Tel: 61 301434 Fax: 61 301404

South Africa**Lighting Unlimited**

Contact: Ofer Lapid
Tel: 011 4042620 Fax: 011 4041458

Spain**Spotlight SA**

Contact: Hector Vidal
Tel: 93 4908117 Fax: 93 4903934

Sweden**Teaterteknik AB**

Contact: Peter Hallin
Tel: 086 409290 Fax: 086 409394

Switzerland**TDS**

Contact: Jean Jacques Schenk
Tel: 0212 36300 Fax: 0212 33982

United Kingdom**AC Lighting Ltd**

Contact: Glyn O'Donoghue
Tel: 0494 446000 Fax: 0494 461024

White Light to Extend Seminars

After a successful pilot series of educational stage lighting seminars, White Light realised that there were two distinct levels of expertise and that its general seminar was too wide ranging to keep both levels fully occupied at all times. They have now decided to extend the scope of the lectures by dividing them into two levels.

The first series of seminars, entitled 'An Introduction to Basic Stage Lighting', will include demonstrations of different types of lanterns, hands-on activity sessions to familiarise delegates with each item and in-depth discussions on basic design needs. "This is primarily for teachers and/or amateur drama designers who have had very little or no experience," explained White Light's general manager Bryan Raven. "School children who are interested in stage lighting as part of their theatre studies are also a target. The course explains the uses of each lantern, as well as giving an insight into basic design and use of colour and will be run separately at local venues."

'Stage Lighting - A Wider Focus' is ideal for anyone with limited experience who wishes to widen their knowledge. These seminars will be held at White Light's Fulham premises and will cover design in greater detail, as well as gobos, projection, pyrotechnics and other more specialised areas of stage lighting.

There are also a number of more customised seminars available to suit specific groups of people and further details on all available subjects is available by contacting John Timmins at White Light on 071-743 7716.

Turbosound Link

Turbosound, together with sister companies BSS Audio and Precision Devices, held its International Agent Convention in late June at the Science Museum in London. Martin Reid, Turbosound's sales and marketing manager told L+S: "The Convention is an excellent medium for communication, from which both Turbosound and our agents gain maximum benefit. We introduce new products, review strategy and give technical demonstrations in a relaxed and comfortable environment. The feed-back we receive is invaluable." Agents were treated to dinner in the stunning flight gallery at the Museum, with historic machines such as the Wright Brothers plane as a backdrop.

JBL For Two Midland Venues

Stagecraft Systems, together with sister installation company Diamond Sound, have recently supplied and installed JBL Soundpower sound systems in two Midland venues.

The first purchased by Wolverhampton University Student's Union for use in their on-campus lounge-bar/nightclub comprises two JBL 4756A 3-way mid/high cabinets, two JBL 4745A bass cabinets and two JBL control 5s for infill. The system is powered by C-Audio SR and RA power amplifiers with processing equipment by Rane and BSS. Two Technics CD players, two SL1210s and a Citronic SM550 mixer complete the sound system specification which is controlled by an EMO mains switching unit. A small lighting system was also installed including various Abstract effects lamps and a Tas Syncro centre effect. Lighting is controlled by the customers existing Pulsar switching packs and touchpanels.

The second system was supplied to the GEC Alstom social club at Stafford. The system, to be used primarily for cabaret acts and a variety of high level vocal reinforcement applications, consists of two JBL 4750A, 2-way full range cabinets and four JBL Control 5s with the main system. Four diversity radio mics and a Sony CD player complete the installation which will be used in conjunction with the club's existing Studiomaster mixing console.

Earlier in the year Stagecraft and Diamond Sound were also called in to re-vamp the club's existing stage lighting. New equipment installed to this effect included Pulsar Rockdesk and dimmer packs along with a selection of Vision theatre lighting to complement the existing Rank Strand units.

Audix Broadcast

Following the announcement at the recent APRS exhibition in London that Audix Broadcast has re-emerged as an independent operation headed by former manager Ian Jennings, the company is celebrating a number of new contracts. Since it began trading as an independent, it has secured business with Meridian TV, Capital Radio and British Telecom. Audix also stated that it now intends to build on these and other successes with the BBC, ILR and international studio contracts. Full service and support will continue to be offered to all existing broadcast customers.

GUARANTEED
OVERNIGHT.

- 1024 control & DMX 512 output channels
- Unique rapid method of programming moving lights
- Programmable from mouse or trackball
- Remote control from touch panels/keyboards
- Optional MIDI/SMPTE interface with timecode generator
- Unlimited number of soft patches
- Over 8,000 scenes or sequences available per soft patch
- Over 8,000 timed steps/fades per scene
- Each scene can have unique name and/or number
- Hundreds of preset focusses can be stored as sub-scenes
- 'INDEX' & 'SEARCH' to instantly access scenes & fixtures

WELCOME TO THE FUTURE

ShowCAD[®]



AMAZINGLY VERSATILE LIGHTING & EFFECTS CONTROL

Stand alone system for 386 compatible P.C.s -
or a powerful 1024 channel extension for your existing control surface

- Simultaneous multiple speed sequencing
- Off-site editing using notebook/laptop computer
- Optional playback control from DMX or 0-10 volt consoles *

* available late 1993

AVAILABLE AS ADD-IN
CARD AND SOFTWARE
FOR EXISTING P.C. OR
AS A COMPLETE
CONFIGURED SYSTEM

WORLDWIDE DISTRIBUTION ENQUIRIES



Cerebrum Lighting Ltd
Units 4 & 5, Shannon
Commercial Centre,

Beverley Way, New Malden,
Surrey KT3 4PT, England
Telephone: +44-81-949-3171
or Fax on: +44-81-949-3649



SEE US
AT
PLASA
C83



GRIVEN[®]

HELIOS • MANTA • SMILE

Can be seen along with some new exciting
effects from Griven and COEF at the
PLASA Show, September 12-15th



SMITHFIELD ELECTRONICS



L I G H T &
S O U N D
S Y S T E M S

EST 15 YEARS



TELEPHONE: (0244) 349062

FACSIMILE: (0244) 347331

'MUST BE SEEN TO BE BELIEVED'

Mega 'Watts' Opportunity

For the second year, the crème-de-la-crème of the British music and record industry will gather in Manchester from September 11-15 for their 'In The City' convention. After day-time conferences and debates, the 800 delegates will spend their evenings at specially staged showcases.

Sound and lighting companies are being given the chance to demonstrate their latest products at one such special event.

British singer/songwriter Phil Watts is appearing with his four-piece band, three piece brass section and female backing vocals at First Leisure's Disco Royale, adjoining the main conference hotel, the Holiday Inn.

Phil, who engineers and produces at his own commercial 16-track studio in Fordham, Cambridgeshire, asks anyone interested in taking up this opportunity to reach the decision-makers, to contact his manager, Rod Harrod, on (0638) 721530.

Harman Relocate

Harman Audio have moved from Slough to Borehamwood, Hertfordshire. The new address is: Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Hertfordshire WD6 5PZ. Tel: 081-207 5050 Fax: 081-207 4572.

HirePoint Success in UK

HirePoint Software of Australia have launched their long-established programme onto the UK market through their distributor Lighthouse Technical Services of London, with initial sales announced to Stage Lighting Services, Warehouse Sound, Theatre of Comedy Lighting Hire, MBI Sound & Lighting, Montage and Mac Sound. The system is used by many Australian hire and production companies to track their inventory, take reservations and plot utilisation.

HirePoint was established in 1986 when a major Sydney-based hire company commissioned software to track their 7,800 item inventory through the system, from small daily hires to complete packaged touring productions. HirePoint runs on any PC, needing a 386 minimum with a hard disc. It is also on sale in the USA through Audra International. UK contact at Lighthouse is Mike Falconer on 081-802 2088.

Giant Videowall For Futuroscope

Electrosonic have been awarded a contract to install 'the world's biggest videowall' at Futuroscope, the European Park of Moving Image near Poitiers.

At Expo '92 in Seville, the Telecommunications Pavilion featured a show called 'The Global Village'. This used a giant videowall with 850 video monitors, designed and built by Electrosonic. This display has now found a new home at Futuroscope, the theme park dedicated to showing all that is best in big image presentation. The videowall will be installed to exactly the same format as used in Seville, a centre array of 16 monitors wide and 25 monitors high, flanked by two 'wings' angled slightly inwards each 9 monitors wide, making an array of 34 wide by 25 high in all.

Georgia to Teesside

Production Services Europe Ltd have established themselves in Middlesbrough to produce specialist sound systems for both the US and European markets. They have moved in from Georgia in the USA where the company was originally founded. Partners are Rocky Norton and Eric Handler, both former rock musicians. The company specialises in sound reinforcement and will design, manufacture and project manage the installation of sound systems in public places such as sports stadia, churches and night clubs.

Lock Up Granny!

A new BBC gameshow 'Happy Families', has begun shooting. The vast £1million set, constructed at the Docklands Arena, will be lit entirely by Entec Sound & Light, and the audiences will be kept in touch with the proceedings by 16 arrays of Entec's JBL Concert Series loudspeaker systems.

The sets which will represent a medieval castle 40' high and 158' long, together with a 40' high 130' wide 'velcro' mountain, take over three articulated trucks full of Entec lighting and trussing to illuminate. Lighting director is Mike Sutcliffe who has worked with Entec previously on the successful Crystal Maze series, whilst Derek Watson will co-ordinate the lighting.

In addition to the Parcans, Space Lights and HMI's used for the set, Entec will also supply the cosmetic and working lights for the show.

Pfaff Silverblue Move

To provide an even better service and increase stocks, Pfaff Silverblue Mechanical Handling Ltd have moved to Prenton Way, North Cheshire Trading Estate, Prenton, Wirral L43 3DU. The new premises are located adjacent to Junction 3 of the M53 motorway. New telephone numbers are 051-609 0099 (sales), 051-609 1900 (administration) and 051-609 0852 (fax).

Melville's new Image

A new corporate image for presentation and staging company Melville Presentation Services, was recently introduced.

The new image will see the London-based company change its name to Presentation Services Limited. In the year since its merger with Gearhouse, the company has increased its turnover and is now 25% up on its projected sales. It has also made an investment in excess of £1million in new equipment.

In addition the company has established a division dedicated to servicing the music industry and concert tours. To cope with this expansion, the company is currently negotiating for an additional 3,500 sq.ft. of warehouse space adjacent to its existing premises.

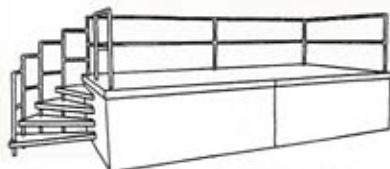
Cats on the Road

The hit London musical 'Cats' is about to tour the UK for the first time after runs at Liverpool and Bristol - using equipment from Theatre Projects Lighting. Howard Eaton, producer Cameron Macintosh and production manager Nick Harris have re-created David Hersey's original design in a touring format.

"The show may be the same, but the technical specification is very different," Theatre Projects' Alan Thomson told L+S. "It has meant a major new equipment investment." The list is headed by 140 of Strand's new 1k Leko units and TP's rental manager Peter Marshall gave full credit to Phill Capstick of AC Lighting for "achieving the impossible by importing the gear on time from Strand in Los Angeles and making it available in the UK for the first time".

Other specifically purchased items include Strand Mini Light Palette 90 (controlling five Avo racks) from Howard Eaton Lighting, 16 of Strand's new Alto 2.5k profiles, an array of Cantata Optiques and Cadenzas, and 30 Rainbow colour scrollers from Camelot.

ALISTAGE PORTABLE MODULAR STAGE SYSTEM



Available for both hire and sale, the system offers a flexible, robust but lightweight solution for all your staging requirements. Standard deck units are 2.44M x 1.22M (8' x 4'), with legs available to give platform heights in increments of 200mm (8"). Each unit is rated at a S.W.L. of 1000Kg with a safety factor of 3:1. Units can, if necessary, be custom-made to your requirements. Accessories include fascia, guardrails, ramps and both straight and spiral staircases. Canopies are available if required.

ALISCAFF LTD
Unit 2 Hotspur Ind Estate
West Road, Tottenham
London N17 0RJ
Tel: 081-808-5005 Fax: 081-801-9851

Color Express™
GELSTRINGS from WYBRON

GUARANTEED



—THE— PUREST LIGHT SOURCE

*Professional
lighting
for the
entertainment
industry.*

Hire & Sale.



WHITE LIGHT

57 FILMER ROAD LONDON SW6 7JF
TEL: 071-731 3291 FAX: 071-371 0806

NORTHERN BRANCH

TEL: 0422 839651 FAX: 0422 839773
LIGHTING DIMENSIONS (WL) LTD.
TEL: DUBLIN 530204 FAX: DUBLIN 530808

Tannoy Go SuperDual

Tannoy has chosen the PLASA Light & Sound Show as the official launch-point for its range of SuperDual high-power, compact dual concentric loudspeakers for high quality installations.

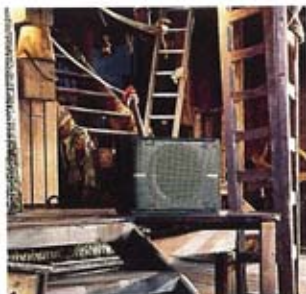
Earlier this year, after a long-term high investment programme, Tannoy used the Royal Shakespeare Company's Barbican Theatre as a final listening test site for its new speakers. As a result, Steff Langley, the RSC's head of sound was so impressed that the main house auditorium is now equipped with an entire SuperDual system. Tannoy designed the SuperDual as a high performance constant directivity point source system to maintain high intelligibility over any distance, on and off axis, and to prove that they've come up with something as good as their word, your editor attended a specially arranged demo at the company's Coatbridge headquarters last month. With the sound launched from the building's loading bay area, I kept walking back and back from the source until over the hedge and into the road . . . the clarity was amazing over a wide and distant field.

The loudspeakers incorporate unique drive unit designs with combined mid-range and high frequency units producing a spherical, phase coherent wave front. The range is designed for use wherever wide bandwidth, wide dispersion, high level sound reinforcement is required, such as concert halls, theatres, cinemas, music clubs, leisure venues and religious facilities.

Leading the charge at Tannoy, a TGI plc company (and with Goodmans in the group, the largest loudspeaker manufacturer in the UK), is managing director Alex Munro. Over the past two years, in fact since my previous visit to their Coatbridge site, the manufacturing facilities have been considerably reorganised, with a 'devolved responsibility' by product group philosophy now actioned. Exports account for between 75% and 80% of turnover.

Technical director Alex Garner, who has been with Tannoy for 17 years, told me that they plan to continue down the path of point source philosophy. "We want to take this into new areas and different markets and push out the boundaries," he said.

Derek West is the company's professional product manager, and it's his job to ensure the SuperDual system gets out and into the venues. "High power PA has grown up for most manufacturers over the last few years, but you still find that most systems are designed for pop and rock and roll," he said. "The requirement for high sound levels is much higher today. Any event involving medium to large audiences needs sound reinforcement, but at the same time the audience want to hear the performance with nothing added but sound level. They don't want to audibly discern the 'colouration' imposed by the PA which should also be as visually discreet as possible. The SuperDual fulfils these objectives and allows a member of the audience to hear the full frequency, in phase, at the sound pressure level desired and with the lowest colouration that can be achieved."



First use: Tannoy's SuperDual on the set of *The Beggars Opera* at the RSC's Barbican Theatre.



The L+SI listening test: (left to right) Alex Munro, Paul Mills (chief engineer), Keith Rogerson (senior design engineer), Simon Rae (development engineer), Derek West and Alex Garner present the SuperDual at Coatbridge.

Lodestar Training Course

A free training course for users of Columbus McKinnon hoists/motors is being offered by UK distributors, Pfaff Silverblue Mechanical Handling Ltd. The two-day course will take place on 8th and 9th September at their HQ on the Wirral. The course offers participants information and hands-on experience in trouble shooting and repairs to Lodestar motors as used in the entertainment industry, with the presentation carried out by two engineers from Columbus McKinnon supported by Pfaff staff members.

Travel and overnight accommodation are not included but arrangements will be made on behalf of participants at a local hotel. For further details contact Pfaff on 051-609 1900.

Yamaha at ENO

It's not often you get invited to the premiere of a new opera and be offered the opportunity of a discussion with the composer. In most cases they've been dead for a 100 years or so by the time I get to see the performance!

So it was with a certain amount of enthusiasm that I went to see an English National Opera commission at the Coliseum - Jonathan Harvey's 'Inquest of Love' - with the excuse that electronics, synths and the sound system played just as important a part in the production as the ENO's singers and the 70-piece orchestra.

The traditional view of 'modern' opera with electronics generates an image of the a-tonal plink-plonk and screech brigade, interspersed with interludes of electronic 'music concrete'.

Whilst hardly a hum-along-tune event, 'Inquest' could not have moved further from this, as Harvey used processing, samplers and synths in a completely integrated manner that pushed beyond the sound design of many a mega-bucks Lloyd-Webber production.

The system centred around a Yamaha PM4000, loaned by Yamaha via Cane Green especially for the project. Apart from the orchestra, the musical forces included a SY77 and two DX7 II synths which were played from one of the boxes immediately to one side of the stage. There was no intention to separate the keyboards from the orchestra, but there was simply no room left in the orchestra pit for any more players.

As well as the synths, the score called for a ring modulator (about the only item that dates back to the 'good old days' of electronic music) and pre-recorded inserts which were drawn either from an S1100 sampler for the short effects or from CD machines for the longer atmospheres.

The speakers, essentially ENO's Meyer UP1s, were placed eight around the proscenium and a pair set further back into the auditorium so that atmospheric effects would fill the Coliseum from all sides. In this respect elements of the score were much more akin to a well crafted film soundtrack than opera.

ENO have a long and honourable tradition of using body mics on their singers, not because they can't project unaided, but rather as subtle reinforcement to allow total freedom of staging - singers no longer have to stand centre stage and proclaim their arias to the audience. In 'Inquest' singers were also mic'd up as were the clarinet and



Jonathan Harvey 'hands on' with the Yamaha PM4000 at the English National Opera.

the trombone in the orchestra, but this was purely for special effects at certain points in the performance, with sounds from acoustic instruments being modulated by electronic sources.

Since the synths and effects were all performed live, there had to be essentially two musical directors - Mark Elder, the conductor in the orchestra pit, and Harvey at the mixer working with Ian Dearden, a young composer in his own right, who was brought in to help with the mixing.

"Balance is always a problem," commented Harvey before the performance. "But that is the same with any orchestra; parts can be too soft or too loud. It's the same with synthesizers - that is the most difficult part of the performance and it has to be balanced very carefully."

Both Dearden and ENO's resident sound man, Philip Ashley, found the project stretched their technical abilities.

"The interesting thing about Jonathan is that he is still one of the few composers in the 'classical' tradition who take a special interest in the use of electronic sound. For him, it is part of the composing process, so he knows how it will be integrated in the performance and the smart thing about the work is that he pushes the technology but doesn't ask for the impossible. It is both technologically demanding and interesting to do from a musical point of view."

The choice of equipment was geared around what would cope with the demands of 'Inquest'. ENO already own a Cadac which is permanently installed in the sound room at the rear of the auditorium, but since it was essential to use a mixing position within the seating of the auditorium, an alternative had to be found.

"A lot of the techniques had been used before on other separate projects, but this had to bring it all together," explained Dearden. "What pushed

us towards the Yamaha PM4000 was that it had the configuration that we knew we needed to achieve what the score demanded; the musical problems that have to be solved with technical means. By necessity we needed a desk that was very flexible so that we knew we could achieve the effects without the luxury of extended setting up and rehearsal times that you would get with a West End musical of similar complexity. This desk with its facilities would allow us to achieve what we wanted to do and give us the flexibility of changing or adapting ways of using it quickly if we needed to."

In addition to the synths, two CD players were used, one for the atmospheres which had been transferred from DAT using ENO's in-house CD-R machine and the other had the complete SY77 sounds also pre-recorded onto CD as a backup, should there be a problem at any point in the performance with this instrument that was critically important to the score. Technology has now come to the level that allows new techniques to be explored with ease of use and flexibility coming together with the confidence that it will all work on the night, always a major concern for sound men involved in any live performance, and Philip Ashley's position is no different.

"When we produced 'Mask of Orpheus' in 1985 we were working with three 4-track tape recorders, it was a nightmare. For 'Inquest of Love' we used the knowledge we had already gained on previous projects, although the nearest was a Birtwhistle piece where the electronics are quite separate from the orchestra. The great thing about this is how well the electronics and orchestration are merged. It all went surprisingly well."

Tim Frost

Right On Cue

Danny Kitainik and Gareth Magennis have combined to form a new company, dedicated to the demands of repairing audio equipment in any situation. Both men have worked in the audio industry for some years - latterly for Encore PA in Park Royal.

The hub of Cue's operation centres in their workshop in Islington. The company offers a 24-hour emergency call-out service, as well as in-house facilities. Cue have accounts with and access to spares from most manufacturers, and are also willing to travel abroad if needs dictate. Additionally, they will offer selective sales and will custom-build equipment as required. Cue can be contacted in London on 071-700 3661.

ARK LIGHT THEATRE LANTERN RESTORATION

COLOUR MATCHING TO DECOR
SPARES, T/H KITS

2 Partridge Close, Upper Bruntingthorpe
Leicestershire LE17 5QY

Tel: (0533) 478336

AVITEC

DISTRIBUTORS OF A COMPREHENSIVE RANGE
OF QUALITY PRODUCTS INCLUDING:

FAL

KREMESA

LED

METEOR

RAMSA

CERWIN VEGA

◆ Express delivery Worldwide ◆ In-house Service Dept
◆ Sound and Lighting Design Service

Contact us now for information on the latest in
professional lighting and sound equipment

Avitec Electronics (UK) Ltd 80/81 Walsworth Rd, Hitchin, SG4 9DX
Telephone: (0462) 450961 Fax: (0462) 431019

Trade Sales only Avitec Distribution Ltd
Telephone: (0462) 422599/420910 Fax: (0462) 431019



WYBRON LTD

Acton Business Centre, UNIT GO4, School Road, Park Royal, London NW10 6TD
TEL 081-838-2254 • FAX 081-838-2253

- The **Best** gelstring available from the inventor of rolling colour changers.
- It's called "**ColorExpress**," and is offered directly from our new London office.
- Using a unique assembly process, we **guarantee** a perfect gelstring for any style colour changer, in any sequence and in any length!
- **Guaranteed** overnight delivery on orders received by noon.
- Gel cutting service also available.



WHOLEHOG

SEE US
ON STAND A80
AT PLASA



A Revolution in Lighting Control Technology

Bringing complicated shows using moving lights, scrollers and dimmers under the control of one console, giving the lighting designer unsurpassed control power in a quick and straightforward format

Worldwide Distributor:
(excluding America)

AC Lighting Ltd
Unit 3, Spearmast Industrial Park
Lane End Road, High Wycombe
Bucks, HP12 4JG England
Tel: (44) 494 446000 Fax: (44) 494 461024

American Distributor:

Flying Pig Systems Inc
21241 1/2 Pacific Coast Highway
Malibu CA 90265
United States of America
Tel: (1) 310 317 4886 Fax: (1) 310 317 4996



WHOLEHOG

The story so far . . .

Press Comments:

- o **TCI:** Indisputably, the **WHOLEHOG** offers a refreshing approach to programming multi-parameter instruments.
- o **Live!** The **WHOLEHOG** liberates the creativity of the LD to the full.
- o **Lighting+Sound International:** The new **WHOLEHOG** does not require a rocket scientist to programme and run it.
- o **LDI:** The **WHOLEHOG** has a programming feature unique among commercial desks: a stack synthesiser. Tracing a circle with a Super Scan is a breeze with this feature.

Tours:

- Prince
- Grateful Dead
- Peter Gabriel
- Sting
- Rod Stewart
- The Orb
- Steve Miller
- Brian May
- Lenny Kravitz

Awards:

- o 1992 PLASA 'Product of the Year'
- o Live Award 1993 'Most Innovative New Lighting Product'

NEWS SHORTS

The latest in the long line of **Wholehog** lighting control system converts is American LD Roy Bennett who, following a successful stint with Don Henley in America has specified a Wholehog to control the moving mirrors and generic lighting on the current Prince tour which opened last week at the NEC. In addition to the main stage area the console is controlling eight Tigerscans which are used to light a separate Coca-Cola promotional area. Meanwhile, in Seattle Rod Stewart kicks off his would tour with Howard Ungerliter as LD and Michael Benedict operating. The rig includes eight Superscan 2 and 14 Intellabeam hi-res controlled from a Wholehog lighting control system.

UK pro-audio specialist, **Marquee Audio** has supplied Concert Sound with their first two Yamaha PM4000 FOH mixing consoles. Concert Sound sent their first PM4000 directly out for three months with engineer Chris Hedge on Brian May's first solo tour after the breakup of Queen. The second desk promptly followed on to Paris for Harry Connick Jr's circuit of Europe and the UK which took in three nights at London's Royal Albert Hall. Each of the Yamaha desks are equipped with 44 mono and 8 stereo inputs. Meanwhile Marquee Audio was the delighted recipient of Top UK Dealer Award from BSS Audio. The award was presented to Spencer Brooks, Marquee managing director, by Roger Keenan, MD, of BSS, at a ceremony which took place at the recent APRS show in London.

Following its appointment as exclusive UK agent for New York-based Lighting & Electronics Inc, **White Light** is now launching the MR-16 batten into the UK. The battens will be introduced into White Light's hire stock over the next few months. White Light first began working with Lighting & Electronics when Ministrips were specified for the London Production of 'Crazy for You'.

Manchester Opera House will be the first venue for the Howard Eaton equipped new touring production of Phantom Of The Opera - and **Theatre Projects** has won the contract to light it. The show starts a 12 month run there in October before transferring to Edinburgh's Playhouse Theatre. It's a complex show, with up to 768 lighting channels controlled by a complete new custom-built Strand Galaxy Nova touring system. The Nova was specified by Howard Eaton Lighting to provide continuity in recreating Andrew Bridge's original West End design - which, like other world-wide productions, also featured a Galaxy.

Audio Projects, exclusive UK distributor of Crest

products, last week sold its first mixing console to PA hire company, Encore. The 32-channel Century GT Series console, was launched by US manufacturers Crest earlier this year.

Britannia Row was one of first UK customers for Yamaha's new PM 4000 flagship console. Since being delivered to the company's Wandsworth HQ, two PM 4000s have seen uninterrupted service across several continents. One console has travelled throughout the USA and Europe, first with Sade and then with Luther Vandross, and is now doing the rounds of the UK summer festivals. The other PM 4000 started out with Peter Gabriel on a four month tour of Europe and the UK, before crossing the pond for the US stint which runs until 4th August.

Squires contracts and administration departments have moved. The new address is 1 Riverview, Walnut Tree Close, Guildford, Surrey GU1 4UX Telephone (0483) 451805 Fax (0483) 451830.

The **Compulite** Animator range of control desks for all moving lights, conventional lights and colour changers is earning its keep. Credits so far include TV: Paul Daniels, Tomorrow's World, Wogan, Jules Holland (all with Superscan and/or VL5), Eurovision Song Contest (Intellabeam); West End theatre: Magic Flute (VL5 complete rig), Leonardo (PALS), Grease (Superscan and VL5), Carousel (VL5); AV: Peugeot, Renault (both VL5); live music: The Jim Davidson Show, Blackpool (Syncrolite).

RCF (UK) Ltd are to distribute Marantz hi-fi 'Source' and professional audio products, to the pro audio and sound contracting industry. Among the line-up is the professional multi-play compact disc player, the CC-52 designed for long term continuous use and suitable for club/restaurant and retail sound system installations.

Garwood's Radio Station, the in-ear monitoring system, is now available through a network of dealers across Europe, supplied via distributor Personal Radio Systems.

Central Park in Kensington is the first London nightclub to feature **Canon V-100** wide dispersion loudspeakers, supplied and installed by Sound Moves Ltd of West London. 16 V-100's have been brought in to boost a JBL dance-floor system driven by C-Audio and Citronic amplification.

The Comedy Francaise Theatre, in central Paris, has recently taken delivery of an **Out Board Electronics** SS2 automation system. The unit, supplied in a stand-alone format, has eight inputs which route to 16 outputs via an automated routing matrix, with input and output levels controlled by Out Board's moving faders.

WHAT DO YOU GET WHEN YOU MIX
TOMCAT TRUSS
 and
CM Lodestar MOTORS?



A SMART IDEA

TOMCAT is a stocking distributor for
 CM LODESTAR Motors & Hardware
expect smart ideas.

TOMCAT.

P O Box 550, Midland TX 79702 USA
 Tel: (915) 694 7070 Fax: (915) 689 3805

The
Fibre Optic
 Lighting
 People

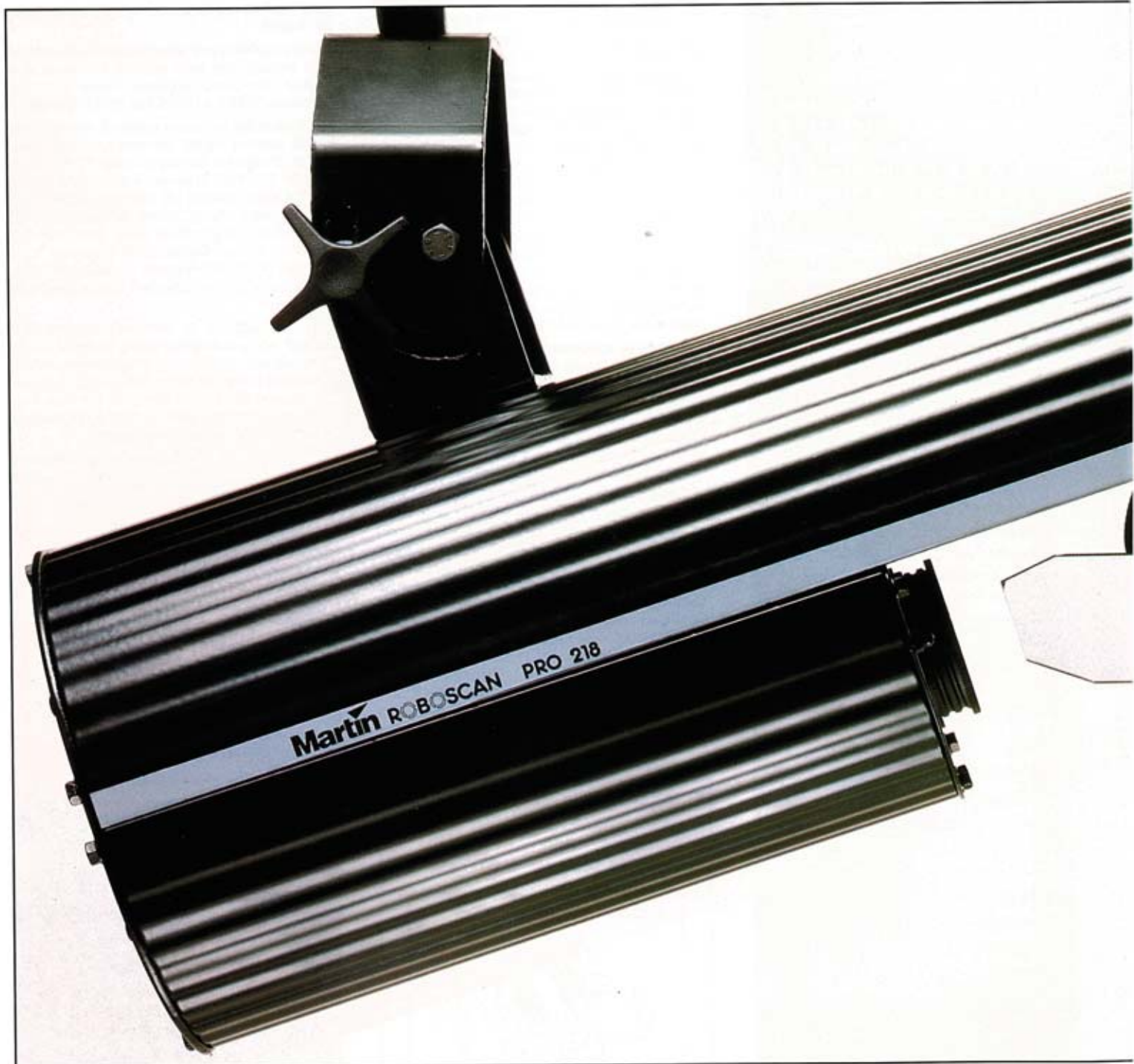
We manufacture and distribute all fibre optic lighting materials, Parglas harnesses and conduits, Parflex polymers, light sources, theatre curtain washers, spot ball and bullet lenses, side emitting fractured fibres, ceiling fittings and large bore fibre optics.

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



Trade & Export call PAUL RAYMOND
 Par Opti Projects Ltd
 Unit 9 The Bell Industrial Estate
 Cunnington Street, Chiswick Park, London W4 5EP
 Telephone: 081-995 5179
 Fax: 081-994 1102 Telex: 933718 PAROP.G

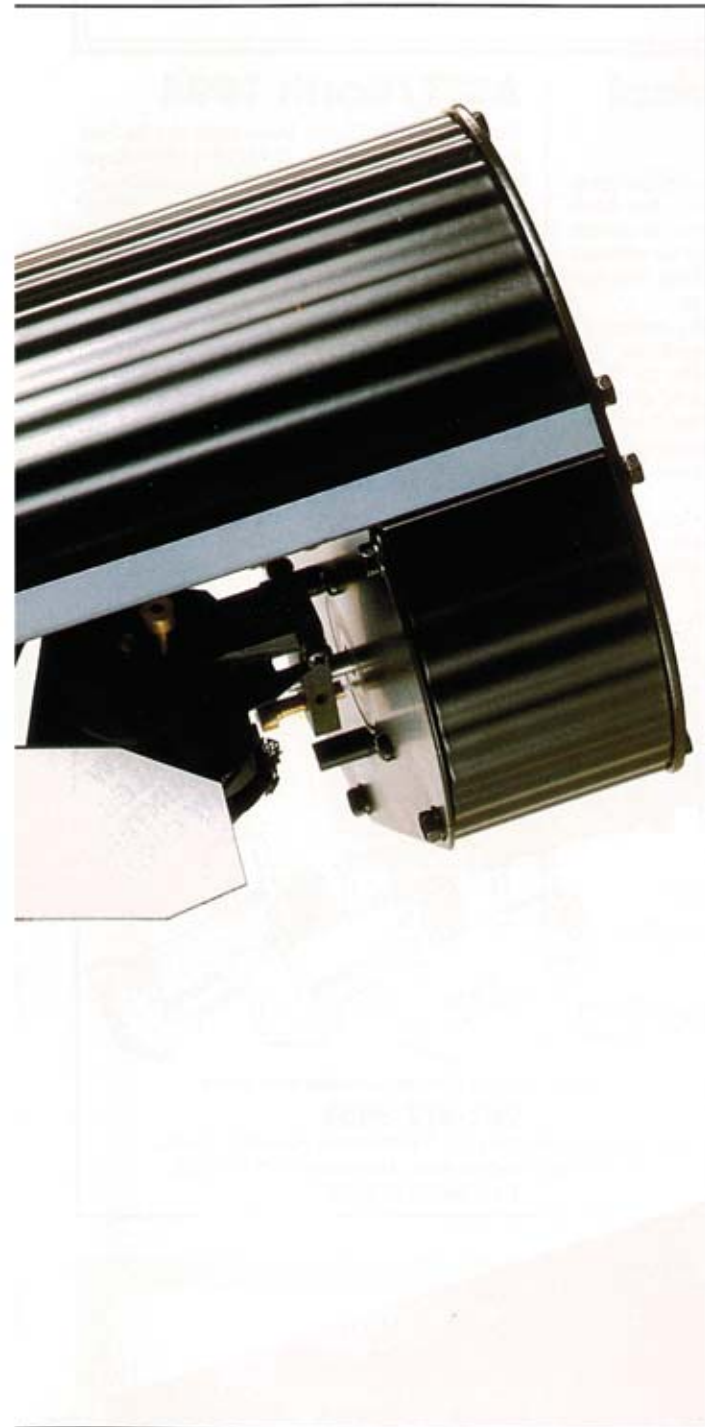
The Roboscan PRO 218 is a intelligent lighting projector



Martin Robo

Martin Professional A/S • Nordlands

compact high performance,



THE ROBOSCAN PRO218 FEATURES

- 200 Watt MSD lamp
- 17 dichroic colours including 2 multi-colours, plus white.
- 18 motorised gobos.
- Variable speed control on all functions.
- Optional blackout whilst gobo and colour changes.
- Colour- and gobo-mix.
- Fast shutter control for strobe effects.
- 180 degree pan - 90 degree tilt both with microstepping precision.
- Precision optics with adjustable focus.
- Efficient fan cooling.
- Running from a controller (stand alone) using built-in random sequence programmes with and without music trigger.
- Remote controlled by the 2208 (8 channel) or 2032 (32 channel) controllers.
- Flying-frames and floor-stands for custom installation, available from your local Martin dealer.

Scan PRO218

vej 114 • DK-8240 Risskov • Denmark • Tel: +45 86 21 44 11 • Fax: +45 86 21 50 01

BKSTS Moving Image

Moving Images '93 is the title of the BKSTS conference this year, to be held at the Cumberland Hotel in London from 30th November to 3rd December. The event will feature international speakers and a substantial number of delegates from overseas.

The subjects discussed will be those in the forefront of audio visual technology at both technical and social levels. Supporting the conference will be the 'Conference Showcase' which will provide delegates with demonstration opportunities covering a wide range of state-of-the-art technologies relevant to the themes of the conference. At least two other major events are planned for the evenings during the Conference: 'A celebration of the British Film Industry', hopefully to be staged at Pinewood Studios, and a television oriented evening at the British Academy of Film and Television Arts.

For further information contact Suzie Brewer at BKSTS, tel 071-242 8400.

New Base for CSL

Charlton Sound and Light have moved to new premises following a three month transformation of an industrial unit into a high tech showroom with state of the art sound and lighting equipment. The company, run by husband and wife team Geoff and Jennifer Charlton, was established five years ago specialising in the supply and installation of lamps, lighting rigs, public address systems and mixing desks.

To celebrate the move, the company held an open day in July with representatives from Bose, Audio Technica, Citronic, Martin Professional and Custom Sound who were on hand throughout the day to talk to visitors.

Charlton Sound and Light can now be reached at Unit 9, Bulmer Way, Cannon Park, Middlesborough, telephone (0642) 247096.



**Midland
Theatre
Services**
for

lighting
sound
special effects
sales
service
hire

Junction 1
Industrial Estate
Dartmouth Road
Smethwick
Birmingham B66 1AX

Tel: 021 525 4545
Fax: 021 525 2413



Approved Contractor

Guide To Electrical Maintenance

A new Guide to Electrical Maintenance, including the Testing of Portable Appliances, has been published by the Institution of Electrical Engineers (IEE). The 20 page Guide is intended for all those who have specific responsibility for the maintenance of electrical equipment.

It deals with legal responsibilities, equipment types, advice on periodic inspections and provides detailed recommendations for those carrying out the inspection and test of electrical equipment. The IEE Guide is intended to resolve many of the problems and uncertainties currently faced by users of electrical equipment and appliances.

Single copies of the Guide are available to organisations free of charge. Requests should be sent, on headed notepaper, together with a self-addressed envelope (10x7in), to: Public Affairs Secretariat IEE, Savoy Place, London WC2R 0BL. Further bulk copies at a cost of £20 per 10 are available from: IEE, PO Box 96, Stevenage, Herts SG1 2AY.

ABTT/North 1994

The annual ABTT Trade Show 1994 will be held in London from April 21-22 in Hall 1 of the Royal Horticultural Halls, the same venue as this year's event. Almost concurrently, the North Regional Committee of the ABTT announced that their event, ABTT North Trade Show 1994, will take place from October 13th to 15th at the Royal Northern College of Music. It has been arranged to fall within Manchester's year as City of Drama 1994. For details of the London show contact Ethel Langstreth on 071-403 3778 and for ABTT North contact Mike Brown c/o The West Yorkshire Playhouse on (0532) 442141.

LiteStructures

LiteStructures (GB) Ltd have relocated from their current Wakefield premises to new ones just off junction 39 of the M1. The new facility gives them 15,000sq.ft in which to house their manufacturing, design and sales operations. LiteStructures can now be reached at Durkar Low Lane, Durkar, Wakefield WF4 3BQ. Tel: (0924) 240800 Fax: (0924) 254083.

TOPDECK

The **LIGHTWEIGHT** Alternative



- ✕ The Ultimate Medium Duty Platform
- ✕ Easy fixing for treads and hand rails
- ✕ Plug in Scaffold tube legs
- ✕ 8ft x 4 ft deck only 49kg
- ✕ 8ft x 4ft deck



Only
£240 - VAT

TOPDECK
LOADBEARING STAGE PLATFORMS
Trade Discounts Available

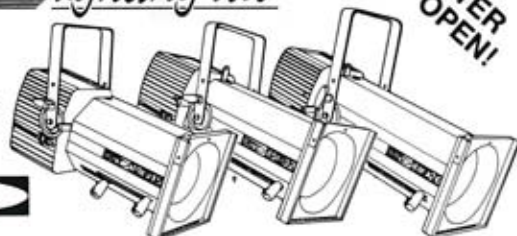
For more details and a leaflet
Phone Mike Sweetland on:

061 834 8004

RB Lighting Ltd

NEW
SALES
COUNTER
NOW OPEN!

Main
Supplier
of



CCT Lanterns and Spares available from stock.

081-977 9665

RB Lighting Ltd, Unit 10, Teddington Business Park,
Station Road, Teddington, Middlesex TW11 9BQ.
Fax: 081-977 5687

BBC TELEVISION - THAMES TELEVISION - ROYAL VARIETY SHOWS - GRANADA TV

WEST END/TOURING - HOTELS - DISCOS - OPERATIC

PW Enterprises Ltd

Starcloths - Drapes - Sound - Lighting

Unit 11 Chelsea Fields Industrial Estate
278 Western Road, Merton, London SW19 2QA

PW Enterprises Ltd are THE Starcloth company. Managing Director George Wetherill is the original designer of modular Starcloths. His vast theatrical experience and design flair have been used to stunning effect throughout the entertainment and leisure industry.

For more information contact George, Perry or Dave on
Tel: 081-646 6131 - Fax: 081-646 5983

WE'RE RIGHT BEHIND YOU

LWT - MICHAEL HURL SERVICES - CARLTON TV - TRADESHOWS - CLUBS/MARQUEES

AVOLITES

Another world class product

See it at PLASA stand 144

or contact

Steve Warren

on

081 965 8522



TECHNOLOGY STARS IN TINSELTOWN TRAUMA

A walk on the Wilder side with Tony Gottelier

The transition of Billy Wilder's classic 1950 movie tragedy 'Sunset Boulevard' into a blockbuster musical was not without its moments of techno-terror. Tony Gottelier talked to lighting designer Andrew Bridge and others about how they overcame a mountain of problems to stage London's latest Lloyd-Webber box office hit.

Sunset Boulevard is the story of an erstwhile star of the silent screen suffering from delusions of a possible comeback in the new age of the talkie. Her predicament is perhaps best summed up in the immortal line from the original Billy Wilder script: "I still am big, it's the pictures that got smaller." The tragic consequences of her attempted comeback form the basis of the plot, in a sort of drowning of the vanities.

In the Andrew Lloyd Webber musical adaptation, many of the classic lines are retained by writers Christopher Hampton and Don Black. Indeed, since the story was originally conceived for the cinema, rather than adapted from a novel, the musical attempts to reflect the babylonian Hollywood element of the whole affair, as it unfolds in its ghastly consequences, by retaining, in parts, the sense of a film sequence and of flashback; quite a challenge for set creator John Napier and lighting designer Andrew Bridge to achieve on-stage action in 16 frames-per-second simulation. As we have come to expect with such shows, and with apologies to Patti LuPone and Kevin Anderson, the technology 'is the greatest star of all'.

This is all made more complicated by the fact that, in order, to stage such lavish productions without sharing the spoils with other impresarios, to say nothing of the problems of hacking someone else's theatre to bits to make it fit the concept, it has now become fashionable to acquire the theatre in which the production is to be staged beforehand. 'I liked the show so much I bought the theatre' seems to be the order of the day, which is also an indication of the long-term investment potential of the Webber product in the eyes of his Really Useful Theatre Group who are playing this particular game of Monopoly for the highest stakes. £3m put into the building was equalled by a similar investment in the production.

There has been a theatre on this site, in the Strand just opposite the Savoy Hotel, since 1806



Norma Desmond's 'mansion', a rich golden amber and lots of practicals.

though the present structure dates from 1901, making it qualify as Victorian. The Adelphi in the Strand, may now have seating for 1501 (is the extra one for the Phantom?), to meet the seemingly insatiable demand of the coach-party market. In all other respects this is a bijou theatre, especially in terms of the capacity of its stage to house such a lavish and technically challenging production. Napier's design called for one massive flown set, lifts, several stage trucks, and all manner of other stage gadgetry which had to be squeezed in with, literally, millimetres of tolerance.

To have got away with all of that, from building site to virtually complete production in 16 weeks - only to be snookered at the eleventh hour by the interaction of the small, but crucial, electronics on board the hydraulic rams, in unexpected response to the walkie-talkies used by the crew - must have been enough to bring tears to the eyes of even the most hardened walker on the razor sharp edge of technology. And we can only imagine what the number-crunchers thought! AL-W made his feelings clear on prime-time television, thus turning a disaster back into a financial triumph by gaining thousands of pounds of free publicity - an object lesson in how to make a silk purse out of a sour situation, and capitalise on Murphy's law of inevitability.

**Actor William Terriss, was fatally stabbed by a jealous rival at the stage door of the theatre in Maiden Lane in 1897.*

It is Mike Barnette, the freelance engineer who has been involved in a similar capacity in a string of musical extravaganzas from Starlight Express, through Les Mis and Phantom, to whom most of the credit for the technical design of many of the sets must go. "Actually, I came from the earth moving business, swapping big yellow monsters which make a great deal of noise, for black machines which have to be totally silent," is Barnette's description of how it happened. He was quite sanguine about the situation with the hydraulics: "Actually, it was played up a bit," he told me. "The valves are an excellent product which enable direct proportional control from a computer, but it was the miniaturized receiving devices which proved to be over sensitive to the brand of shortwave radios in use in the theatre. However, Vickers Systems responded magnificently and changed the

entire system inside 48 hours for an older model, though this requires external amplifiers." Barnette assured me that the devices are not in use in aircraft as yet! It would be a great shame if Barnette's great effort has appeared to be tarnished in this incident for, in fact, the scale of his achievement has been considerable, quite aside from all the other difficulties of squeezing a quart into a pint pot.

The main elements of the sets are: the massive interior of the star's Tinseltown mansion, all gilt and rococo, and weighing 8.2 tons, which occupies three quarters of the depth of the stage when in situ, and two thirds of the flying space when in store, placing great restrictions on lighting pipes and drops; the scenery and mechanics for the car chase sequence, which is pulled in by hydraulic hoist, weighing a further 4.4 tons (this engineered by Robert Knight Complete Theatrical Services); then there is the obligatory Hollywood pool which arrives via horizontal scissor lift from the apron; several trucks are used for smaller intimate scenes and vignettes and to create Schwarz's Drugstore, Artie's apartment and Betty's office; 12 vertically flying panels, capable of 2m/sec. weighing ¼ ton each, so presenting considerable breaking retardation, create the gates to the Paramount studio; these plus side blinds and horizontal sliders form the 'Samson and Delilah' movie lot, which also involves slewing the side stage verticals with faux columns dropped from above - the latter achieved with a



The FOH lighting arrangement for Sunset at the Adelphi.



Andrew Bridge's favoured Light Palette 90 and Mini Artisan cheek-by-jowl in the new control room.

single counterweight moved by hydraulic motor, plus plywood, and dollops of beeswax to overcome the inevitable resistance; and the three articulating step units which can also convert into garages for the arrival at the mansion of the arriviste scriptwriter who is the ultimate victim of the diva's delusions.

It is not possible to give a full explanation of the difficulties and solutions applied to all these pieces, in an article of this length. Clearly the biggest problem all round was how to squeeze it all into the limited space available. For example, the 'mansion' set could not be suspended from the grid, which is original and found to be askew as soon as it was handed over to the production crew.

"The structural engineers were not happy that the Victorian steel could, in any event, take the application of the 17 ton load which would need to be applied," commented Barnette. So the load is counter-weighted to direct the load back to the head steels. "You can imagine that the problems of moving an 8.5 ton counter-weighted object, which has to traverse up and down stage when the roof trusses come six metres below the grid in places, was quite a problem. In the final analysis, we achieved it with only 75mm to spare on either side, which is really no tolerance at all." This involves the use of an enormous fluid winch, which is rated at 0.5L/rev. to move the counterweight cradle and a 5kW electric motor, on-board, which pulls the house on cables up and down stage. And, of course, all of this has to be backed up.

Another tricky problem was how to contain the forestage lifts, necessary to move the swimming pool, in a space of only 120mm, which was governed by the awkward sitelines of the Adelphi and the mass of services present below stage in that location. Not wishing to upset the MU by encroaching into the orchestra pit, Barnette has realised four scissor lifts which track up to 0.8 metres but still compress to 120mm. "There are added complications with the two downstage trucks which also have to cross this unit at various times," Barnette added.

All the truck winches are in the basement, together with the motors which lift the 12 flying panels. These winches have to rise up and down on vertical rods to enable the wagons to traverse the pool. Hydraulics have been generally used, and there are two 30kW pumps in the basement which feed a ring main for this purpose, but electric motors are employed for the side blinds, horizontal sliders and the house traversing motor. There are also a few manual pulls which, although using an incremental counter, have to operate to tolerances of 15mm!

Most of this complex machinery is intricately managed by a modular motor control system which has been developed by John Hastie and Simon Needle of Electrolite Control Systems in conjunction with Quin Systems, who are specialists in factory automation - materials handling again! The reason for the link with Quin is that they bring to the table a standard range of positioner units which can be used with any kind of AC or DC motor, or hydraulic ram. "There's no point re-inventing the wheel," as John Hastie wisely pointed out.

The front-end software for the PC-AT compatible which runs the system has been developed largely in house, very much along the lines of a lighting desk, with four playbacks and a control channel. Like a lighting desk, any range of cue numbers up to 999 can be used including 'point' numbers. Unusually, the Electrolite system allows live speed alterations during a cue and cue editing is very simple via the built-in tracker ball, which is an essential facility during rehearsals for such a show. Timed cues are easy to plot, either for one motor individually, or for a whole sequence, so that multi-motor cues finish on time without the previous hassle of balancing speeds between each driver; and cues can be plotted with 'wait' indications which works as a soft interlock. There is a 'virtual' facility for blind programming.



The Paramount Studio gate, formed from flying panels capable of travelling at two metres per second. Note the shadow projections.

The 'mansion' and 'garage' sets are controlled by proportional joystick from the high level perch, and everything else from the computer in the basement.

The sheer bulk of the 'mansion' set created strenuous problems for others also, including lighting designer Andrew Bridge, especially as there are several scenes where action takes place immediately below this structure. The solution was to build some lighting into the under-floor, and this was to include Vari*Lite's and DHL automated light curtains as well as Parcans and other conventionals (now called 'steam' lamps by Andrew and crew!) for which the tolerance, when in position on the stage, was so small as to be infinitesimal - never a happy situation with moving fixtures.

Furthermore, it was soon obvious to production electrician Alistair Grant that, with considerable numbers of 'practicals' also on the set, it made sense to build the dimmers into the moving structure to reduce problems of cable management. Fortunately, Strand's LD90 dimmers present a slim profile and are lightweight, unlike more conventional dimmers but, perhaps more importantly, they do not require fan assisted ventilation. Noise would always be a problem in such close proximity to the performance and 72 ways of LD90 dimming were neatly accommodated in the side of the structure. However, the problem still existed as to how to get two 63A feeds to the dimmers, and a 32A three phase supply to the traversing motor, to say nothing of the data links required for those dimmers and the Vari*Lite's, there being no room for trips - a problem neatly solved by the ubiquitous Howard Eaton who installed McCaddy cable winding drums installed in the empty grid. The security of the data links was resolved by modifying two of these to incorporate mercury wetted sliprings.

In fact, Howard Eaton Lighting had been involved early on in the transformation of the theatre for its present use. They were responsible for re-wiring the existing 240 channels of STM and Permuss dimmers, which provided the opportunity of directing all the outgoing circuits through a common marshalling box or mains patch, and enabling DMX control using Arri Connexions. An additional seven Strand LD90 racks were also added and installed in the old rope room.

Following consultation with Bridge and Martin Heap, Really Useful's technical manager, Alistair Grant and others, a number of further changes were made, not just to accommodate this show, but also to sort out some of the accumulated

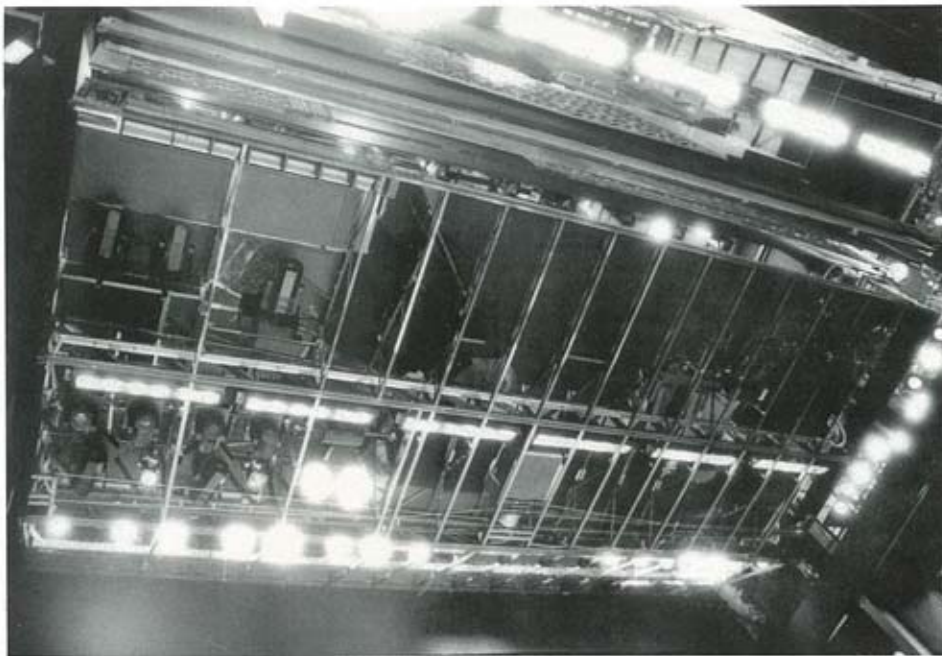
impracticalities of yesteryear. The FOH positions, which were always going to be important for Sunset, were re-worked and followspot positions provided at either side of the gallery. Existing slots at each end of the gallery were opened up and a new aperture created in the ceiling over the stalls. An advance bar was required for Sunset, which was installed along with a motorized focus track for access. The control room, originally to one side of the circle, was redesignated to the old Bio box at the top of the house, where Andrew Bridge's favourite desk, the Light Palette 90, was snugly installed alongside Vari-Lite's Mini Artisan, the house Colorarc Xenon followspot and room still found for the essential movie projector.

The sound guys were not so fortunate, their mixing position remained at the back of the stalls under the balcony. However, sound designer Martin Levan made the best of things in his specification which included a 77-input Cadac J-type desk, 27 Sennheiser radio mics, BSS delays, Yamaha amps and a speaker melange of JBL, Meyer and Tannoy.

All the sound equipment was supplied and installed in one week by Autograph Sound Recording, who also provided the elaborate 30-unit Clear-Com beltpack system which operates on five rings. This comms system includes CCTV to assist with monitoring the scenery changes and to maintain maximum possible safety of the complex movements of the scenery. As with Eaton, Autograph had been consulted regarding the refurbishment and, consequently, were able to ensure multicore cables and speaker rigging plates at strategic points in the theatre.

Bridge's original idea for the lighting was to take a sort of Film Noir approach: "After all, several of the scenes are very filmic and it is based on a tragic film script. I was going to use 5 and 10ks, typical of a film set. But that all went straight out of the window with the lack of space," Bridge told me in his typically forthright way. "Art versus logistics - the eternal problem!" Plan 'B' was to base it on large frame projection, but that was rejected also, on cost and space grounds though as mentioned, room was found in the control area for a 35mm cine projector, a production requirement which plays a crucial role in the general atmosphere of the piece.

The final compromise was to use lots of shadow projection with palm tree and water tower silhouettes onto gauzes, or directly onto the flats, to evoke the feeling and sense of fifties Hollywood. Anyone who has seen the ads and posters for the show will have got a feel for the



The lighting rig installed under the 'mansion' set, infinitesimal tolerances.

technique.

Hence the need for all those FOH lighting positions. Once again Howard Eaton is involved - Andrew had chosen the Robert Juliat 1200W HMI zoom profiles, first discovered while in Paris for the Wild West Show at Euro Disney. It was suggested that with the Juliat's on-board diaphragm control and lamp ignition and high optical quality (the lamp will resolve a dot pattern of up to 400 dpi, ideal for intricate patterns) it might be possible to project an animated gobo sequence. With help from Chris Cook of XTBA on the DMX front, these facilities were put to good effect and Eaton came up with a motorized gobo holder capable of projecting the image of a car

travelling across the stage, one of the most successful filmic effects in the show.

Twelve of the 11.5/34 deg zoom profiles are on the show, which is the first time they have been used on a commercial musical. (Tom Mannings of Decoupe, Juliat's UK agents, tells me that a new 2500W HMI model will be launched at PLASA this year which will use double condenser optics to further boost the light output. Bridge has, apparently, already decided to use this model in the American production, which kicks off in LA in November - see News this month.) On the booms, Strand's 1kW Optiques are used for gobo projection. Another idea had been to use Strand PALS, but Andrew wanted them converted to



LD Andrew Bridge, plotting cues at the LP90.

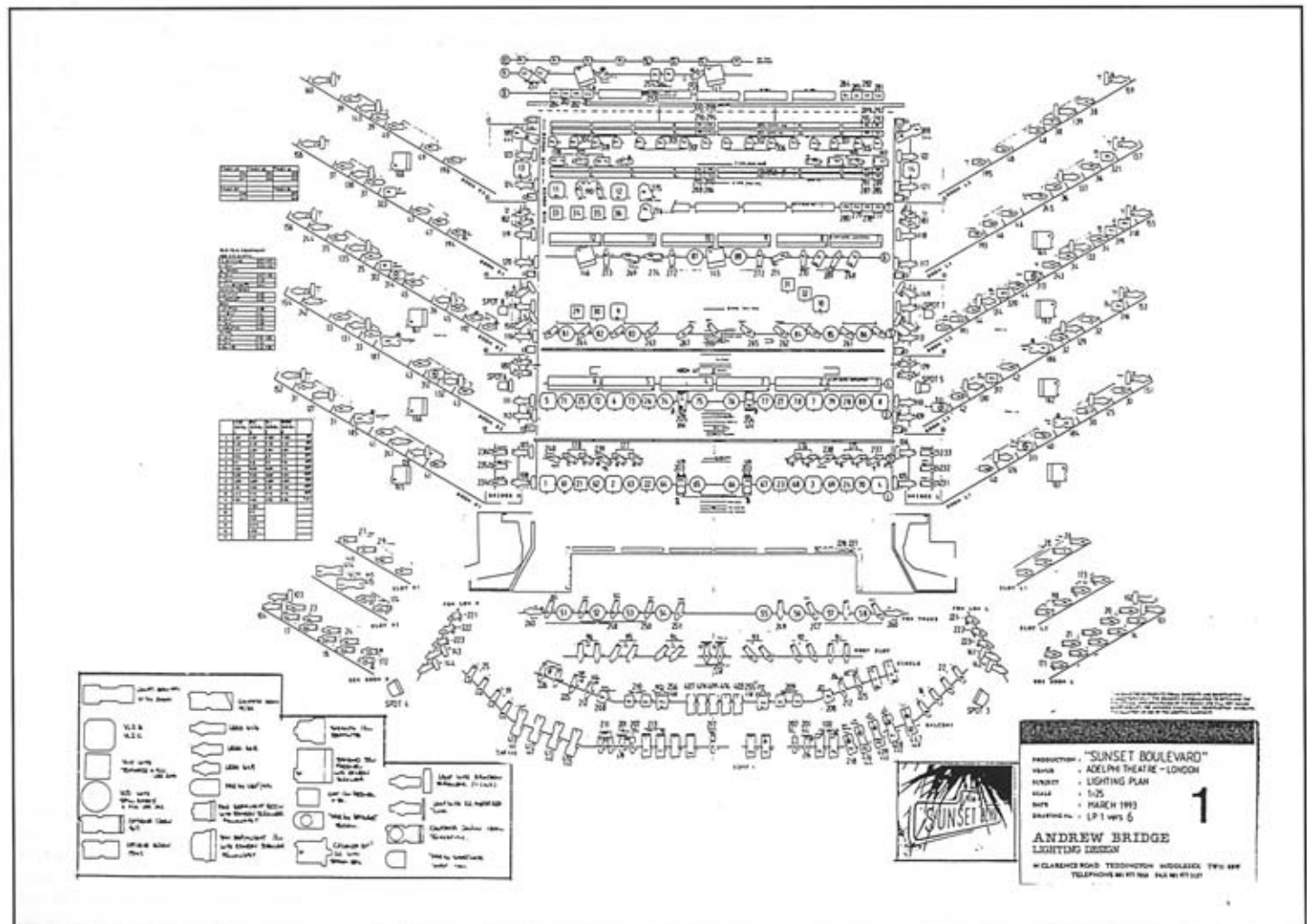


Sound designer Martin Levan, monitoring output.

DMX so that they could be run from the desk, Strand were unable to get involved, so it was again left to XTBA to resolve. Which they duly did, though too late for Sunset in the end, so they were put to good use during the run of Leonardo.

The main workhorses for the show, however, are the Vari*Lite's which are used in various models under the auspices of Richard Knight and Paul Cook. As readers will be aware, Andrew has always been a great supporter of these automated luminaires for their ability to build ambience, rather than as a pure effect light.

There were 38 VL5s specified for Sunset, though Bridge is surprisingly dismissive of the wash light in its present form. He cites lack of colour



accountability and the beam characteristic as his main bitches. "It is only useful, in my book, if you use a lot of them which, to be fair, you can do since they are relatively cheap. Also there is a lot of flare, which we had to modify out ourselves. Anyway, I still like the VL4s, because they are brighter and I can crossfade the colour." (I thought he had managed a lovely, rich golden amber for the lighting of the 'mansion', also I gather that Vari-Lite are in the process of tackling the issue of the colour range of the VL5.) Aside from that, Andrew is immensely pleased with what has been achieved with the robotic lights in the context of the show, and particularly likes the brand new VL2C which was another 'first' for Sunset. The 2C is, of course, a beam light but based on the Osram 600W HTI which delivers a colour temperature of 6000K. This is a bigger, brighter lamp than previously used by Vari-Lite, and has presumably been moved into place in advance of the VL6 to combat the threat from LSD's Icon in the concert market. At the same time the optics have been changed to provide a tighter focus than the B (4/22 degs.) and the resolution of the beam iris has been much improved. Additionally, full timing control facilities have been provided on movement, intensity and focus.

"We have virtually done the whole show with moving luminaires. I don't think anyone in the audience would be aware of that, which is what it's all about, as none of them moves into view," said Andrew in a rare moment of self satisfaction. "I have to admit that we are fortunate to have the clout to get the budget for this," he added. Special precautions had to be taken with all these fittings not only for flare, but also for dampening as, obviously, the hotter they are, the noisier they tend to be. Aside from proximity to the actors, the orchestra is virtually unmic'ed and there is lots of dialogue with music underneath in the show, so noise would be a crucial issue. Otherwise the ubiquitous colour scroller was everywhere, on virtually every ellipsoidal in the rig. The show

followspots are six short throw Panis at the front of the house.

As usual, Andrew is fulsome in his praise for his team of Vivien Leone and her alternate Keith Benson, Vari*Lite specialists Richard Knight and Paul Cook, plus production electrician Alistair Grant. "These guys are gold-dust," he told me. He was also delighted with the relationship built up with Alan Thomson and his team at Theatre Projects, who supplied all the kit, and with the service provided by them. "We do not get that kind of support from the manufacturers, but TP understand that this is Showbiz. During rehearsals and previews we are at it from nine in the morning until at least 11 o' clock at night without breaks. So when something goes down we need action." From his team he singles out Vivien Leone for special mention: "She was actually my associate for the show and the idea was that she would move on to LA with the London experience in hand. Unfortunately, I am running short of associates, with five shows running concurrently (Phantom in Sydney and Holland, Five Guys named Mo in LA and Joseph in Frisco), so when Sunset was delayed I had to send Vivien to Sydney to move Phantom, and Keith took her place here." Paul Cook and Alistair Grant also came in for praise for their technical input. "We have got a lot of processors talking to each other and Paul has had a lot to do with that."

In fact, he was very involved in the MIDI hook-up which made the 'on the road' car chase feasible in its use of combined media: Vari*Lite's, conventionals, the scenery mechanicals, movie projection and live actors. This scene is viewed through a gauze and the action is triggered by the orchestra's keyboard player, via MIDI timecode to the various peripherals. In the case of the Light Palette and Mini Artisan desks, the cues are managed by Richard Bleasdale's 'Cue List' software on a Mac. The role of this system is described in Robert Halliday's article on 'Grease', on page 41 of this issue.

Another exciting scene, technically, though a little macabre, is the opening frame of the movie (sic) where Joe, the writer, appears floating face down in the swimming pool. "An animatronic dummy was intended to play this role and the idea was for it to be backlit and top lit through smoke and a scrim," Andrew explained. "Try as we might we couldn't get it to work - all we got was a shadow. So the ASM was drafted in, and is suspended nightly from wires, while we light, from above and below, onto the scrim panel set at 45 degs, with ripple and water effects." KK wheels are used for the water effect and a followspot, positioned so that it hits the head of the 'corpse' without touching the screen. The audience clearly sees the cop fish the body out with a boat-hook. Dramatic stuff. "Now we have a show with no smoke and no chases. And that must be some kind of a first!" Bridge exclaimed. In fact, the smoke machine will not be the only kit going back to TP, the automated lights have apparently proved so versatile that 'a truck load of steam lights' will be going back into stock also.

I asked Andrew to sum up the Sunset experience: "As usual these days, 50% design, 50% politics! Actually, one of our biggest problems was that for weeks the stage was a workshop with the 'mansion' set being constructed in situ. In fact, at times it was physically unsafe to go on stage." The net result was that virtually no focusing was possible prior to the previews. "Remember also, the theatre was still a building site in April when we moved in, so half the time we couldn't hang lights, even if we wanted to. TP were ferrying the kit in two deliveries per day for a lot of the time."

Andrew Bridge is a reluctant interviewee, in fact he doesn't much like any publicity. "If I'm forgotten as the result, I shall be able to say: I am still the biggest in lighting rigs, it's just the rigs which have got smaller!"

London production photographs by Donald Cooper. Cover, contents and stage shots by Phil Dent.

CCT LIGHTING



The remarkable new 1000/1200W "Turbo Sil" Profile Spotlight -

with up to 120% more light output than the Silhouette: a brilliant, even, flat field, high definition, beam which can be peaked; a rotatable shutter set with reversible stainless steel blades and new high temperature optional iris; interchangeable zoom lenses of 11 Δ 26, 15 Δ 32 and 23 Δ 41 degrees.

CCT Lighting - Sales

4 Tudor Court
Brighton Road
Sutton SM2 5AE
Surrey, U.K.
Country Code: 44
Tel: (0)81 770 3636
Fax: (0)81 643 9848

CCT Lighting - Projects

Hindle House
Traffic Street
Nottingham NG2 1NE
United Kingdom
Country Code: 44
Tel: (0)602 862722
Fax: (0)602 862546

CCT Lighting Inc.

1260 Lyell Avenue
Rochester
New York 14606
U.S.A.
Country Code: 1
Tel: 716 458 5790
Fax: 716 458 5793



WORLDWIDE DISTRIBUTION

ON TOUR

AND PRODUCTION NEWS

Little Angels

Hull City Hall

LD: Tom Kenny

SD: Mark Kennedy

Lighting designer Tom Kenny is normally associated with Eric Clapton and is more often found working in 10,000 seat arenas. It was therefore something of a surprise to find him producing a show for The Little Angels at the 1,500 capacity Hull City Hall. The answer to this riddle was in fact a simple one: "In recent years, as well as my work with Eric I've also been doing a great deal of work for Bill Curbishley, The Who's manager. The Little Angels are co-managed by Bill and I was thus right in line for the job."

In fact, Tom Kenny seemed very happy with the chance to work in more intimate surroundings. "Obviously Eric keeps me very busy; the last time I did a theatre tour of Britain was in '91 with Chesney Hawkes. It felt so long ago that I actually called up many of the venues on this tour to check on what truss widths I could expect to fit in."

Despite Tom's efforts the limitations of Hull City Hall did force a compromise upon the system. With a limited number of available point holes through the false ceiling (the ceiling is in a moderately elaborate rococo style, the plaster work, though not outstanding in design, appears in excellent condition and well worth preserving) and with a two ton total load limit, Tom was obliged to drop his on-truss spots and also one of the so-called finger trusses (the latter due to lack of a point in the right place, rather than the weight). The truss configuration is fairly simple: two 38 feet spans of Slick Maxibeam run across stage front and rear (their length in deference to the results of Tom's phone inquiries), linked by a 16 foot span running up and down centre stage.

Similarly, the three finger trusses run up and down stage, jutting out from the front truss, and are uniformly spaced, one on centre, the other two at 12 feet intervals either side. The trusses are almost full of Par 64s, front and rear having 40 and 48 lamps respectively and the fingers having 32 each. Where there are vacant sockets on the six lamp bars these are used to power the eight Colormags used to light the trussing and also a couple of White Lightning strobes and a Black Gun.

On the floor are four Molemags aimed up and forward from beneath the rear truss, four Colormags are dotted between the wedges and finally, two eight feet sections of truss are stood on



Above and below, 70s retro for the Little Angels at Hull.

end, one either side of the drummer, with two bars of four Par 64s in each (half complete with Colormags). As Tom expanded: "Nothing unusual, the band wanted to save the £16,000 or so they could have spent on more expensive lighting - this is just a quick three week tour."

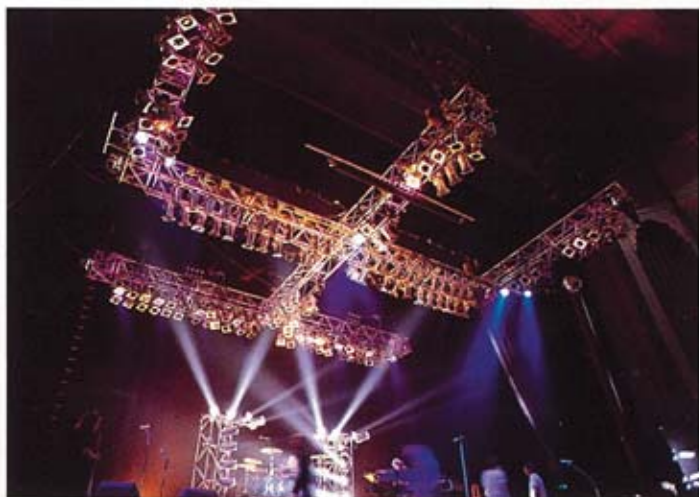
"In late November and December they will be doing something much more substantial, culminating in a large show at the Royal Albert Hall, and they feel the money could be better spent then." In fact the band take a very active part in deciding their presentation, not only do they influence financial decision, but also contribute ideas on lighting 'looks' and even a nice visual gag for the last song.

"They have strong ideas about how they should be lit. One of their general rules is to use white light predominantly and limit myself as much as possible, to one colour on stage to accompany it. These kind of pointers are good for me, not too rigid but a framework within which I can work happily."

Tom was also very enthusiastic about another of the band's innovations. During the intervening gap between the opening act and the Little Angels appearing on stage, home movies of the band on

previous tours are shown on a small (12'x8') roll down electric screen mounted on the front truss. Although retaining a very 'home-made' feel, these movies are of good visual and aural quality, not only entertaining, but also a good excitement builder during a lull in the evening's performance which can be a bit of a come down, especially if the opening act have acquitted themselves well as the 'Cockroaches' did on this particular night. Tom seems very pleased with the service and equipment he's getting from Dave Keighley at Samuelsons (as well as the aforementioned truss and lamps, Samuelsons provide a Celco 60 way Gold and two Avo 72 way dimmers for control), and is particularly happy with his two crewman, Brian Condrey and Tim Phillips. Brian will, in fact, be taking over running the show from him after they've played Hammersmith, as Tom will be going to the Beacon Theatre in New York to start work on a new Pete Townsend musical production.

In performance the band are reminiscent of Peter Dinklage or perhaps Humble Pie in their heyday, though they play with even greater exuberance. They are young, good looking and unabashed, their image is very '70's retro - long



hair, jeans and T shirts.

Their music however is very fresh, no heavy metal here, but well structured songs, strong melodies and with powerful hooks. They hit the stage at full tilt straight after the intermission movie and hold the audience at a peak until midway through the evening when they do a nice acoustic interlude, just three members of the band on stools with guitars, and then it's full-on again until the finale.

Mark Kennedy, recently seen out with Chris Rea, was mixing sound from a Midas XL3. The PA is an ElectroVoice MT2 system supplied by New York Sound of Sunderland. It was extremely loud, the pressure level producing that exciting punch in the pit of the stomach, but this only matched the excitement generated by the band and although I had ringing in my ears for an hour afterwards, I can't imagine hearing them any other way.

Coming from Scarborough, it was perhaps no surprise that every song was rapturously received by what was almost a home crowd; apparently they evoke the same response wherever they play. For me this was the most exciting band I've seen all year. If they 'break' in the USA I dread to think how they'll fare physically, lots of bed but little sleep I imagine.

On a technical note, Hull City Hall is not a venue that features often on a national tour itinerary. Talking to co-promoters MCP there emerged two reasons for the capacity and production. With the addition of a modest 'house grid' to ease the flying restrictions, and a storage space out of the hall for flightcases, which would go some way to increasing the audience capacity, this situation might improve. In recent years with the emergence of the House Martins and Kingmaker, and now the Little Angels, Hull and the North East coast is developing a reputation as a centre of music - it would be nice to see this talent capitalised upon in its home territory.

Steve Moles

Lenny Kravitz LD: John Pollak

When John Pollak approached Meteorlites with his ideas for Lenny Kravitz' world tour (pictured in performance right), they immediately turned Pollak's designs into 3D drawings which he could take to America to show to the man himself. Once the OK was given by Kravitz, Meteorlites began work on designing and constructing the main feature of the designs, the custom pod.

It was built from 10 pre-rig sections which bolted together to form a decahedron. The lamp bars than fanned out to form equally spaced spokes within this pod, each of the lamps having its own dimmer and desk channel to enable Pollak to programme a multitude of patterns. The pod also incorporated 60 Colorfaders producing an almost infinite number of colour variations. In the hub of the truss six Intellabeams were mounted to produce some moving coherent beams to complement the Pars. This was particularly striking as the source itself was hidden and the beams shot through the centre in a 'Close Encounter'-like manner to pick up the band members or produce patterns. The Intellabeams were fitted with custom gobo wheels, produced by Meteorlites, which had dichroic filters attached to some of the gobos. In the very centre of the pod was a 2.5kW HMI lamp with remote dimmer shutter to give a brilliant white shaft of light from the centre. Another interesting lighting feature was the use of softlights hung on pantographs from the back truss, creating five large 5kW light sources behind the band.

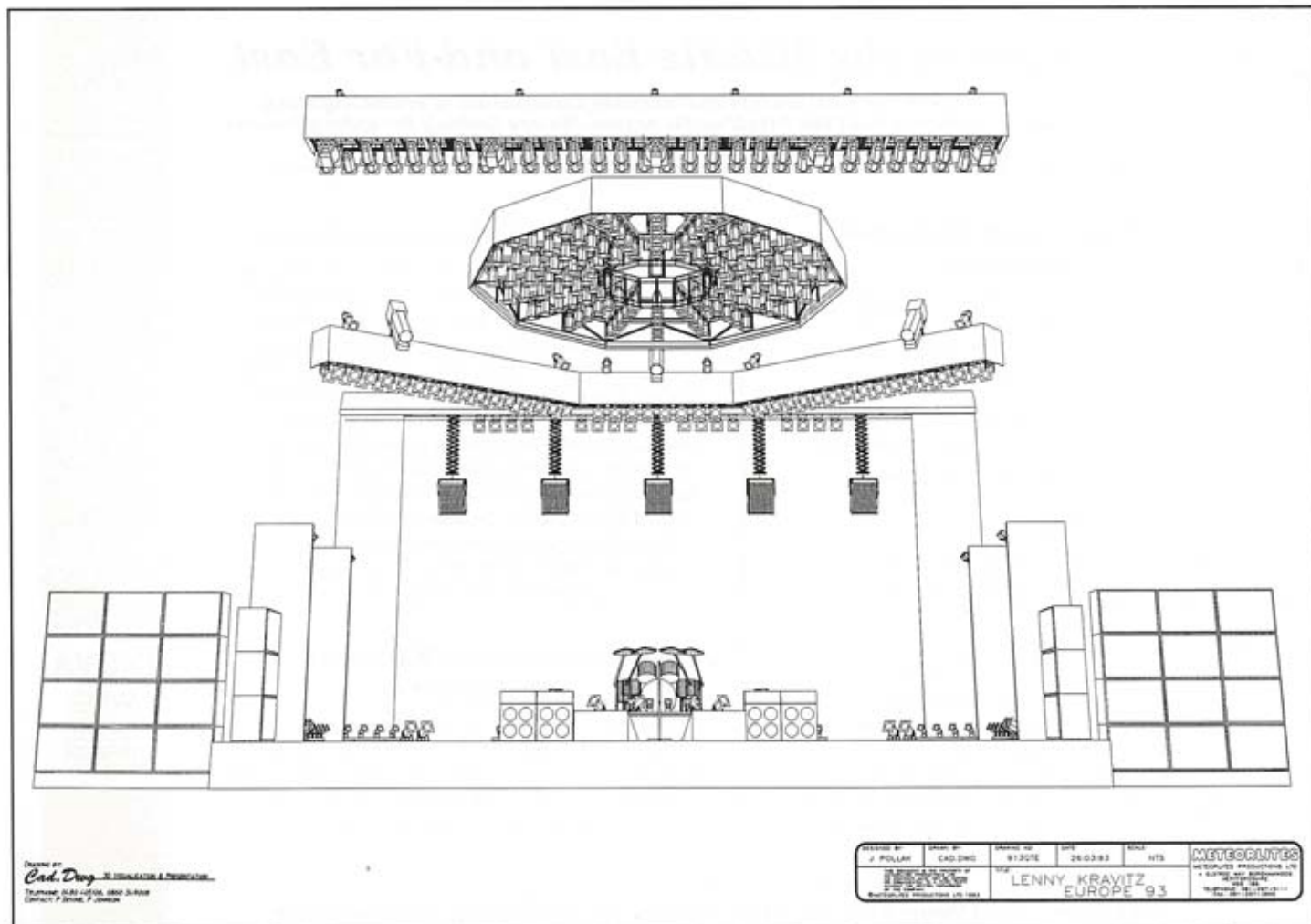
The Intellabeams and the Colorfaders were controlled from the Wholehog console. Meteorlites have upgraded all of their stock of 100



Intellabeams to run the latest software giving 12 as opposed to 8 bit resolution on the mirror movement, and the desk is able to operate the new software effectively on DMX. The generic lighting was controlled via an Avo QM500 180-way, the large number of channels being required to give each lamp in the pod its own channel.

John Pollak was keen that his design should be suitable for arenas and/or proscenium theatres with no need for expansion or contraction. He's a great proponent of 'less is more', especially when budgetary concerns are foremost. "I aim to light the music, that is, cues that are motivated by the emotion of the piece. Most of my original ideas were 'still-born' due to financial constraints. Lenny had the idea of a round truss, as featured in the 'My Way' video, but touring a rig made of refrigerator bulbs was a non-starter, so Parcans it was!" explained Pollak.

Unlike some entertainers, Lenny Kravitz has a great deal of input to all areas of his presentation. An unrelenting perfectionist, he expects his ideas to be brought to fruition. This, as with any tour, is a package of many different parameters which gives 'more bang for less bucks'.



Drawn by
End. Day CONSULTANTS & ENGINEERS
Telephone: 01474 41010, 0800 314400
Contact: P. Smith, P. Jones

DESIGNED BY J. POLLAK	DRAWN BY CAD SWG	DATE 91/3/21	SCALE 2:00/3:00	NO. 1/15	METEORLITES METEORLITES LIGHTING LTD A LONDON BASED COMPANY 100, WOODLAND AVENUE WINDSOR, BERKSHIRE, UK W4 1LH
LENNY KRAVITZ EUROPE 93					

John Pollak's lighting design for Lenny Kravitz produced on CAD for Meteorlites.



THE STAGE IS OUR WORLD

From the West End to Sunset Boulevard we are proud to provide lighting equipment and services to the world's most successful productions.

**THEATRE
PROJECTS**

VARI*LITE

THE LIGHTING AND SOUND DIVISION OF SAMUELSON GROUP PLC
20-22 Fairway Drive Greenford Middlesex UB6 8PW
Tel: 081 575 5555 / 6666

RJ robert juliat

YOUR LUX IN

Profiles

Condensor Optics
Tungsten and HMI sources
Small physical size
HMI version digitally controlled
New optical boosted range available soon

Followspots

HMI and Tungsten
Digital control option

Digital Products

Dimming shutters for HMI Fresnels
PC compatible dimmers for installation and portable use

Miscellaneous

Fresnels
PCs with a new lens design
Fluorescent and low voltage
Cyc floods

CONTACT

Tom Mannings, Decoupe Ltd
73 Crescent Road, London E18 1JA.
Tel: 081-505 8522
Fax: 081-504 4755

Opportunities in the Middle East and Far East

Inova is a company specialising in the distribution and turnkey installation of sound, lighting, laser, video and A/V equipment throughout the Asia/Pacific region. We are looking for entertainment industry professionals to fill a number of posts in our Dubai and Singapore offices. Tertiary technical qualifications would be an advantage in Dubai, but essential in Singapore.

Regional Sales Manager (Singapore)

The position of Regional Sales Manager is to target and develop sales opportunities in S. E. Asia for Inova's products and services which include:

Entertainment systems: including sound, lighting, video, laser equipment.

Professional systems: including boardroom A/V concepts, housing dimming systems.

Services: including operational consultancies, personnel, video and audio software, technical maintenance.

The applicant should have extensive experience in dealing with a corporate clientele. It is also important that the candidate be able to demonstrate at least five years experience in negotiating high value contracts.

As the position involves extensive travel throughout Asia and Australasia, the position may be more suited to a single person.

Production Manager (Dubai)

The post involves responsibility for setting up and running a new production department located in Inova's Dubai office. The job will entail the co-ordination of design, crewing, equipment and budget for sound and lighting rental. The area covered by the post will include the Gulf, Middle East and West Asia.

The applicant should have extensive experience in setting up productions for concerts, product launches and exhibitions. It is also important that the candidate be able to demonstrate at least five years experience in managing at least one major element of the sound and/or lighting production industry.

Product Sales Executive (Singapore)

The position of Product Sales Executive is to target and develop sales of Inova's high end distribution products including theatre lighting, dimming and control systems; audio-visual products and specialist systems.

INOVA
AUDIO
VISUAL
DESIGN

Please send full CV and references to:

Inova Audio Visual Designs Pte Ltd, 118 Lorong 23, #02-120 Geylang, Singapore 1438

A CLASSIC PROFILE

Bob Anderson reflects on natural selection, or survival of the fittest?

There are those who swear that there never is and never can be anything new in theatre lantern design. Bemused by the latest bells and whistles on consoles, impressed by intelligent dimmers, dazzled by DMX, these experts claim that everything about optics was known back when Newton was a lad, so how can the latest sleek spotlight possibly be any better than the 1970's version? Some even have a theatre full of lanterns of early vintage to demonstrate their point. They are happy, but they are wrong.

Take the CCT Silhouette. True, the first Sil (the 1971 blue version, remember?) had a 1kW quartz halogen lamp, two PC lenses arranged as a zoom, a gate with four adjustable shutters, a patented scientifically designed reflector and sufficient ironwork to hang it up, and so does the 1993 version. But compare the two, look carefully, and remember Charlie Darwin.

The blue prototype was intended for television. It was powerful for its day, but light leaked everywhere and it had a flat field. Great for TV gobos at 1500 lux, but not what theatre LDs thought they wanted.

So the design was modified, a new lamphouse and black paint were the obvious changes but there was also a flat/peaky adjustment knob and a plug-in lamp carrier responding to early alarming reports of severely burned fingers caused by electricians continuing the old habit of plugging new lamps into lampholders without first checking that the circuit was switched off. The new Quartz lamps got hot so fast that skin was frying before the mistake was recognised. Now the design made sense for theatre and sales began to boom. But evolution had only just started.

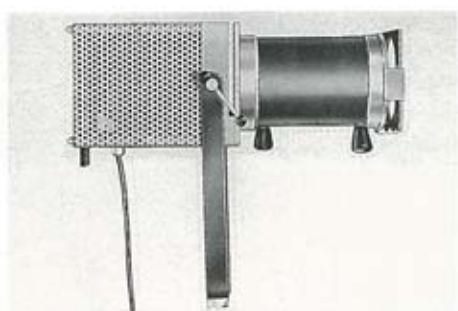
First came addition and multiplication processes giving three beam angles - wide, medium and narrow, and ultimately two more, very wide and very narrow, and then more power from a 2kW lamp in a bigger lamphouse. Lamp and lens options were flexible and bolted together interchangeably.

Construction changed to extruded aluminium, then changed back again to punched and folded steel to take advantage of CAD/DAM computer manufacturing techniques. Now both techniques are used. Suspension slides were devised to allow re-balancing to compensate for heavy add-on colour changers, and removed again in favour of stronger tilt clamps when it became apparent that re-balancing was rarely used.

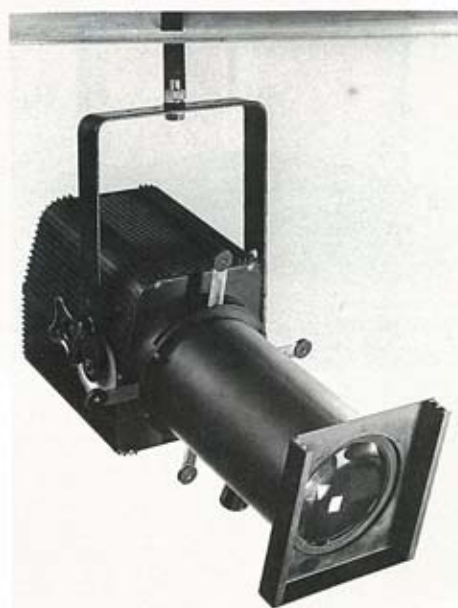
Two extra holes in the fork provided a reduced height option when essential and two more offered offset rigging. Focus knobs moved to the side, turned red for pretty, and acquired calibration marks, but still slide easily and give firm positive clamping. Colour frame lugs changed to a ventilated box construction with a safety retaining clip. Safety bonds, once an optional extra, are now offered as standard attached to a special strongpoint.

Lamps and optics are, of course, interactive. Find a better lamp and the spotlight can be improved. First T9, T11 the CP 24 for 1kW; CP 43 and CP 72 for 2kW, the CP77 axial lamps, then the T29 and CP90 1.2kW and CP91 2.5kW 'stretched' versions and then the T19, CP79 and CP92 biplane filaments all offered combinations of light output, dimensions, life and colour temperature to tax the ingenuity of the lantern designer seeking to satisfy more and more potential customers. Silhouettes coped with all these variations and more.

The first Sil amused many customers by having



1971 Blue prototype.



1980 1000W Silhouette 30.

a primary parabolic collection mirror 'spoil' by two or three judicious blows from a rubber mallet to add final perfection. Later versions use faceted mirrors optimised by computer and produced to high precision.

Shutters can be a major problem on profile spotlights. Four shutters were traditional with controls sticking out top and bottom and both

sides. Also traditional was the fact that they got much too hot (another risk of frying flesh), bent inevitably whenever the lantern was carried about, and either fell out or jammed solid when actually needed. In 1970 all manufacturers expected the user to adapt to this. CCT, new to the market, offered a few solutions.

The repertoire cassette allowed the required shutter pattern to be set up and then clamped in a removable unit. It did not catch on. They tried putting all controls at the top. Just feasible, but again, not a lasting change.

Then removable shutters, angled and reversible, hooked in and out as needed; new shutter material that distorted less; and better moulded-on heat proof handles without the trap of protruding rivets to blister the unwary. Then they added a rotatable gate to move shutters and gobo for fine adjustment.

All these improvements are much appreciated and now standard.

Today, new purchasers can try a Turbo version, with extra light available from the 1000w and 1200w lamps provided by an additional backward facing annular spherical mirror collecting the light that was once wasted on the gate supports. Measurements show improvements of 50-100% at most focus settings. Who said Pattern 23?

So, evolution rules, and for most customers the result really is OK.

But what about those proud but poor owners of the mesolithic* generation Sils? Has evolution doomed them to a twilight of 1970s and '80s technology? No! CCT policy has always been that improvements shall not make previous versions obsolete and that spares will always be available to remedy any misfortune. So, if your lens tube deserves a new lamphouse any new Sil lamphouse will fit, even the Turbo version.

The latest shutter sets fit all old designs* and the 1.2kW lamp tray takes 1kW or 1.2kW lamps and will fit any Sil since 1978. New lanterns for old at modest cost. Do-it-Yourself, like the Harrogate Arts Centre and White Light Ltd., or, for a fee, CCT will do the job for you.

Fiat Lux.

*After 1972



Age of Evolution: CCT's 1993 Turbo Sil.

SAVOY THEATRE RE-OPENS

Gilbert & Sullivan's original London home goes Multi-Purpose.

John Offord reports



The 'new' Savoy Theatre now seats 1137 patrons in Art Deco splendour.

colour photos: Matthew Weinreb

The Savoy was the first theatre in the world to be lit throughout by electricity when the Gilbert & Sullivan opera 'Patience' was premiered in 1881. For its re-opening last month after a major re-build following the disastrous fire in 1990, it is once again able to boast the latest in technology, this time with the emphasis on a flexibility that will enable the venue to cope with a wide range of production requirements.

The original building, designed by noted theatre architect C. J. Phipps, had been constructed to the order of impresario Richard D'Oyly Carte, but it had been "despised and much mutilated" according to David Lyle of Whitfield Partners, architects for the scheme. "The restoration demanded an inordinate degree of ingenuity from the whole team of architects, engineers and theatre experts to fit the machinery of a modern theatre into the accurately restored interior of one of London's cultural icons," he continued.

The theatre underwent major surgery in 1929 when it was re-designed in fabulous Art Deco style, rivalling the latest Parisian theatre interiors, and it was for the characteristics of this period that

the building was Listed Grade II.

Whitfield Partners' remit was to restore the famous interior to its 1929 appearance and to incorporate - invisibly - the latest theatrical lighting, sound and flying equipment, new air conditioning and all the other necessary statutory improvements since 1929. They also had to include a fitness centre to be let to the next-door Savoy Hotel (the swimming pool sits high above the stage!), and rejuvenate the remnants of the Victorian elevations.

"No drawings of the 1929 decorative scheme survived," explained David Lyle, "and the appearance of that interior had to be deduced from contemporary photographs and descriptions, and salvage of the fire-damaged remnants. Painstaking researches and some happy chances combined to produce a high degree of accuracy which at first we did not expect to be able to achieve. For instance, we were able to provide Dick Reid's modelling studio with images for all the Chinoiserie panels of the proscenium even though many were completely destroyed and indecipherable in the photographs.

"This came about when our architect Red Mason recognised in an antique Chinese screen at the Victoria and Albert Museum the source of those panels we had succeeded in rescuing from the debris. It seems that Gilbert Seale, the plasterer of 1929, must have used this screen as his model!"

The silver-leafing of the auditorium walls, one of the most striking features of the venue, was described in several contemporary articles, some of them even referring to it as gold. In fact the building accounts make it clear that aluminium leaf was actually used for the gilding with the gold and multi-colour effects obtained by using coloured varnishes.

Sufficient scraps of the original luxurious carpets were found hidden away in good enough condition to reproduce exactly, even though the auditorium carpet was entirely destroyed. Although long since over-painted with less lively colours, the original front-of-house paint scheme eventually proved deducible from fragments behind fittings, scrapes and descriptions.

Theatre consultant in charge of the project was Jerry Godden of **Theatre Projects Consultants**,



Portal of the Savoy Hotel with entrance to the theatre.



The foyer returns to its 1929 glory.

who had the task of technically up-dating the theatre whilst at the same time reconciling the remit of the architects to restore the venue to its 1929 style. And, lest we forget, the original structure went back to 1881, providing him and all those involved with the project with a very complicated set of restrictions. However, I'm sure theatre consultants warm to this sort of job - if a touch secretly - provided the end result is worth the effort.

"Much of the role of the theatre consultant involves out-guessing the needs of any production which may run at a theatre in the future and providing the technical resources to allow these needs to be satisfied," Jerry Godden told me. "It is a task which incorporates practical knowledge of the theatre with an understanding of the increasingly complex marketplace for technical hardware and an appreciation of the work of an architect. The marrying together of these layers of knowledge more or less describes Theatre Projects Consultants' task in the case of the Savoy Theatre - on other projects our work may be different.

"Space for technical hardware was very limited in the pre-fire theatre and finding ways to implement a full lighting and sound infrastructure while not marring the integrity of the restoration called for meticulous detailing and co-operation from the different members of the design team.

"The new control room was the former private box of the late Sir Hugh Wontner, chairman of the Savoy Theatre and while the space is very tight, any lighting operator should feel that the compensation of working with a state of the art Strand Lighting Galaxy Nova console is sufficient compensation. The console controls all stage and Houselight dimmers. Control of houselights is also available from a stage manager's panel, stage left and, for security purposes, from the Stage Door.

"Another bonus is the portable hand held key pad which will allow dimmers to be controlled locally, eliminating the need to have a lighting console operator present in the control room during luminaire focusing or routine adjustments. For lighting and technical rehearsals a lighting designer's monitor and remote control have been installed at the rear of the stalls.

"As is the case with the majority of West End theatres, there is no permanently installed sound mixing console or fixed proscenium cluster. These, together with other sound equipment, are typically brought in and used on a show by show basis. Given the budgetary restraints we considered that it was more important to provide an installed wiring infrastructure system to which equipment can be connected as required.

Two temporary sound positions were selected, one is in the fairly traditional location at the back of the stalls, the second is in the centre of the dress circle with removable seats in this area to allow a sound console and ancillary equipment to be installed as required. Audio boxes are placed under the floor



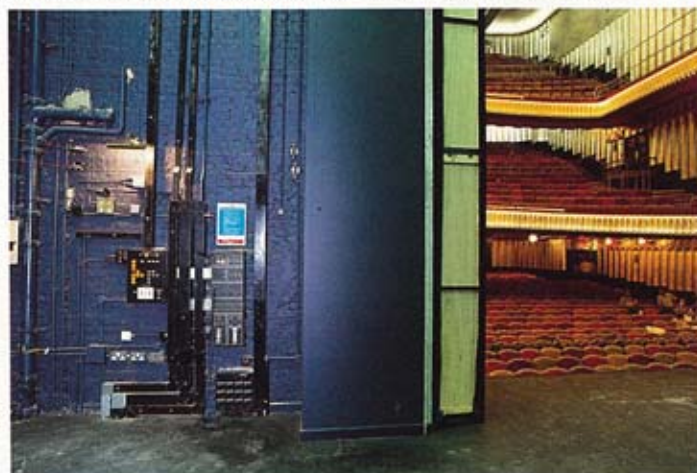
Another view of the 'silvered' auditorium.



Complicated, but neat, routing of part of the rigging system.



The control room is located high in the private box of the late Sir Hugh Wontner.



On stage, showing stage manager's position.



Strand EC90 modular dimmer racks.

to enable equipment to be easily connected to the main system. Delay loudspeakers and effects loudspeakers have also been integrated into the soffits of the auditorium and the side walls respectively.

"Building-wide show rely and paging systems, a closed circuit TV network and an FM system for the hearing impaired have all been designed and implemented by Theatre Projects Consultants.

"As part of the rebuilding process undertaken by Whitfields the entire stage house was gutted and a new and more manageable grid loading gallery installed. The old safety curtain has also been replaced with a single piece rigid framed curtain clad on the audience side with profiled sheeting in a steel finish to complement the auditorium. The new stage floor has been designed to permit portions or all the floor to be removed to facilitate the requirements of particular productions. Two rows of chain hoists have been integrated into the auditorium ceiling to support a sound cluster or advance lighting bar. "These seemingly diametrically opposed viewpoints of restoration and the installation of contemporary production facilities have been successfully reconciled at the Savoy to create a theatre which will answer the needs of modern production companies and also look stunning."

Two PLASA members were involved with the direct installation. **Glantre Engineering** were awarded the contract for the supply of the production lighting system, **Shuttlesound** the sound installation. The lighting equipment includes the already mentioned **Strand Lighting** Nova control console, the latest in their Galaxy range of control desks. The system supplied has two theatre playback panels, a channel control panel, a group masters panel and a memory/output panel. A custom panel was also included which has controls fitted for houselights, independents and dedicated orchestra dimmers. Facilities have been provided in the stalls for duplicate remote colour monitors.

Dimmers are the MD version of Strand's EC90 digital range. Four dimmer racks house a total of 224 2.5kW and 30 5kW dimmers. An additional small EC90 rack was supplied with 18 2.5kW dimmers for houselights which can be controlled from dedicated push-button control panels in addition to the Galaxy.

For Strand Lighting it is no less than the fourth time in the history of the theatre that they have been chosen to supply the complete stage lighting system. Their close relationship with the building began with the major reconstruction in 1929 when they carried out the entire electrical installation. A special hybrid 52 dimmer



Theatre Projects Consultants' Jerry Godden (centre) pictured in the new Savoy auditorium with Matthew Tonks (left) and Derek Gilbert of Glantre Engineering.

switchboard was built comprising a mixture of resistance dimmers and liquid pot dimmers. In 1960 Strand was called in to replace its 1929 installation and upgraded the theatre to have 120 remote-controlled transformer dimmers and a CD control console. The third refit, in the early 1980's, brought the theatre into the modern age of electronics with a Duet memory desk and thyristor dimmers.

Luminaires for the basic house rig are all from Strand and includes a total of 168 Cantata, Cadenza, Prelude, Punchlite, Iris and Nocturne units and two Solo CSI followspots. Four 9m internally wired bars and assorted cabling was also supplied. A custom-built Worklight rack manufactured by **Northern Light** handles both the worklight and independent circuits. Dedicated control panels are located in the lighting control room and on stage, with local control switches positioned in all technical areas.

Shuttlesound, whose latest theatre credits include Glyndebourne Opera House and the Lyceum Theatre in Sheffield, evidently won the race for the sound installation by a short head, and Ewen Atkinson explained the background to the project in more detail.

"In essence, it called for an extremely flexible audio system, easy to use and integrated as unobtrusively as possible with the unique interior of the venue," he told L+S. "Flexibility was paramount because the Savoy will play host to a wide range of touring companies, each with its own peculiar audio needs and preferences: lack of system adaptability in many of the old theatres is the bane of every touring sound manager's existence.

"The audio system now in place at the theatre neatly pre-empts many common problems and frustrations, and is designed to assist sound



Matthew Tonks (left) with Richard Desmond, Savoy chief electrician, at the Galaxy Nova.

engineers in every area of their work. Deploying a wiring infrastructure was the logical solution, and that, with a number of special adaptations, is primarily what the installation comprises. Facility panels are located at strategic positions around the stage and auditorium, allowing connection of mixing consoles, stage boxes, loudspeakers, microphones and cure lights.

The positioning of the facility panels also enables front of house engineers to operate shows from all two levels in the auditorium.

"Some features of the Savoy installation are unique among West End theatre sound systems. For example, many of these venues most commonly use Meyer loudspeakers, and the facility panel beneath the stage is designed to allow engineers to simply position their kit and plug into the panel. Another unusual feature is the speaker delay system. In many West End theatres, managers do not permit touring companies to operate their own delay systems. Anticipating this problem, Theatre Projects designed a speaker delay facility, fully integrated into the auditorium interior, which was installed by Shuttlesound.

"In every area of the installation provision has been made for all standard industry equipment, and the best ways in which that equipment can be put to use. The Savoy is now one of the few West End venues, if not the only one, that is equipped to meet the audio needs of practically every individual theatre company," explained Atkinson.

More than 180 craftsmen and sub-contractors were working on the Savoy site at peak periods, and that, coupled with the man-hours spent on research and special projects right down to many smaller items such as interior light fittings, shows in the price - a projected total cost of £11.4m. It is now a most beautiful theatre auditorium, whether Art Deco happens to be your particular preference in style or not. And for that we have to thank the Savoy Hotel, who put a realistic figure on the insurance value and collected the cash to pay for it all when the 1990 fire struck.

The Savoy Theatre re-opened on July 19th 1993 with a gala charity performance by English National Ballet.

Credits:

Architect: Whitfield Partners

Theatre Consultants: Theatre Projects Consultants

Consulting Engineer: Max Fordham & Partners

Production Lighting System: Glantre Engineering Ltd

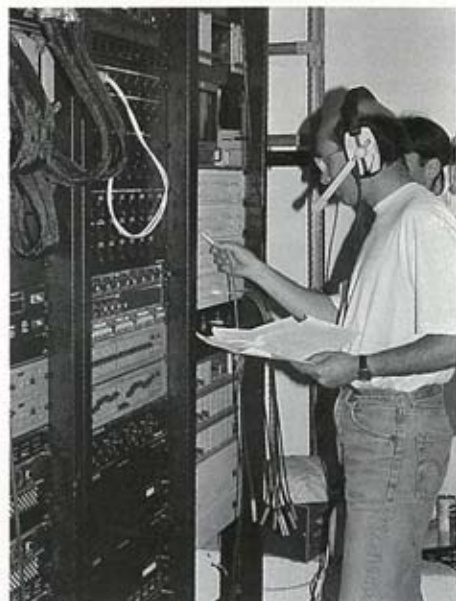
Audio Installation: Shuttlesound Ltd

Auditorium Seating: Hille Ltd

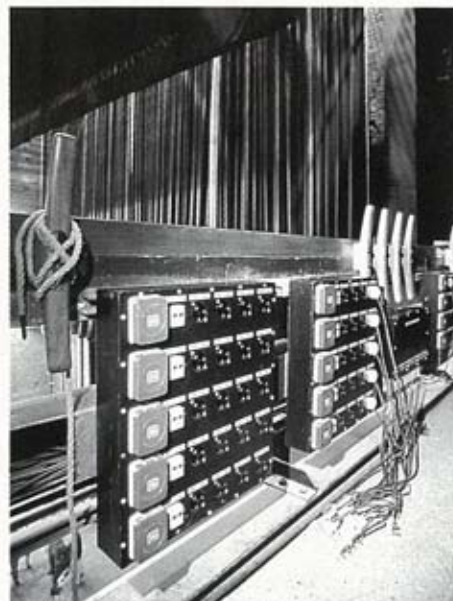
Curtains/Drapes: Mick Tomlin Ltd

Stage Rigging: Eurotrak

Management Contractor: Bovis Construction Ltd



Shuttlesound engineers set up the sound.



Main fly gallery with socket boxes.

THEATRE
PROJECTS
CONSULTANTS

"The new Savoy Theatre dazzles with its crazy splendour and aspirations to perfection"

Michael Church, The Observer

Current projects include:

- Edinburgh Festival Theatre, Scotland •
- Glyndebourne, England •
- Atlanta Symphony Hall, USA •
- Walt Disney Concert Hall, USA •
- Singapore Arts Centre, Singapore •
- Ohio Center for the Arts, Cincinnati, USA •
- The Cerritos Center for the Performing Arts, USA •

3 Apollo Studios
Charlton Kings Road
London NW5 2SW
Tel: 071-482 4224 Fax: 071-284 0636

We're proud to be part
of the long running
success . . .

Strand and The Savoy
1993, 1982, 1960
and 1929



Strand Lighting

Strand Lighting Limited
Grant Way, Isleworth, Middlesex,
TW7 5QD.

Telephone 081-560 3171
Fax 081-568 2103

**STAGE LIGHTING
FOR THE SAVOY**



■ For the Savoy Theatre, the complete stage lighting sub-contract was carried out by Glantre Engineering and included a Galaxy Nova console, EC90MD dimmers, working light system, socket boxes and luminaires.

■ Glantre specialises in lighting, sound, rigging, AV, conference and projection systems for theatres, halls, studios, presentation and leisure venues.

■ Glantre operates throughout the UK and worldwide. Schemes can be prepared and a full installation service is available.

■ Contact Glantre for further information, or a copy of our brochure "The Total Package".



GLANTRE ENGINEERING LTD.

2 Cremyll Road, Reading, Berks, United Kingdom
Tel: 0734 509711 Fax: 0734 505808



EASTERN PROMISE

Ruth Rossington reports on Pro Audio & Light Asia

Anyone conducting business in the Far East will, I'm sure, be quick to acknowledge that Asia is currently the growth market for the leisure industry. New prospects are emerging in developing countries such as Vietnam, China, Cambodia and Thailand, whilst those further along the chain of 'westernisation' will soon be able to give the Europeans and Americans a run for their money. Singapore's economic miracle has made its people rich, and like the nouveau riche all over the world, they are flaunting their wealth for all to see, particularly in the leisure markets where the lighting and sound industry's foray into the Pacific Rim is beginning to make itself felt.

As a result, Pro Audio & Light Asia might prove to be the show to watch in the years to come, and may well spring a few surprises. As things currently stand, however, with the show still in its infancy, it has yet to earn its spurs for major launches. I suspect it will have a fight on its hands as it jostles for position in a calendar which sees its closest neighbours, SIB Magis and PLASA, currently taking all the prizes. Nonetheless, it did tease several smaller launches and a large number of enhancements out of those exhibitors present.

Not surprisingly, the Brits were there en masse, clutched together in the quiet hall, with a few outposts dotted around the twilight zone of the noisy hall. Under the watchful eye of PLASA, organisers of the DTI-sponsored group, they set up camp, and created a kind of 'Brit Row' with Union Jacks to the fore.

Expotus were in the frontline with the latest line-up of Allen & Heath desks. Behind them **Turbosound** introduced the first in a new series of installation loudspeaker products: the TCS-612 is a bi-amped three-way design employing a 12" LF driver and a new 6 1/2" co-axial device in a quasi-trapezoidal enclosure. Also on stand were **BSS** who were showing the FPC-900 Varicurve equaliser analyser controller, a portable, wireless remote control that allows the engineer to address a system of up to 16 Varicurve dual equaliser analyser units from anywhere in a venue. Programme event control, even of other non-BSS MIDI devices, is available, plus hard storage to PCM card for recall. Alongside, **Precision Devices** had the Reference Series PD1550, 1850 and 2150

high power, cone transducer which is designed to provide powerful bass frequencies with minimal distortion and power compression.

Light Processor arrived at the show with their well-established range of discotheque products in the new Lightpower livery. Also on stand was the Q range of desks and dimmers, together with the latest version of the Integrator. New to the East was the 24-channel DMX to analogue demultiplexer, the QDMX. Notable amongst its features is its LCD display for setting the start address and a safety net scene store to provide lighting in the event of a breakdown in the DMX signal. Input/output sockets for the DMX signal are fitted in both 3-pin and 5-pin XLR format, whilst analogue output sockets allow for four or six channel groupings.

For **Martin Audio**, the show presented an ideal forum in which to introduce the EM Series to the Asian market. Distributors Hawko have recently installed part of the EM range into TGI Fridays in Singapore and also at the Ozone nightclub in Penang. **Drawmer** drew the covers off a new DL441 Quad Auto compressor/limiter which majors on its switchable hard/soft knee compression, peak level control adjustable between 0dB and +16dB and balanced XLR inputs/outputs.

Further down 'Brit Row' **Celestion** were plying their wares in a sound booth-cum-cinema. It was a haven in which I would have been willing to see the show out, but alas it was only a one-seat cinema and unfortunately over-subscribed. The soundtrack to the film was provided by the impressive SR Series, whilst on the main part of the stand the new-ish CR series was getting its Asian launch.

Kam released two additions to their established Made2Fade and Kam ranges. Both 19" mixers have three phono inputs, eq for DJ mic and output, split cue and assignable crossfade.

Many companies were in Singapore to introduce recent or long established products to the Asian market: **Strand Lighting** gave the Alto range a first airing, **Penn** had their familiar trussing, **Ludwig Pani Laserpoint** set up stall with the Pixelite videowall and **A C Lighting** had the Wholehog, a product that must surely have them rubbing their hands with glee as it continues to scorch a trail through the touring wilderness. **VV**

Marketing were showing the Cameron multi-effect control system for video monitors, for which they are now marketing agents in the Asia Pacific region. Amek had their own, together with TAC and Langley hardware. The AVC2 automatic volume control unit was getting its first taste of Singapore on the stand of **Formula Sound**. The unit, along with the Sentry environmental noise control unit, was well received by those whose misfortune it is to have to address the problems of excessive noise in venues and workplaces. Next door **Arri** were testing the waters with the SmartRack digital dimmer, a debutante at PLASA last year.

On the stand of **Studiomaster** was the Star System, initially designed for recording, but now the subject of much interest in the installation market. It has eight balanced XLR mic inputs with +48v, 10 stereo inputs for videos et al, four with EQ. **Cloud's** new products take them away from discotheque sector and move them firmly into the pro-audio arena. The show was the production launch of Cloud's compressor/limiter, the CX335 which has a somewhat unique programme dependent circuitry, claimed by Cloud to give transparent sound under heavy usage. The other product of note is the CX233, a fully assignable stereo mixer/zoner with five inputs and three outputs that has been so well thought out that it's nigh on impossible to begin to list its features here. A call to Cloud will serve you better.

LiteStructures, one of the 'outposts' with **Jem** and **Wembley**, came to the show with their familiar trussing ensemble, which provided the canopy to Jem's launch of the Mark II ZR20 smoke machine. This redesigned model now has a universal electric remote, high powered heat exchanger, XLR connectors and 0-10v input. Jem's Jon Petts was full of goodies and also new was the Mark III Jem Fogger which has been totally upgraded, again with electric timer remote with 5 pin din connector and 1,000W chamber. Up his other sleeve he had the new JY mark II, an entry-level machine with new electronics, and now complete with remote control.

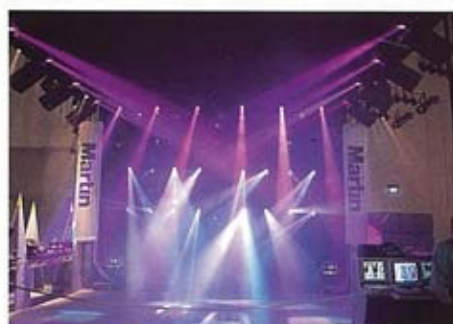
Paul MacCallum of Wembley, meanwhile, was hoping to announce two new distributorships and confirmation is expected soon on Inova handling their products in Singapore and Dubai, and Trinity



Freddy Lloyd (left) with Zero's Lightmaster XLS running the lighting on the on-stand mini theatre.



Part of 'Brit Row': A C Lighting had the combined talents of Jands, Gelstream, Vision and more.



Roboscan, Robozap and Robocolor pull together for the Martin lightshow.



The FAL stand which previewed several new products to be launched officially at PLASA.



COEF has been manufacturing lighting effects since 1985 but only recently under its own name.



Turbosound launched the first in a new series of installation loudspeakers.



Stephen Meehan of AVX Systems with the VxLan V.



Tim Bachmann, Colortran's product manager, with the Encore XL.

once again taking on the range in Hong Kong. Singapore-based **Inova** are now building up quite a posse of products: as specialists in the design and installation of complete systems for the leisure industry they handle a range of products including the lasers of ACR, SLE, SCM and Martin effects, Mode control equipment and Jands consoles.

Citronic were exhibiting the Series 16 sampler, in tandem with their SM250 remix mixer. Demonstrating the kit was Martin Smith of UK club act Megabass, who found his pitch on the stand of Wembley, hooked up to the latter's Spyder loudspeaker system. Meanwhile, back at base, Citronic's Mike Gerrish was pushing the PPX amplifiers and SPX range of signal processors.

Hans Freytag and Phil Hildrow were flaunting muscle on the stand of **C-Audio** in the form of the XR5001 high performance power amp which is rated at 2000W per channel into two ohms in stereo mode. The little beast is built into a compact 19" rack 3U package, and incorporates advanced technology for thermal management and protection specification.

Teatro were at the show on the stand of recently-appointed distributor, **Audio-Visual Land**, aka Yamaha. Alongside, **James Thomas** had the prototype of a completely waterproof Parcan manufactured not from spun aluminium but die-cast. Focusing can be carried out externally, thus eliminating painstaking internal rummaging. Mervyn Thomas and John Walters were nearly busting their company epaulettes to demonstrate an innovative new trussing system which has unisex double-end connectors, and which they hope to officially launch at PLASA.

Also harnessed under the Audio-Visual banner were **Avolites**, **Crest Audio**, **Camelot**, **Lycian**, **Apogee** and **Zero 88**, though the latter also had space in their own right as part of the British group, which found Freddy Lloyd and Chris Cronin of **Total Fabrications** in partnership. On stand was Zero's LTC dimmer, a fully modular system that has a lot to recommend it. Offering 10 or 25 amp channels, analog or DMX512 input control, the unit contains up to four separate power modules, together with four control panels and a comprehensive channel test facility. When pressed, Freddy LLOYD wouldn't reveal what 'LTC' stood for, but I can exclusively reveal that it does not stand for 'long, tall cabinet', as he later tried to have me believe. Those who would have liked to see this product in the Zero range sooner, may well work it out.

LSC had the first showing of the upgraded Focal console which now has a trackball, as opposed to joystick, controller and much improved software. In fact, the enhancements are so numerous it took over an hour to get through them. In essence, the operator can now look forward to better feedback, an ability to record blind, to view the contents of any master and much faster operation. What LSC have done is effectively remove the foot-slogging process by the deft application of a few refinements which minimise keystrokes and thereby create a kind of shorthand for the operator. The same process has gone into the redesigned Multisplit DMX splitter which has one line in and up to 20 out, is optically isolated and amplified, not only between input and output, but also between output and output. The months ahead will be worth keeping an eye on if the company keeps its promise to launch a major new product range at PLASA.

The new software-rigged ESP II from **Jands** was on display, alongside its SR3000 split rail touring audio amplifier, previously only available in Australia.

Colortran were on the stand of **Electro-Acoustica**, and although the desk



Studio Due: Stratos and Mini Beam at work.



- 18 or 12 Channel versions
- 5 Amp or 10 Amp per channel load capability
- Dimming or Switching versions
- Pre-heat facility on dimming versions
- All models fully Resistive and/or Inductive load compatible
- Single or three phase power input with indicators
- "Status" indicators show output and fuse blown status for each channel
- Analogue 0-10V - PMX Digital (RS 232) - DMX 512 digital inputs
- Internal channel override and digital test switches for ease of installation
- All connections accessible by removal of front cover
- High power versions feature temperature controlled fan cooling

PULSAR
LIGHTING FOR EFFECT

Pulsar Light of Cambridge Ltd
Henley Road, Cambridge CB1 3EA
Tel 44-(0)223 66798 Fax 44-(0)223 460708
United Kingdom

Datapak



A C Lighting's Glyn O' Donoghue (left) demos Flying Pig's Wholehog system.



David Clowes of Expotus with Allen & Heath's GS3 mixing consoles.

wasn't on show, talk centred around the LDI-launched Medallion which they started shipping in April and to which updated software (version 1.04) has been added. Tim Bachmann told me they hope in a few months to send out a further upgrade. This new version features disk file management and the ability to relabel and reorganise cues with selective retrieval. Future enhancements will feature an expansion of macros from 10-100.

Stephen Meehan of **AVX Systems**, also on the stand of Electro-Acoustica, was showing the upgraded VxLanV, which has been repackaged to eliminate the master station and now has 32,000 individually addressable areas, as opposed to the 250 of yore. It's the first fully digital life-saving PA system, and E-A have just won a \$1m(Singapore) contract to supply overall control to the existing PA system on the nearby island of Sentosa. 35 VxLan Vs will be installed in mid-August.

Altec Lansing were ticking over nicely with the new 9864-8A 'Engine', a high-powered coaxial speaker component mounted in a bass horn cabinet, whilst **DAS** had Factor 5 - a new monitor which incorporates a recently developed 5" bass unit and a ferro-fluid-cooled high-frequency tweeter.

The noisy hall was not for the faint-hearted, failing only to be a living hell by virtue of the F-factor of its lightshows. In the capable hands of Carl Dodds and John Lindsell, **Coemar** put in their usual slick performance (BabyColor and Centro had their Far East launch), the **Clay Paky/Pulsar** combo stopped passers-by with the Asian debut of GoldenScan 3, and **Lampo** kicked bass with their Columbus, Domingo and Apache effects.

COEF was the new kid on the block: the company used to manufacture for SGM - now the two have gone their separate ways. The former is doing very well with its range of Compact scanners and new effects, the Tunnel and Astro, whilst the latter are now manufacturing their own lighting effects. **High End** were showing a new version of the Trackspot which has a more compact form and improved optics, giving a 25% improvement in brightness, according to Bob Schacherl: here was yet another one with a launch to come, this time the big guns are being saved for LDI in Orlando. The Multiflash unit has also been enhanced with a new lamp.

A new Spectacolor was prime mover on the stand of **Ness**, whilst La Novalight had the world launch of Revolution which can produce a wide range of lighting effects and Cometa, an eight lamp unit which has synchronised or independently operating mirrors. **Studio Due** had on stand the newly launched Stratos, a motorised spot with 300



Mervyn Thomas (left) and John Walters of James Thomas with the new waterproof Parcan.



The Hawko team line-up after a night entertaining friends and colleagues on ship.

degs of movement, two colour wheels, rainbow effect, two gobo wheels (one with rotating gobos) and an adjustable frequency strobing effect. Alongside was the Mini Beam, again with 300 degs of movement, six colours, rainbow effect, six gobos and strobe facility.

Fal were previewing products to be launched officially at PLASA. New scanners include the Primoscan 8 and the Supercleverscan 10. The Primo now has eight colours and eight gobos with colours that are now interchangeable, whilst the Super 10 now has 10 gobos and colours, both of which are interchangeable. Once again, the bait was laid for PLASA and Paul Dodd, who designed and programmed Fal's lightshow, promised that there would be a new mini Octopus at Earls Court, a fraction of the size of the current unit which will operate in what he called "a slightly different way, offering some very interesting patterns". He also hinted at a new Colourchanger, yet to be named, that will feature 10 interchangeable colours, strobing facility and black-out.

One of the most interesting things about working at exhibitions overseas is the opportunity to explore the host country and to learn something of its customs. Singapore was quite a revelation to me, not only because on the business front there is a strict code of conduct (if a person offers his business card with two hands, it should be accepted with two hands and never ever be written on), but because of the laws of the country that have earned it the nickname 'Fine City'. Drug



Ludwig Pani's Herman Sorger (centre) and Wolfgang Hraschek (right) talking projection.



The Star System to the fore on the stand of Studiomaster.

trafficking still carries the death sentence: jaywalking, smoking and chewing gum are all subject to legal niceties and can bring the innocent kerb-hopping, smoking, masticator to his knees with hefty fines meted at the merest sign of a twitching jaw. However, the one that continued to fascinate was the \$150 fine levied on those who forget to flush the toilet. It would be interesting to know how this particular misdemeanour is policed. It may also interest the Singapore Government to know that, given the antics of exhibitors abroad, I calculate that, as a group, we are in debt to them to the tune of at least \$1m Singapore dollars.



Tan Cheng Hoe of Lingtec, Singapore with the DAS Factor 5 monitor.

marquee
AUDIO PROFESSIONAL SALES AND SYSTEMS

Pro audio sales
System design
Installation
Export

0932-566777
041-810 3375

Wilkes Iris Diaphragm Co Ltd
Widco Works, London Road,
Bexhill-on-Sea, Sussex, England
Telephone: (0424) 217630
Fax: (0424) 215406

Wilkes know a thing or two about iris diaphragms - they have been manufacturing them for over a century. In recent years they have carried that wealth of expertise into the Theatre and TV markets, and now supply some of the industry's leading companies. Find out why by calling Wilkes today

CARVING OUT A NAME

Ken Dibble reviews the PT-2400 amp from Carver

It seems that users either love or hate Carver Magnetic Field Power amplifiers. I have to confess that, after some five years' hands-on experience with these products, I fall very much in the former category.

All these amplifiers employ Bob Carver's patented 'Magnetic Field' power supply principle in which energy is drawn from the AC supply line during periods of quiescent or low power operation and stored to provide high levels of instantaneous energy under large signal conditions. As part of this philosophy most Carver amplifiers have more than one HT rail supply - the PM-1200, for example, having one at +/-36V, one at +/-76V and one at +/-124V, with decreasing current capability with increasing rail volts.

A feed-forward circuit is used to select the rail line appropriate to the voltage swing requirements of the incoming programme, thus ensuring that the best combination of voltage/current supply is available to handle the programme characteristics. This is why many amplifiers of this design will not drive continuous sine wave signals at full-rated output power and why certain PA hire companies have found that meeting the demand for sustained low frequency level required

by today's touring bands, into the very low load impedances which result from paralleled 4 ohm sub-bass cabinets, can be a problem.

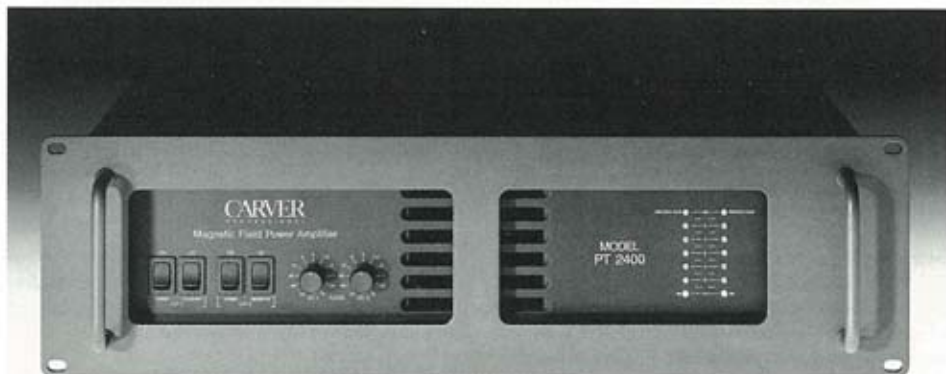
However, the big advantage from this approach comes in size and weight savings - for example, the now discontinued Carver PM-2.0 came in a 2U x 300mm deep rack package, weighed just 5kg, and delivered in excess of 800W programme per channel into 4 ohms! Literally hundreds of these are still used by Clair Brothers with phenomenal economies of amp rack size and weight. In addition, the power supplies are stated to be considerably more efficient than conventional designs, protection and control facilities are easy to implement and the sonic quality which results from the high headroom provided by the high voltage rails is indeed impressive.

Following several years of close collaboration between Carver and Clair Brothers, a new range of high power products aimed specifically at the pro-touring market have been launched. These no longer exhibit any compromises in terms of sustained low frequency energy delivery or low load impedances, with the PT-2400 reviewed here being the flagship model.

PT-2400 Overview

This is a 3kW, dual power supply workhorse in a 3U rack package. It is still only 300mm deep and at 20kg - although about half the weight of any other 3kW amplifier - must be the heaviest amplifier Carver have ever produced.

It comprises literally two complete amplifiers, each with its own separate power supply, in a single chassis, even to the provision of two heavy duty, shrouded, IEC mains connectors with made-up cables and retaining clips - this being necessary as the amplifier is not capable of being run off a single 13A socket. In addition it has a host of features for maximum convenience and flexibility. The front panel layout can be seen from the photograph (top right) and the amp's rear panel is shown in Fig.1.



The Carver PT-2400 pro touring amplifier.

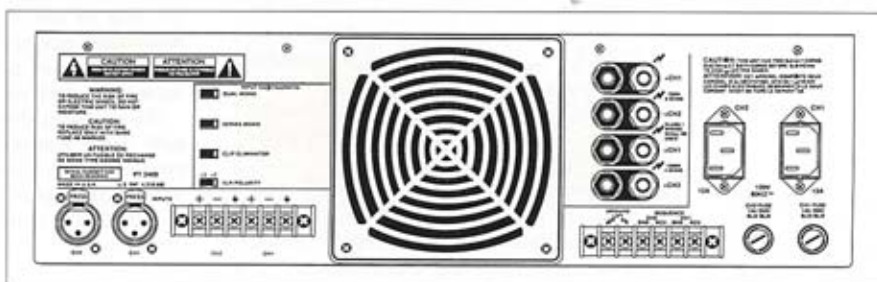


Fig 1. Rear panel details.

Facilities

The input connections are either by XLR/3 type sockets or via a 6-way screw terminal strip to facilitate hard-wiring within equipment racks. The XLR inputs however can be switched to pin #2 hot or pin #3 hot by means of a rear panel recessed slide switch - a nice touch.

There are three further recessed switches, one to engage the 'clipping eliminator' circuit, one to switch the amplifier into its 'series mono' or bridge mode and one to select the 'dual mono' mode. A transparent cover is provided so that once set these switches can be protected from inadvertent or unauthorised re-setting if required. The 'dual mono' facility is interesting as this enables both amplifier channels to be driven from the channel #1 input using only the channel #1 volume control. By linking between terminals on the hard-wire input block the channel #2 XLR can then be used as a link-out facility to feed another amplifier.

The outputs are duplicated and appear at eight 4mm binding posts on standard spacing and arranged in alternate pairs so that normal outputs can be derived across each pair and bridged outputs across adjacent red terminals using a standard 2-pole 'banana plug'. Again it is a neat and intelligent way of doing things.

Another feature which is virtually unique to Carver is the provision of a built-in sequential turn-on facility, whereby one amplifier can be used to turn on an entire rack in 3-second intervals, thus overcoming the supply line sag or breaker trip problems arising from the high inrush currents demanded by large amplifiers. This provision may also be used to facilitate remote control of the amp racks - e.g. from the mixing desk location using low voltage DC switching logic. The facility is pre-selected by the 'sequence' switch on the front panel and is accessed via a second 6-way terminal strip at the rear - which also incorporates a chassis ground-lift strap.

The design includes extensive protection provision including short circuit, thermal, DC

offset and excessive HF level as well as soft start, input mute and a switchable clipping eliminator.

Construction

The amplifier is built on a substantial 12 gauge aluminium open-sided chassis with pressed steel rear panel and front sub-panel and has an extruded aluminium heat-

sink tunnel running back-to-front through the centre with a 10cm axial fan at the rear. The output devices are attached along the top and down the side of this with the corresponding driver pcbs slung alongside.

It looks like a complementary output stage in which three Toshiba MOS-fets per side provide the RMS power stage, with three TIP35C/36C devices per side providing the first stage of headroom extension and a fourth TIP device per side providing the second stage, apparently regulated by a rail commutator device, giving 14 power devices per channel in all. However, as I do not have a circuit diagram to hand this synopsis should be regarded as conjecture based on observation.

To either side of the central core are the two 'magnetic field' power supplies and the control electronics. These are screened from the driver boards by earthed mu-metal screens and comprise two massive iron cored chokes, a 20A bridge rectifier, two huge 10,000µF 150V capacitors, four 3,300µF 80V capacitors, the SCR device which is at the heart of the 'magnetic field' concept and its associated firing circuit. This actually is a highly ingenious arrangement as not only does the SCR regulate the supply rails according to the dictates of programme demand, it is also controlled by the protection circuits and so does not fire the charge store components under fault conditions.

At the rear of the LH power supply module is the loudspeaker output termination board whilst behind the RH module is the input pre-amplifier and function switching pcb - the latter being provided with another mu-metal screen and linked to the respective channel electronics by ribbon cables.

The build quality is very good indeed, if somewhat crammed and 'busy' by comparison to most UK amplifiers, and employs high grade components on well made and nicely laid-out pcbs. My only reservation would be access to the output MOS-fet devices or the output driver

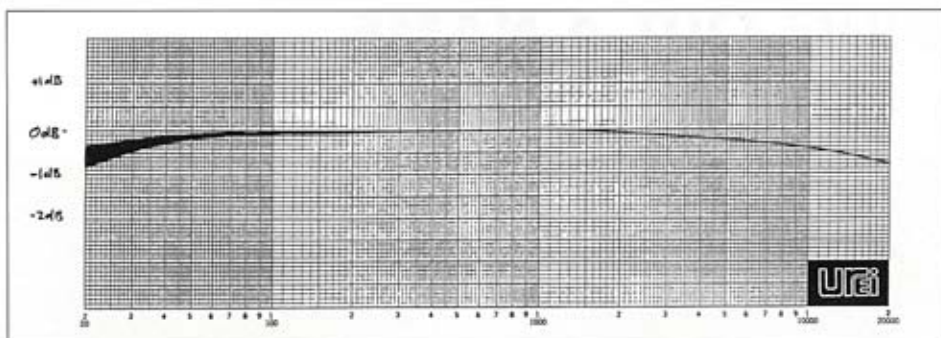


Fig 2. Power response - 3dB below clipping.

boards in the event of a failure - which, even with the most sophisticated protection circuits, can happen. This would necessitate complete removal of one of the power supply modules with its numerous plug-in connections in order to access the board and the removal of all 14 power devices to access its underside for device replacement. Not a job to be tackled on the road I would think.

The finish is of the usual exemplary Carver standard with a superbly anodised slate grey front window panel with all controls recessed onto the steel chassis sub-panel behind, and with a high quality black stove enamel paint job to the remaining metalwork. It has a very substantial and solid feel to it and the presentation makes a clear statement of purpose.

Sonic Quality

The amplifier was auditioned on a pair of Urei 809 monitors and a pair of Mission 763 hi-fi loudspeakers using a selection of favourite CDs played on a Mission PCM-2000 with a Hafler DH110 pre-amplifier. It has to be said that it quite out-performed the Hafler DH220 hi-fi amplifier which normally drives these loudspeakers, with absolute accuracy at low frequencies, a crisp and open high frequency performance, and of course, an abundance of power, resulting in virtually no headroom limitation whatsoever.

I can't remember hearing a 'professional' amplifier sound this good since I reviewed the Carver PM-1.5 and C-Audio RA-3000 back in 1988/89 for Disco Club and Leisure International or since playing with a Crest Audio 8001 circa 1990.

The amplifier was also tested on the road driving the LF section (Altec 817s) of a 4-way live concert sound system and on a 2-way Bose 802 discotheque system. Again, the effortless power,

utter clarity and freedom from any hint of headroom limitation allowed the loudspeaker systems to run uninhibited with an obvious benefit in terms of loudness and quality.

Specifications & Lab Test Results

PT-2400 Electrical Specifications

Power Output (20Hz-20kHz)	
Both channels driven	
8 ohm/ch.....	750 watts
4 ohm/ch.....	1200 watts
2 ohm/ch.....	1500 watts
Series mono operation.	
8 ohm.....	2400 watts
4 ohm.....	3000 watts
Output Noise	
(from rated power @ 4Ω /A weighted)	
.....	> 100 dB
Frequency Response.20Hz to 20kHz ±0.5dB	
Slew Rate..... 25V/μs	
Distortion (at 1200W) 4Ω..... <0.5% THD	
Damping Factor..... 200 @ 1kHz	
Input Sensitivity..... 1.5 V rms	
Input CMRR..... > 70dB	
Voltage Gain..... 34dB	
Input Impedance..... 15K ohm each leg	
Connections	
Input..... XLR, barrier strip	
Output..... 5-way binding posts, 2 sets/channel	
Maximum Current Draw..... 40A	
(4 ohms rated power)	
Cooling..... rear to front w/100 CFM maximum	
Weight..... 45lbs.	
Dimensions..... 5.25" x 19" x 12.75"	

Fig.2 shows the power response curve at 50V into 4 ohms which equates to 3dB below the 4

ohm clipping level.

The following table shows the measured vs rated output RMS sine wave power levels, measured at onset of clipping, both channels driven and loaded, clipping eliminator disabled, with AC mains supply maintained at 240V:

Load	Rated o/p	Measured o/p
2 ohms:	1500W	Ch. 1: 57.3V/1642W Ch.2: 57.3V/1642W
4 ohms:	1200W	Ch. 1: 71.6V/1218W Ch.2: 68.9V/1186W
8 ohms:	750W	Ch. 1: 77.4V/748W Ch.2: 76.7V/697W
16 ohms:	Not stated	Ch.1: 80.0V/400W Ch.2: 76.7V/367W
4 ohms bridged:	3000W	115.0V/3306W
4 ohms pulsed:	Not stated	Ch.1: 100.0V/2500W Ch.2: 89.1 V/1984W

The pulse test signal comprised a broad-band tone burst signal using the Gated Time Mode facility of an Ivis IE30A/IE17A audio analyser and an oscilloscope to observe peak clipping within each tone-burst envelope. The tone-burst pulse width was set to 0.25sec and the repetition rate to 0.5sec.

It was observed that the clipping indicators at the top of the output-led bargraphs were illuminated exactly on onset of actual clipping as observed on an oscilloscope, under both sine wave and tone burst conditions.

The unweighted noise level was measured with both inputs open-circuit, at -62dbu. Taking the maximum RMS sine wave voltage output this gives 92dB as the dynamic range, or 104dB based on the 100V pulse power result - all of which is pretty impressive.

Summary and Conclusions

At least I was honest and admitted that I am of the 'pro-Carver' school, and I have to say that the PT-2400 fully justifies that confidence, giving three very positive Carver amplifier reviews spanning a five year period. It fully meets the rated output power levels, it delivers effortless power into loads down to two ohms. It sounds superb, it has a lot of non-gimmick features that are of real user value, it is extremely well built and looks and feels the part. And where else can you get a full 3kW/4 ohm amplifier in a 3U rack package just 300mm deep and weighing in at 20Kg?

Carver is distributed in the UK by AKG Acoustics, Vienna Court, Lammas Road, Godalming, Surrey GU7 1JG. Telephone: (0483) 425702.

LASER ANIMATION

LASER DISPLAY SYSTEMS
of
ANY TYPE AND POWER
for
SALE AND HIRE

FOR FULL DETAILS AND QUOTATIONS

CONTACT
LASER ANIMATION
on
TEL: 0476 73006
FAX: 0476 73060

ALISTAGE

PORTABLE MODULAR
STAGE SYSTEM

MODULAR TIERED SEATING MODE
Available for hire, sale or lease. Can be supplied minus seating so that client may use own seats. Each tier has 200mm rise for perfect audience viewing. Guardrails at 500mm and 1000mm height. Modular construction ensures that the unit can be customised to client's requirements. Seat unit cost is considerably less than most other systems.
Canopies available for outside events.

ALISCAFF LTD
Unit 2 Hotspur Ind Estate
West Road, Tottenham
London N17 0RJ.
Tel: 081-808 5005 Fax: 081-801 9851

THE MINI DRY ICE BOX
PORTABLE DRY ICE MAKER
☆ Back by popular demand ☆

- RSC STRATFORD
- STAGE CREW SWEDEN
- THE LITTLE THEATRE LEICESTER/SOUTHPORT
- THE HARLEQUIN REDHILL-SURREY
- POLKA CHILDREN'S THEATRE LONDON
- THEATRE ROYAL PLYMOUTH
- PERTH THEATRE SCOTLAND

- No mains or battery requirements •
- Compact and lightweight design •
- Safe and convenient •
- Produces dry ice in just 40-60 seconds •

ABTT 'Product of the Year' 1989
Available for sale or hire
For further details contact
A & B Theatre Services
4 Norwich Road, Wheatley Park, Doncaster DN2 4QD
Tel: (0302) 364808

ON STAGE GREASE

Robert Halliday on 'new style' lighting and sound at the Dominion

A perennial question amongst theatre producers is where the next generation of theatre-goers is going to come from. The question has really come to light in the current generation, as people brought up with television and the cinema choose these sources for their entertainment.

The solution has only started to appear in the last couple of years. Someone realised that, through extensive television coverage and press interviews, audiences were very familiar with films before they actually went to see them. Theatre couldn't afford a similar level of advertising, but what if they chose material that was already known? And then applied to that the age-old technique of using a star-name, though preferably a young star from television or the music business with enough appeal to the new generation.

The first product of this technique was the new Joseph and his Amazing Technicolor Dreamcoat, which continues to pack the Palladium. The material was known - almost every schoolchild in the country has seen or performed in Joseph at one time or another - and Jason Donovan provided the youth appeal. And if a technique works, why change it? Hence Grease. Familiar from the mid-70's John Travolta/Olivia Newton-John film and also from school performances, the new production at London's Dominion Theatre is the first to feature the extra material from the film. Add in the star appeal of Craig McLachlan (ex-Neighbours), and Debbie Gibson and the result should be - and is - a smash hit.

All very interesting, but surely of little relevance in a technical magazine? Maybe, except that the youth-appeal has directly affected the technical work on the show. The anticipated punters are teenagers who have been brought up with the lighting effects and the sound quality of Top of the Pops, cinema and pop gigs. They are paying about the same, or even more, for their theatre tickets and are expecting the same style and quality.

The result on Grease is a mixture of styles and techniques which, at the end of the day, work well together. Terry Parson's set design is relatively conventional, in the sense that all of the flying pieces are flat rather than house-shaped. The acting area thrusts out into the audience, and is defined upstage by a series of the slatted, rotating screens more usually seen carrying advertisements on roadsides. These rotate to show teen-idol posters or distant skylines as required. The central unit flies to allow the band, who normally live on a platform flown upstage, to be dropped in for the overture, and later to perform at the school dance. Other skeletal flying pieces define the school or the burger bar, while tracks are used to bring on the unavoidable cars. And the whole lot is surrounded with pink neon, to add that glitzy fifties feel.

The lighting, however, is another story altogether. The challenges of lighting scenes fairly naturalistically and then dropping, in a moment, into rock and roll or pure fantasy, led lighting designer Mark Henderson to use many of the most sophisticated tools available. The conventional rig is a mixture of Silhouettes, Lekos, Minuettes and Rainbowed-Par 64s spread over the set, six electric bars on stage and a huge front truss, installed by Arrow Rigging, which compensated for the Dominion's lack of front-of-house lighting positions. Much of the work is actually done by the moving light contingent - 15 1200W HMI



1950s revisited: Grease in the 1990s.

Super Scans and 24 Vari-Lite VL5s, both running from DMX512 control. A line of five DHA Digital Light Curtains ensures that every kind of moving light is represented, while a laser, some mirror-balls and countless sparkle strobes round off the effects.

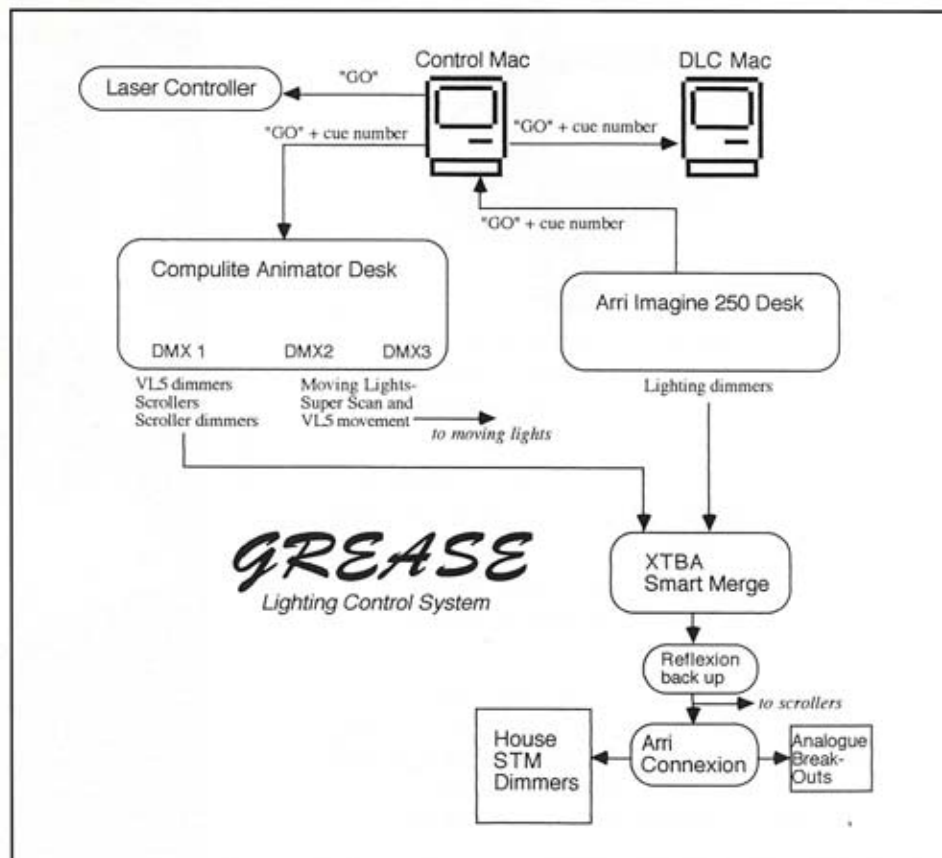
The problem which confronted production electrician Simon Needle was how to control all of this equipment, both for the production period when rapid plotting would be required and then for the run when budget constraints demanded the electrics be dropped down to a single operator. "We looked at all kinds of options," he recalls, "starting with just running everything from a conventional lighting desk, although that would have been a nightmare for plotting. We then explored the different kinds of desk available, and settled on Compulite's Animator to control the moving lights, with an

Arri Imagine running the conventional rig."

Needle and Henderson both felt that the separation of control in this way was essential during the tight production period so that Animator operator Chris Dunford could sort out moving light sequences while Henderson carried on plotting states. The practicalities were worked out by Needle with Dave Isherwood and his control team at White Light, which supplied the entire rig. The Animator sends out three DMX streams. Streams 2 and 3 were used for the movement control on the VL5s and Scans and sent directly to the appropriate units. Stream 1, used to control the VL5 dimmers, the scrollers and the dimmers for scrollered-lamps, was taken out and combined with Arri's DMX stream using an XTBA Smart Merge. Its ability to shift streams up or down, combined with a huge soft patch, leaves a single DMX stream which then passed through an Arri Reflexion unit, giving a simple back-up, and on to the scrollers and de-mux units feeding the house dimmers and break-out boxes for analogue devices such as smoke machines.

As Simon Needle points out, though, this still leaves two operators. "We had originally intended to overcome this by using a MIDI link between the two desks, but they didn't seem to talk the same language." The solution adopted was to use a Macintosh computer running a control package written by Richard Bleasdale. "This receives the cue information from the Arri and, on the appropriate cues, triggers the Animator, the other Mac controlling the DLCs, and the laser controller," Needle explained. "We could have had the Mac triggering the Arri as well, but we decided it was better to have the operator pressing a go button rather than a space bar!"

In use, of course, all of this is invisible, but the technology does add to the excitement the show generates. "Robert Stigwood, the producer, said to us: 'We've sold it as a gig,



they've come expecting a gig, so we've got to give them a gig," said Mark Henderson. His lighting certainly does that, with the Vari*Lite's tending to vary between cues, and the Superscans doing the gobo work, a number of tight specials (including one cue following an actor that none of the four followspots could reach), and the sweeps and spins during the fantasy numbers. The VL5s, who have found a new fan in Henderson, really come into their own providing deep colour washes on the stage. As Needle says, "where else could you get deep blues like that, and consistently?"

To make sure that the light itself is visible, rather than just the result on stage, Needle deployed three DF50 haze machines. It's the first time that he's used these units, and is pleased with the results. "They do the job, yet don't leave residues on colour, and they're very economical - we've only had to top them up once in the entire production period." The more usual smoke effects are generated by a pair of Skywalkers, some Howie dry-ice machines, selected after comparisons between them and low-smoke equivalents, and one of the tiny Scotty smoke guns. The overall result, especially from the DF50s, is excellent, giving a just-perceptible haze that fills the Dominion's stage with apparent ease.

The demand for a 'gig' type quality to the evening applies equally to the show's sound design, under the control of Bobby Aitken of Autograph. Aitken's design is based around a Meyer system that features in much of Autograph's work, and contains a mixture of UPA1, UM1 and UPM1 loudspeakers, contained on the fake pros towers and providing under-circle fills, and 650RT sub-bass units hidden under the front of the stage. The system is run by a Midas XL3 desk, which Aitken enjoys, "for its sounds, which is

more forward and 'bitey' than others.

The show features a range of radio-microphones, from the new Senken head-mounted mics which offer some degree of resistance to performer's sweat, to hand-held microphones which, in some very neat blocking, seem to appear from nowhere when required. "There were demands from the producers to make the show more dynamic," Aitken added. "This led to the use of the hand-held mics, and also the installation of an off-stage vocal booth, since there is only so much level you can get out of body-mounted microphones." A result of these changes was the use of Milab VIP50 microphones.

As well as live sound, the show features a number of sound effects, ranging from the soundtrack of period songs playing as the audience enter to the effects of revving cars and the like. For these, Aitken is using Dart DMP1000 Digital Cart Machines, which play sounds from 3.5" floppy disks. Both Aitken and sound operator Amos Christie like the units because of their high sound quality, but also because "the operating procedure is very similar to an old analogue cart," and so operators quickly become comfortable using them". Christie is helped with the show by a PC running a custom-written program which triggers the effects and re-programs the MIDI devices automatically. A particularly neat feature of this is the inset window which takes the conductor's camera feed, avoiding the need to clutter up the desk with more screens.

The show's resulting sound has caused one adverse comment from a critic in The Guardian, yet the teenagers at whom it is aimed seem to have no complaints, the cheers which erupt at the end of every number showing how happy they are with the result. To them, Grease is not 'stuffy' theatre, but an event to look

forward to, then enjoy, then boast about to friends. It is FUN! The producers are already talking about a long run, no-doubt slotting in new stars as and when required.

The only minor problem, which they discovered the day after the show opened when the band lift stuck early in the show and the performance was cancelled, is that an audience brought up with cinema shows very little understanding when something goes wrong, the break-down making it to the front page of that well known theatrical commentator, the Sun. The old theatrical adage is that 'the show must go on'. Two thousand teenagers provides a lot of incentive to make sure that happens!

Lighting equipment, supplied by White Light

15 1200W HMI Super Scans
5 DHA Digital Light Curtains
56 Silhouettes 15, 1K
13 Lekos 6 x16
102 Par 64s
16 M16 Howie battens
5 ADB 2K Fresnels
41 Rainbow Scrollers
2 Pani 1.2K HMI followspots
5 Howie dry ice machines
1 Arri Imagine 250 desk
1 XTBA Smart Merge
24 Vari-Lite VL5s (DMX control)
8 Par 56 battens
52 Silhouette 30, 1K
4 Leko 6 x 22
15 M16 birdies
30 Minulette Fresnels 500W
1 Compulite Animator desk

Sound Equipment, supplied by Autograph

17 Meyer UPA 1
30 Meyer UPM1
Meyer MS1000 amplification
Senkon & Sennheiser radio-microphones
Dart DMP1000 Digital Cart Machines
Midas XL3 desk
13 Meyer UM1
5 650RT sub-base units

The Premier Inverted Hoist/Motor NOW STOCKED IN UK



- ◆ Black powder coat finish ◆
- ◆ Up to 40 metres lift - high duty factors ◆
- ◆ Protector® overload protection ◆
- ◆ 110 volt controls ◆
- ◆ Upper/lower adjustable limit switches ◆
- ◆ Motor suitable for use in UK, Europe or USA ◆
- ◆ Capacities 1/8 to 3 tonnes ◆
- ◆ Fast speed units available ◆
- ◆ Single phase versions available ◆
- ◆ For Inverted Use ◆

Contact for motors/spare parts/service:-
Pfaff Silverblue Mechanical Handling Limited,
Prenton Way, North Cheshire Trading Estate,
Prenton, Wirral L43 3DU
Tel: 051-609 0099 Fax: 051-609 0852

ETR

SWISS

FOOTCONTROLLED LIGHT SHOW

8 CHANNELS
1000 W EACH

TAKES A NORMAL
240 V SUPPLY

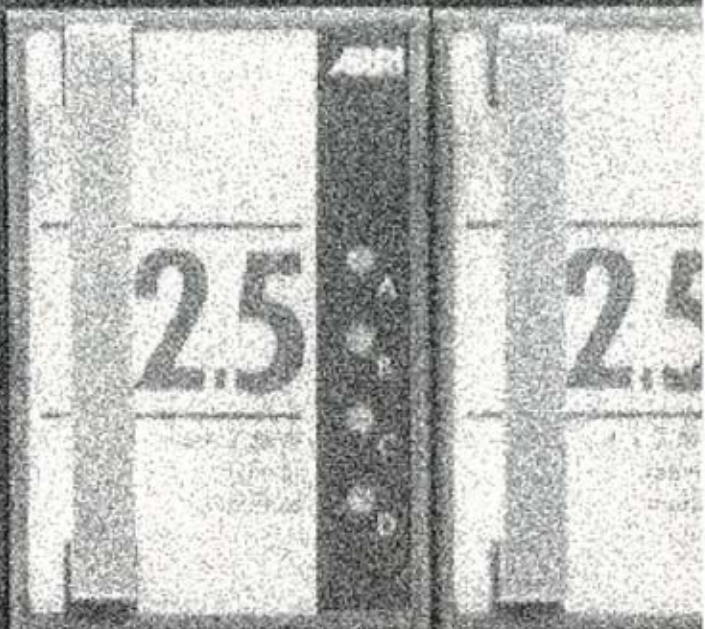


For more information, please contact:
ETR Lighting, CH-6388 Grafenort, Switzerland, Tel. XX41/41/65 25 07. Fax 65 25 13

ARRI

ARRI

LIGHTING



SmartRack



Basic SmartRack

The most cost-effective digital dimming solution – top class dimming at budget prices.



SmartPack

All the advantages of SmartRack, in a rugged portable enclosure, with DMX and analogue control, plus local faders. The professional portable dimming solution.

ARRI SmartRack is a family of all-digital dimmer racks, fully covering the requirements of 220/240 volt professional theatre, television, touring and architectural lighting.

The SmartRack system comprises a range of options which may be configured to suit a vast number of dimming requirements. SmartRack is very compact, and may be wall-mounted three high, for really effective packing densities, or flightcased for the road. Basic or plug-in modular versions, power circuit breakers, RCDs and several choke options ensure that there is a SmartRack to suit the needs of every application.

And SmartRack is smart! Aside from being an extremely accurate and dependable digital dimmer, SmartRack allows you to select response speeds and curves, non-dims and hot-patch settings, as well as a full range of test and diagnostic features.

- All-new, all-digital design
- Highly accurate regulation scheme
- Compact wall-mounting enclosure
- Basic or plug-in modular version
- 2.5kW, 5kW and 10kW ratings
- Standard or high risetime chokes
- DMX512 (1990) as standard
- Circuit breaker protection as standard
- Optional RCD protection
- Optional main circuit breaker
- Test and diagnostic features
- Individual curve and response settings

ARRI (GB) Ltd, 1-3 Airlinks, Spitfire Way, Heston, Middlesex, TW5 9NR, England
Tel: 081 848 8881 Fax: 081 561 1312

SEMINAR PROGRAMME

13, 14, 15 SEPTEMBER, 1993

Victoria Room, Earls Court 2, London SW5
during the PLASA Light & Sound Show

PROVISIONAL PROGRAMME

CONTROL TRANSMISSION

ARE WE STUCK IN AN 8-BIT TIMEWARP

Chair: Derek Gilbert, Glantre Engineering.

Panellists: Adam Bennette, Arri; Philip Nye, DHA; Paul Mardon, Pulsar;
Steve Terry, Production Arts; Marco Van Beek, Vari-Lite.

GREEN, TEMPERAMENTAL AND SPIKEY

ALL YOU WANTED TO KNOW
ABOUT DISCHARGE LAMPS BUT WERE AFRAID TO ASK

Chair: John Watt.

Panellists: Don Hindle, CCT Lighting; Eddie Ruffell, Lee Filters,
and lamp manufacturer representatives.

ABTT INTO TRAINING

Chair: John Faulkner

Panellists: Tony Bond, National Theatre; Roger Fox; Joe Aveline, AETTL.

SOUND INSTALLS AND BSI

HAVE WE NOW GOT A STANDARD TO WORK TO?

Chair: Tim Frost.

Panellists: Mark Burgin, Shuttlesound; Alex Garner, Tannoy; Ken Dibble, Ken Dibble Associates;
Ivor Green, Creative Technical Services; Vic Dobbs, Glantre Engineering.

SOUND CONTROL

OUT OF THE STUDIO AND ONTO THE ROAD

Panellists: Wladyslaw Wyganski, Outboard Electronics;
Mick Brophy, Amek; Roland Hemming, Theatre Projects.

VIDEO LIVE

Panellists: Malcolm Mellows, Melville Presentation Services; Patrick Woodroffe;
David Crump, ScreenCo; Graham Burgess, Sony Jumbotron.

AUTOMATED LIGHTING - THE NEXT MOVE

Chair: Tony Gottelier, Wynne Willson Gottelier.

Panellists: David Hersey, DHA; Jim Douglas, Unusual Automation;
Ralph Dahlberg, AVAß; Andrew Bridge, LD; Daniele Canuti, FLY.

ROBERT NESBITT INTERVIEW

Chair: Joe Aveline.

Graham Walne interviews Robert Nesbitt for the ABTT Archaeology Committee.

COLOUR - WILL DICHROICS EVER REPLACE GEL?

Chair: Michael Hall, Rosco.

Panellists: Donald Cameron, OCLI Optical Coatings; Jim Rees, Balzers;
Eddie Ruffell, Lee Filters; Durham Marenghi.

TIMETABLE

MONDAY 13TH SEPTEMBER	TUESDAY 14TH SEPTEMBER	WEDNESDAY 15TH SEPTEMBER
11.30 AM ~ CONTROL TRANSMISSION	11.30 AM ~ SOUND INSTALLS AND BSI	11.30 AM ~ AUTOMATED LIGHTING
14.30 PM ~ DISCHARGE LAMPS	14.15 PM ~ SOUND CONTROL	1.15 PM ~ ROBERT NESBITT
16.15 PM ~ ABTT TRAINING	16.15 PM ~ LIVE VIDEO	2.30 PM ~ DICHROICS V GEL

INTERNATIONAL DIRECTORY

World-wide contact information for import/export, concert touring, exhibitions, etc.

AUSTRALIA

L.S.C. ELECTRONICS P/L
 4-6 Junction Road, Surrey Hills
 Victoria, AUSTRALIA 3127
 Tel: (61) 3 836 9111
 Fax: (61) 3 830 5187

AUSTRIA

SYLVANIA
 Special Products Group
 Licht GmbH
 Tel: (49) 9131 996 222 Fax: (49) 9131 996 418
 MTEC Vertriebsges.m.b.H
 Tel: (43) 7242 60 850 Fax: (43) 7242 60 740
 LTV
 Tel: (43) 222 83 81 27 Fax: (43) 222 84 87 43

LUDWIG PANI
 A1070 Vienna, Kändiggasse 23
 Tel: (1) 521 08-0 Fax: 526 4287
 Range of follow-spots and projectors
 Exclusive Agent for Strand

BELGIUM

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 PPV Lighting N.V.
 Tel: (32) 2 648 70 45 Fax: (32) 2 648 69 97
 Luxillig
 Tel: (32) 2 242 59 28 Fax: (32) 2 242 11 54
 Masson-Draguet N.V.
 Tel: (32) 2 366 17 20 Fax: (32) 2 366 20 12
 PPV Lighting N.V.
 Tel: (32) 2 648 70 45 Fax: (32) 2 648 69 97

litestructures
 Astra/lite Bi/lite Quatra/lite Mini/lite
 LA ROY B.V.B.A. TEL 091 86 12 99

EVER RADIO VIOLETTE
 Rue de Ribaucourt, 154-156, 1210 Brussels
 Tel: (32) 2 428 31 00 Fax: (32) 2 428 21 65
 Disco and stage equipment - Import and Export

Trilite
 Tel: (02) 4283100 Fax: (02) 4282165

VARI*LITE
 VARI-LITE BENELUX
 Tel: (32) 16 60 83 11 Fax: (32) 16 60 88 61

CANADA

Trilite
 Tel: (613) 836 5856 Fax: (613) 836 6491

DENMARK

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 BICO A/S
 Tel: (45) 42 84 54 45 Fax: (45) 42 84 20 55

FINLAND

EASTWAY
 SHOW SERVICES OY/UTD
ATOMITIE 5 B HELSINKI
 Tel: 358-0-503 1022 Fax: 358-0-503 1023
 Professional lighting and sound equipment and services in a place you never thought they would appear. Thomas, Sky-Tracker, Celco, Avo, Verlinde, Yamaha, EV, JBL, etc.

TFP MARKKINOINTI OY
 Import and Export of Lighting and Scenic Equipment. Exclusive distribution in Finland for Jandis, CCT, Rosco and Tomcat. Always interested in new product ranges for theatre, concert and television.
 Contact: Juha Ihanamaki, telephone INT +31-143933. Fax INT+31-133077. Address: Hatanpaanvaltie 4A, 33100 Tampere, Finland

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 Electro Power OY
 Tel: 358 0 17 54 00 Fax: 358 0 65 93 95

FRANCE

litestructures
 Astra/lite Bi/lite Quatra/lite Mini/lite
 S.E.D. FRANCE TEL 27 25 48 38

Clay Paky and Pulsar Sarl
 10 Avenue du Fresno, 14760 Bretteville sur Odon
 Tel: (31) 741001

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 Lopilux
 Tel: (33) 1 34 10 43 43 Fax: (33) 1 34 10 49 63
 ESL
 Tel: (33) 67 69 27 17 Fax: (33) 67 69 00 89
 Volt Image
 Tel: (33) 1 30 86 21 75 Fax: (33) 1 39 14 63 16
 Animation Lumineuse
 Tel: (33) 1 64 56 03 40 Fax: (33) 1 64 56 06 04

VARI*LITE
 VARI-LITE FRANCE
 Tel: (33) 1 45 07 97 09 Fax: (33) 1 45 07 96 79

VARI*LITE
 VARI-LITE FRANCE
 Tel: (33) 1 45 07 97 09 Fax: (33) 1 45 07 96 79

Trilite
 Tel 20 31 85 06 Fax 20 78 18 37

GERMANY

Clay Paky and Pulsar Vertriebs GmbH
 An Der Taille 26, 4790 Paderborn
 Tel: 05251/409051 Fax: 05251/409931

VARI*LITE
 VARI-LITE GERMANY
 Tel: (49) 221-582088 Fax: (49) 221-5801979

The complete range of professional lighting equipment for: Stage, Touring, Discotheque, Trade Shows and Exhibitions.
LMP
 Lichttechnik
 Gildstraße 55
 W-4530 Ibbenbüren
 Germany
 Telefon 05451 59000

AMPTOWN LICHTTECHNIK GmbH
 Wandsbeker Str. 26, 2000 Hamburg 71
 Tel: (49) 40-64600440
 Fax: (49) 40-6412503

SYLVANIA
 Special Products Group
 Licht GmbH SPSSG
 Tel: (49) 9131 99 62 22 Fax: (49) 9131 99 64 18
 Coemar
 Tel: (49) 731 60 12 05 Fax: (49) 732 62 852
 Eckert Bühnenlicht
 Tel: (49) 202 59 20 58 Fax: (49) 202 59 15 03
 Feldmann
 Tel: (49) 8142 53 037 Fax: (49) 8142 86 97
 Haerle
 Tel: (49) 7391 80 81 Fax: (49) 7391 55 21
 Kobold Licht
 Tel: (49) 8171 70 81 Fax: (49) 8171 20 367
 Lightronic
 Tel: (49) 40 85 60 41/2 Fax: (49) 40 851 27 09
 LMP
 Tel: (49) 5451 59 000 Fax: (49) 5451 59 00 59
 LTM GmbH
 Tel: (49) 221 49 10 23 Fax: (49) 221 49 10 25
 Panther GmbH
 Tel: (49) 89 613 10 07 Fax: (49) 89 613 10 00
 Richard Schahl GmbH
 Tel: (49) 89 79 70 97 Fax: (49) 89 791 16 72
 Steffens Lighting GmbH
 Tel: (49) 40 31 13 35 Fax: (49) 40 31 72 96
 Steingke
 Tel: (49) 931 46 971 Fax: (49) 931 46 58 88
 Stiers GmbH
 Tel: (49) 89 22 16 96 Fax: (49) 89 231 704 25

litestructures
 Astra/lite Bi/lite Quatra/lite Mini/lite
 LMP LICHTTECHNIK TEL 05451 59000

TOUR SERVICE LICHTDESIGN
 Hanse Str. 9,
 D-4800 Bielefeld 11
 Tel: 0 5205 22 800 Fax: 0 5205 22 889
 Concert, stage, TV and industrial lighting
 Design and Production Services
 Representative of PanCommand systems

Trilite
 Tel: (0221) 534081 Fax: (0221) 534083

GREECE

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 Omikron
 Tel: (30) 1 363 79 79 Fax: (30) 1 363 67 61

HONG KONG

VARI*LITE
 VARI-LITE HONG KONG
 Tel: (852) 715-7878 Fax: (852) 761-1593

ENGINEERING IMPACT LIMITED
 6/F Bk 2, Tien Chu Ctr.
 IE Mok Cheong St. Kowloon
 Tel: (852) 711-0222 Fax: (852) 761-0633

ITALY

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 Tecnitron Elettronica
 Tel: (39) 831 39 21 36 Fax: (39) 831 39 28 41
 Tecumen srl
 Tel: (39) 376 77 92 00 Fax: (39) 376 77 93 83

litestructures
 Astra/lite Bi/lite Quatra/lite Mini/lite
 SPOTLIGHT S.A.R.L. TEL 39 2 714078

TEATRO
 Teatro Sri, via Inghilterra 2
 46042 Castel Goffredo (MN), Italy
 Tel: +39 (0)376 780702
 Fax: +39 (0)376 780888
 Manufacturers of stage lighting. Profile, fresnel, PC, flood, cyclorama, followspot
 "With a touch of Italian elegance"

Trilite
 Tel: (031) 773539 Fax: (031) 773798

JAPAN

litestructures
 Astra/lite Bi/lite Quatra/lite Mini/lite
 H.I.TO TEL 81 33 667 3268/9

NETHERLANDS

SYLVANIA
 Special Products Group
 Sylvania N.V. SPSSG
 Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
 Ultrax Lamps Lighting B.V.
 Tel: (31) 20 65 33 663 Fax: (31) 20 65 33 672

LIGHTING SOUND RIGGING
Flashlight®

Flashlight Utrecht Holland Sales B.V.
Tracteweg 190
3534 AP, Utrecht
Tel: 030-44 48 42
Fax: 030-44 76 06



Tel (013) 638585 Fax (013) 638435

JANSEN & JANSEN

light sound & rigging
Isolatorweg 36, 1014 AS
Amsterdam-Sloterdijk, Holland
Tel: (31) 20 6 821 821
Fax: (31) 20 6 828 326

litestructures
Astra lite Bilite Quatra lite Mini lite
STAGE TELEPHONE 03402 45780

NEW ZEALAND

SELECON

Manufacturers of high quality stage and display luminaires - Zoomspots, Fresnels, PC, CYC, Floods, L. Voltage, Metal Halide Display Spots. Dealer enquiries to: 26 Purtil Street, Grey Lynn, Auckland 2, New Zealand.
Tel: 64 9 3601718 Fax: 64 9 3601719

NORWAY

SYLVANIA

Special Products Group
Sylvania N.V. SPSG
Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
Lars Farnes A/S
Tel: (47) 2 16 29 30 Fax: (47) 2 16 47 39



litestructures
Astra lite Bilite Quatra lite Mini lite
AVAB NORGE A/S TEL 47 2 11 30 30

PORTUGAL

SYLVANIA

Special Products Group
Sylvania N.V. SPSG
Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
Sylvania Electronica LTDA
Tel: 351 1 4186 217 Fax: 351 1 4186 825



SPAIN



THE WORLD'S LEADING HOIST FOR STAGE APPLICATIONS
THE LARGEST STOCK IN EUROPE FOR YOUR IMMEDIATE NEEDS



TEL: 34-1-6665323
FAX: 34-1-6665265



Tel (1) 3270966/1536 Fax (1) 3049165

VARI*LITE
VARI-LITE SPAIN

Tel: (34) 1 470 23 30 Fax: (34) 1 479 58 25

litestructures
Astra lite Bilite Quatra lite Mini lite
SPOTLIGHT S.A. TEL 34 3 4008117

SWEDEN

VARI*LITE
VARI-LITE SCANDINAVIA

Tel: (46) 8 654 1855 Fax: (46) 8 652 8358

AVAB
Västra Hamngatan 1, 411 17 Goteborg
Sweden. Tel: (46) 31 179240

SYLVANIA

Special Products Group
Sylvania N.V. SPSG
Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
Teaterteknik AB
Tel: (46) 8 640 92 90 Fax: (46) 8 640 93 94



litestructures
Astra lite Bilite Quatra lite Mini lite
TEATERTEKNIK A.B. TEL 08 40 92 90

SWITZERLAND

POWER LIGHT

Fabrikmattenweg 8, CH-4144 Arlesheim
Tel: (41) 61 701 82 28 Fax: (41) 61 701 8338
Equipment rental and services. State-of-the-art lighting equipment for TV, stage and concert productions, exhibitions and product launches throughout Europe: Xenon Troupers, Paris, Avo, Celco, Thomas, Verlinde, Strand, CCT, Sky Trackers and searchlights
At the heart of Europe!

SYLVANIA

Special Products Group
Sylvania N.V. SPSG
Tel: (32) 16 80 03 69 Fax: (32) 16 81 89 45
Backsound
Tel: (45) 21 36 68 68 Fax: (45) 21 36 78 88
JBS
Tel: (45) 24 41 53 07 Fax: (45) 24 41 32 72

Sylvania Light GmbH SPSG
Tel: (49) 9131 99 62 22 Fax: (49) 9131 99 64 18

Digi Light Show
Tel: (41) 31 961 60 40 Fax: (41) 31 961 40 10

Minilux AG
Tel: (41) 56 74 13 66 Fax: (41) 56 74 13 62



litestructures
Astra lite Bilite Quatra lite Mini lite
A.S.L.ELECTRONICS TEL 061 35 22 20

UNITED KINGDOM

litestructures
Astra lite Bilite Quatra lite Mini lite
CEREBRUM LIGHTING TEL 081 949 3171

litestructures
Astra lite Bilite Quatra lite Mini lite
LITESTRUCTURES TEL 0924 200622

SYLVANIA

Special Products Group
Sylvania Lighting Ltd SPSG
Tel: (44) 274 59 59 21 Fax: (44) 274 58 06 32
AC Lighting

Tel: (44) 494 44 60 00 Fax: (44) 494 46 10 24
Action Lighting (North) Ltd

Tel: (44) 61 876 05 76 Fax: (44) 61 876 05 17
Arri (GB) Limited

Tel: (44) 81 848 88 81 Fax: (44) 81 561 13 12
CP Lighting

Tel: (44) 81 547 05 00 Fax: (44) 81 547 08 84
DC Lighting

Tel: (44) 235 77 07 15 Fax: (44) 235 77 07 20
International Lamps Ltd

Tel: (44) 992 55 44 11 Fax: (44) 992 58 77 66
Lamp Company (The)

Tel: (44) 932 23 10 10 Fax: (44) 932 23 25 87
Lighting Technology Group

Tel: (44) 81 965 68 00 Fax: (44) 81 965 09 50
MGC Lamps Ltd

Tel: (44) 473 46 18 75 Fax: (44) 473 24 00 81
Mico Lighting Ltd

Tel: (44) 532 56 71 13 Fax: (44) 532 57 23 58
Primarc (Marketing) Ltd

Tel: (44) 734 59 67 77 Fax: (44) 734 50 59 64
Strand Lighting

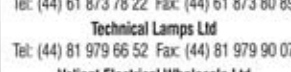
Tel: (44) 81 560 31 71 Fax: (44) 81 568 21 03
Specialist Lamp Distributors Ltd

Tel: (44) 71 708 07 51 Fax: (44) 71 708 22 51
Specialist Lamp Distributors Ltd

Tel: (44) 61 873 78 22 Fax: (44) 61 873 80 89
Technical Lamps Ltd

Tel: (44) 81 979 66 52 Fax: (44) 81 979 90 07
Valiant Electrical Wholesale Ltd

Tel: (44) 71 736 81 15 Fax: (44) 71 731 33 39



USA



Tel (0582) 411413 Fax (0582) 400613

USA



New York
Tel: (914) 942 0075 Fax: (914) 942 0099
Orlando
Tel: (407) 855 8060 Fax: (407) 855 8059

TMB ASSOCIATES
PRODUCTION SUPPLIES & SERVICES

2915 Floyd Street, Burbank
California 91504
Tel: 818-842-9652
Fax: 818-842-1064



Staging, Lighting and Support Systems
Serving your tour and fabrication needs in the USA
Tel: (915) 694 7070
Fax: (915) 689 3805



STRONG INTERNATIONAL, INC.
FOR THE WORLD'S BEST FOLLOWSPOTS
4350 McKinley Street - Omaha - Nebraska 68112
Tel: 402-453-4444 - Fax: 402-453-7238

THE COLORAM

Wybron Inc
The ones the pros use.
And use. And use.
TEL: 719-548 9774
FAX: 719-548 0432



Tel (516) 249 3662 Fax (516) 753 1020

HMI Lighting
DAYMAX®

• Stage • Film • Disco • Theatre
ILC Technology Inc
Sunnyvale, CA 94089
Tel: 408 745 7900 Fax: 408 744 0829

To advertise your services to the international market contact
Barry Howse on +44 323 642639

CONDITIONS FOR ADVERTISEMENT IN LIGHTING+ SOUND INTERNATIONAL

The Publishers reserve the right to refuse any advertisement - whether pre-paid or not - and without reasons being given for any such refusal. The publishers accept no liability for any loss or damage by error or inaccuracy in the printing of any advertisement.

DIRECTORY

Lighting + Sound
Equipment Sale/Hire
Installation and Design

TSL A LTD

specialists in
audio visual
presentation

Studio 9, 75 Filmer Road,
London SW6 7JF
Telephone: 071-371 5020
Fax: 071-371 0503

**BDS
CASES**

Designers and manufacturers
of flight cases

BDS Northern - Tel: 061 873 8181
BDS Southern - Tel: 071 624 2134

**LIGHTING
HIRE
SALES
SPECIAL F/X**

STAGE CONTROL LTD.
STATION PARADE,
WHITCHURCH LANE,
EDGWARE, MIDDX. HA8 6RW

TEL: 081-952 8982
FAX: 081-951 4178

LIGHTING HIRE & SALES

Philip L. Edwards
(Theatre Lighting)

5 Highwood Close, Glossop,
Derbyshire SK13 9PH.
Telephone: 0457 862811.

The
**Fibre Optic
Lighting
People**

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

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



Trade & Export call PAUL BAYMOND
For Opt Projects Ltd
Unit 9 The Bell Industrial Estate
Cannington Street, Chiswick Park, London W4 5EP
Telephone: 081-995 5179
Fax: 081-994 1182 Telex: 933718 PAROP G

DONMAR Ω

**ELECTRICAL CONTRACTING
LICENSING CERTIFICATION
NATIONWIDE SUPPLY & SERVICING:
ARRI, GREEN GINGER, PULSAR
STRAND LIGHTING & ZERO 88**

Technical Support Mon-Sat until 23.00 hrs.

DONMAR LTD. 54 CAVELL STREET LONDON E1 2HP
INSTALLATION & SERVICE 071-790 6624
SALES 071-790 1166 FAX 071-790 6634

NICEIC
APPROVED
CONTRACTOR

Dial Sound & Lighting

Distribution for

CLAY PAKY

zero 88

ROSCO

Panasonic

PULSAR

JBL

PEAVEY

ABSTRACT

RAMSA

POWER DRIVE

MODE ELECTRONICS

BOSE

OPTIKINETICS
TECHNICS

CITRONIC

TEATRO

Le Maitre

and other leading brand names

DIAL SOUND AND LIGHTING

Unit 4G Wharfedale Road, Euroway Industrial Estate,
Bradford BD4 6SG.

Telephone: (0274) 651600 Fax: (0274) 651190

**LIGHT
&
SOUND
Productions**

**EQUIPMENT RENTAL
& SERVICES**

6 Vine street, St. Helier,
Jersey, Channel Islands.
Tel. 0534 78351
(0860 740584)

NIGHT FLIGHT

Sound and Lighting

**THE BIG ONE IN
SCOTLAND**

Installation, Design,
Hire, Repair and Service
0389-79261

P.A.music Professional
Hire & Sale
Lighting-Sound-FX-Video
172 High Road, London N2
081-883 4350



**FUTURIST
LIGHT & SOUND**

HIRE
0924
455586

SALES
0924
455586
Strand Lighting

SERVICE
0924
468183

HOYLE HEAD MILLS,
NEW STREET
EARLSHEATON, DEWSBURY
WEST YORKSHIRE. WF12 8JJ

**NORTHERN
LIGHTS**

Sound & Lighting

Distributors

Trade representation for
PULSAR

**POWER
DRIVE**

MODE ELECTRONICS

OPTIKINETICS

Le Maitre

MULTIFORM

Cloud

ANYtronics

Martin

89 Scottforth Road, Lancaster
Tel: (0524) 845584
Fax: (0524) 845583

DHA

- Library and Custom made Gobos and Slides.
- Screen Printing onto various Materials.
- Standard and Custom Fibre-Optic Effects and Equipment.

For further information contact:
DHA Lighting Ltd.
3 Jonathan Street, London SE11 5NH
Tel: 071-582 3600 Fax: 071-582 4779
Telex: 935639 GOBOCO G

ANYtronics

manufacturers of
high quality:-

- ★ **Strobes**
 - ★ **Lighting Control Equipment**
 - ★ **Amplification**
- trade & export
enquiries most
welcome

Anytronics Limited

Units 5 & 6 Hillside
Industrial Estate
London Road, Horndean
Hants PO8 0BL, England

Tel: (0705) 599410
Fax: (0705) 598723

Strand Lighting

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

Grant Way (off Syon Lane),
Isleworth, Middlesex TW7 5QD

081 560 3171

NUO LIGHT SYSTEMS LTD

DISTRIBUTORS OF EFFECT LIGHTING AND CONTROL TO THE LEISURE INDUSTRY

ALSO

EXCLUSIVE UK IMPORTERS OF FLY AND LA NOVALIGHT

Nu-Light Systems Ltd,
Unit 1, Athertons Quay,
Off Liverpool Road,
Warrington,
Cheshire WA5 1AH.
Tel: (0925) 243075
Fax: (0925) 243077

LHS

Leslie Hire & Sale

For
**Stage and TV Lighting
and Stage Equipment,
phone**

081 871 5132

L.H.S. Limited, The Business Village, Broomhill Road,
Wandsworth, London SW18 4JQ
Tel: 917003 LPCG



837 Garratt Lane
London SW17 0PG
Tel: 081-944 1400
Fax: 081-944 0141

- ★ Sales
- ★ Service
- ★ Hire
- ★ Design
- ★ Manufacturing
- ★ Installation
- ★ Consultancy

"Experts in Sound
and Light"

POWER RENT

THE COMPLETE POWER SERVICE
TO THE ENTERTAINMENT INDUSTRY
GENERATORS

CABLES - TRANSFORMERS

1.5KVA - 1500KVA 50/60 Hz

Slave, Mobile generators

Complete Distribution Systems

Specialist Location Engineers

Depots throughout UK & USA

24 Hour Service Worldwide

Telephone Main Depot

0304 813555

Fax: 0304 813502

Telex: 965324 Power G

Our Projects include

- LIVE AID UK & USA • GENESIS EUROPEAN TOUR •
- AIDA EGYPTIAN OPERA • RUSH UK TOUR •
- BRUCE SPRINGSTEEN EUROPEAN TOUR ETC •

Over 40 years experience in
ENTERTAINMENT POWER SUPPLY

"Our name speaks for itself"

VILLA AUDIO

Professional Systems House

THE COMPLETE PRO-AUDIO SERVICE

Hire

EV Deltamax concert system,
Bi-Amped monitors, Soundtracs
boards. Large dry hire stock.

Installations

Theatre, Clubs, Churches, Hotels

**CHELMSFORD
(0245) 361694**

Lighting and Sound
International has
boxes for everybody,
starting from as little
as £182 for a full year.
Call us on (0323)
642639 and we'll tell
you more.

STARDREAM

S.A.V. LIMITED
AUTHORISED WHOLESALE
DISTRIBUTORS
FOR

NJD TOA
zero 88 LeMaitre
PULSAR H
SONY Hill
OPTIKINETICS REVOX
JEM BOSE
MODE ELECTRONICS
POWER DRIVE TEATRO
Party House, Mowbray Drive,
Blackpool Lancs.
Tel.: (0253) 302602 Fax.: (0253) 301000



LIGHTING

HIRE
DESIGN
ENGINEERS
London 081-891 4755



WEMBLEY
LOUDSPEAKER
deuce

Professional Loudspeaker
Repair
Specialists for all Makes
of Power Units

also
Manufacturers of 'Deuce'
Mini & Maxi Cube
'B Line'
(the ultimate professional
18" Bass 500 Watt Loudspeaker)

Sound Systems custom designed and
manufactured for all sizes of venue.
Mobile Systems from 100 Watts to 20k
Unit 4, Askew Crescent Workshops
Askew Crescent, London W12 9DP
Tel: 081-743 4567
Fax: 081-749 7957

LIGHT & SOUND Productions

EQUIPMENT RENTAL & SERVICES

6 Vine street, St. Helier,
Jersey, Channel Islands.
Tel. 0534 78351
(0860 740584)

FABTRONIC LIGHTING

Manufacturers of a complete range of quality
effects lighting for the leisure industry

PROFESSIONAL LIGHTING FOR
PROFESSIONAL PEOPLE

For a full brochure and price list call the
Sales Hotline

0604 790765

54-56 Tenier Road, Moulton Park Ind Estate,
Northampton NN3 1AX
Fax: 0604 492856

CHARLES FISHER

STAGING LIMITED
EXHIBITION and CONFERENCE
DESIGN and CONSTRUCTION

Specialists in Something
Different

Straw House Farm, Kirkby Road, Ripon, North Yorkshire HG4 3JU.
Tel: 0765 701604 Fax: 0765 701389

i n s t a l l

of Doncaster

SOUND, LIGHT, ELECTRICAL
INSTALLATIONS

DISTRIBUTION OF
PEAVEY, BOSE, ANYTRONICS,
CLOUD, CITRONIC, TOA, MODE,
NEXT TWO, JEM,
JAMO, AED ALLOY TRUSSING
BEST SERVICE - BEST ADVICE

159 Balby Road, Balby,
Doncaster DN4 0RG
(0302) 850030



CCT LIGHTING

- STAGE LIGHTING
- CONTROL EQUIPMENT
- TURNKEY PROJECTS
- FULL DEALER NETWORK

CCT LIGHTING LTD
4 TUDOR COURT, BRIGHTON ROAD,
SUTTON, SURREY, SM2 5AE, U.K.

TEL: 44 (0)81 770 3636
FAX: 44 (0)81 643 9848

AKAI • ALESIS • AMPEX • APHIX • AUDIOLOGIC
MUSICRAFT LTD.
LONDON'S LEADING PRO DJ SHOP
SALES AND INSTALLATION
OF PA, STUDIO AND
LIGHTING SYSTEMS
Our West End Showroom is at:
238 EDGWARE ROAD, LONDON W2 1DW
Tel: 071-402 9729/2898 and 071-723 1629
Fax: 071-706 2872
YU-GOHMARTER • TASCAN • VESTAL
SHURE • NUMARK • KLOTZ • JBL • HILL

FOR SPEEDY INFORMATION
TO LIGHTING + SOUND
Telefax (0323) 646905

MICO LIGHTING

The specialist for
LAMPS used in the
THEATRE and
ENTERTAINMENT
industries.

Excellent Trade terms
available.

Mico Lighting Ltd.
Troydale Lane, Pudsey,
Leeds, West Yorkshire.
Telephone: (0532) 567113
Fax: (0532) 572358
Telex: 556469 (MICO G)

MUSHROOM LIGHTING

- [] HIRE AND SALES
- [] OUTDOOR LIGHTING
- [] SLICK TRUSS
- [] GOLDEN SCANS
- [] MAINS DISTRIBUTION
- [] 1KW PROFILES/FRESNELS
- [] SPECIAL EFFECTS

76 Tenter Road
Moulton Park Ind Estate
Northampton NN3 1AX

Tel: (0604) 790900
Fax: (0604) 491118

The Professional People

MEC SYSTEMS

THE ULTIMATE TRUSS

Meccano for BIG BOYS

FOR TRADE ENQUIRIES AND
CUSTOM RIG DESIGN

Tel: 0424 893 424
Fax: 0424 892 178

The 'Garage', Bexhill Road,
Ninfield, Battle, East Sussex,
England TN33 9EE



ABQ (London)

- Stage Lighting •
 - Design & Hire •
- Tel/Fax 081-866 6202

THEATRE CRAFT

DRAMA EQUIPMENT

Elec Lighting Controls

Internally Wired Bars

Rostra & Scenery Kits

Braces, Weights etc

TRADE ENQUIRIES

TEL: 051-334 0831 • FAX: 051-334 4047

Trafalgar Lighting Ltd

Tel 081 887 0082

Sales & Hire Of:
Lighting, Control,
Trussing, Mains
Intellabeams,
Sound Equipment

Used Equipment Bought & Sold

HIRE AND SALE Of Sound, Lighting and Effects IN THE MIDLANDS

Central Theatre Supplies



021-778 6400

Lancelyn THEATRE SUPPLIES

Lighting Hire & Sales

Equipment from all
major manufacturers

Hire of Outdoor Equipment
including Staging and Seating

Special Effects, including
smoke machines, snow machines,
projection, pyrotechnics, etc.

HIRE: Oxford (0865) 722522
SALES: Oxford (0865) 722468
Hire and Sales Northwest:
051-334 8991

NIGHT FLIGHT

Sound and Lighting

THE BIG ONE IN SCOTLAND

Installation, Design,
Hire, Repair and Service
0389-79261

HirePoint Software



Isolation
breeds
innovation!

Australia's leading Audio Visual
hire system is now available,
especially designed for Lighting &
Sound hire, version 5 is the
cumulation of 7 years development
and inputs from 30 Australian
companies who use the system.

HirePoint software will increase
your efficiency, customer service
and profitability.

- Checks stock available
- Plots advance bookings
- Sub hires
- Handles all kinds of tax
- Prints quotations
- Hire contracts
- Runs single or multi-user*
- Accounts receivable

*Optional general ledger module

REPORTS:

Delivery Schedule, Shortage list, Pick-
ing slip, Utilisation and return-on-
investment for hire stock, Sales analysis
and recommended re-order, Mainte-
nance costs, Gross turnover, Debtors
aged trial balance & statements.

REQUIRES:

IBM compatible 286 or better, hard disk,
mouse, printer, colour monitor and DOS.

Introductory offer - only £350

(Until July 31st, thereafter £450)

*Extra workstations £150 each.

*General Ledger & Creditors module £150

90 day money back guarantee

Testimonials-

"Correct and full use of HirePoint gives us the
competitive edge over our competition".

-Brisbane Sound Hire.

"Don't know how I ever ran a Hire dept. without
it!" -Blackmore Audio Vision, Melbourne.

"HirePoint is a comprehensive software package.
After initial learning period we found it user friendly.
A must for efficient administration".

Pro Vision Audio Visual.

Phone for a FREE demo disk:

Lighthouse Technical Services,
081 802-2088

In USA, call AUDRA (714) 649-2207.
HirePoint Fax +61-2-869-1495

HOWARD EATON LIGHTING LIMITED

DESIGN AND MANUFACTURE
OF SPECIALIST LIGHTING EQUIPMENT AND EFFECTS

LIGHTING DESIGN CONSULTANCY

DIGITAL DIMMING SYSTEMS

Telephone: (0273) 400670 Fax: (0273) 401052

Northern Light

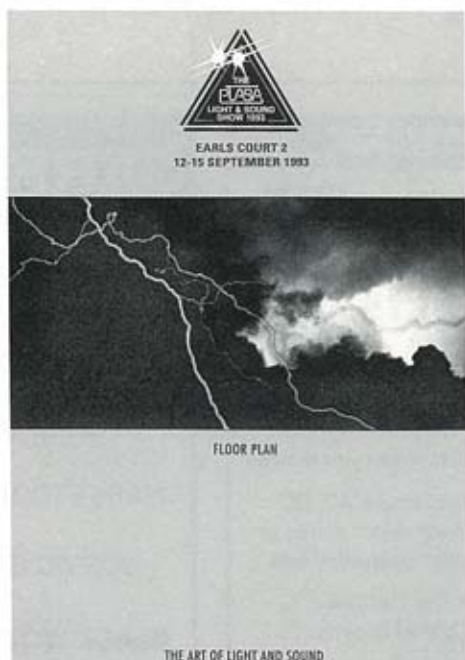
Lighting & Sound Equipment Hire & Supply
Technical Equipment for the Leisure & Entertainment Industry

Sale • Installation • Hire

Stockists for Strand, Hall Stage, Roscolab, DHA,
Tecpro, Allen & Heath, Bose, Tannoy, Toa, AKG,
Le Maitre, Slick Systems Trussing.

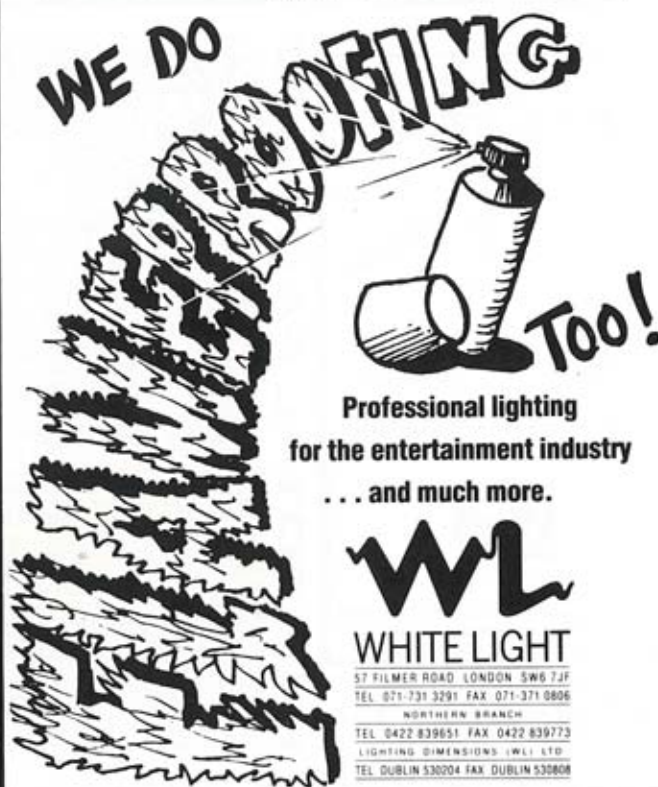
Manufacturers of Socket Boxes, Working Light and Specialised control systems

Edinburgh 031-553 2383 Glasgow 041-440 1771
(Fax 031-553 3296) (Fax 041-445 4406)



**SHOW BROCHURE
NOW AVAILABLE**
Ring Philbeach For Your Copy
on 071-370 8215

**TALES OF THE UNEXPECTED
NO. 11**



WHITE LIGHT
57 FILMER ROAD LONDON SW6 7JF
TEL 071-731 3291 FAX 071-371 0806
NORTHERN BRANCH
TEL 0422 839651 FAX 0422 839773
LIGHTING DIMENSIONS (LW) LTD
TEL DUBLIN 530204 FAX DUBLIN 530808

SALES — INSTALLATION — SERVICE
**OF PROFESSIONAL LIGHTING
AND EFFECTS EQUIPMENT**
190 PAGE CATALOGUE LISTING 1,000s OF
TECHNICAL PRODUCTS INCLUDING:-

PULSAR — MAGLITE — ANYTRONICS — LE MAITRE — AEROTECHNICS — ROSCO — OPTIKINETICS — LEE — JANDS — GAM



Unit 1, Chelsea Bridge Business Centre,
326 Queenstown Road,
London SW8 4NE
Fax: 071-498 8845
Tel: 071-498 7272



Professional Systems House
**THE COMPLETE
PRO-AUDIO
SERVICE**

Hire
EV Deltamax concert system,
Bi-Amped monitors, Soundtracs
boards. Large dry hire stock.
Installations
Theatre, Clubs, Churches, Hotels

**CHELMSFORD
(0245) 361694**



LIGHTING SALES/HIRE

Designers, Technicians and Installers
to the Entertainment and Promotion Industries

NEON LITE ASSOCIATES

Unit 1, Clovelly
Chapel Road, Meppershall, Bedfordshire SG17 5NQ
Tel: 0462 811843 Fax: 0462 817352



**PROFESSIONAL LIGHTING
AND SOUND ASSOCIATION**

JOIN US!

For full details
and a Membership
Application Form
please write to:

Sheila Bartholomew
PLASA
7 Highlight House,
St. Leonards Road,
Eastbourne,
BN21 3UH



**UNITED KINGDOM
DISTRIBUTORS**
Appointed sole UK distributors for Program/Sistem

Trade Suppliers of Professional Sound,
Lighting and Special Effects Equipment
Telephone: (0926) 314878
Fax No: (0926) 883120
MOBILE No: (0860) 544934

Located in the heart of England gives us the right con-
ditions to serve you via the
M1, M4, M11, M13 and the M25 with these
facilities.

- Wholesale trade supply to retailers, installers, contractors etc.
- Extensive stock on all major manufacturers and some minor ones too.
- Some own brand products, concentrating on quality and availability.
- Manufacturers trade prices used, sometimes bettered considering delivery service.
- Vehicles travelling the country carrying orders and stock.
- Regular personal contact.
- Regular visits averaging 5/6 weeks to Wales, S.E., S.W., London, East coast, N.W., N.E., Scotland and of course the Midlands.
- No delivery costs when orders coincide with visits (nominal in between times).
- No minimum orders.
- Use of our technical staff - for enquiries and help.

If you are not being offered these facilities at the moment, but would like to and would like to know more, we will be only too pleased to hear from you.

Rigby Close, Heathcote Industrial Estate
Leamington Spa CV34 6TJ England

Northern Light

Lighting & Sound Equipment Hire & Supply
Technical Equipment for the Leisure & Entertainment Industry

Sale • Installation • Hire

Stockists for Strand, Hall Stage, Roscolab, DHA,
Tecpro, Allen & Heath, Bose, Tannoy, Toa, AKG,
Le Maitre, Slick Systems Trussing.

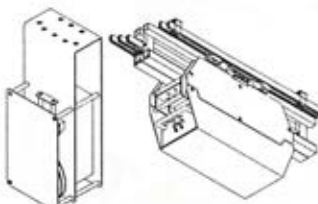
Manufacturers of Socket Boxes, Working Light and Specialised control systems

Edinburgh 031-553 2383 Glasgow 041-440 1771
(Fax 031-553 3296) (Fax 041-445 4406)

Specialist Technical Equipment and Services for the Entertainment and Allied Industries


Triple E

TRACKS, MOTORS, CONTROL SYSTEMS
AND SCENERY AUTOMATION



TRAC-DRIVE LINEAR-DRIVE

Our comprehensive range of manual and motorised UNITRACK systems is available for sale and hire. Catalogue available on request



The Triple E Group

Tel: 071-237 6354 Fax: 071-237 7650
B3 TOWER BRIDGE BUSINESS COMPLEX
CLEMENTS ROAD, LONDON SE16 4EP



MOTOROLA

CERAMIC SPEAKERS

PULSAR DEVELOPMENTS LTD
MARLOW, ENGLAND
TEL: (0628) 473555
FAX: (0628) 474325

FOR YOUR DIARY

PLASA LIGHT & SOUND SHOW 1993

EARLS COURT 2,
LONDON

SEPTEMBER 12-15TH

7 WESTERHAM
TRADING CENTRE
THE FLYERS WAY
WESTERHAM
KENT TN16 1DE

Tel: (0959) 562254
Fax: (0959) 564564



THE EFFECTS CO.

contact us for full
details of this
great range of
special effects
smoke machines
and pyrotechnic
equipment and accs.

Now Available

THE TOTAL PACKAGE

- Lighting, sound, communications, rigging, audio visual, conference and projection.
- For theatres, halls, studios, leisure and presentation.
- In-house electrical contracting service.
- Schemes prepared.
- UK and worldwide.



**GLANTRE
ENGINEERING LTD.**
2 Cremyll Road,
Reading, Berks
0734 509711
Fax: 0734 505808



we design and produce
BAR CODED LABELS
Featuring

- HEAT RESISTANCE •
- PROTECTIVE SURFACE •
- TAMPER EVIDENT •
- ADHESIVE SELECTION •

For Advice and Free Catalogue
Tel: 0480 494540
Fax: 0480 494206

also

PRINTED VELCRO
CABLE STRAPS
PEEL CLEAN STUDIO VINYL
SELF ADHESIVE TAPE

The Le Mark Group
Stephenson Road, St Ives,
Huntingdon,
Cambridgeshire

To advertise in this
feature contact
Barry Howse on
(0323) 642639

transtechnik

- LIGHTING CONTROL CONSOLES
- MODULAR THYRISTOR DIMMERS
- CUSTOM ENGINEERED TOTAL SYSTEMS

For TV studios, Theatre Stage, Concert Hall installations with transportable systems for outside presentation events

Otterfanger Weg 11 8150 Holzkirchen Germany Tel 0 8024 30080 Fax 300830

THINK

Dramatec Effects Ltd

CONTROL

- Products to get you moving
 - From simple AC, DC and Linear motor drives to computer controlled sets
 - The Electronic Control Experts

15 Hunton Bridge Hill, Hunton Bridge
Kings Langley, Herts WD4 8PX
Tel: 0923 263751
Fax: 0923 261727

THEATRICAL AUTOMATION

SHERMANN UK


HIGH QUALITY LOUDSPEAKER
SYSTEMS
BUILT IN THE UK, IN USE
WORLD-WIDE

SHERMANN GX-SERIES 1
From super-compact PA cabinets and subs to modern touring systems.

SHERMANN GX-SERIES 2
Fully equipped touring systems

SHERMANN MX-SERIES
From compact desk-tops to 3-way mains

SHERMANN UK
27 Mochdre Ind. Estate
Newtown, Powys, UK SY16 4LE
Tel: 0686 622626/622166
Fax: 0686 622616



DISTRIBUTORS OF EFFECT
LIGHTING AND CONTROL
TO THE LEISURE INDUSTRY

ALSO
EXCLUSIVE UK IMPORTERS
OF FLY AND LA NOVALIGHT

Nu-Light Systems Ltd,
Unit 1, Athertons Quay,
Off Liverpool Road,
Warrington,
Cheshire WA5 1AH.
Tel: (0925) 243075
Fax: (0925) 243077

GERRIETS

GREAT BRITAIN LIMITED

MADE TO ORDER &
CUT GOODS SERVICE

ALWAYS IN STOCK:

FILLED CLOTH

SHARKSTOOTH GAUZE

SCENIC COTTON

BLACK WOOL SERGE

plus

PROJECTION SCREEN
MATERIALS IN SINGLE &
DOUBLE WIDTH

And much much more
call us

071 232 2262

FOR SPEEDY INFORMATION
TO LIGHTING + SOUND
Telefax (0323) 646905



RAT

the music stand
specialists

R.A.T. (Music Stands) Limited
41 High Street, Brentford, Middx, TW8 0BB.
Tel: 081 847 3331, Fax: 081 568 1059

VIEWPOINT

Following Philip Nye's Viewpoint on the future of DMX512 which appeared in our July issue, we've decided to extend the debate by printing three of the responses that arrived in the L+SI office. The subject will receive a further airing at the PLASA Light & Sound Show in September where a seminar covering Control Transmission will take place on Monday 13th September. See full seminar programme, pages 44 and 45.

PLASA Working Party?

As PLASA's Standards Officer I welcome the ideas put forward by Philip Nye in his Viewpoint article in the July issue of L+SI.

He asks that PLASA should set up a working party to find a successor to DMX 512, which we are all agreed has now come to the end of the road. Being helpful, Philip has provided us with a list of eight facilities the new interface, which he has kindly called PLASA-Link, should provide. (In computer terms, we are talking about a protocol.)

I have looked carefully at his list, and there is no doubt that given some specially-written and very sophisticated programmes, modern computer technology could do all that he has asked, although his item 2), a self-configuring network, would provide a few headaches. However, it is not impossible, and even as I write, the well-known computer software company Novell is working on a so-called global network which will do for computer networks much that Philip has specified. As another example of what is possible, we have under the auspices of the International Electrotechnical Commission, the Open Systems Interconnect, a protocol which is laid down in thousands of pages of specifications and which can be made to do almost anything. Strand Lighting's SMX is a cut-down version of this.

The problem does not lie in the technology but in people, and in their view of the commercial prospects of introducing something like PLASA-Link on a large scale.

Towards the end of 1991 PLASA sent out a questionnaire about a future protocol to 18 members prominent in the lighting field, receiving only 11 replies. Of these, all were in favour of a new protocol and all said 'yes' to the last question - 'If, after evaluation, a majority of PLASA manufacturers were satisfied with the new protocol, would you be prepared to implement it?'

However, on the ground matters were different, for when I spoke to some of the major manufacturers individually, each one said he had his own system which was of course either cheaper or better than his rivals, and because of commercial considerations, did not see any need to change. (Even Philip Nye has his own protocol, called Move Control Interface.) In view of this attitude, I felt no further progress could be made and PLASA dropped the project at that time.

The letters included in this article show that this problem is still with us, as we now have two new contenders, each with a system which, as far as I can judge, is adequate for the purpose, but totally incompatible with each other and anything that has gone before.

Individual managing directors have their own views on what is best for their company, and this rarely encompasses the systems of a rival. One has only to look at the Digital Audio Tape/Digital Compact Cassette/Minidisc battle to realise this, and this is the rock on which Philip's excellent proposal founders. The system he outlines would undoubtedly push up the price of any lighting installation using it, since every luminaire would need a small

microprocessor to carry out the required functions.

The actual microprocessor need not prove costly, only a few pounds, but the problems of getting it in place and keeping it working reliably in a harsh environment would cost much more. Of course, if every manufacturer implemented an identical protocol simultaneously the burden would theoretically fall equally on them all, but as we know, life is not like that.

We must also remember that the rest of the world will need to be persuaded to use PLASA-Link and fit the microprocessor in their product, as otherwise imported items would not work in a PLASA-linked rig. Obviously, the United States Institute of Theatre Technology (USITT) and other similar international organisations will need to be consulted and involved.

There is also the difficulty that any new protocol would have to be rigorously policed and its documentation maintained, because before long some bright engineer would find a new way of implementing it at less cost, only to find much later there was a hidden incompatibility. I doubt whether PLASA could take on this task and one would eventually have to look at BSI.

Having said all that, PLASA is prepared to give full support to this idea of a new universal protocol. It must be emphasised however, that we are looking at a really long-term proposal and very careful consideration will need to be given to it by all concerned.

The best place to get the proposal off the ground and test the strength of the support from manufacturers will be at the PLASA Show in September, when a seminar on 'DMX and Beyond' will take place. Steve Terry, the 'father' of DMX will be on the panel and I hope everyone interested will turn up or make representations to enable us to judge the feelings of the industry.

Finally, let us hope this proposal is not too Nye-ive!

George Thompson
Standards Officer

Professional Lighting and Sound Association

A Case for Compulite

I read Philip Nye's Viewpoint on DMX512 in last month's issue with interest. Compulite have just completed development of just such a product - or at least one that goes as far as we can in our capacity as a control system manufacturer.

Compulite have some ten years experience of design and manufacture of moving light control desks, firstly with the control systems for Telescan, and more recently with the introduction of the Animator range. We have always produced versions of the Animator specifically suited for various types of moving lights, not only in terms of specially labelled key caps and provision of functions applicable to that particular head, but also by providing the appropriate output protocol. The majority of these are simply variations of DMX with either 10 or 12 bit resolution for the X and Y

movement.

This was fine in the early days of moving lights when designers would use a whole rig of Intellabeams or Vari*Lites, but as time moves on it has become increasingly more popular for designers to use several different types of moving light in one show. This has been accentuated by the introduction of the VL5 which is invariably used in conjunction with a moving mirror fixture.

The Animator was seemingly set in a rigid output format, mainly due to the moving light manufacturers not standardising on a protocol rather than anything related to the architecture of the desk. You could either set your desk up for, say, Syncrolite and have 10 bit resolution for the movement and have all the right key caps, or alternatively you could set it up for DMX-MIX where the system would output DMX to standard 8-bit resolution, but you could configure the desk for a wide range of different types of head.

The new generation of Animators to be launched at the PLASA Show later this year will have the option of being fitted with an output protocol consisting of 10 parameters with 8-bit data and 2 parameters with 12-bit data. A separate unit will then be supplied (the PLASA-Link) which will accept the Compulite protocol and have four separately driven outputs.

These outputs can be configured for any of the commonly available moving light protocols, such as Intellabeam and Syncrolite, it will then be possible to assign any of the desk spots as any of the output types. Thus it will be possible to have a wide range of heads being controlled from the desk simultaneously, some with X/Y resolution of 10-bit, some 12-bit and others running from standard DMX-512.

Well that about covers most of it, but what about auto set-up? The Compulite desks already have the facility to be able to read back information from the Compulite digital dimmers about circuit breaker status, current drawn and rack temperature.

If the moving light manufacturers could agree on a return protocol there is no reason why you couldn't select auto set-up on the desk and it could detect each spot type and its starting address on the data line.

You never know, one day! I feel it could take several years for the moving light manufacturers to agree on a bi-directional protocol standard.

Andy Stone
Divisional Manager
Compulite GB

Have you a Viewpoint to offer?

Send it to:
Lighting and Sound International
7 Highlight House
St. Leonards Road
Eastbourne

East Sussex BN21 3UH

or fax it through on (0323) 646905

VIEWPOINT

SDX - Beyond the Vision?

We read Philip Nye's viewpoint on DMX 512 with great interest as our company has developed a communications protocol which answers most of his needs and in some cases goes beyond his vision. The new code is named SDX (Show Data Transmission Protocol). Our purpose in designing the code was to overcome the problems inherent in DMX 512 and to present it for consideration as a new standard for show automation serial data transmission.

The code is based on a super-set of the Manchester code which is the standard used for all forms of digital communications. This synchronous code is reliable, eliminates time skews, has high noise immunity and includes error checking and variable framing rates. The SDX code is designed to drive long lines over inexpensive cable and since there is no DC component to the signal the lines can be transformer coupled for low cost earth loop protection. The code is also fully compatible with all film, video and recording time base standards. Additionally, the code may be converted to DMX 512 using a simple circuit.

The current implementation of the SDX code blocks data into 512 bytes. However, 256 byte and 1024 byte blocking is available. 256 byte blocking allows for applications requiring a fast framing rate (up to 83 frames per second). 1024 byte blocking reduces the framing rate to a maximum of 20 frames per second but allows for a large number of devices to be controlled on a single data path.

In each data block there are 12 system bytes which contain the performance time (hours, minutes, seconds and frames), system information and status. In the System information byte are user bits which are not pre-recorded and may be sent in real time with the show data. Currently, six of the system bytes are reserved for future use as command or

special data packets.

Data blocking allows data to be double buffered. The whole data block may only be acted upon when it is complete and validated. This not only prevents a device from acting on erroneous data, it also eliminates time skews between devices.

There is a diverse range of device types supported by the SDX code including: Lighting Devices, Servo Devices, Bit Devices, and ASCII Devices. These and other available device types support a full range of show equipment and media. Current implementation of the code gives resolution of device values up to 65,536 steps (16 bits), however this should not be considered the upper limit for future implementations.

Device values have many possible implementations such as percentages, on/off states, numbers and linear scaled values. Devices may also be assigned a quiescent value which is any value in the available range. With an eye to the future, the code can readily accommodate new device data formats. The protocol also supports systems that contain 'smart' devices that are programmed to respond at a particular time.

The only things we really question in Mr Nye's wish list is the concept of self configuration and device monitoring. In our experience both of these items are very expensive. In the case of device monitoring it can cost two to three times as much as the control system itself. Self configuration would require microprocessors on every device being controlled. Additional complexity naturally increases the risk of system failure and the chance that one faulty device will take down the entire data path.

A high data capacity, reliability and flexibility are the keys to the future of show automation data transmission. We feel that

SDX has these features and more and we would like to present it for consideration as a communication standard. We invite interested parties to request a copy of the SDX protocol for review and comment.

Kevin Cutter
Senior Project Manager
R G Gray

Kevin Cutter holds a degree in Audio-Visual Communication and from 1980 to 1985 produced planetarium/multi-media shows. In 1985 he joined RA Gray and has designed control systems and provided technical support for dark rides, museums, and expositions. His most recent work includes control system design and technical consulting for the Pavilion of Spain at Expo '93 and Madame Tussaud's Spirit of London Dark Ride.



UNUSUAL

RIGGING

LIMITED

- Rigging and supply of equipment and personnel
- Design and manufacturing of specialised equipment
- Drafting services
- Permanent installations
- Consultancy and maintenance contracts
- Equipment rental
- Equipment sales

4 Dalston Gardens Stanmore
Middlesex HA7 1DA

Tel: 081-206 2733 Fax: 081-206 1432

CONFERENCES
EXHIBITIONS
PRODUCT LAUNCH
TV & FLIM
OVERSEAS

LONDON LASER Company

FOR THE MOST EXCITING, DRAMATIC &
BREATH TAKINGLY CREATIVE LASER
SHOWS ON EARTH
.....JUST CALL US

460 EWELL ROAD, TOLWORTH, SURREY, KT6 7EL.
TELEPHONE: 081-399 1754 OR (0836) 766599

Sofiscotech
1440 Leeds Road, Tel. (0274) 661405
Bodford BD3 7AA Fax. (0274) 666463

MODE ELECTRONICS

Martin
ROBOSCAN

audio-technica **Jamo**

Numark **TranTec**

TRIFIBRE **STANTON**

Containers **OHM**

PHILIPS **ABSTRACT**

FOR THE SUPPLY, INSTALLATION & REPAIR OF ALL YOUR
LIGHTING, SOUND AND EFFECTS EQUIPMENT.

ADVERTISERS INDEX

A&B Theatre Services 40
A C Lighting 4/18
Aliscaff 11/15/40
Apogee 5
Ark Light 17
Arri 43
Avolites 23

Avitec 17
CCT 27
Cerebrum 14
Clay Paky 8/9
Coemar OBC
Decoupe 30
ESP IFC
ETR 42
Glantre 35
Inova 30

Jands 12
Laser Animation 40
Lee Filters IBC
Leisure Resources 7
London Laser Co 54
Mainstage 22
Marquee 38
Martin Prof 20/21
Midland Theatre Svcs 22
Par Opti Projects Ltd 19

Pfaff Silverblue 42
PLASA Show 3
Pulsar 8/9/37
P W Enterprises 22
R B Lighting 22
RCF 10
Seefactor 7
Smithfield 14
Sofiscotech 54
Strand 35

Syncrolite 6
Theatre Projects 30
Theatre Proj Con 35
Tomcat 19
Unusual Rigging 54
White Light 16
Wilkes 38
Wybron 11/13/15/17

Are you sure you know just what you're getting ?

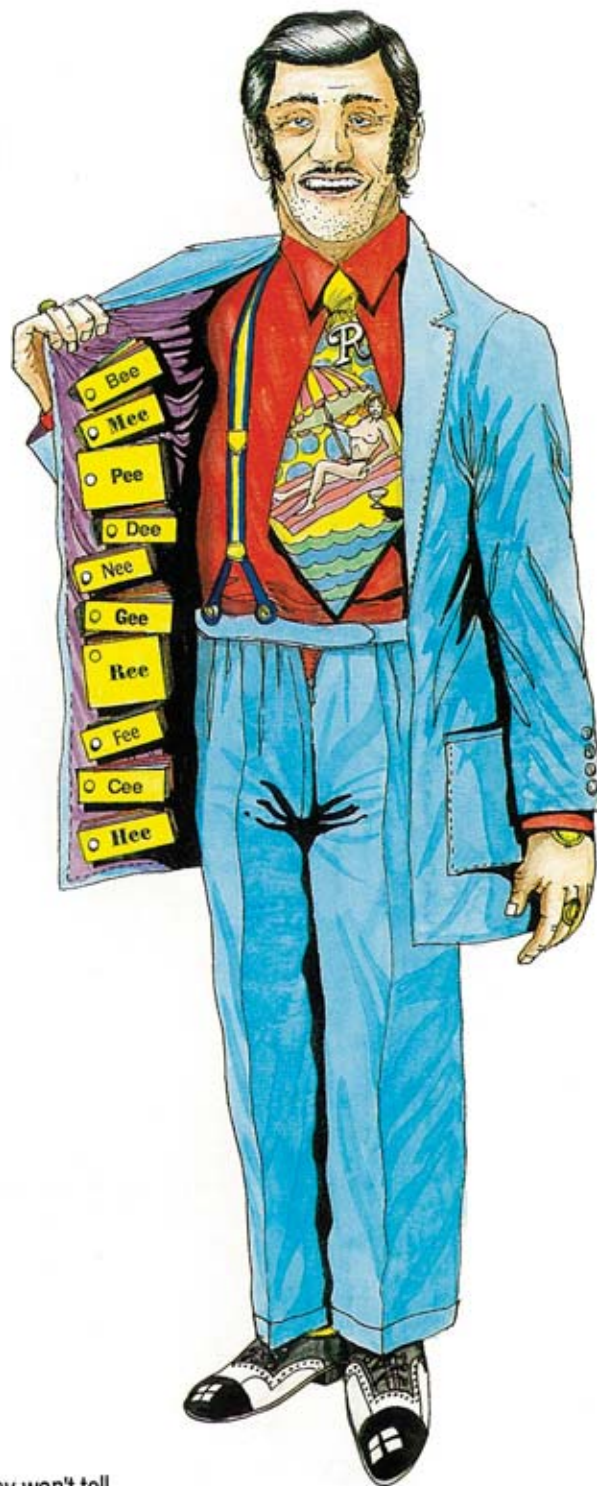
Whenever you buy a Lee lighting filter, you have the comfort of knowing that the famous WYSIWYG rule applies. In other words - What You See Is What You Get. If a filter carries our logo, then it's made by us.

This can't be said of all filter "brands". Because some commercial coaters are supplying the same products to more than one "brand" vendor.

Which means that some companies - even well-known and respected names - are operating a buy-it-in, badge-it-up, ship-it-out policy. But they won't tell you that. They'd have you believe the products are all their own work. That they have technical control in production. They don't.

At Lee Filters, we operate our own manufacturing plant. We only make for ourselves. No-one on the World sells Lee lighting filters under any other name.

So that when you buy Lee, you know exactly what you're getting. The original European quality. Right across the globe.



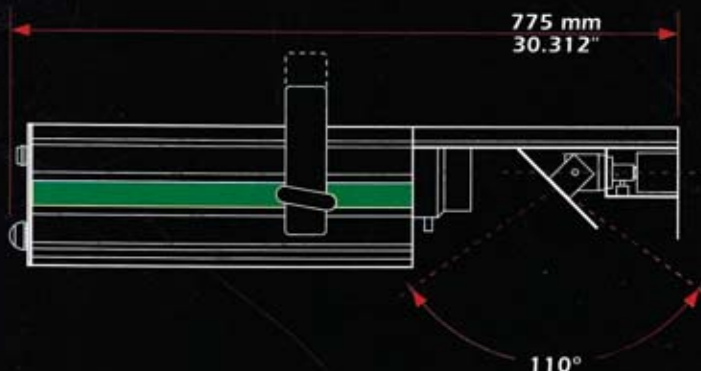
Lee Filters, Central Way, Walworth Industrial Estate,
Andover, Hampshire SP10 5AN England.

Telephone: 0264 366245 Fax : 0264 355058

Lee Filters - the Original European

micro scan 2

575 MSR

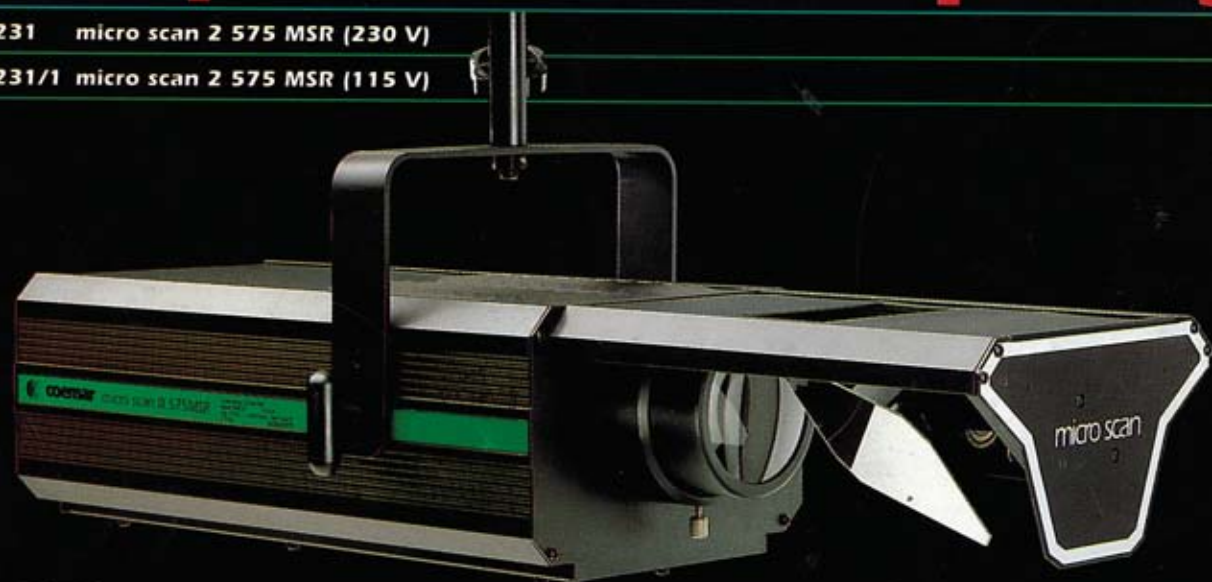


- 10 colours internal colour changer (9 dichroics + white)
- DMX 512 or special input via 3 pin cannon (6 channels)
- high quality optical condenser, formed by 1 high reflection spherical mirror, one parabolic lens and one plano-convex lens
- roto colour effect (colours in continuous rotation) at 3 speeds (slow, medium, high)
- 0/+10V dc input via 8 pin (6 channels)
- objective: 1 fixed plano-convex lens and 1 high definition focousable lens
- roto gobo effect (gobos in continuous rotation) at 3 speeds
- dip-switches for address number projector
- beam angle: 9°
- 10 gobos (5 interchangeable)
- self-test and signal reception indicator incorporated
- typical throw distance: 4-21 mt
- adjustable strobing effect
- digital signal for lamp on/off function including disable option
- weight: 11,6 Kg/25,5 Lbs
- black-out
- can be operated in any position
- external ballast
- programmable chase effect
- forced ventilation
- ballast weight: 8,6 Kg/18,9 Lbs (230V) / 15,8 Kg/34,7 Lbs (115V)
- beam movement on X and Y axis' achieved by micro-stepper motors
- protection range IP20
- GX 9,5 ceramic lamp holder
- long life Philips 575 MSR lamp: 750 h;
- power requirement 4,2 A at 230 V - 8,4 A at 115 V
- cable in compliance with the safety norms IEC 331, IEC 332 3C, CEI 20 35 2 core 1,50 + earth
- mains 115/230 V ± 10% 50/60 Hz (on application)

macro-power in a micro-package

code 4231 micro scan 2 575 MSR (230 V)

code 4231/1 micro scan 2 575 MSR (115 V)



coemar spa
professional projectors
for lighting effects

46042 castel goffredo (mn) italy
via inghilterra 1
phone (+376) 779336
fax (+376) 780657



coemar

Coe • Tech
Unit 3, 2 Hartburn Close,
Crow Lane Industrial Park,
Northampton NN3 4UE.
Tel: 0604 785878 Fax: 0604 786606