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JULY 1989

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Cover Story: 'The Best Cinema in the World'.

Fibre optic lighting features prominently in the new entertainment experience that is the Empire Leicester Square, London, which was re-opened by HRH The Prince of Wales on 27th June when he attended the Royal Charity Premiere of 'Indiana Jones and the Last Crusade'.

Futuristic cinema has arrived at the Empire, and it will set the standard for cinema over the next decade. See full story pages 19-21 including details of the fibre optic installation by Par Opti Projects Limited.

LIGHTING+SOUND *International*

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Big Show Build Up

As we switch into the second half of 1989, PLASA's Light & Sound Show (September 10-13) is now just a matter of three months away. And the build up is looking very positive, with over 160 exhibitors booked to take space. There is **some** room on the second floor, but 'thinking about it' has got to be turned into action in the near future if you want to be a part of Light & Sound Show 89.

A new departure this year will see the introduction of **Seminars**, and the speaker line-up has just been announced by co-ordinator Tim Chapman. It is impressive, with a wide range of leading industry professionals all set and ready to unburden their thoughts of wisdom (see page 34 for details).

Enclosed with this issue is a **Registration Card** for reduced rate admission to the Show - provided you fill it in and post it (with money) before the expiry date. And once you're inside the door L+SI will give you the biggest and best-ever **Catalogue** (We'll also send you one with the September magazine, as usual).

Also to be launched at the Show will be the 1989/90 edition of the **PLASA Industry Yearbook**. They'll be a voucher in our August issue: bring it along and we'll give you your free copy.

Major Korea Deal

Citronic has signed an exclusive distribution arrangement with the Won IL Corporation, a major Korean pro-audio company, in a deal that is likely to be worth around one million US dollars in 1990.

Having for some time recognised the market potential in South East Asia, Citronic has invested heavily in strengthening its presence there. Mike Gerrish, Citronic's sales and marketing director explained: "We have been working with the I1 Corporation since research showed that Citronic's products have been selling on the black market there for up to five times their real value."

"It seems that our equipment is so popular in Korea because of the wide range available and its exceptionally high quality," he added. Korean Safety Standards tests on Citronic's products are well underway and are expected to be completed by August. Meanwhile at the SIBTA 89 exhibition in Seoul in June, the company took valuable orders from KBS and MBC, the two main Korean broadcasting companies. Citronic returns to South East Asia at the beginning of July to exhibit at Pro-Audio Asia in Hong Kong.

Birmingham Contracts Announced

The £100m plus International Convention Centre currently being erected in the centre of Birmingham will be the largest and best equipped convention centre in Europe. Financed jointly by the City Council and the EC, and due to open in 1991, the industry has been waiting anxiously for the outcome of bids for the lighting and sound equipment and installation work at the complex, which will cover no less than 11 separate halls.

Arri (GB) Ltd has been awarded the contract to supply large quantities of lighting control and dimming equipment. More than 1500 dimmers will power performance lighting circuits for the four main performance areas, as well as houselights for the whole complex. One 500 channel and two 250 channel Arri Imagine control systems will be supplied, and all will be fitted with Redundant Tracking Backup - a full set of parallel electronics, assuring ultimate operational security. In addition, Arri will be supplying two Celco boards for concert lighting control.

Tim Burnham, general manager of Arri's lighting control division, was in a happy mood when he spoke to L+SI. "I'm more than pleased," he told us. "This contract has to be seen in the context that our lighting control business is just three years old, and we have won the biggest contract of its kind that I can recall in this country."

The contract for ancillary lighting systems was won by Glantre Engineering Ltd of Reading. The scope of works includes the design, supply, installation and commissioning of custom-built microprocessor controlled working light and

houselight control systems, production lighting socket boxes, special cabling and power distribution equipment.

The £2.5m PA and communications system contract was won by Tannoy-Audix. It will include sound and vision communication links to all 11 main halls plus open public areas, management suites and plant rooms. Hall areas will be used, according to size and facilities for conferences, theatrical and music performance, and exhibitions and conventions, and individual hall requirements will include PA and conferencing, video, simultaneous translation and pre-programmed automatic announcements - all linked to central monitoring and control points.

A totally integrated system has been specified for Hall 2 - the home of the City of Birmingham Symphony Orchestra. This will include concert sound and video recording, broadcast and live performance, backstage communication to artistes and pre-programmed automatic announcements to front of house before performance and during the intervals.



Under construction: Birmingham's £121 million International Conference Centre - opening in 1991.

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Stagetech 89

For the second year running, Stagehands has arranged for technical professionals from the arts and entertainment industries to have the chance to see the most up-to-date stage technology available - and to put it through its paces. That opportunity is Stagetech 89 due to be held at Birmingham from July 31-August 5.

The six-day event provides a rare opportunity for practitioners to obtain hands-on experience of the new technology, some of it being unveiled for the first time. And for professionals, the easiest way to understand the new technology is to 'test drive' it. Companies participating include Strand, CCT, Kodak, Allen & Heath, Soundcraft, Yamaha Kemble, Drake Electronics and Light & Sound Design.

Stagehands' frequent contact with all manner of technicians has convinced the agency of the need for these professionals to be more familiar with the changes taking place all around them. Stagetech 89 provides the best way of keeping up with developments at the leading edge of technology. There will not only be the chance to use the equipment (which is rarely the case at exhibitions), but also to discuss the finer points of application with the manufacturers.

Stagetech 89 is an intensive, but enjoyable working environment," says course organiser and principal of Stagehands, Patricia Webb. "For each of the six days, delegates have the chance to immerse themselves in a stimulating 12-hour day of workshops and discussion groups. They find the experience as useful as it is interesting. Last year proved that this format creates the ideal setting for a two-way exchange of practical knowledge," she added. "Delegates told me afterwards they found this as valuable as the technical information itself."

Stagetech 89 will be held at Birmingham University and the course fee is £250. An on-campus accommodation package, including bed and breakfast plus three course dinners, is also available for £125. Enrolments are limited to ensure that sessions do not exceed manageable numbers. Details on 01-226 4621.

Medals from the Monarch

As if to prove it is the fundamental choice in such matters, sound system specialist Shuttlesound has supplied six separate sound systems for King Abdullah's Mosque in Jordan. The Altec Lansing systems, comprising of horns, drivers and bass bins are driven by Altec's own 9444-A amplifiers and processed by Altec, Furman and Audio Digital delays.

Aesthetics played a great part in the positioning of the systems which have been installed in the main mosque, minaret, women's prayer room, conference rooms and outside the mosque, whilst a sixth system for paging covers all areas.

On completion of the work, all Shuttlesound personnel involved in the installation were personally thanked by King Hussein, the instigator of the project and presented with a gold medal and certificate of appreciation.



CCT Prize Winners

Winners of CCT's 'Star' prizes at ABTT were given the opportunity to select from two new products on offer. One choice was the CCT Minuet 'Pursuit' follow spot, which although rated at 650W, with its glass reflector and condenser lens, together with a pair of zoom objective lenses, gives a lot more light than many spotlights on a higher wattage rating. The alternative choice was from Furze Theatre Products. 'Regent 4' a useful dimmer rack with four 7 amp dimmers each rated at 1.5kW. The unit features a phase back facility to prevent any overload demand.

The presentation of prizes took place on Thursday 22nd June at the Secombe Centre, Sutton - a theatre well equipped with CCT lighting.

Pictured above (left to right) are: Don Hindle (CCT managing director), Simon Auty (BBC Design Group), Ric Edwards (stage manager, Leeds Grand Theatre), Tony Witton (assistant technical manager, Secombe Centre, Sutton) and David Manners (CCT sales director).

Eurolight Controls for Bergen Grieghallen

Eurolight recently installed two Ovation lighting control systems with DMX standard demultiplexing and infra red riggers controls at Grieghallen in Bergen, Norway's premier concert venue. The systems are being connected to Crossman current-driven dimmer units.

The Ovation systems are designed to handle up to 512 channels of dimming and utilise a recent addition to the range - namely a 286 processor which enables the system to cope with a large number of channels without reducing system performance or speed. "The Ovation was selected by the Grieghallen staff after exhaustive analysis of most systems on the market," Eurolight's Nick Mobsby told L+S. "The choice was made to purchase the Ovation systems because of the considerable system functions, ease of use, high reliability and its ability to cope with productions as varied as one night stands through to complex show requirements."

The infra red riggers system enables the Grieghallen staff to remotely select circuits from almost any location in the auditorium ensuring that it is very easy to focus. A similar system was recently used at Wookey Caves to remotely control the playbacks of Smart lighting controls (see L+S report April 1989).

Major Contracts for Luff Light & Sound

Luff Light & Sound has won three major rental contracts for lighting equipment, including the new West End musical production starring Elaine Page. The Cole Porter musical 'Anything Goes' comes from the same stable as 'Chess', produced by Robert Fox, and will open at the Prince Edward Theatre in London in July with one of the largest lighting rigs to go into a West End theatre for some time.

300 Strand Lekos, 63 Silhouettes and 97 Parcans, together with 48 MR-16 batters, 65 4x1kW cyc batters will be supplied by Luffs; the spec list also includes 35 Rainbow colour changes, more than 300 additional ways of dimming and four long-throw Colour Arc follow spots. The lighting design for the show is by Paul Gallo and production electrician Mike Odam.

Luffs is also supplying the lighting rig for the UK touring production of 'Cats' currently in Blackpool for a six month summer season, and then moving to Edinburgh for a three month stint. The Luffs lighting package for this show includes the first Strand Impact control board to be used in the UK.

Luffs have also just been awarded the contract to supply the lighting rig for 'Singing in the Rain' due to open on July 29 for a 13 week season at the London Palladium.



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Industry Yearbook

The 1989/90 edition of the PLASA Industry Yearbook is now being compiled in L+S's offices. If your company wasn't listed in the first edition, please give us a call and we'll send you an editorial entry form to complete: (0323) 642639.

Lee Colortran's new Hire Department

Lee Colortran International's specialist theatre facility at Nottingham which opened last year providing an over-the-counter sales service for lanterns, dimming equipment and consumables, has now added a comprehensive hire department. The unit offers lighting and lighting control equipment plus a wide range of other equipment, including leads, trussing drapes and pyrotechnics on a day-to-day or weekly hire basis.

Gottelier for European Leisure

Lighting designers Wynne Wilson Gottelier have been appointed consultants to European Leisure's fast expanding discotheque operation.

Tony Gottelier, who will be the WWG director responsible for the account, told L+S: "We are delighted to be working with such a progressive and stimulating company as European Leisure. At the present spectacular rate of expansion of their estate, they look set to become a major force in the industry, and we see it as a great opportunity to be able to work alongside them during this lively period. Together with our other clients, we certainly anticipate being kept very busy indeed over the next 12 months or so."

Tony Gottelier was responsible for the catalytic lighting rig at Camden Palace, which recently celebrated its seventh birthday, and is now EL's flagship venue under divisional managing director George Hendry. WWG's primary remit under this new arrangement will be to advise on all the lighting and sound requirements of the Group and to work with outside suppliers, installers and designers to maintain the high standard of effective and exciting lighting. "They will also be looking at new sites for us and assessing their condition from a technical point of view," commented Mr. Hendry.

The first major project to come within the new portfolio will be the fitting out of Michael Quadri's new floating nightclub, which is currently fitting out on the Tyne.

Martin Two Steps

As of 12th June this year Martin Sound and Light moved from 70 to 125 Blackstock Road in London N4.

To further develop their service, MSL have actually taken two sets of premises: 125 Blackstock Road as the main sales, stock and administration base, plus a small office/workshop/storage unit at 116a Blackstock Road. It is intended that the unit become home, not only for the existing maintenance and repair department, but also for a new equipment hire division.



Pro-Tech Audio's Stephen Court (left) and Malcolm Toft.

Pro-Tech Launch

Pro-Tech Audio Ltd has been established by Malcolm Toft and Stephen Court - two well known names in the industry - to specialise in the supply of high quality digital and analogue consumer electronics to the professional user.

With a combined experience of nearly 50 years in professional audio, they feel there is a long-needed requirement for a wide range of audio and video products available from a single source direct to the professional user. With this in mind, Pro-Tech has carefully chosen and modified where necessary, equipment from a few selected

manufacturers of very high quality consumer electronics. These modifications include rack mounting and the provision of balanced line level inputs and outputs. Pro-Tech therefore feel they are able to offer a complete range of source and control equipment that is a unique blend of high fidelity with professional specifications.

The range includes: cassette recorders, CD players, R-DAT machines, CDV video players, video recorders, turntables, tuners, graphic equalisers, crossovers, power amplifiers, TV receivers and video projectors. Pro-Tech Audio Ltd can be contacted at Pro-Tech House, Homelands, North Street, Winkfield Row, Windsor, SL4 4SY, telephone (0344) 890289.

Laser Grafix in Chinese Dilemma

Laser Grafix of Royston are in a quandary over their contract for British Expo: China 1989, to be held in Beijing later this year. This major exhibition was reported to be 'on hold' by the Sunday Times Business pages.

Laser Grafix's contract with the DTL, worth tens of thousands of pounds, is to light up display screens around the hall with laser-produced animations and graphics of exhibitors' logos. The company have also booked an exhibition stand to promote their Acom computer-based laser control systems.

Although the DTL's official comment is that the exhibition will still go ahead, many of Laser Grafix' 130 co-exhibitors, such as the giants Allied-Lyons and GEC Plessey Telecommunications, are getting nervous. The exhibition is already under a cloud since the Prince and Princess of Wales cancelled their visit after the Beijing atrocities.

Mark Brown, Laser Grafix' director remains keen to attend the exhibition: "China is a huge potential market for British companies and we want to be involved from the start. Laser Grafix will not be pulling out," he said.

Praise for Hackney

Evangelist Luis Palau will be spreading the word to a packed Welsh congregation at Cardiff Arms Park next week - with the help of Hackney Cab loudspeakers. Sound designer Richard Stokes specified 12 Hackney Cabs - positioned about 20m apart on towers to cover approximately 1,000 people each - to provide quality sound for the 12,000 congregation. Alternative proposals from another major loudspeaker company would have resulted in the use of 64 loudspeakers, considerably more than the 12 Hackneys specified for the system. Richard Stokes told L+S he chose the Hackney Cabs in preference to any other speaker because of "their ability to provide both quality and sufficient SPL".

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First Sale for Sirius 48

Almost as soon as it had seen the light of day for the first time at the recent ABTT Trade Show, Zero 88's new Sirius 48 lighting control board, kept secret right up to the day, received a rush of enquiries. The first confirmed order came from Trafalgar Lighting of London who will install the system as part of a complete lighting and sound up-grade package for the St. George's Theatre (formerly Library Theatre) at Luton. Other equipment includes Green Ginger dimmers, HH amps, and OHM speakers.

Pictured above at the ABTT Trade Show are Trafalgar's Alan Paulus (left) and Zero 88's Peter Brooks (right) with representatives from the theatre.



Trade Show Delivery

An after-show delivery was arranged by Celco Limited and Cerebrum Lighting following the ABTT Trade Show when three 36 way touring dimmer systems ordered by Stage Electrics were handed over. Pictured above are (left to right): Colin Whistaker of Celco, Paul Armstrong (Stage Electrics' Bristol branch manager), Peter Bowen (Stage Electrics' Exeter hire manager), Mike Fisher of Cerebrum Lighting, and Graham Puxley (Stage Electrics' group deputy manager).

Raising Iron Curtain

In the true spirit of Glasnost, Harman's pioneering venture beneath the Iron Curtain has confirmed the huge potential in Eastern markets for sound and communications hardware. When leading Polish entertainments organisation ZPR purchased a large JBL/Soundcraft Reinforcement System from Harman, the opportunities to exhibit in the Polish capital were made evident.

Some months later, Harman's cinema, PA, recording and hi-fi products were shown in 'themed' exhibits at ZPR's Warsaw headquarters. Technical seminars reinforced the presentation to over 2,000 invited guests from the Eastern Bloc's media and communications fraternity. Harman's marketing director Andy Bereza told L+S: "In reality, we've been in the Eastern Bloc for years. On broadcast, PA, film and studios. Until now it's

been a slow drip of products through many intermediaries. But the recent changes in attitude has meant that opportunities will continue to expand and must not be missed... The most basic requirement for selling our products in the East prevails. Demonstrate!"



Computer Effective

Joshua Tetley and Son wanted to achieve something special with their flagship premises in Sheffield - The Stone House. A very high standard of fittings and fixtures was specified throughout and the architects have succeeded in achieving an interior which is both visually exciting but warm and welcoming. The necessity to achieve different effects for different functions has been taken into consideration by the specification of an automated 24-channel lighting control system from Lytemode Limited, who have many years experience in the control of lighting in public areas.



Views of The Stone House, Sheffield, showing the application of Lytemaster lighting controls by Lytemode to create the desired effects.



The lighting control system is used to set scenes for lunch, tea, dinner etc. with no intervention on the part of the staff at the premises. Individual circuits of lights are switched or dimmed to achieve the various scenes and a time clock system is used to initiate the changes. Adjustable fade rates are set between scenes to make the transition from one lighting level to another imperceptible to people in the area at that time. The light sources being controlled are both low voltage and mains voltage tungsten, and additionally coloured neon lights at one end of the bar are also switched and dimmed.

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Light & Sound Show

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SIAP, or New Halls for Old

Acoustics, as everybody knows, is a black art often fetching high fees for its practitioners, and often without the possibility of guaranteeing successful results. Electronic acoustics seems determined to follow the same mystique, though performance can now be tried out in advance of a permanent installation without the embarrassment of major building alterations if not satisfactory.

SIAP, a Dutch-invented electronic 'System for Improving Acoustic Performance' was introduced to British experts and potential purchasers in a well-staged live demonstration at The Beck Theatre, Hillingdon, early in June.

The Beck Theatre, 590 seats, built in 1976 for the Borough Council, was designed for plays, concerts and film shows. The acoustic conflict presented by these diverse uses was daringly solved in 1976 by adding a system of artificial electronic resonance to a basically dead environment. Unfortunately, the 'solution', the electronic resonance system, was not satisfactory and was not much used after the first few months. Consequently complaints from visiting musicians are frequent and are of real concern to Charles Vance Ltd., now managing The Beck in partnership with Hillingdon. A problem, therefore, looking for a solution.

Modern digital sound techniques can achieve far more than the analogue systems of 1976 so, naturally, acoustic consultants and electronics engineers were bound to come up with new systems for improving defective building acoustics. The system demonstrated was by Dutch acoustic consultants, Prinssen and Bus, represented in Britain by Michael Holden, experienced theatre consultant, and now also managing director of SIAP Ltd. The Beck management welcomed the offer of a trial installation and SIAP Ltd., the UK marketing and maintenance company and SIAP B.V., the Dutch acoustic and engineering experts, took the opportunity to use

it for full scale demonstration.

As an acoustic critic, my qualifications are minimal, so I have to rely on the opinions heard from the real experts in the audience. They were impressed! No colouration, no instability and evident change of reverberation time from basic 0.65 seconds to a natural sounding 2.9 seconds. The demonstration used live musicians and a computer/factor to link the items and to present a speech from Henry V. Various reverberation times were simulated and 'before' and 'after' comparisons were offered by repeating every item. Jazz, choral work, and classical piano were performed live, and also CD presentations of full symphony orchestra recorded in a dead studio and played from an on-stage loudspeaker. All seemed excellent and free from any change to the position of the sound image. Many of the audience moved to positions close to the side speakers seeking evidence of local disturbances, but all seemed satisfied that these were virtually non-existent. Tabulations and graphs were provided showing performance in various operating modes and further detailed test information was available to members of the Acoustical Society present.

The installation itself remained shrouded in mystery. 16 loudspeakers were visible suspended at about 2m intervals along the side walls, and 12 more were reported in the roof void mounted on the various lighting slots. Most mysterious was the presence of an array of some 30 cardioid microphones in the centre of the forward lighting slot, mostly directed at stage centre, left and right, but several baffled and directed towards the seating. Back stage, three bays of equipment processed the signals and provided drive power to the loudspeakers. Installation, we were told, had taken about a week, mostly to tune the system after the temporary suspensions and wiring had been put in place by theatre staff. Attempts to question Dr. Wim Prinssen about the design were

politely stone walled. Apparently patent and copyright protection is not yet watertight.

The cost! For a small hall, perhaps £35,000. The Beck system would cost more at about £60,000. A major concert hall would be priced at £150,000.

According to the organisers, the BBC (both programme and engineering departments), the Royal Festival Hall, the London Philharmonic Orchestra, Wembley Conference Centre, and Rank Cinemas were represented at the demonstration. So, it looks as though electronic acoustics may be coming back into fashion.

Bob Anderson.

Martin's Capital Choice!

Martin Audio equipment has been chosen for The Simple Minds European tour. London-based Capital Entertainments won the contract to supply sound equipment for the tour, and, having used the Martin F2 system last year on the Sade tour, were happy to specify it again.

The Martin F2 system is a two box (bass horn and mid/high) system where the mid/high box is essentially a rack in the same way as amplifiers are racked. There are four different modules that will fit in the rack box. The mid horn, high horn, very high horn and a tweeter pack. All the modules are multiples of 'E2' rack sizes and together with blanking modules can be configured in the racks to provide short, medium or long throw as required. The bass bin is a 2x15 folded horn and 2x18 sub basses can be used if required, although the 2x15s are very efficient.

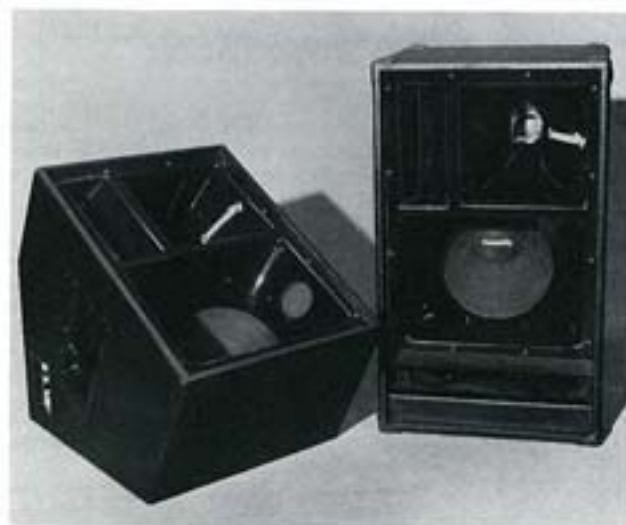
Capital's Keith Davies told L+SI: "Simple Minds' album is well engineered and to reproduce this live requires the best possible sound system, capable of being tailored for each venue."

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DEPARTMENT

Rough Diamond at Cromwells



Rough Diamond's Simon Cummings and Peter Balfour have just completed their latest installation: Cromwells at Kingsfold near Horsham in Sussex is a small but very classy multi-purpose venue, and the technical bits and pieces follow suit.

Having been informed by the owners that the family had a passion for brass, and that the sound, lighting and effects needed to be installed within six weeks, there was no time to lose. A concentric octagonal triangular lighting truss, hand-built in the Midlands, has a polished brass finish. The outer octagon is three metres in diameter, and the inner octagon one metre below is one metre in diameter. The two octagons are connected by eight lengths of brass and neon struts.

All effects on the rig - spinners, scanners, pinspots and parcans - are finished in the same polished brass. The centrepiece is a mirrorball surrounded by eight octagons of pink neon (again

one of the family's favourites!). The sound equipment consists of Technics decks, a Harrison SP2000 mixer, and Ice amplification driving Bose 802's and Bee Line bass bins.

The founders of Rough Diamond, Simon Cummings and Peter Balfour started their operation in 1978. Initially the company began as a mobile discotheque and hire outfit, but two years ago they expanded to buy out the existing Guildford disco shop, GDJ Disco Sales.

The business is now divided equally between retail sales and installations, and the company also offers contract maintenance for night clubs and a unique design service for all sizes of mobile discotheque. The team discusses the desired effect, working within the client's budget, and then the technical department builds up the system to a precise specification. All multicore cabling, effects switching and mains wiring are neatly installed and colour-coded by Rough Dia-

mond, meaning that the DJ has no worries - even with the most technical rig.

Based in 1,100 sq.ft. of showroom and office space just outside Guildford in Surrey, Rough Diamond also has a flourishing hire department, a disco repair facility, and offers an annual service for many of the local discos. The last year has seen a rapid expansion of activity, with many local DJs and clubs now using Rough Diamond to supply their equipment, expertise and personnel for retail sales, hire, installations and contract maintenance.

Equipment at Cromwells:

Lighting Rig:

- 2 x concentric octagonal rigs in polished brass with 8 interconnecting pieces of brass with pink neon struts.
- 48 x polished brass pinspots
- 1 x Par 56 300W polished brass parcans
- 8 x 30W 180 polished brass scanners
- 4 x 100W 360 polished brass spinners
- 1 x 18" mirror ball
- 8 x pink octagons of neon surround
- 8 x Par 56 300W polished brass parcans with polished brass barndoors, positioned around the dance floor.

Control Equipment:

- 1 x Light Processor Commander
 - 4 x Light Processor dimmer packs
 - 2 x Light Processor switch packs
 - 1 x Light Processor programme sensor touch panel
 - 1 x 20u rack
 - 1 x sloping controller rack
 - 1 x Le Maître Optimist with FDJ unit
- The Commander and touch panel are fitted into a custom-built polished brass 19" rack unit mounted on a swinging arm enabling the light jockey to move the control gear to any point on stage.
- In addition, Rough Diamond fitted 6 x Lynx tubes and 12 Lynx Synchro spots which had already been purchased by Cromwells prior to contract.
- #### Sound Equipment (discotheque):
- 2 x Technics SL1210 turntables
 - 2 x Stanton 680EL cartridges
 - 1 x Beyer Dynamic M300TG microphone
 - 1 x TEAC AD-4 CD/cassette player
 - 1 x Harrison SP2000 mixer with 2 mic and 3 phone/line modules
 - 1 x Citronic SPX 7-21 graphic equaliser
 - 3 x Ice DPA 300 amplifiers
 - 2 x 8-Line bass bins
 - 4 x Bose 802 speakers
 - 1 x Bose system controller

Furse Fastway

For attaching electrical and mechanical services to structural steelwork, the new Furse Fastway catalogue identifies all the fasteners in their Fastway range and classifies their uses. An Easy Finder Fastener Chart is included to help specifiers in selecting the fasteners appropriate to their needs.

The new Fastway catalogue, price list and range poster are available free on request from the Fastener Division, W.J. Furse & Co Ltd., Wilford Road, Nottingham NG2 1EB tel: (0602) 863471.

The Strandbook

Strand Lighting have announced the 'Strandbook' - a reference manual for those interested in stage, studio and architectural lighting. It has been designed to be a comprehensive guide to the industry, and it comes as part of the celebrations for Strand's 75th anniversary.

To be published in early July, L+S will feature the book in its August issue, but we can tell you in advance that it includes 100 pages and incorporates Francis Reid's booklets on Lighting for the Amateur Stage and guidance notes on How to Light for Television. And there are articles on which filter to choose.

The complete Strand Lighting product range is catalogued - right through to plugs, sockets and hook clamps - and each product is accompanied by a photograph, a line drawing to scale, and photometric data.

The L+S office is wondering if Strand have gone all the way and put Tivoli edging on the pages, played around with colour filter overlays, or even glued in a pop-up Galaxy control . . .

We'll have to wait and see - but if you want early information, and can't wait to get hold of a copy, then contact Camilla Aitchison at Strand Lighting, Grant Way, Isleworth, Middlesex TW7 5QD. The Strandbook costs £3.50.



First Exhibition Shipment for Trilite Inc.

Pictured at the recent Offshore Technology Conference 89 in Houston in Texas, the first shipment of Canadian-manufactured Trilite was used for the Offshore Supplies Office (a division within the Government Department of Energy). Trilite was also used for the 'Britain with Oman' exhibition held earlier this year, again for the O.S.O. Both stands were designed by Roundel Exhibitions.

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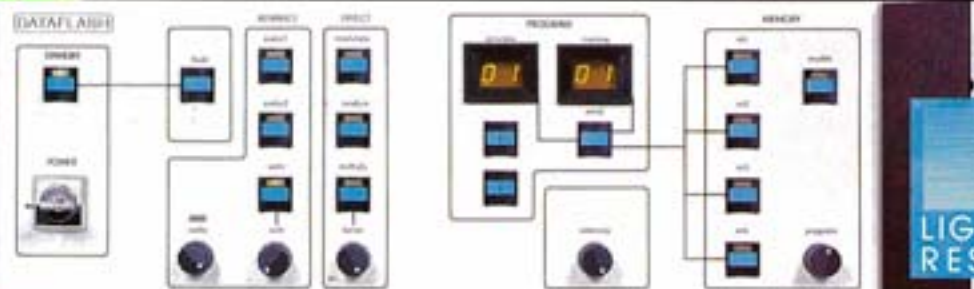
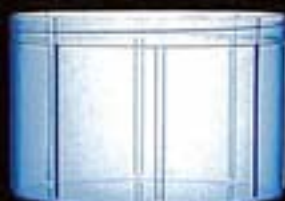
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New Lee Literature

Newly available from Lee Colortran International are two brochures detailing the company's products available for sale or hire to the theatre industry. 'Theatre Luminaires' is a 12 page colour brochure showing details of Lee Colortran's new Windsor range of luminaires, and its Clublight range for smaller drama venues.

Lee also produced a 'Theatre Hire Price List' which details all the products available for hire on a daily or weekly basis from its Nottingham facility. The handy, pocket-sized booklet shows rates for lighting, lighting control, effects, pyrotechnics, leads, trussing and drapes. Both publications are available free from Lee Colortran International at Manchester Road, Kearsley, Bolton BL4 8RL.

SSE in Ireland

Birmingham-based SSE Hire Ltd have announced the formation of a new company SSE Ireland, in a move to offer an improved service for acts working in Eire and Northern Ireland. SSE have over 10 years experience working in the Irish market, servicing bands including the Undertones, the Pogues, Bagatelle and Hothouse Flowers during the period. SSE have also supplied a large amount of PA equipment into Ireland over the years and enjoy a high local profile.

The operation will be based in Dublin, at the Factory, the band rehearsal/storage facility run by Robbie Wootton, manager of the Hothouse Flowers. Their equipment will comprise: a 24kW Sigma HB3 speaker system driven by C Audio and Quad amplifiers, a 40 channel TAC Scorpion front-of-house, augmented by compressors, gates, delays and reverbs, and a standard SSE monitor system with Carver powered bi-amped wedges, TAC 40-12 Scorpion foldback console, compressors, gates and effects. There will also be a full

selection of mics, motors, flybeams and flying hardware, and a full power distribution system, complete with 110v outlets for US backline requirements.

SSE director John Penn told L+S: "SSE Ireland is being equipped with a full specification duplicate concert system. It enables us to service mainland UK tours with a complete duplicate set up when they visit Ireland. Everything is compatible with our Birmingham-based equipment, so if we have any need for more equipment we can bring it in from England, and know that it will all work together."

PEOPLE

● Ceol Products Ltd of Dublin have announced the appointment of **Charles Seanson** as product manager of their recently formed professional products division. In association with Bose Int., this division handles the entire Bose and Hill Audio professional product ranges. Ceol have also announced the appointment of **Jimmy Doherty** as general manager of their recently formed audio equipment retail sales and distribution division.

● The Light and Sound Distribution sales team has been increased by a factor of one with the recent acquisition of **Mark Fallows** who joins as a representative covering the Midlands and North Wales. Mark used to be with the Piccadilly Squire Group based at their Manchester branch.

● Wigwam Acoustics Ltd have recently announced the appointment of three additional engineers to be based at their Heywood operational headquarters. **James Field**, who joins the company as contracts engineer, was formerly head of sound at Betersound. He will be involved in sound surveys and the preparation of installation contracts.

David Hopkinson who has been with the company for five years, is promoted to senior contracts engineer. His new role will include the supervision of all UK installations. The other appointment for contracts service engineer is filled by **Darren Hirst** who will be responsible for local authority sound reinforcement contracts.



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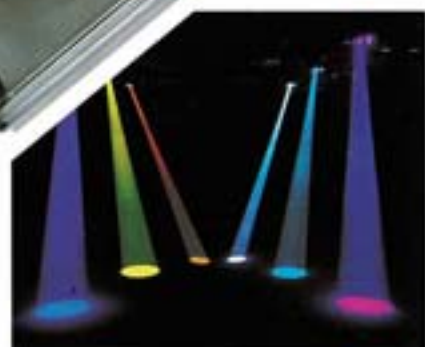


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On Camera at Nott '89 - Copenhagen

The Nordic Theatre Technicians held their triennial trade show at The Forum in Copenhagen from May 29 - June 1st. L+S brings you some of the action.



Central meeting point in the NOTT exhibition area - courtesy Carlsberg.



LSC Jel Hammersley at the 'Focal 1' modular lighting desk with Sofflink and Precept behind.



Martin Moore of Furse (right) and Gogler's Paul Tonder check out the JEM Heavy Fog.



Grouping around the Galaxy on Strand Lighting.



The 'Expert' from AVAB of Sweden.



ADB's popular S28 gets another close inspection.



Another Celco show: Keith Dale and Colin Whittaker (right) push Celco's presence in Scandinavia.



More Strand Galaxy with Cella Pope (left) and Katarina Derbaeck of Madeco AB of Stockholm.



Joanna Butler of Rosco with Finnish distributors Juhani Ihanamäki (left) and Fikret Saadetdin (right) of TIP Markkinointi of Tampere.



Who's on whose stand? (left to right): Robert Menzies of DHA, Jack Watling of CCT, Wolfgang Massow of Procon, and Rod Bartholomeusz of Cerebrum Lighting.



Zero 88's Scandinavian team pictured with sales director Freddy Lloyd (second left): (l-r) Matti Sarapalio, Tor Tenden, Peter Wahlberg, Pauli Tervo, and Michael Olsen.



Export partnerships: Derek Halliday of Avolites (left) and Mervyn Thomas of James Thomas Engineering (right) with Jens Meyer of Berkey Technical.

GALACTIC SPARKLE AT THE EMPIRE

Fibre Optics play a major role in creating the 'Best Cinema in the World'.
L+SI went to the Empire, Leicester Square.

The Empire Leicester Square is well-known as the flagship cinema complex of CIC UK Ltd, and has been used for innumerable Royal Command Performances and charity premieres. Situated in the heart of the West End, it has been, and remains, one of the most important cinema venues in the UK since 1884. The recently-completed refurbishment programme is the most extensive carried out since a major re-build was completed in 1962.

CIC's brief to the design team was that they wished to make The Empire the most exciting cinema in the world, adding that all-important extra dimension so vital in today's 'new age' of leisure. The foyer space was to be re-styled and additional facilities added for the public, including air conditioning. A new THX sound system for the main auditorium was agreed, along with a 40 screen video wall in the foyer.

The lighting design and associated electrical installation consisted of new lighting and power for the foyer, refurbishment and updating of the main auditorium lighting and power system, and upgrading of the existing sub-basement sub-station and supply system for the new roof-mounted air conditioning

chiller unit. The £2.6 million refurbishment programme was completed within 14 weeks, even though all three cinemas in the Empire complex were still in use for 11 of those 14 weeks while the upgrade took place.

The architects for the foyer, Esquisse Design, produced a concept based on an American style interior, using chrome, brass and mirrors for the box office positions, fun alley, popcorn kiosk, drinks bar, food bar and 'Allsorts' shop. The design concept for the lighting was to give a bright, colourful and sparkling interior without being garish.

To follow this brief, various basic systems were employed. The general lighting comprises of low voltage tungsten halogen downlights, which were chosen for their good colour rendering on the furnishings and fittings, together with their unobtrusive appearance.

Cold cathode lamps have been used to provide strong identification at each of the new retail outlets and pay kiosks. The exposed cold cathode lamps are 15mm diameter operating at 25MA with right angle electrodes turned back through the fascia.

The concealed cornice cold cathodes use daylight colour 15mm diameter lamps operating at 80MA with turned back electrodes. A number of the installed cold cathode lamps appeared to be impossible to install; however, the contractor, Neolec Signs Ltd, were not daunted by these problems and used some of their own 'magic' during the installation work to successfully complete the specifications.

The auditorium lighting equipment was refurbished and brought up to standard by Applied Lighting Technology Ltd. A new dimmer system was installed by White Light (Electrics) Ltd to control the house and decorative lighting, together with five separate programmes of light show. An Arri control system provides the master control for the correct sequence of activity, from light show through to film performance.

But the star of the show, aside from the films, is the fibre optic 'galactic ceilings' in the foyer areas. They are more than worth a look, and a detour next time you're in the area will be worth the trouble.

I spoke to Paul Raymond of Par Opti Projects about the installation.

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Map showing Donmar House location in Whitechapel, London, near Cavell Street and Commercial Road. Includes bus routes and walking times.

Map labels: LIVERPOOL ST STATION, WEST END, ALD GATE & CITY, TOWER BRIDGE, WHITECHAPEL METROPOLITAN DISTRICT & EAST LONDON, LONDON HOSPITAL, NEW ROAD, COMMERCIAL ROAD, CAVELL STREET, FORD SQ, DONMAR HOUSE & CAR PARK, BP GARAGE, WATNEY MARKET, SHADWELL DOCKLANDS RAILWAY & EAST LONDON, LONDON DOCKS, TO ROTHERHITHE & BLACKWALL TUNNELS A2, M2, A20, M25 & M25, TO M11 & M25, BUS STOP, BUS NOS 15 & 40, BUS STOP, BUS NOS 15 & 40, BUS STOP, BUS NO 25, A11, BUS STOP, A13, BUS STOP, A13.

BUS NO. 25 TO HOLBORN, OXFORD CIRCUS & VICTORIA
15 TO STRAND, PICCADILLY CIRCUS & OXFORD CIRCUS
40 TO LONDON BRIDGE STATION

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COMMERCIAL ROAD BUSES - 2 MINS
SHADWELL STATION - 7 MINS



Fibre optic ceilings create a sparkling new atmosphere at the refurbished Empire Leicester Square.

"The main feature of the foyer decorations is the star ceiling, which creates a vibrant atmosphere above the bars and video wall. A new type of star lens and mounting bezel has been used which facilitated installation and also creates a variation in the 'starry' effect," he explained.

Par Opti Projects used no less than 14,000 fibre optic lenses producing 26,000 light points in the ceiling, created by various size fibres. The new Eldon bezels were specially developed for the four sizes of star lenses, together with twinkle wheels. An additional feature is the use of large star lenses around the bars in an unusual studded effect. This was achieved with 4mm fibres. Each 50 watt fibre optic projector is complete with a 3m harness comprising 300 size 1 fibres and 75 size 4 fibres, together with a black and white harlequin-style twinkle wheel with 10% added mid-blue.

The effect is dazzling, and the only regret with the installed lighting is that the dimmer system was eliminated to save costs, even though we understand it would actually have saved costs after just 20 months.

Talking to L+SI after the recent Royal Charity Premiere re-opening, Par's Paul Raymond said: "I feel that this is the future for cinema. The Empire offers better vision, better sound, and better bar and dining facilities. There is also a superb light show and an atmosphere which will really create a memory for those going to the movies."

And as if to whet our appetites further, he promised a big new breakthrough in fibre optic techniques was just around the corner!

Coming soon . . .

Design Team:

Client: Cinema International Corporation (UK)

Architect: Esquisse Design

Project management: Project Management International

Mechanical services consultant: Wilden Services

Electrical services consultant: Eldon Associates and Lighting Design

Specialist Suppliers:

Cold Cathode Installation: Neolec Signs

Fibre optic equipment: Par Opti Projects Ltd.

Dimmer control system: White Light (Electrics) Ltd.

Laser system: Laser Sound and Vision Ltd.

LV downlights: Hi Tech Ltd./Reggiani.

LV transformers: Reggiani.



BRUCE HOWZE

Ben Duncan meets a notable stateside speaker designer, founder and president of Community Light & Sound.

How did your career begin?

"In '67 I was interested in doing psychedelic lighting. I met some hire companies and ended up touring with Jefferson Airplane. That was 1968/9. The equipment being carried around at that time was ridiculous! People were using full-size RCA W-Bins and multicell horns. I decided I wanted to design products specifically for tour use - not just smaller, but sounding better."

What was your initial direction?

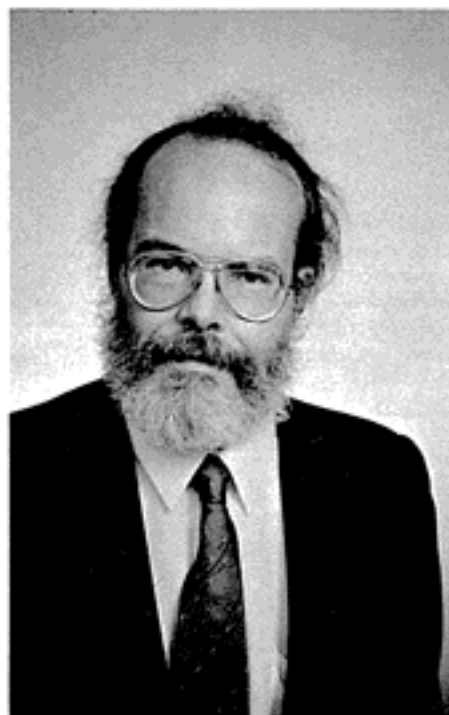
"From the outset I decided to concentrate on horn loaded designs, particularly the midrange. My first designs were midrange horns made of fibreglass, which I sold directly to the local touring sound companies; it was the first use of fibreglass in the industry. At the time, the midrange sound of PAs was bad. Hire companies were using compression drivers that were unsuited to mid frequencies. I saw this as the key to the system, and set to work on using cone drivers with our fibreglass horns. **Community Light and Sound** was incorporated in 1972. Despite the name, we soon dropped the lighting side. Instead, we quickly earned recognition for outstanding speaker and horn designs - high performance products sold at reasonable prices."

How did your product line develop?

"In 1972 I designed **The Leviathan**, a bass horn made of fibreglass for touring. Primarily this was to reduce weight, but also because, in low volumes, it's more cost-effective than wood. Plus it has a high strength to weight ratio. The unit fitted a pair of 15" drivers and was made in sections for ease of transportation. It went out of fashion when PA companies moved over to 'one box' PA speakers. The lineage has continued with its successor, the CB594, for fixed installations. I believe we're still the only company to make large bass horns out of fibreglass."

In the UK, it seems your best known component is the M4 midrange driver. It's gained a special kind of notoriety since Iron Maiden started to use it in the sidefills of their 'ultra-brain damage' stage monitor system. How did it come about?

"In 1980, Cliff Hendricksen* joined us from Altec. Cliff and I designed and developed the M4 midrange compression driver together. It was totally new to both of us."



Bruce Howze.

What makes it so unique?

"First, unlike any ordinary compression driver, it operates from 2kHz down to 200Hz. In fact, with EQ its useful range can go a little higher. We designed it from scratch to produce very high SPLs with low distortion. It has a very large diaphragm (6 1/2" dia) and throat area (8" square). To keep such a large diaphragm rigid, we sandwiched aluminium skins with a lightweight foam in the centre."

"Efficiency is much higher than paper cone midrange drivers; like any other competent compression driver, efficiency lies between 25 and 30%, which is the practical limit for a broad-band device. The M4 stands out too because of its headroom. For a given amount of harmonic distortion and thermal compression, it can produce SPLs 10dB greater than conventional compression drivers. And its short-term power handling capability approaches 1kW."

Aside from Iron Maiden, who else uses the M4?

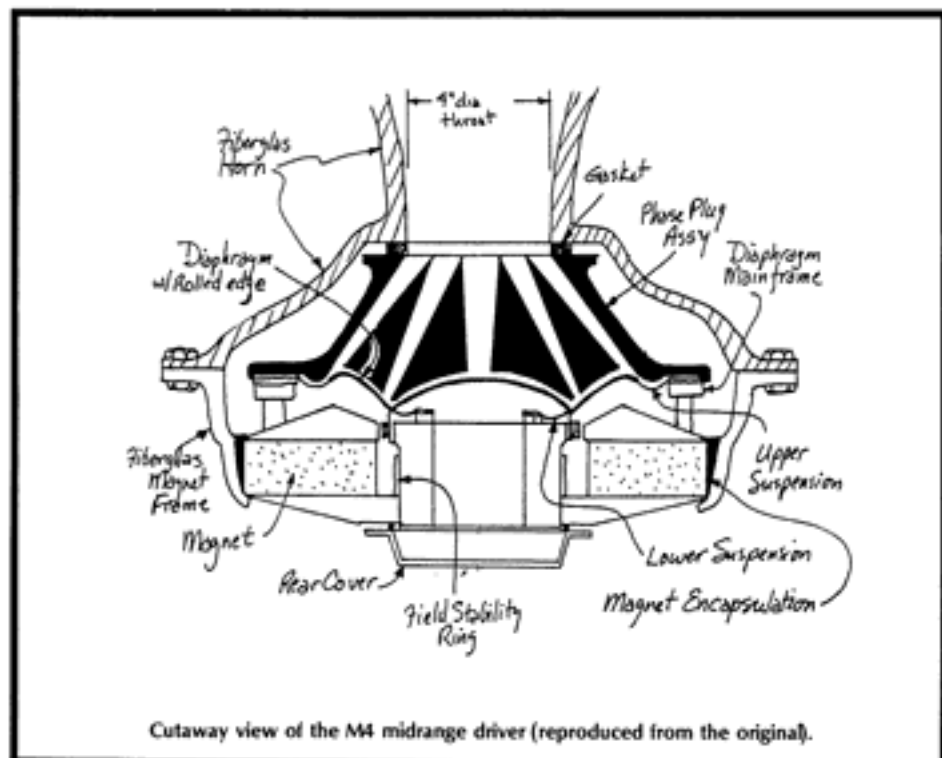
"The **Claire Bros PA** have been using it this way as well. Over the past two years, it's been 'discovered' by a number of sound consultants who are no longer afraid to specify it. So now, it's fast becoming a standard tool for installers of arenas and sports stadiums."

Were there any spin-offs?

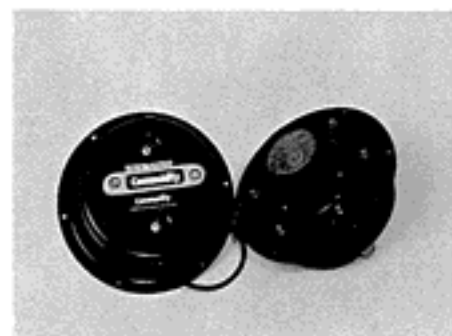
"In 1983, we developed the **M200**. We wanted a midrange driver which had the attributes of the M4, but one which would suit a more moderate system! The M200 quickly became part of our compact 3 way boxes, the **RS325i** and **RS327i**, which we'd begun developing in 1981. Although the M200 is physically smaller, we were still able to keep the crossover point in the low mid, at 450Hz."

I notice these cabs have Piezo-electric tweeters which were popular in the UK around 1980, but they haven't been seen much recently. Do you have anything to say about this?

"We like Piezo-electric tweeters and use them extensively on our **RS** and **CS** products. I think that Piezo Electric HF drivers have



Cutaway view of the M4 midrange driver (reproduced from the original).



The M4 midrange compression driver, seen from the rear (left) and front (right).

received a bad reputation because they have been misapplied in a lot of cheap, bad-sounding systems. We have spent a considerable amount of time developing crossover networks, protection systems and pattern control horns for our Piezo Electric HF sections, and the end result is excellent response and low levels of distortion."

It seems a classic case of a manufacturer (in this case Motorola) making something good, but without quite knowing how or why, and also knowing very little about the successful application of what they make. After all, Motorola are a giant multi-national principally involved in semiconductors. Next question: does Community have any other notable products?

"Yes. We have a range of fibreglass 'Pattern Control' horns for use with the M4, the PC1500 series. These have pattern control and are configured to load the M4 down to 200Hz. We've recently produced 'M4 CoAx', a mounting bracket which permits our PC400 series HF horns to be co-axially mounted inside the mouth of a PC1500 horn. By improving the coincidence of the hf and mid sources, the polar response is more even. The 'Leviathan' developed into the CB-594, presently the only horn that has pattern control centred in the 80 to 800Hz region. It's been successful in difficult reverberant conditions and in long throw applications outdoors."

Do you produce any electronic accessories?

"Our 322 stereo passive equaliser is unusual, because it fits in at line level. Being passive, it's inexpensive, and being interposed between the mixer and the power amp (or active crossover), amplifier power and system headroom isn't thrown away. Actually, despite requiring no power, it has no insertion loss so long as the mixer outputs can drive into 600 ohms. The 322's main job is to boost the low and high end response. It also provides infra-bass roll-off. Right now we're about to release a new equaliser, for use with the new RS880 and VBS415 system. It will be an advanced active unit which preserves headroom by pulling-back the EQ as the amplifier approaches clip. It also contains a compressor to prevent hard clipping."

Do you manufacture all your own components?

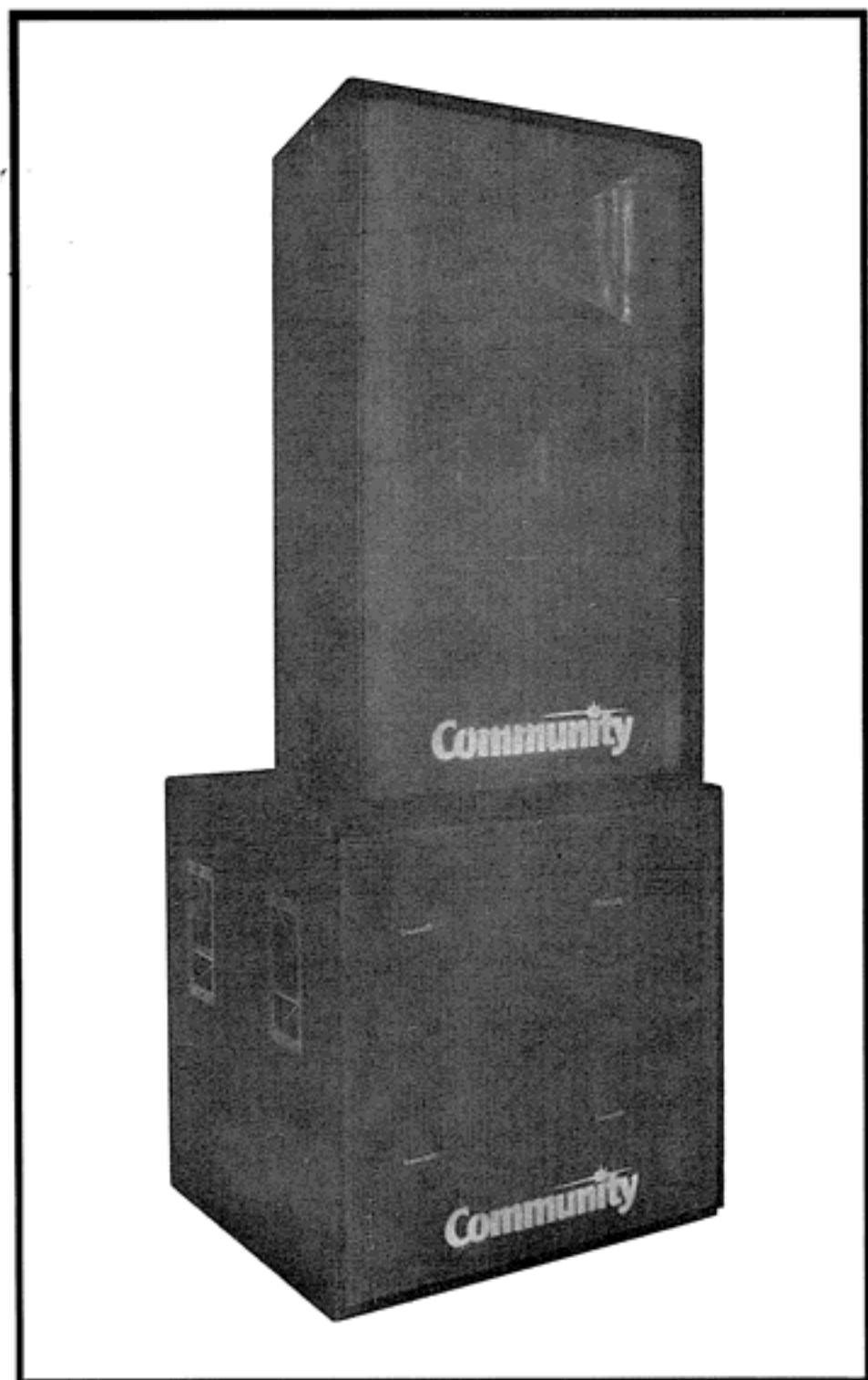
"No. We make our own horns and we make the speciality drivers, the ones we've designed ourselves because nothing suitable already exists. We employ about 60 people and have 78,000 sq.ft of factory space which is our own. The cone drivers we use in our range of PA cabinets are manufactured to our specification by an OEM supplier. This way, we're able to rely on their cost-effective production."

What's your latest design?

"RS880 is our new 3-way box, first shown at NAMM in Jan '89. It's optimised for flying installations and concert systems and therefore trapezoidal. It contains two 15" bass drivers specially designed for the cab - they have ferrofluid cooling. Above 400Hz, midrange is handled by our M200. The HF is a departure from the Piezo tweeters on the previous RS models; we've used a JBL compression driver with a 1" throat, co-axially mounted in front of the M200. Again, this regularises the dispersion pattern."

Who buys Community?

"Originally, most of our products were configured for tour sound companies. Fortunately they've proved just as successful in other



The RS880 (top) is Community's latest full range cabinet, placed on top of the matching VBS415 sub-bass enclosure.

applications, especially theatre, cinema and commercial sound installation. Examples include Disneyland, and the Onyx nightclub, NYC. Over in the UK, The Sound Department have just refurbished The Limelight club with M4 and PC1594 horns. Now that commercial installers have 'discovered' the M4, our components have been going up in baseball/sports stadiums too, like Bush Stadium (St. Louis), The Astradome (Texas) and Bally's Park Place (Atlantic City) - to name but a few!"

What about the future?

"We're working on a series of package systems to exploit the M4 in ultra compact enclosures. Looking back, we've made real progress. I find the sound business a nice one to be in, since most of the people I meet are involved more through love of sound and sound equipment, than money."

* Whilst at Altec, Cliff Hendricksen designed the 'Tangerine' phase plug and co-developed the first CD horns. After leaving Community in 1983, Cliff Hendricksen became engineering group leader at EV. Having retired from EV, he now works for a small east-coast manufacturer, US Sound, and presently chairs the AES committee on sound education for sound engineers.

Background reading:

1. A high efficiency, one-decade midrange loudspeaker, Bruce Howze and Clifford Hendricksen, J.AES 70th convention, New York, 1981 (Preprint No. 1848/D-8).

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APRS '89

Ben Duncan recites the Z to A of new technology at the Olympia show

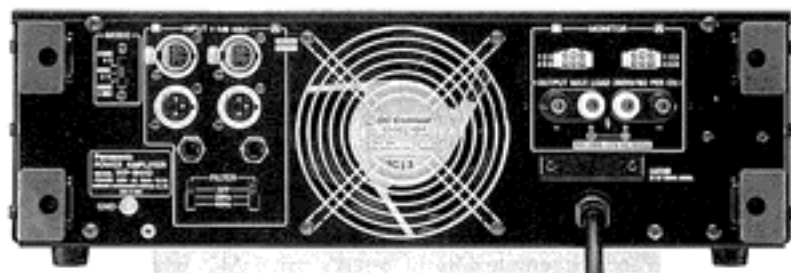
Yamaha were displaying a string of new products. Beginning with mixers, the **PM2800M** is a new console series for live sound assignments, with 8 stage monitor busses and four stereo matrix mixes. For smaller sound reinforcement jobs, the **MR** series looks fairly conventional. The **EMX** range though, are powered mixers with a difference; they've got DSP (Digital Signal Processing) onboard, with fifteen programs for delay, reverb and echo. The digital mixing range has expanded too, with **DMP7D** and **DMP11**, together with a series of outboard format converters and digital interface units.

Turbosound have added another enclosure to their TXD range. **TXD-560** contains a 15" bass and 10" midrange drivers, both specially produced for the cabinet by Precision Devices. A new slot tweeter which can be rotated through 90° completes the driver complement. The 560 handles 400 watts, achieves a flat response without EQ or processing, and is available with load-certified flying hardware.

TOA were previewing the first digital sound processor I've seen with functions that are targeted at sound reinforcement, rather than recording. Their **SOARI** (Japanese for 'Beautiful Woman') is 5U high and stuffed with powerful hardware. At the input, stereo (analogue) enters a A-to-D convertor. Once in the digital domain, powerful manipulation is possible, beginning with a multi-equaliser section. This emulates a 1/3 octave graphic with high- and low-pass filters. There's also a 4 band notch filter, (CD) horn EQ and a switchable pink/white noise generator. There follows a flexible 2,3 or 4 way crossover - all in the digital domain! What make this crossover special are the extensive options. You can choose any crossover frequency, then decide on -12, -18 or -24dB per octave slopes, which in turn can have Butterworth, Linkwitz-Riley or Bessel 'lead-in' characteristics. About 18" worth of time alignment is also on offer; you can conveniently set it in seconds, feet or mm. As is usual with digital 'toys', the vital statistics like level in dBs, phase in degrees and so on, can be selected with great numeric precision, using a keypad and the associated, sturdy, cursor keys. Fader and control positions are displayed on a backlit LCD screen, together with a simulated display of the amplitude/frequency response. The one



Pictured are the front (above) and back (below) aspects of Ramsa's new 2 channel power amplifiers - the most recent products to complement their WP Series.



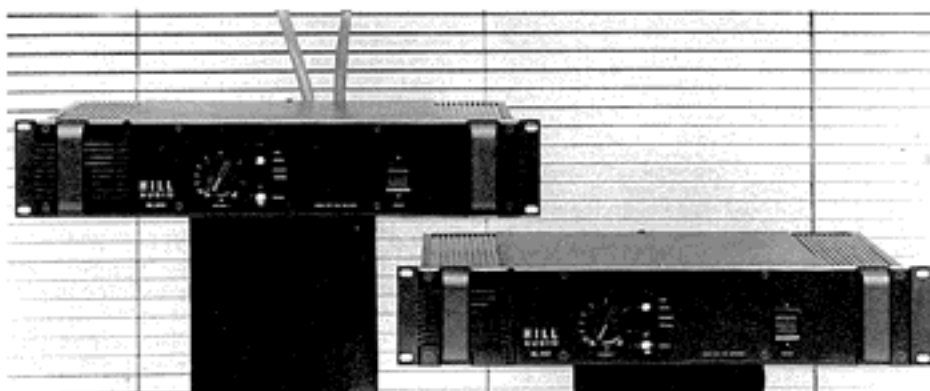
questionable aspect is the 16 bit conversion, which isn't quite high enough to assure 16 bit sonic accuracy once the digital has been DAC'd back to analogue at the outputs, unless the internal processing is 24 bits or greater. With an anticipated pricetag around the £5k mark, **SOARI** looks like being a valuable research tool for PA speaker designers.

Dave Ward (famous for his Gateway recording courses) was busy promoting **TIPS** - Training Initiative for Professional Sound. The idea is to develop professional qualifications - instead of just talking about it. Gateway are working in conjunction with **S&C/F**, **Sandwell College**, the **IOA**, the **APRS** and **AES**, a grouping which the UK government accepts as 'the lead industry body'. In order to develop training courses that will serve pro-audio for the next 20 years, the first stage is a 'mapping' of the industry, the cost of which is ultimately being funded by taxpayers. In coming months, the research team at Sandwell College, Wednesbury (in the West Midlands) will be contacting all kinds of pro-audio users and manufacturers, giving all sides of the business an opportunity to discuss and voice their needs, fears and

ideas to do with training. Says Dave Ward "This is not just training for new people coming into the business, but also in-service training, considering the exponential growth in technology. Meanwhile, **The Gateway School of Music** (based at Kingston Polytechnic) have been running a PA Course, 'The Essentials of PA Engineering' for the past 6 months, in conjunction with **Shuttlesound**.

Studiomaster's new **Session Mix** consoles combine standard (mono) mic/line channels with stereo line inputs which can also be used as subgroups - a feature that's usually restricted to expensive modular consoles. The stereo line inputs combine switchable RIAA EQ, for turntables. Also on show, Studiomaster's original **IDP1**, a programmable, digitally controlled dynamics processor, their **AC01** active crossover, and **FCP1**, a 4 channel phantom power supply for running capacitor mics off consoles without phantom power facilities. Studiomaster's latest gizmo, model **MA36**, should interest anyone who has to deal with and troubleshoot MIDI control. It's a pocket-sized 36 function MIDI analyser.

Shuttlesound were demonstrating **Crown's IQ** interface. Just 8 channels enable the status of up to 2000 Crown amplifiers to be comprehensively observed and controlled from a Mackintosh PC. Crown Amplifiers fitted with the necessary interface will be available soon. Also on show for the first time was **DML-2121**, a 2 by 15" bass enclosure using ElectroVoice's **'Manifold Technology'**, to be used in conjunction with a new addition to EV's Delta-Max series, **DMC-2181**, an advanced 'processor' which monitors loudspeaker stress and defines the maximum drive level accordingly. Shuttlesound's Gary Ashton reports that **Deltamax** systems are proving popular in the theatre and discotheques, being unblowable, and easily flown. EV's 3rd generation series of ultra-high power capacity drive-units are now available; the **EVX-150** and **-156** are 15"



The ML400 and ML200: Hill Audio's latest additions to their LC range of power amps.



The Alpha mixing console from Novation featuring SOTA design with 72 channels of DCA.

and 16 ohm units respectively, both rated at 1kW continuous program! Features include a rigid but lightweight carbon fibre cone and a flux-demodulation device, to prevent such high level signals from modulating the magnet's flux...Also on the Shuttlestand, **Samson** have yet another low cost diversity radio mic system. **Micro-Audio 'Pods'** are now available in stereo and the remote control facility has finally arrived, allowing EQ selection to take place from a central point. An array of processors from **SCV** included a dedicated controller for central cluster components. **Ivie Analysers** were on display too, being distributed by **UK Sound**, a.k.a. Shuttle-sound's commercial division.

SSE Marketing had **Audio Precision's System One** PC-based test and measurement system on demonstration. The recently released **DCX** and **DSP** add-units permit the automatic testing of Voltage Controlled Amplifiers, loudspeaker parameters and digital audio equipment. **RAMSA** have a new high power addition to their **WP** series of pro-power amps, with dual power supplies. After two years proving that they could manufacture drive-units to the exacting tolerances demanded by **Turbosound**, **Preci-**

sion Devices had their first three OEM drivers on display: 15", 18" and 21". Of these, the 21" model **PDT 2150** was subjected to a lot of attention by the 'sub-bass community'...with a 600W rms rating, a 6" coil, 11" magnet, carbon-fibre reinforced cone, and a closely coupled double suspension, it looked man enough for any dub. For interest's sake, MD Brian McKenzie retired from the Yorkshire speaker company that bears his name nearly a decade ago. He then worked for Fane. On reaching the age of retirement, he became bored, and decided to begin manufacturing again as Precision Devices, a company formed in conjunction with **EdgeTech**. The first OEM drivers will be shipped in August.

Judging by their stand, **Peavey** had clearly moved into the mid-price home studio market. But their **MIDI Manager** and SMPTE-based **Sync Controller** are worth checking out if you're involved in the exciting world of audio/video synchronisation. **Hybrid Arts'** Bernard Jones demonstrated the **ADAP-1** 16-bit digital production system, showing how it could be used for video and A-V post production, the insertion of sound FX, MIDI communications on stage, timecode genera-

tion, and the digital testing and A-B'ing of equipment with music signals. **Hill Audio** have added **ML200** and **ML400** to their recently introduced LC range of power amps, which has now become the rather awkward 'LC/ML series'. The new **ML** models are 2U, mono, and have 100v line outputs which run alongside the usual low impedance output terminals. The **ML400's** voltage output is (at 250 watts into 8 ohms) well above the norm for a 100v installation amplifier, presumably enabling it to do the job (in large-scale installations) of several smaller amplifiers. Hill have also produced an optional 2U enclosure containing 100v line transformers for converting their LC1200 and 1600 models, if even higher drive levels are needed for 100v line transmission. **H.I.T's SL80** is a digital sampler which should prove attractive to DJ's. With a gated input, it can cleanly store and then replay 8 samples, each of 2 seconds duration. There's a pitch-shifting facility, ranging +/- one octave on a horizontal slide control, while most input sources are cleverly accessed from the associated mixer's PFL cars socket.

Britannia Row Sales (now owned and managed by **Britannia Row Productions**), having recently been appointed as distributors for **Klipsch & Associates**, were showing Klipsch's **KP-600** series of modular PA speakers. First seen at the 1988 AES show, the cabinets are unusual on one count; and notable on others. What's unusual about them is that they're built from balsa wood...sandwiched between fibreglass to create a 'fibreglass laminate'. The levity of these huge cabs is one thing. What about safety? Well, flying versions have aluminium bracing between points. And on the stand, a dramatic video showed the measurement of various breaking points to be "X-thyoo Sand piowns" (in a laid back Arkansas accent) in a top materials testing station, also used by NASA. So is **Klipsch** a new name in PA speakers...or not? Paul Klipsch, now in his 90's, was one of the pioneers of horn-loaded speaker technology. Stateside bands were touring with integrated 'Klipschorns' years before the Claire Bros S3 put integrated horn boxes back into fashion. The new **KP-606** system is 4-way with crossover points around 130, 400 and 1500Hz. The low and high midrange horns are driven by 15" and 10" drivers respectively, from large throats. The HF compression driver is 2". The bass cabinet is ported and contains two 18" drivers. What's notable about the **KP600** units is the way in which the mid and high horns are 'pluggable', rather like mixing console modules: They can be moved around, or omitted, enabling (for example) doubled-up hf sections to be mounted in one enclosure. It's all possible because the 'cabinet' (for any mid or HF horn) is really just a shell. Further (and this is not so original, but sensible enough to be notable nonetheless), both the high mid and HF horns can be translated, ie. turned 90°, so the polar pattern isn't a slave to the cabinet's orientation, which is often dictated by more immediate practical considerations.

Formula Sounds AMX 6 is a 1U, rack-mount mixer with 6 channels, built to satisfy requests for a minimalist unit for installations. Having only 7 knobs, it should be easy to use by keep-fit instructors and other non-audio types. Mic and music EQ presets are accessible from the front panel, though for these madam, you'll need a screwdriver. Input gain settings are similarly preset, but from the rear panel. 2 channels handle low Z mics, 2 are switchable low-z mic/line, and the remaining two are line only. A 'Grams' in-



The rack of the TDA Series from Novation.



Novation's edit station: an optional extra.



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The AR416 (above and below) is BSS Audio's 1U case containing four channels of DI.



Simplicity of operation: The new DPR-504 4 channel noise gate from BSS Audio.

put option is provided on one channel. All sources are mixed to mono. The output appears on an XLR, and can either 0 or -10dBu, the latter allowing domestic Hi-Fi amplifiers to be driven via their line or 'aux' input. Finally, a voice override facility optionally fades the line (music) inputs. Threshold is adjustable internally. **First Audio** have appointed **Britannia Row** as a main distributor for **Crest** power amplifiers. **EMO** have added a new model to their range of power distribution panels. Model E665 contains a 13 Amp socket for the use of maintenance engineers. A well known brand of 1/3 octave graphic equalisers using inductors is now marketed directly by **EMO**.

Citronic were displaying **SPX3-51**, a Dual Expander/Compressor/Limiter which matches their active crossover. As is the norm, it can be used in stereo, 2 channel or slave mode. The control facilities are thoroughly conventional, but the unit comes with Citronic's 'tagging' system, intended to prevent unauthorised adjustment. **BSS Audio's** innovative **EPC-780** power amplifier is now in production. Producing 1700W per channel into 2 ohms in a lightweight, 2U enclosure, it features automatic mains voltage selection (important for international touring) and floating, transformer isolated inputs. The amplifier's rated burst power is taken over 2 seconds in line with recommendations in a recent AES paper which looked into amplifier power ratings for real-world music amplification. **DPR-504** is BSS Audio's new 4 channel noise gate. It costs no more than the 2-channel DPR-502, omits the MIDI interfacing and ADE (Automatic Dynamic Enhancement), but promises simplicity of operation in return: a 'one knob gate'. **AR416** is a 1U case containing 4 channels of DI, effectively 4 AR-116's. The new format should prove invaluable to engineers whose DI Boxes go walkies, and for interfacing touring keyboard setups. During their forthcoming world stadium tour, **Simple Minds'** PA system, supplied by **Capital Entertainments**, will be using 2 customised 5/6-way active crossover systems, synthesised from MCS-200 and FDS-360 units, together with a pair of custom **LDA-200** line distribution amplifiers to provide isolation between various sections of the system. On (or under the) stage will be 80 channels of **MRS-604** active mic splitters, along with 16 channels of **AR-416** active DI. Finally, at the mix position, 20 channels of BSS outboard processing will be in use.

Snakeless, a heavy-duty digital transmission

system designed to replace stage multicores, was being previewed on **AKG's** stand. Made in Italy, the system provides 24 or 16 input channels with a single, thin coaxial cable. The channel count is reduced to 16 only if you opt for full bandwidth, which is above 20kHz, otherwise bandwidth is 15kHz, which should be good enough for signals arriving from bass instruments. Transmission is **duplex**, meaning signals can pass in both directions simultaneously. In fact, there are 8 optional return channels for stage monitors. Though not significantly cheaper than traditional multicore, the **Snakeless** promises to be much easier to lay down and tear up.

Novation International were displaying their **Alpha** mixing console, a **SOTA** design with 72 channels of digitally controlled analogue. Although the TDA (Total Dynamic Automation) option is principally aimed at recording studios, Alpha has applications in live sound reinforcement, and has already at-

tracted interest from **Theatre Projects**. Novation was set up in November '87 by **Harrison Information Technology**. The design team is lead by David Kempson (ex-Neve). The Alpha's design reflects British innovation to the extent that it looks set to upstage the Japanese competition, in terms of both performance and price. The console comes in two parts: a compact, digital control surface (under 1.6m in length), and a 19" rack containing all the analogue circuitry, that's 1.1m high. By using a balanced bus throughout, together with custom, hybrid and 'ASIC' ICs, the makers claim excellent figures, e.g. -80dB SNR for 30 channels, or -77dB for 64 channels, referred to unity gain at the main output, while crosstalk is typically -80dB between any two groups at 15kHz. The channels have all the normal facilities of up-market consoles (including 4 band parametric EQ, and VCA grouping) plus some extras that digital control makes possible. The 32-bit operating system is SMPTE compatible and runs at 25 M.I.P.S. Deliveries are scheduled for the end of this year.

As for the show itself, the business of registration raised some eyebrows, for at 11am, there were around 200 visitors waiting to be funnelled through. In defence, APRS's Phillip Vaughan pointed out that invitations for pre-registration had been widely published in the audio press, beginning in February, and that exhibitors at the Hamburg AES had been given registration forms to hand out to stand visitors and their regular customers.

If you had to queue this year, the message is to look out for APRS show announcements in the press from February '90 onwards, and act early! One PLASA manufacturing member remarked that the press stand had been left unsupervised for the first day, meaning all but the most ugly press packs had been swiped. As for attendance, it was a shade less than last year - at just under 5000 - but exhibitors were well pleased with the 'calibre' of their visitors.



Pictured above is the **Scepter** a new rack mount 12 into 2 mixer which was launched at this year's APRS show. **Allen & Heath** originally considered an 8:4:2 format, but customer research led them to introduce four extra inputs rather than four sub groups. The special advantage of Scepter is its capacity to be re-configured to meet a variety of needs by using internal links without any soldering. Among the special facilities available are separate mono feeds to a house relay, foyer speakers or to a central cluster of FOH speakers. Because the mono output has an individual volume control there is no need to use up a precious auxiliary send. Selecting the post-fader option allows the mono feed to be kept in balance with the stereo.

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address specific problems with the right specific products.

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

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Lighting rig in Studio 1 at VTO-Medienzentrum Studio Complex, Hannover, showing Galaxy Studio remote control (on studio floor) & Galaxy 2 lighting console (in vision control room)



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STRAND AT 75

Francis Reid Selects some Great Strand Moments in the Development of Performance Lighting

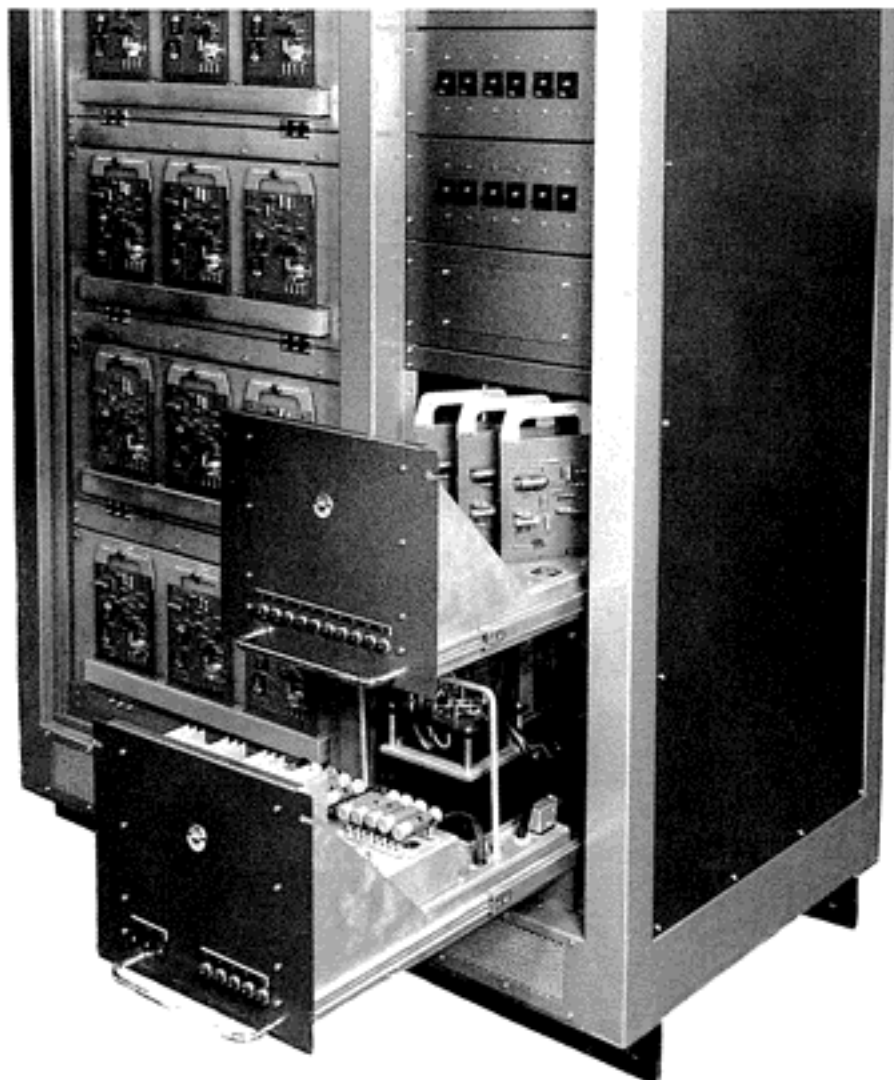
It seems no time at all since that golden evening in 1964 when Strand invited 749 distinguished theatre persons plus the young me to join them in an attempt on the Dorchester's champagne record. It was indeed a golden moment in lighting history. Strand were not only celebrating a pretty successful 50 years of lighting past, but they had just started to make the key product of lighting future: The **thyristor dimmer** (then called SCR - Silicon Controlled Rectifier) had arrived and Strand were in the lead.

Europe's first TV thyristors were installed at the BBC and their first theatre installation was about to go into Glyndebourne. (I was at the party because I had placed the order.) At that jubilee we were not celebrating 50 years of Strand achievement, we were waving a grateful farewell to all the dimmer anguish associated with resistances, transformers, chokes, valves and, yes, even drainpipes. (I personally did my last dimmer maintenance with a watering can at the old Scala - in Goodge Street, not Milan - in 1959, although their liquid pots survived for a few years more.)

However, the 1964 Strand, while mastering the thyristor revolution, were already looking ahead to the memory revolution that would offer instant recording and recall of an infinite number of presets. But before remembering that trauma, let us look at some of the key moments of the pre-thyristor era: a personal selection, let me hasten to add. I have neither taken a punter's poll, nor consulted Strand's Department of Anniversary Marketing. I have not even bounced my list off Fred Bentham, now distinguished archaeologist, but throughout Strand's formative years their senior engineer, organist, anarchist and marketing guru.

However, I feel reasonably certain that Fred will approve my choice of **playability** as the feature that has marked Strand's successes in desk design. The key breakthrough in pre-electronic lighting control was the **Mansell Electromagnetic Clutch** which allowed a shift of emphasis from the technologically feasible to the operationally desirable. Henceforward Grand Masters would increasingly become Grand Servants. Strand's flair (and for Strand read Bentham) was not just the use of electromagnetic clutches to remote the dimmers, but the realisation that the musician's keyboard was a control surface with an impeccable field test record over many centuries. The Compton Organ not only had playable keys but electrical circuitry for assembling and moving lights in groups. It even had a group memory. And the **Light Console** was essentially a group board: bringing individual channels to intensity levels required virtuoso fingerwork until polarised relays became available for presetting the clutch limits in the 1950s.

While the motor driven dimmer banks could not dim proportionally (shortest travellers finished first) the actual timing was sensitively controlled by a **foot pedal**. Several desks functions were duplicated for optional foot control, a technique last used



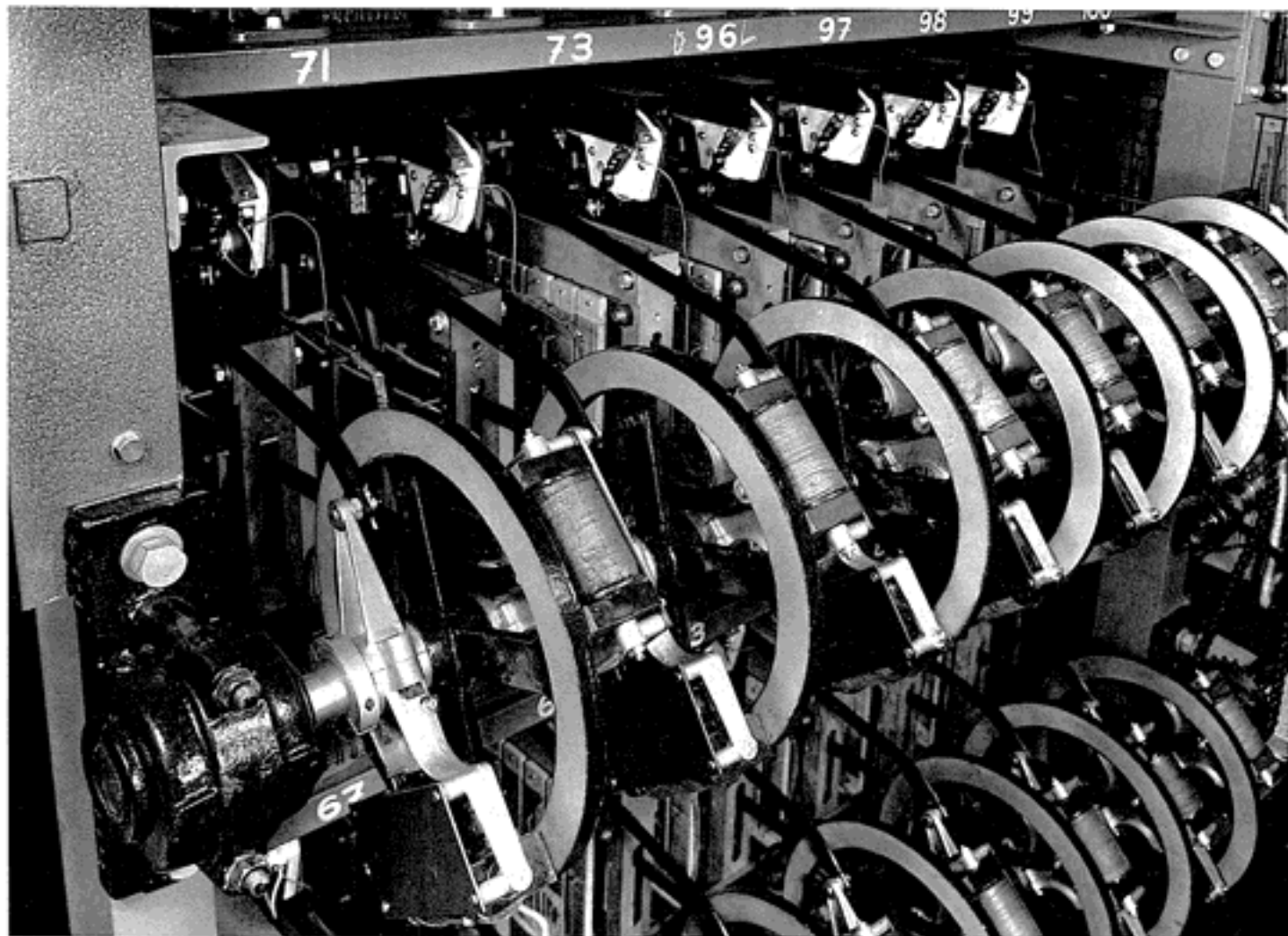
Strand's 1963 Thyristor Dimmers (then called SCR - Silicon Controlled Rectifiers) were the first in Europe. Caution, particularly on the part of the BBC, led to the inclusion of massive smoothing with saturators to ensure no voltage drop at full. The circuit breakers shown in this photograph did not survive commissioning: the fuses, initially in the fly leads to the thyristors, were soon brought out to the front panel.

on the **Lightset** (a splendid finale for manual presetting) but not carried into the memory era. I still find my feet useful in my car and I can remember a time when they were indispensable on my board. A case perhaps for a little bit of 'to move forward, first look back'?

Proportional dimming had to wait for **J.T.Wood's Electronic** with its two presets feeding an elegantly simple, if somewhat delicate, circuit using a trio of ex-radar triode valves. (The history of stage lighting, its present and almost certainly its future, depends upon latching onto devices developed for some other purpose with more sales potential than the stage.) Life with Woody's electronic was never less than exciting, particularly the stickers - dimmer failure keeping them on until somebody got to the racks. But its dipless crossfade was the way forward that most of us (including most of Strand) knew we wanted to go - although thyristors were around for quite a few years before we finally got there. Indeed by then memory had arrived.

Strand were first with memory and got the basic philosophy right, not only opting for digital but using a very playable rocker-per-channel desk. This might have compensated for their lack of adequate engineering resources. But alas, they also failed to listen to user playback requirements and so Thorn snatched the honours with the Q-File. Strand responded with an unfortunate decision to go analogue, resulting in crates of temperamental analogue/digital converter cards. When the dimmers failed, the lights came to full; this may have been fail safe in the studio but was disaster on the stage. The **IDM** desk, with its dimmer per channel, earned a big order book but its technology required the resources of a company on the scale of Rank. (Did they know about IDM when they bought Strand?)

Soon there was **DDM**, still in my view the jewel in Strand's control desk crown. But it was **MMS** that made memory standard. Having burnt their fingers on the analogue problems of dimmer levers, Strand stuck with keyboards (and I nominate **Galaxy** as king in



Electromagnetic clutches allowed Strand to remote dimmer banks more than fifty years ago.

this league) until the recent advent of **Lightboard M**. Keyboard access is not as fast as rockers or levers, but how else do you handle hundreds of channels? This is the next problem to solve! Will today's Strand achieve a breakthrough akin to Bentham's Strand?

So much for control (please note, I am drawing a veil over Junior B - my nerves could never cope with the switching system).

How about lanterns? I personally prefer the American term instruments but I grew up with the Strand word. Incidentally, did Strand invent 'lantern' or did they inherit it from Digby? I expect I'll get a postcard from Bentham or Legge on this one. I certainly dislike

the word 'luminaire' almost as much as I dislike the phrase 'state-of-the-art'. (Woe betide any salesperson approaching me with a 'state-of-the-art' luminaire!)

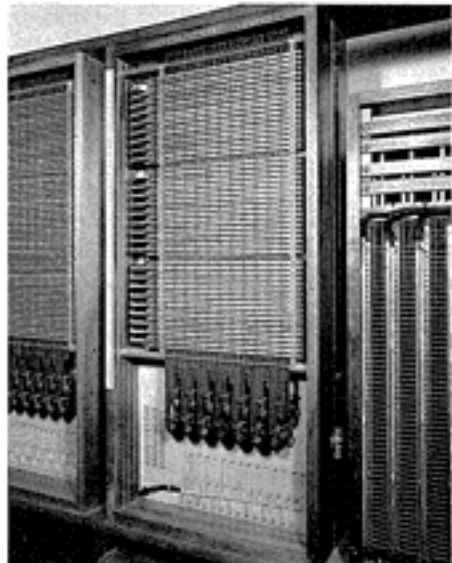
Any manufacturer's success with lanterns is dependent upon the lamp industry. This considerably delayed the arrival of ellipsoidals in Europe, but a spherical mirrored profile, the **Pattern 23** gave Strand their number one hit of all time. It is no longer made but is still in widespread use - with a lively second hand market developing because there is no replacement from Strand or anybody else. (To those who protest, I would just say length as in short). When it first appeared

some 40 years ago, Strand tooled up for die cast production, showing a confidence and courage, both technical and commercial, unique in the history of stage lighting manufacture.

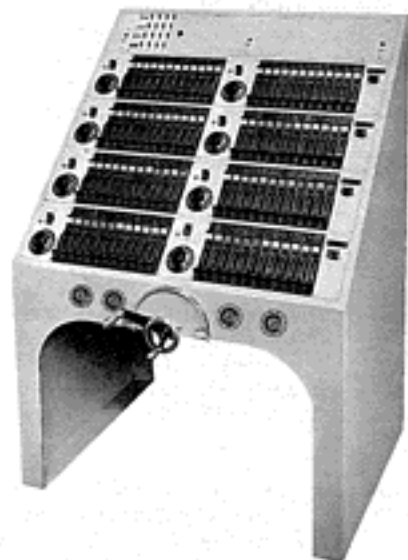
With the great sixties surge in theatre building came the **264**. The lamp manufacturers had produced a slender sausage, burning cap up, to fit within an ellipsoidal reflector. Strand had one of their major brainwaves and doubled the shutters to ease the hard/soft focus option. This level of inspiration failed to arrive with the great halogen lamp revolution. The 764 was a diecast leko front stuck on to a 265 lamp house. I was in-



The one and only - the Pattern 23.



Compton organ technology allowed flexible group memory for the 30's Light Console.



J.T. Wood's 48-way Electronic of 1950.

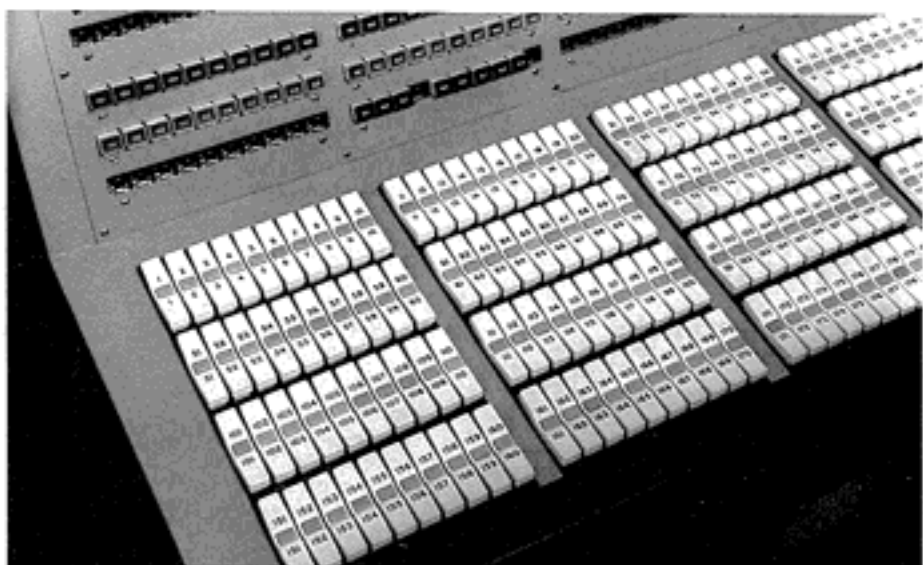
volved and accept some blame. My defence is that it was a stop gap which went on for too long (throughout its short development time it was known as the 'interim'). The Strand profiles that followed were somewhat uneven, with the Prelude 16/30 being the only one to offer me any particular pleasure. But then **Cantata** came along, putting Strand back to the top of the class.

No Strand reminiscence is complete without the **Pageant**, the first incandescent lantern capable of putting any real oomph on to the stage - especially in its initial version with glass reflector. Most of us wept and screamed at the end of the fifties when Fred decreed that we did not need our beloved pageants any more and manufacture was shut down.

However, the beamlight family has always been a bit of a Strand blind spot. (They initially adopted such a toffee-nose disbelief in the importance of the Par 64 that it took them until quite recently to make an acceptable parcan). Another blind spot for years was low-voltage, rejected with fervour after a pre-war flirtation. So when I tried to place an order in 1961 for 24 volt beamlights, I was firmly advised by 29 King Street that if I wanted to indulge in such anarchy I should take Glyndebourne's chequebook to Berlin. Which I did. But times change and Strand have reached in 1989, a position to fulfil that order. I now look to them to lead, in due course, with the electronic transformer when it becomes viable.

And let's give them credit: leading is what Strand have been doing recently. Particularly in remote operation of lanterns (by the way I dislike the generic term 'intelligent lights': I think of them as 'obedient lights'). Frenzied movement with a strong random element is now old hat in entertainment lighting, but **PALS** has disciplined the action, achieving acceptable repeat accuracy with a system that can be applied to any kind of lantern. And the big leap into the future is that Galaxy handles pan, tilt, focus and scroll at the same time as intensity. The lighting desk has become the true servant of the stage. Will some operators wish to use their feet?

A final suggestion about looking back to move forward. Who remembers the **Patt 265**? It was the first CSI follow spot (400 watt). I remember it well because I used four of the first batch for Man of la Mancha in 1968. The 265 was not just unique for its source but was just about the earliest of the twin lens variable beam angle profiles. And



Strand pioneered memory control with a digital system using a rocker for each channel.



Theatre is a people industry typified by people like Strand's Eddie Biddle (far right).

the lenses were linked to form a coupled zoom. Say no more, Francis.

In proposing an anniversary toast to Strand we must not forget the **hook clamp**. Ye who have never rigged with its predecessors can never be fully aware of the impact of such an elegantly simple design concept in the development of stage lighting.

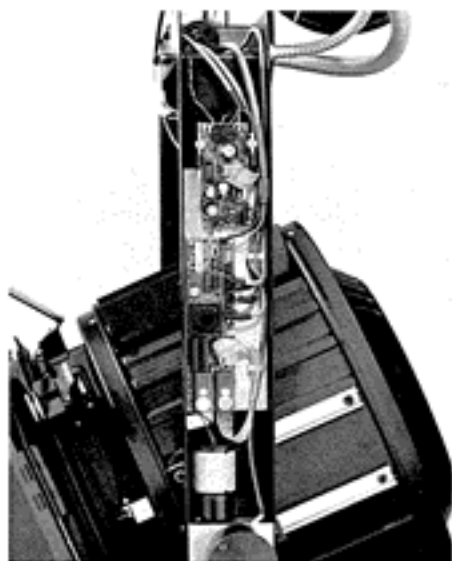
But theatre is a people industry and so it is with Strand. I will not risk a roll call but if I had to choose one single person to epitomise what I have always looked for and usually found in the old firm, I would nominate **Eddie Biddle**, engineer and artist. P.S. I have made no mention of **Tabs** - but it speaks for itself from our bookshelves.



Strand's hook clamp revolutionised rigging.



The Pageant - lots of light from a parabolic reflector and no lenses.



PALS allow easy control of pan, tilt, focus.

PLASA News

Seminar Speakers Announced

Now in its twelfth year, more than 150 exhibitors will be showing the latest in product technology and services at PLASA's Light and Sound Show 89 (September 10-13 at Olympia 2, London), and the inclusion of a programme of seminars for the first time reflects both the increasing standing of the Show and the growing sophistication of the industry.

Each seminar session will take place over a half day period, and topics will be grouped under the following headings:

- Moving and intelligent light
- Visual presentation techniques
- Installation and interior design
- Sound dimensions
- Live and touring production technology
- The DJ debate

Under each seminar heading up to six speakers will present papers. They will also form a panel to discuss and debate points raised, forming an interactive forum for the audience.

All the seminars are linked by the common factor of 'presentation'. And the presentation of an image - whether sound or light, visual or aesthetic - is central to all topics and provides the foundation to the series and the Light and Sound Show.

Details:

Moving and Intelligent Light will be chaired by Francis Reid. Speakers will include **Robert Menzies** of DHA Lighting, **Susan Dandridge** of Strand Lighting, **Peter Wynne Wilson**, and **Roger Pearce-Harvey** of Tasco Communications.

Visual Presentation Techniques will include speakers **Hermann Sörger** of Ludwig Papi, **David Kerr** of Electrosonic Limited, **George Guthrie** of Cameron Video Systems, **Charlie Payton** of Light Works, and **Simon Molseed** of Laserpoint.

Installation and Interior Design discussion will be led by **Tony Gottelier**, and speakers will include **Mike Snape** of Alton Towers, **Ken Dibble** of The Sound Practice, **Duncan Scott** of the Scott Design Group, and **John Breley** of the Breley Design Group.

Sound Dimensions will include speakers **Julian Beech** of Autograph Sound, **Fred Ampel** of Intertec Publishing Corp., **Dave Martin** of Martin Audio, **Mark Burgin** of Shuttlesound, and **Winifried Hintze** of Dynacord.

The DJ Debate will be chaired by **Jerry Gilbert** of Disco & Club Trade International, and include speakers **Mike Shaft** of Sunset Radio,

Tony Andrews of Turbosound, and **Nick Wakefield** of Regals. **John Cecchini** and **Mark Burgin**.

Live and Touring Technology will include speakers **John McCue** of Uplfront, **Bill War-droper**, **John Lethbridge** of Cerebrum Lighting, and **Alan Jacobi** of Unusual Rigging.

Delegate fees are £85 for access to all sessions, £40 for a full day, and £25 for a single seminar. Special tickets for the DJ sessions are £10. Tickets for the Show only are £3 for pre-registration or £5 at the door. All seminar tickets include automatic entrance to the Show.

Full details and a booking form will be included in our August issue.

New Faces?

In view of his recent decision to leave Icelectrics, **Rob Peck** has resigned as Chairman of PLASA. The move comes after his appointment as marketing manager with Martin Audio. The PLASA committee asked **Peter Brooks** to resume the role of Chairman, and he accepted on the strict understanding that his resignation would irrevocably take effect from the 31 December, 1989. **Peter Brooks** told L+S: "As far as I'm concerned, I see my role as that of holding the fort until a successor to Rob Peck is elected." It is hoped that a new Chairman will be elected at the final PLASA committee meeting of the year.

Tony Kingsley has become the new Vice-Chairman of PLASA following the resignation of **Tony Akers** who will, however, remain on the committee.

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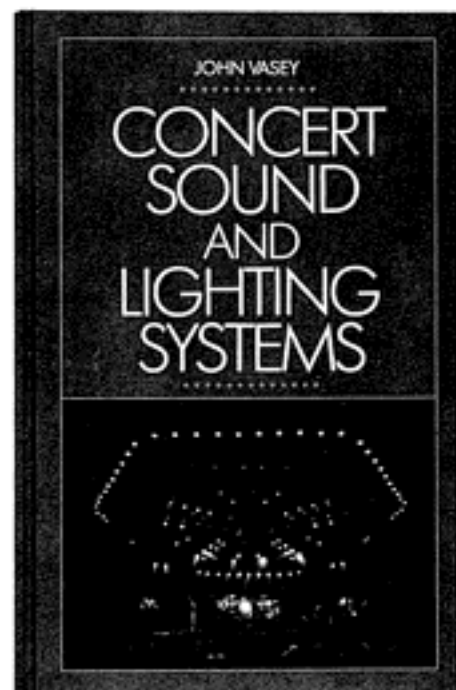
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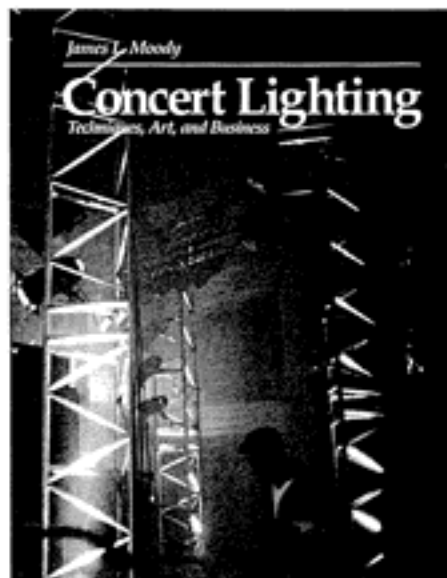
So you want to be a Roadie, oops! - I mean Road Technician - and want to know all about touring but don't know where to start. Well, now that two books have been published on concert touring your troubles are over - or are they?

Titled 'Concert Sound and Lighting Systems' by John Vasey and 'Concert Lighting, Techniques, Art and Business' by James L. Moody, they appeared on my desk with a note from L+S's editor asking me to review them. They looked pretty good from the outside so I dutifully took them home for closer examination.



It took me a couple of days to get round to reading them as the lure of a sun tan took priority. However, I finally got stuck in with great interest. Could someone have finally unlocked the secrets of touring? If so, what would they say? My first reaction was one of disappointment and a feeling that there was nothing new, and nothing I didn't already know. Then, of course, it struck me that I know most of this stuff, but how would I find it as a newcomer to the business. From that viewpoint

John Vasey's book does achieve its primary aim as set out in the preface "... to provide clear, practical guidance for people working with today's sophisticated production technologies." Overall this is a good and useful guide for a novice technician. It is well structured and reasonably accurate. It serves as a practical outline to the hardware, techniques and politics of a touring show. Covering both sound and lighting it will assist a young person to grasp the many complexities of this growing industry. I do not, however, consider it a "source of reference for those already working in sound and lighting fields" - unless they've just started, that is.



Moving on to Mr. Moody's work, I have to say it's probably worth buying as a conversation piece, as it has prompted considerable verbal from all who've seen it. But beyond that this is not a book for a newcomer; in fact I'm not sure who it's aimed at.

It contains some interesting historical information on the origins and techniques of the American touring scene of the 60's and 70's, and some spill-over of those practices into the 80's. But it bears no resemblance to the experiences of my time in lighting or, I believe, those of many other British and European designers.

It is a very 'American' book, written from a viewpoint that not only did they invent the whole business, but also that the rest of us will benefit greatly from the knowledge it contains. It's the kind of back-slapping humility we see each year at the Academy Awards, if you know what I mean.

The problem is that it fails to give an over-view of concert lighting, but instead focuses on a narrow band of it, namely the author's experiences. It is also inaccurate, like the statement: "Concert tours do not generally have stage managers. . ." for instance, or that when touring Europe you

must book equipment early as "... quantities are limited. . ." and that "... added to all the American built equipment that has been exported to England are the English and European fixtures, dimming and consoles". What the hell is he on about? Not only do we have far more equipment here than we know what to do with, but also 90% is of European origin. Just like most of the equipment now used worldwide by the major hire companies.

I'm afraid that this nonsense is just a sample of the mis-information contained in this book, rendering it, in my view, useless to anyone seeking an authoritative window on the industry.

Maybe I do know the target for 'Concert Lighting' and that is the American Theatre Industry. There are constant references to concert lighting having evolved from textbook Broadway Theatre practices. It therefore attempts to justify concert lighting as an art form closely related to theatre and thus credible to all those respectable lighting 'snobs' who would otherwise dismiss it. As someone who has slogged through the sweat, smoke, blood and beer of the rock business for 14 years, with no formal training or reference point, I do not consider that Broadway has done much for me. On the contrary I think the reverse is true - particularly in the context of the Broadway and West End blockbusters of recent years which have cribbed many of their 'revolutionary' techniques from rock lighting.

Anyway, before I lose too many friends in the business, I should say that James Moody is a much respected lighting designer who has contributed to the furtherance of concert lighting, for which he is appreciated. This book contains many interesting and detailed case histories, which will be of interest to classically trained lighting designers or to contemporary rock LD's who would like a personal insight into the evolution of the American touring industry through the 70's.

John Vasey and James Moody are to be congratulated for taking these first steps as someone had to take them. Mind you at £27.50 a time, I'm open to offers!

Ronan Willson.

Colour Temperature, Colour Temperature Correction and Neutral Density Filters in Television Lighting

Alan Bermingham C.Eng., M.I.E.E., Dip.Ed.Tech.

Published by The Society of Television Lighting Directors (STLD).

Price: £6.00 plus 50p post and packing; available from Ken MacGregor, 1 Charlton Close, Ickenham, Uxbridge, Middlesex UB10 8BW.

Lighting for theatre and other forms of live entertainment and lighting for television are usually admitted to be art based techniques, not sciences. The working method is always one of visual trial and error, with evaluation by eye against direct experience rather than to numerical objectives. Any calculation that is done is about watts, man-hours or money rather than candle power, lumens or contrast ratios. Light meters, when they are used in television, are used as a check on the sensitivity of the cameras, not the intensity of the lights. For a designer working only for a live audience the light meter has no usefulness. The same argument would seem to apply to numerical analysis and measurement of colour. Why bother with numbers when a quick look at the scene or monitor reveals the problem and also suggests the remedy? Why, then, have the respected Society of Television Lighting Directors seen fit to publish a monograph about measurement of colour?

The answer is provided in the foreword by S.T.L.D. chairman Eric Wallis. "A sound knowledge

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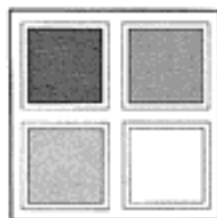
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by
ALAN BERMINGHAM
C.Eng. M.I.E.E. Dip.Ed.Tech.

Published by
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TELEVISION LIGHTING DIRECTORS

of the principles involved can only be of benefit to the modern practitioner . . ." and this means science and measurement.

Colour temperature measures the 'whiteness' of a light by comparison with a hot body. A red-hot poker, for example, is far from white and its temperature is relatively low, perhaps 1000 degrees. Heat it further and the light gets yellower (and brighter) and the temperature may be 15000 degrees. Applied scientifically this relationship of whiteness and temperature can be precise and offers an easy way to standardise an otherwise difficult concept. Incandescent filament lamps can therefore be sold as 2700K, 3000K, 3200K, or even 3400K for a very short life photoflood (K means degrees Kelvin - the scientific scale of temperature) and the user will know what to expect, and should get it if the lamp is run at full voltage. Dimming an incandescent lamp reduces the filament temperature and the progressive yellowing of the light is the well known result.

This, then, is the subject of the monograph and the topic is developed to explain more details about colour measurement and how television has learned to control and exploit the differing whitenesses that occur in different studio and location conditions. Sunlight, skylight, light from clouds, the light from a sunset, and the light from CID, CSI and HMI metal halide arc lamps all present light at very different colour temperatures to the studio incandescent halogen lamp and the differences usually have to be eliminated or reduced using colour correction filters. A standardised range of full, half and quarter density CT Blue (CT = colour temperature) and CT Orange filters are available from most manufacturers.

But why not use colour correction filters empirically as part of the general artistic lighting process? One answer is why indeed? The other answer is 'film! Film stock distorts the colours in photographs and the result can only be seen after the film has been developed - the next day if you are very lucky, and fine colour balancing or

'grading' may not be possible for weeks or months. So the cinematographers had to make rules and to stick to them. They had to measure light intensity and colour temperature and be scientific, and still have to, and the modern television lighting director can borrow this science to take or leave alone as the occasion demands. The monograph offers the opportunity.

Alan Bermingham, the author, presents the subject clearly and completely as he judges it relates to television as practised by the BBC and other big organisations. He is well qualified for the job for he spent many years teaching lighting at the BBC's own training school near Evesham. As a consequence of his special interest in teaching techniques (the Evesham school as a whole earned an enviable reputation for its modern practical teaching methods), the book is laid out as a sequence of 'frames' each presenting one or two new ideas, consolidating earlier ideas and setting self-testing questions - a technique that is easy to accept given a basic interest in the subject and which more or less guarantees a full understanding of the contents at the expense of only an hour or two's effort. The ideas are well explained, the questions not too provoking in their presumption that a standard form of words must be offered as answers, and the very few editorial errors will reward the mind sharp enough to pick them up without much risk of confusing the others.

The question remains, however - is the knowledge in the monograph worth understanding? Well, yes, it must be if you are the type of lighting designer who needs to know how things work and why. Indeed, it is difficult to imagine anyone already practising lighting coming to the book without already having some understanding of most of the concepts. But the book does deal with the subject methodically and without obvious gaps and so can be useful to complete the education of the master as well as invaluable for initiating the raw apprentice.

It is good to see the STLD involved in this sort of educational venture. They have already produced a popular lighting training video (also presented by Alan Bermingham) and their conferences provide regular updating on new equipment and techniques. The STLD membership must collectively possess most of the expertise available in the UK on the subject of television lighting and, as many are now retiring, there is clearly an ideal opportunity for the STLD to cover other aspects of this artful science with equal authority in future monographs. I look forward to reviewing them.

Bob Anderson.

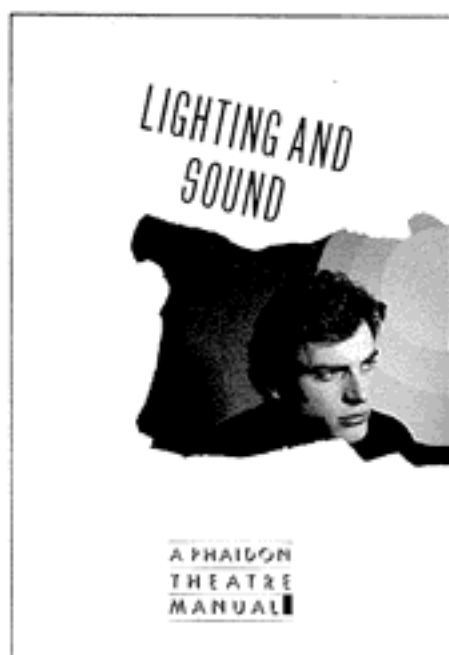
Lighting and Sound

A Phaidon Theatre Manual

Neil Fraser

Price £7.95 ISBN 71482514X

When I reviewed the third edition of Francis Reid's 'Stage Lighting Handbook' in L+SI last October, I said that it was "ideal first reading for those who are terrified of the ironmongery". Clearly many people worldwide agree because Mr. Reid's book remains the only stage lighting handbook which has been translated into several languages. The decision by Phaidon to introduce another manual into this market is therefore in-



teresting and perhaps courageous.

Phaidon's book is, however, "designed to meet the needs of those working in the non-professional theatre" - says series editor David Mayer - the series including works on directing, stage design, properties, stage management, theatre administration, costume and make-up. Many titles are combined, and the manual which forms the subject of this review covers both lighting and sound (separate departments at professional levels but mostly not so elsewhere).

I should declare that I was acquainted with the Phaidon 'Lighting and Sound' manual and its author Neil Fraser before it arrived on my desk for review. For some years I have cherished a professional working relationship with the author at RADA, a relationship enriched by his wit, understanding and support. That's something anyone who has worked with him will share. Rather more will have shared a letter written to the ABTT News from the author of one of the other titles in the series, Pauline Menear. Now again I must declare a knowledge of her work and, at the risk of this developing into a eulogy for RADA staff, I have sat beside Miss Menear in enough technical rehearsals to know that she just doesn't lose her cool. Interesting then that she should feel so incensed at Phaidon's treatment of her work that she should pen a 1200 word letter explaining the background to the many occasions on which she and her fellow authors appeared to have received rather less than 100% efficiency and support from their publisher.

Her letter is published in the ABTT News of January/February 1989 (page 21) and it is worth reading, partially as background to this review, and partially as a salutary lesson to anyone who is tempted to join the ranks of theatre authors. I don't have the space to quote very much from Miss Menear's letter, but phrases such as "the publishing process itself seemed to go slightly awry from the outset" and "Phaidon had encountered difficulties transferring the text onto the computer (they had never tried this method before. . .)" strike chillingly in their understatement.

Authors are rarely given a chance to explain what it was they had in their heads and readers incorrectly assume from reviews that the book is what was intended. Some years ago CUE published a detailed and authoritative, but somewhat inaccurate, review of my own sound book. I wrote correcting the mistakes, but CUE refused to publish my letter. All praise therefore to the ABTT's editor Ken Smalley for publishing Miss Menear's letter and allowing the reader to make up his or her own mind from the facts.

It would be grossly unfair to directly compare Francis Reid's lighting handbook of 168 pages with the Phaidon manual's 72 pages covering lighting and 46 covering sound (in addition there is a glossary, a list of useful addresses and over 100 illustrations or photographs). However, a



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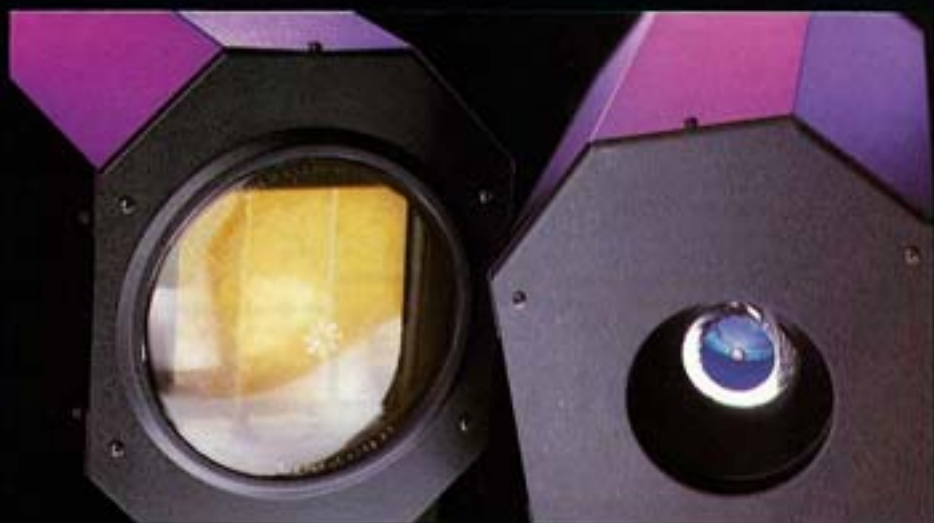
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comparison the purchaser might be tempted to make is one of cost. Last October I said of Francis Reid's work "at £9.95 it remains the most affordable lighting handbook around today" but the Phaidon manual is only £7.75; so Mr. Reid is £2.00 more expensive, but for that you get 43 pages of extra information.

Having said that, it is true that the print of the Phaidon is smaller so I would be curious to learn just how many words each edition actually has, although, of course, we should be more concerned with quality rather than quantity!

So to the book. I think it is hard for experienced people reading this book to adequately understand the reader at which it is actually aimed. We are talking enthusiasts, and specifically those who do not understand the difference between a profile and a fresnel, and between a microphone and loudspeakers. But before we get too self-satisfied, I know many professionals who can't do that either. Mr. Fraser doesn't at any time over-simplify or talk-down and he doesn't omit anything either; the book is very comprehensive and also covers many items which perhaps are luxuries or rarities in amateur theatre, such as directional diffusion, smoke machines and fibre optics. It deals with many aspects, such as rigging and safety, which people assume is general knowledge, but sadly it isn't, and the sections on design and dealing with directors is excellent. Each question that Mr. Fraser uses here clearly evokes a memory - tactfully - "will the floor actually be that colour?"

I like the sound section. It covers the basic equipment, live working and effects and recording, and again the section dealing with designing the sound and working with the director is invaluable. There's a lot of good advice here. Finally, there are excellent sections on problem solving for both lighting and sound and I think this is an asset. So many books tell you how to design lighting or sound systems, but not how to use them.

The book has a few areas where the text can easily be misunderstood: for example radio mics are stated as being omni-directional whereas cardioid capsules can also be fitted, and the fresnel lens is stated as providing the softness to the beam, whereas this comes mostly from the moulded indentations at the back. Furthermore, the location of photographs and captions is not especially sensitive and these failings combine to give the overall impression that the book is not well edited.

But none of this should put you off, the book is a genuine attempt to help the non-professional and I think it is largely successful in this. At the risk of sounding patronising I just hope that Mr. Fraser can exert sufficient pressure on his publisher before reprints or second editions are planned so that they can actually deliver the book he wanted.

Graham Walne.

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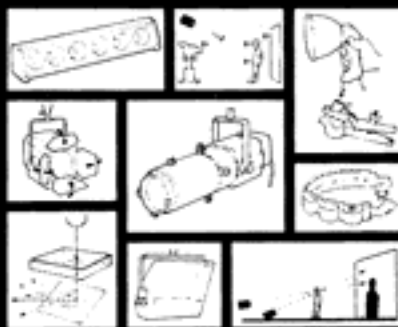
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The Technique of Lighting for Television and Motion Pictures

Gerald Millerson

Published by Focal Press.
(First published 1972, second edition 1982)
Price £22.95 ISBN 240 51100 X
and

Sound Techniques for Video and TV

Glyn Alkin

Published by Focal Press.
(First published as TV Sound Operations 1975; second
edition under new title 1989).
Price £14.50 ISBN 240 51277 4

These two books from Focal Press were both written in the early '70s though both have been revised since their original publication. Both authors achieved eminence within the BBC and, though both retired many years ago, their works provide excellent guides to the way the BBC achieves its much admired high standards.

Basically, Glyn Alkin's book is about hardware and gives a useful users introduction to the many devices used to collect, mix, modify and record broadcast quality sound. But, perhaps more valuable, it also describes the problems and techniques of studio and outside broadcast operations with extensive advice on boom operation and microphone placing for problems ranging from televising full symphony concerts down to home videos.

Gerald Millerson's book is also about hardware, though understandably, since it has not been updated since 1982, many of the illustrations look quaintly dated. In 1989 this book is much more valuable for its patient analysis of lighting techniques, refined in the days of the low definition black and white image when Millerson was acknowledged master of his craft, but still essential knowledge for lighting designers for 625 line colour TV, Cinemascope and the 1000 line television now said to be just around the corner. A disappointment of the book is its illustrations. Not that I am criticising the many line drawings by the author. These make the required points economically and clearly, but the photographs of 'good' lighting, particularly the few colour plates, provide no excitement, no incentive to emulate. Perhaps only a much bigger format book could achieve this, but one feels that Glyn Alkin was lucky; nobody expects a book to give examples of good sound!

Two books, then, that the serious lighting or sound technician should have read and keep handy on the bookshelf for reference, even if present

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Second Edition

Glyn Alkin

day techniques, particularly in pop music broadcasting, get little mention.

Bob Anderson.

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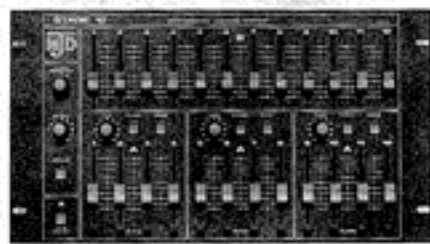
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EQUIPMENT *News*

NJD Stage 12



The new Stage 12 is not just a 12-channel 2-preset lighting desk, it is a complete light control system, and although designed primarily for stage lighting applications, NJD say that it is equally suitable for use in a night club or sports and leisure environment.

As with most stage lighting desks the Stage 12 is laid out in two banks of 12, allowing a different layout on each bank, with fading between the two banks. The difference between the Stage 12 and other lighting desks is that the 12 channels on bank 'A' are organised as three groups of four channels, and each group has a 3-pattern 2-mode sound chaser, and a variable fade rate in addition to all the normal dimming functions. This means that when fading from bank 'A' to bank 'B', each group of four channels can fade over at a different rate. Furthermore when using bank 'A' any of the three groups can be selected in or out of the 'Chase' mode.

When a group of four in bank 'A' is in the 'Chase' mode the 'Mode' switch allows the slider to select either the foreground level (maximum) or the background level (minimum). The 'Fade' control then sets the rise and fall time of the lamps as the chaser steps from channel to channel producing a 'soft chase' facility. Flash buttons are provided on all the channels and override all other controls.

As well as using the 'Fade' controls to set the rate of change from bank 'A' to bank 'B', these controls can also be used to control the rate of fade when operating sliders manually.

The Stage 12 is a low voltage controller with standard outputs for connection to any dimming slave pack, such as the NJD DP1000. Output connections are arranged as 3 5-pin Type-A DIN sockets, and is suitable for mounting in a desk type console. It is housed in a 19" x 6U enclosure with scratch resistant fascia.

For further details contact NJD Electronics at Ascot Industrial Estate, Lenton Street, Sandiacre, Nottingham. Telephone (0602) 394122.

Ballast Options

Lee Colortran's 'Super' daylight fresnel spotlights are now available with different versions of ballast for operation anywhere in the world. The 'Super' range extends from 575W to 16kW, with an Academy Award-winning electronic control system which eliminates flickering or strobing, regardless of camera speed or shutter angle.

Unique at-a-glance diagnostic panels were introduced to ballasts for the range at last year's Photokina exhibition. Now, different versions of the ballast for each model have been introduced for use with any power supply around the world. These are: 575W-4kW ballasts (90-120v Single Phase supply for US and the Far East); 575W-16kW (200-250v Single Phase supply for Europe, UK, USA and the Far East); 12kW-16kW (380-415v Three Phase supply for Europe and the UK) and 4kW-16kW (220v DC/20-250v AC for US stages

with large DC supplies.

Each of the 'Super' fresnels are available from Lee Colortran's sales offices in Manchester and London, USA, West Germany, France, Spain and Hong Kong, or can be rented through the Lee Lighting network of hire outlets in the UK (five bases) or Lee rental outlets in America, Spain, France, Italy, Hong Kong and Kenya.

The 'Super' range consists of: 1200W CID, 575W, 1.2kW, 2.5kW, 4kW, 6kW, 8kW, 12kW and 16kW - the only complete range available which is entirely flicker-free, say Lee Colortran.

Full technical details are available from Lee Colortran International, Manchester Road, Kearsley, Bolton BL4 8RL. Telephone (0204) 73373.

Crown CM-310

Designed to take a beating and other forms of physical abuse, the new CM-310 microphone from Crown is an ideal stage microphone in that it discriminates against leakage from stage monitors and rejects any bleeding that may occur with unwanted background noise emanating from instruments and amplification, say Shuttlesound. Able to withstand the extremely high sound pressure levels associated with rock and roll, without distorting, the CM-310 differential cardioid condenser microphone incorporates comfortable hand balance and a built-in pop filter to suppress 'explosive' breath sounds.

Output of the CM-310 is low impedance and balanced to allow long cable runs without hum or frequency loss. It boasts a frequency response of 60Hz-17kHz, and may be phantom powered from a console or other external power supply.

For further information contact Shuttlesound Limited on 01-871 0966.

Numark DM 1912 Mixer



Numark has recently announced the DM 1912, a six channel DJ, club and broadcast mixer with 12 switchable inputs. Each channel features fully independent and assignable split cueing which allows any combination of the six channels to be monitored left or right. The six band graphic EQ is also assignable to any of the channels. The additional DJ mic channel benefits from auto-muting voice over and, like the Numark 1775 sampling mixer, has separate bass and treble EQ.

A special feature of the DM 1912 is what the makers call Beat Blend. This facilitates 'ultra smooth' cross-fading between any of the first four channels by shifting the stereo image as it fades. In other words, when Beat Blend is switched on, the cross-fader attenuates one side of the image first, bringing up the new channel in mono to compensate. The stereo image is restored as the crossfade is completed. The result of this ingenious circuitry is that two different channels never coexist through the same loudspeaker and the clarity of the crossfade is greatly enhanced. Completing the picture are two independent processor loops and a booth level/second monitor control.

For further information contact Lamba plc, Albion Mills, Albion Road, St. Albans, Herts AL1 5EB. Telephone (0727) 40527.

Mode introduce Economy Power Packs



Mode Electronics have announced two important additions to their extensive range of power packs.

Designed for wall mounting, the WU40P is a four channel switching pack rated at 5A resistive/3A inductive per channel, whilst the WU40HP version is rated at 6A resistive/6A inductive per channel.

Aimed specifically at the economy end of the installation market, both products nevertheless maintain the same high standard of quality associated with Mode equipment, say the company.

For more information contact Mode Electronics Ltd, Chelsing Lodge, Tonwell, Nr Ware, Hertfordshire SG12 0LB. Telephone (0920) 2121

Micro-Leco from Zilz



New from Zilz Concerts in Germany is the Micro-Leco for MR-16 lamps (low voltage coldbeam lamp, 12v-50W or 75W).

For overhead/vertical operation the Micro-Leco TR-20 has a pattern slot including a 4-hole pattern to reduce the beam angle, and the shutter slot includes 4 shutters to shape the beam (GAM micro-patterns can be used). Three versions are available: a ceiling version including transformer and canopy, a track version with built-in track adaptor and a single version without transformer.

Features include die cast aluminium and sheet metal construction, and a rated lamp life of 2000h.

For more information contact Zilz Concert GmbH at Venloer Str. 703, D-5000 Cologne 30. Telephone 0049-221 583031.

Carlsbro Stereo Powered Mixer

A comprehensive range of stereo powered mixers featuring integral digital reverb have recently been launched by Carlsbro Electronics. Designated the DX range, the 600W powered mixers are available in 8, 12 and 16 channel versions and are designed to cater for the sophisticated needs of today's musicians. The in built digital reverb offers 128 programmes - 16 main programmes (including delay, gated reverb and a misc section) each of which has eight sub-programmes.

Competitively priced, the DX unit is sufficiently compact to be portable, yet by simply plugging into existing speakers, completes a PA system with sound values up to studio quality, say Carlsbro.

Standard master features include an 8 band graphic equaliser, comprehensive tape and patching facilities, and a stereo powered amplifier. Each channel features excellent EQ facilities, a PPI indicator, monitor, reverb, monitor and FX controls, smooth action high quality faders, and trim and pan controls.

For further information contact Carlsbro Group Ltd., Cross Drive, Kirkby in Ashfield, Nottinghamshire NG17 7LD. Telephone (0623) 753902.

New GamColor Diffusion

A new line of GamColor Diffusion material has been announced by The Great American Market. It includes selections of GamFrost, GamSpin, GamWhite and GamSilk in popular weights and densities. A total of eight materials are currently in stock, and they are available in 20" x 24" sheets, 24" x 50' rolls, and 48" x 25' rolls. The Diffusion materials and recently added colours are included in a new GamColor swatchbook available from The Great American Market or its distributors worldwide.

Community Surroundstar



The new Surroundstar II System from Community is based around a compact, unobtrusive cabinet wrapped in an acoustically transparent back cloth. It features an innovative high frequency speaker, specially designed to deliver uniform coverage whilst being mounted vertically above an audience.

A hidden, angled baffle within a 6 1/2" deep enclosure, coupled with an asymmetrical horn provides dispersion of 70° in the vertical, starting 15° below the horizontal axis, therefore providing excellent coverage virtually to its mounting wall. Horizontal dispersion of the upper plane is 60° and the lower 120°. The coverage area is therefore rectangular starting with one side under the loudspeaker.

The Community Surroundstar II is now available in the UK from The Sound Department on 01-749 2124.

Scorpio 1800 Programmable Desk



Multiform Lighting's new programmable lighting desk, the Scorpio, is now in full production. It is an 18 channel control desk designed for both live music and discotheque presentations.

Scorpio has 18 matrix faders which can be easily programmed to control any combination of the output channels. In addition each matrix channel has a flash button that can be operated in add or swap mode. The desk can be programmed with 10 different chase or crossfade patterns of up to 60 steps. These can then be run automatically, sound triggered or in manually stepped mode.

Programming of both matrix faders and chase patterns is achieved very simply using the flash buttons and an illuminated control panel. A keyswitch selects the desired function and a set of indicators leads the operator through the sequence step by step. The stored information can be edited if required and will be retained in the memory for several months by an internal rechargeable battery.

The Scorpio is available in two formats: a stylish wooden console for desk top use and in a 6U rack mounting case for club installations.

For further details contact Multiform Lighting, Bell Lane, Uckfield, East Sussex TN22 1QL. Telephone (0825) 3348.

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Zero Launches



The Beta Collection.



The Sirius 48.

As mentioned in our ABTT report and news columns last issue, Zero 88 have launched a new version of their best selling Sirius lighting console. The original 24 channel Sirius has been expanded to 48, and the facilities have been greatly extended to include an additional 90 'insert' memories, a 'Sound to Light' analyser, plus Data storage via a credit card sized Memory Card.

Under the banner 'The Beta Collection' Zero 88 have released a stylish range of powerpacks designed to offer professional standard for a reasonable cost. This comprehensive range of 6 x 10 amp packs includes variants with all the common European sockets. In addition, a 'local control' version is available which includes 6 sockets, 6 faders and a master.

Betapack features a variety of mounting options, and 'Easicarry' handle and four feet, together with an 'autosensing' device which will automatically choose between +10 or -10 volt input.

Full details are available from Zero 88 Lighting at 1 Hart Road, St. Albans, Herts AL1 1NA. Telephone (0727) 33271.

New Micro Patterns



MicroPatterns, Great American Patterns for use in MR16 framing projectors, are now available from The Great American Market.

The new patterns are designed for projection in architectural and commercial applications, in museums, exhibits and displays, lounges and restaurants, offices, homes and stores, as well as scaled-down stage productions. They are suitable for all decorating and display work, parties and events, and any situation where space is limited.

The new small MR16 fixtures give designers a chance to use projected images in situations where larger, heavier, hotter stage fixtures are undesirable, say GAM, and they extend the application of this traditionally theatrical design element to a wide variety of other environments.

Micropatterns are made of stainless steel. The outside diameter is 1 1/2" and the maximum designer diameter is 1", and the collection includes 40 designs with more to be added in the autumn.

Dalton Light Controls



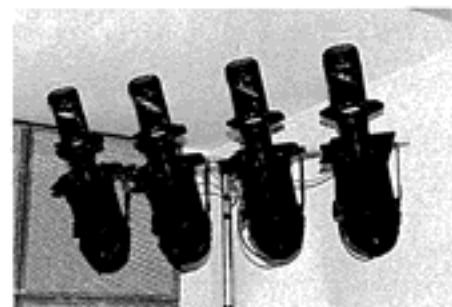
The latest development from Light Technology of Belgium consists of a four channel master light processor, the Dalton LP4000 and its first extension, the six way multi-function master zoner, the Dalton MZ60.

The LP4000CU version without power pack and the LP4000 with 4 x 2kW built-in power pack has full manual control of each channel, master and background level, flash per channel and master flash, sound to light and beat modulator, 12 basic chase patterns, 20 automatic scanned patterns, crossfade possibility on all chase patterns, beat modulated chase speed, etc. or the Auto-Pilot can select all these features in an 'intelligent' way.

By means of a unique built-in Zoner-interface, all internal effects can be brought out and selected at the same time by the Dalton MZ60, which can bring them simultaneously to 6 separate zones with their own DP41 or DP42 power packs up to 960kW of total output.

For information on all Dalton products and distribution possibilities contact: Light Technology BVBA, Weefstraat 17, B - 9731 EKE, Belgium telephone 0032 - 91 856831.

Masterlite



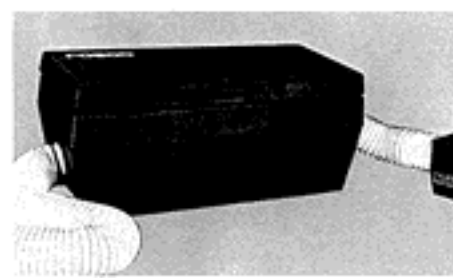
Pictured in our Showlight report (June) the low cost Masterlite directional beam unit is an attachment unit for Par 64 spots, which can easily be fitted to existing housings without further adaptation. It can also be quickly detached for packing and transport.

The Masterlite system enables instant mirror positioning of the lightbeam, and rapid interchanging of nine colours. By replacing the Par 64 bulb (or Raylight reflector) with the Masterlite lens system, a concentrated beam can be achieved and the unit can be powered by any control desk of 0-10v.

The basis of the Masterlite system consists of modules by which you are able to compose a configuration completely fitted to your own requirements, but with the flexibility to expand the system when you wish. The converter translates the control signal from your control desk into a command for the driver. (One converter can convert 24 control signals at the same time enabling you to drive eight different spots independently).

The driver takes care of the actual driving of the mirror and the colourchanger. Several drivers can be linked together in order to drive further groups of DB Units. Four DB Units can be connected to each driver, and each driver module is able to drive the Units independently or simultaneously. This is achieved by means of the channel set switch. For further details contact Rolight (Holland) on 53 320644.

Low Lying Fog on Demand



Rosco have launched their Chiller Module, which will produce low-lying fog, of variable density, on demand.

The unit, which has its own built-in speed control, is equipped with a metal basket to take dry ice, which constantly cools the fog output, after which it will lie low for the required period and dissipate without rising. A wide variety of effects can be obtained by remote control of the speed of the in-built fan, which has a capacity of between 0 and 95 cu.ft per minute, and any of the three Rosco fog fluids may be used in the fog machine.

Ducting hose is supplied to connect the Chiller Module to any Rosco Fog Machine, as is a 25' (7.5m) power cord. The output of the Chiller Module can be vented to the required location through the use of Rosco Ducting Hose on the front of the Module. While dry ice is the ideal medium for cooling the fog, if this is not available ordinary ice may be used instead. The Chiller Module will not leak, but attention should be paid to the level of water collecting as the ice melts.

The Chiller Module is made from textured, high impact polymer, weighs less than 35lbs (15.75kg) and full technical details are available direct from Roscolab Limited at Blanchard Works, Kangley Bridge Road, Sydenham, London SE26 5AQ. Telephone 01-659 2300.

Regal from Furse

The new Regal 24 dimmer rack from Furse is fitted with residual current devices on each circuit as standard, anticipating the growing demand on the part of specifiers for this type of circuit protection. A related new product, Regent 6, is designed to fit standard 19" racks and is fitted with 6 10A dimmer modules. It has a total height of 88mm.

A new versatile and useful portable or permanent dimmer package is the Regent 4. This has 4 7A dimmers (1.5kW each), which are connected to 2 CEE 22 10A shuttered 3 pin sockets. The unit can be connected to a supply suitable for its total capacity; an overload phase back feature prevents any overload demand. In addition to the usual control and power fuses, safety status indicators are also standard.

Full specifications and performance details are available from Furse Theatre Products at Hindle House, Traffic Street, Nottingham NG2 1NE. Telephone (0602) 862722.

New Stage Flooring

Craig-Louth Associates have introduced a new double sided vinyl stage flooring which gives 'Instant Lay Flat'.

It provides dimensional stability, together with flexibility and durability, and avoids the problems of expansion due to temperature variance, say Craig-Louth. No longer will users have to wait hours for flooring to relax even at cold temperatures, which will save time when setting up. The product, which they have called 'Stagefloor Duo', is of British manufacture and exclusive to Craig-Louth.

Craig-Louth Associates have been established in the flooring industry for 10 years and are regular suppliers to companies in the lighting and design business. They are currently looking to expand their agency network in Europe and the States.

For further information contact Craig-Louth Associates, 15 Lansdown Place, Frome, Somerset BA11 3HP. Telephone (0373) 61809.

E-V FS-212 Wedge Monitor



Concert sound system specialist Shuttlesound is now holding stocks of the new Electro-Voice FS-212 wedge monitor. Described as ideal for use as a professional touring stage monitor where extremely high power and low distortion is required in an extremely compact enclosure. The FS-212 is a 2-way biamped system incorporating both high frequency horn and 2" throat compression driver with a pair of 12" woofers. Sound pressure level of the E-V FS-212 at 1W is 101/113 dB at one metre. Frequency response is 50Hz to 20KHz.

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

New from Lycian

Two new products have been launched by Lycian Stage Lighting. The Midget 2K Model 1207 quartz followspot is 50% brighter than the standard 1000 watt model, using the BWA lamp, say Lycian, and is the smallest, lightest quietest dimmable unit available. It projects from the smallest pin spot to the largest full stage flood, has a spread lens system and an automatic, internal 5-frame self-cancelling colour boom.

The new Starlite Model 1211 HTI 400 has ease of operation, flatness of field, and economical pricing that will appeal to schools, churches, and other organisations with a fixed budget, say Lycian. Features include automatic, internal 5-frame self-cancelling colour boom, hot restrike capabilities, and a newly designed three-legged collapsible base with locking casters and levelling jacks. It has a zoom ratio of two to one.

For further details contact Lycian Lighting in New York. Telephone 914 469 2285 or worldwide agents.

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Jands Instinct

Adding to their ESP-24 and 36 channel lighting consoles, JANDS of Australia have now introduced additions to the range. The first batch of the JANDS ESP-48, 60 and 72 way consoles, to be known as the 'INSTINCT', have already hit the market, and were world previewed at the recent ABTT Trade Show on the AC Lighting stand.

The new 48, 60 and 72 channel consoles have up to 34 pages (banks) of 24 scene masters giving a total of 896 separate scenes, as with the ESP-24 and 36 the INSTINCT allows the operator to allocate 'Scene Memory' against 'Chase Memory'. New functions and features include: 3 Softpatch Tables fully proportional to 200 dimmers, using DMX512 output protocol, 24 Character by 2 line back lit LCD display, Help Function, Edit Scene or Chase (Live or Blind), 2 independent chasers with up to 72 level conscious steps, MIDI in and out, hold fader function, desk linking, P.C. hook on option, dimmable desk lamps, 240v input filter, and Switch mode power supply.

For further details of Instinct contact AC Lighting, the UK and European distributors, on (0494) 446000.

More JBL Control



JBL have added the new Control 10 and Control 12SR to their Control Series flexible sound package.

Complete with the definitive range of optional installation accessories, the Control 10 is as robust, reliable and versatile as its smaller counterparts, say JBL. It does offer, however, the increased range, greater sensitivity and wider dynamics of a compact three-way enclosure. Like the 1 and 5, Control 10 is magnetically shielded and will not interfere with TV or video picture. A 40Hz to 20kHz frequency response, and a power handling of 300 watts is available from ceiling, wall and tripod locations emphasising a key advantage of Control series designs.

The Control 12SR is another advance in JBL Control Series philosophy, but a step deeper into professional sound reinforcement. Featuring a 300mm low frequency transducer and 44mm high frequency pure titanium compression driver fitted to a Flat-Front Bi-Radial horn, the Control 12SR is tough enough to pass the IEC 268-5 signal power test at 200 watts for 8 continuous hours. Impressive by any standards. To complement its no compromise power handling performance, the compact Control 12SR retains a definitive Control series versatility with a variety of optional hardware.

For further details contact Harman (Audio) UK Ltd., Mill Street, Slough, Berks SL2 5DD. Telephone (0753) 76911.

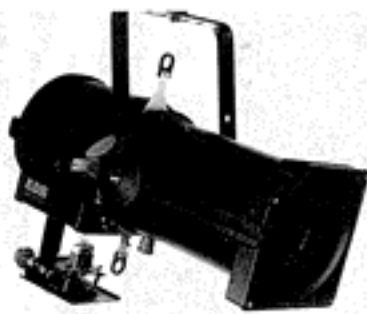
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ADB and 'Europe'



ADB's 'Europe' DS 101.



The Europe F101.

Until about two years ago ADB of Belgium were manufacturing a range of 1 and 2k spotlights that had been developed over the years. They were the first to use extruded aluminium for the lamphouse and had a good reputation for their lighting performance and their robustness. They were appreciated by many users in the professional theatres around the world, but in 1986, their presentation looked somewhat out of fashion.

ADB therefore decided to develop a new range of products that had an appealing design, improved optics and operation, but with the same robustness. A highly modular design was introduced using many pressure cast and extruded aluminium components, in order to be able to produce in a fast and flexible way even small batches of the many items that the range was supposed to include to respond to the various demands of many specific markets.

The industrial design of the 'Europe' range was carried out by a dynamic young company and ADB invested heavily in production tooling and assembly fixtures. A new production line was installed in their factory in Saint-Quentin (France), using the Kan-ban organisation technique for production flexibility.

Today the 1200/1000W range is fully available (there are 10 different models: fresnel, pebble-convex, plano-convex with several diameters of lenses, long throw, several types of profiles), the 2k fresnel, pebble and plano-convex are also available, and 2k profiles will be introduced later this year.

"We had the ambition to provide every user, whatever his national preference or his personal choice in term of method of lighting and type of instrument, with an adequate tool - and this was the reason behind the range name of 'Europe,'" ADB's Bob Rutten told L+S.

For further information contact ADB at Leuvensesteenweg 585, B-1930 Zaventem, Belgium. Telephone 32 2722 1711.

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*For more information on MSR Lamps and a list of manufacturers
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420-430 London Road, Croydon CR9 9ET*

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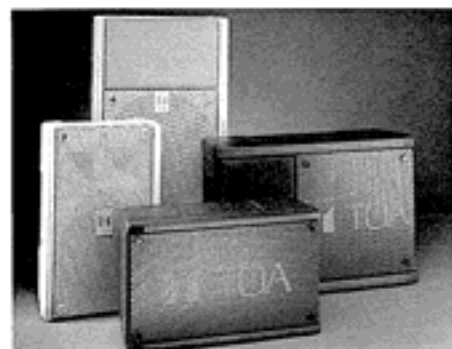
Philips Lighting



LSH 689

PHILIPS

Toa F-Series



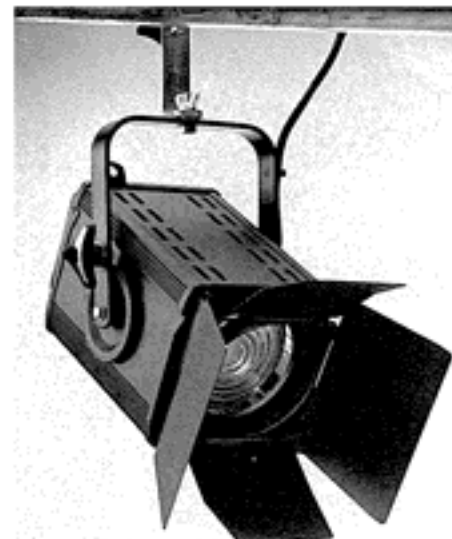
The F-Series from Toa Electronics is a totally versatile 2-way loudspeaker system which is ideal for either road use or fixed installation. Constructed from injection moulded polypropylene enclosures, reliability comes with built-in overload protection while a variety of fixing methods enables convenient mobility and easy installation.

The range consists of the F-500 and F-600, both of which are available in three versions: standard, SR (Sound Reinforcement), and WP (Weather Proof). The F-500 is an 8" 2-way design with compression driver, while the F-600 has a 12" woofer and compression driver. Both have a 60° x 40° CD horn.

New Selecon Range



The Selecon Zoomspot 650 (16° - 30°).



The Selecon Mini Fresnel.

A new range of 500/650 watt luminaires for stage, studio and display lighting has been introduced by Selecon New Zealand.

The two new Zoomspot 650 variable beam profiles (16-28° and 24-40°) feature a unique shutter masking system, the design using (patent pending) an off set blade and handle to offer a greater range of masking positions around the beam. As the relationship of one shutter to the next is alterable, the system is more versatile than rotating shutters, say Selecon. A non metal-to-metal lens movement system utilises PETP bearings to carry the separate lens assemblies.

The Minifresnel (8-55°) and MiniPC (4.5-5.4°) are compact luminaires with a wide variety of stage and display lighting uses. The focus movement system is a captive slide tray moving on teflon bearings.

The range is engineered from die castings and extrusions in a carefully integrated design, and quality, according to Selecon. Rear grab handle, moulded shutter, focus knobs, colourframe retention clip and safety chain anchor point are standard on all units.

For further information contact Selecon N.Z. Ltd at 40 Drake Street, Freemans Bay, Auckland, New Zealand. Telephone 649 792583, Fax 649 770116.

Quasar by QuartzColor



The Quasar Par lighting system is the latest addition to the QuartzColor range of products from Strand Lighting worldwide. It consists of an innovative, compact 1200W Par head, compact ballast, extension cable and a set of four lens holders. The Quasar System is also compatible with the Sirio 3578 standard ballast and the 1200EB electronic ballast. The head is designed to accommodate two yoke mounting positions for use in tight situations, and will accept both the Sylvania Brite Beam 1200W Par 64 and the Thorn 1200W sealed beam CID lamps.

302 Series 11

The 302 Series 11 system produces the output level you'd expect from a larger enclosure - and produces it, say Bose, with less distortion than any conventional system. This is achieved through the patented Acoustimass technology, actually launching sound into the room via two air masses, rather than directly by vibrating woofer cones.

The new 302 utilises 12" Electro-Magnetic Braking woofers to provide improved power handling ability and reduce possible overheating problems. The woofers are capable of 1.5" peak-to-peak excursion, electromagnetically limiting their own motion before they reach an over-stressed state. Power handling is increased to 400W RMS (or 600W total music power), and the heavy-duty robustness of this new bass cabinet make it the logical successor to the original 302.

The 302 Series 11 system includes a built-in passive crossover, allowing a combined 802/302 system from one amplifier. As the user's requirements increase, the system can be expanded to bi-amplification, using the electronic crossover inside the 802-C system controller.

For further information contact: Bose UK Ltd, Trinity Trading Estate, Sittingbourne, Kent ME10 2PD. Telephone (0795) 75431.

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Community Theatrestar

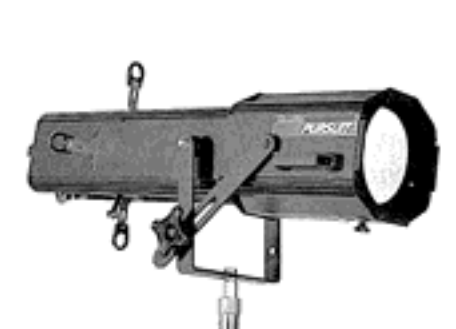
Community's 'Theatrestar' brings 3 way performance to behind-screen cinema sound reinforcement. Built in response to professional demand, Theatrestar is the first 3-way loudspeaker design of its type produced exclusively for behind-the-screen cinema applications, say The Sound Department.

Measuring just 20" deep, the phase coherent system is passively crossed over at 400 and 3,500Hz. Twin 15" woofers coupled to specially fabricated low frequency horn provide extremely strong bass response in the large volume ported cabinet. Midrange is provided by a Community M200 compression driver coupled to a 90 x 40 pattern control horn, and for frequencies above 3,500Hz, a 1" throat driver attached to a custom asymmetrical horn works on a dual-axis plane to provide uniform wide angle coverage.

According to Community's President Bruce Howze, the Theatrestar is unique in that it directly addresses the midrange decade, which is a bandwidth frequently ignored by other loudspeakers in its class. Human vocal intelligibility lies in this midrange band and since films are composed mainly of dialogue, this area is of major importance.

The Community Theatrestar is now available in the UK from The Sound Department on 01-749 2124.

CCT Follow Spots



Two new followspots have recently been introduced by CCT. The Minuette 'Pursuit' is rated at 650 watts, but with its glass reflector and condenser lens, together with a pair of zoom objective lenses, it gives a lot more light over its 6/10° than many spotlights with a higher wattage rating. Quadrant balancing and locking along with rear and side handles gives smooth, precise pan and tilt. A built-in iris and framing shutters are standard, as are runners for very sharp gobo projection. The Pursuit is an excellent and competitively priced follow spot ideal for small venues, schools and clubs, say CCT.

CCT's new discharge spotlight has been designed to use any 'hot' restrike single ended (G38) CSI, MSR or HMI discharge lamp. Constructed of aluminium extrusions it has ready and easy access to reflector and lamp. Gate control is by built in high temperature iris and stripping shutters which have 15° rotation. Apart from the ballast accessory all lamp operational controls are incorporated in the lamphouse. Safety interlocks ensure secure internal access. Power on/strike and off controls are built in together with an elapsed time meter.

Although usable with any standard Silhouette lens tube, special versions of the 18/28 degree and 9/21 degree zoom lens tubes will incorporate those particular features which make for good and comfortable 'hands on' follow spot operation. These features, together with excellent pan, tilt and balance controls make the Silhouette discharge follow spot very user friendly. Two, finger-operated five colour magazine accessories are available depending upon which lens tube is used. The ballast accessory in addition to power on control has a 'reduced power' selection for those 'tick over' times.

Full performance and technical details are available from CCT at 26 Willow Lane, Mitcham, Surrey CR4 4NA. Telephone 01-640 3366.

DESIGN

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DESIGN vb. to plan and make something artistically.

DESIGN n. a coherent or purposeful pattern, as opposed to chaos.

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ON TOUR

Carltona Forcer

Neg Earth Lights have not been mentioned on this page before, so this month I went to see two of their shows presently on the road. The first was Then Jericho, whose impressive lights were designed by Dave Ridgeway, the owner of Neg Earth Lights (in fact, I saw this show twice and it's absolutely nothing to do with having the hots for the lead singer). The second show was China Crisis which was designed by Alec Nisic who we featured in August 88 with his designs for Wet, Wet, Wet. The photos of China Crisis are perhaps not the most representative because, at the request of the band, there was no front spot at the gig.

I've also been to see Elton John, whose designer Paul Dexter owns Galeforce Lighting in California along with his partner Roger Ball. Paul took over from Ian Peacock as Elton John's lighting designer and, as Paul is primarily a heavy metal designer, it was a very interesting show. I must thank Paul's Vari*Lite operator Lee Lauley for arranging the interview and his kind hospitality.

Then Jericho

Cambridge Corn Exchange

L.D.: DAVE RIDGEWAY

How did you become a lighting designer?

I started organising lights for a friend's band and later a few local bands. When I reached 24 lamps I



Then Jericho - lighting by Dave Ridgeway of Neg Earth Lights.

gave up my proper job! My first big break was going to America with a band called The Europeans. Since then I've done Lloyd Cole and The Commotions, Propaganda, Aswad and others. At the beginning of 1983 Neg Earth Lights became an official company i.e. it had its own cheque book!

Do you prefer touring to being in your office?

Yes, because I like to do designing - but I'm also needed in the office to stir up more business. Business is improving as we're getting more contacts with people, although I wouldn't like to get a



China Crisis in performance at the University of East Anglia in Norwich. Lighting design by Alec Nisic.

lot bigger. Maybe three tours is the most you really want to have out at one time. If you get too big things start to stray and you can't offer the best service. I try to build a reputation of having good equipment, a good crew, and reliability. We wouldn't do a tour for the cheapest price, but we'd give as good a deal as we can get. I think that there is too much undercutting these days by big companies. We like working with other companies rather than against them - we work with Chameleon quite a bit. I think that in the end everyone appreciates that.

More and more we just provide the rig for lighting designers, which is good because I can't be everywhere. The trouble is that many people want me on a tour, so I have to pass a lot of tours on. I was initially offered Transvision Vamp but I passed it on to Ian Cameron who does Chris Rea's lights. I've looked after the lights for Chris Rea in the past, which I really enjoyed. Unfortunately, I didn't get asked back properly because they moved on to Vari*Lites and I haven't really got any experience with them.

Tell me about your design for Then Jericho.

I received a very loose brief from the band. They wanted to see a big box truss with a large bank of lights - which suits the band more than an 'arty' show, although there are some 'arty' bits in there as well. As with most bands, production rehearsals were a waste of time, and after the first few shows we decided to change some things with input from the lead singer Mark Shaw. I use a lot of primary colours and floor lights. The backdrop is of the album colour and is treated with UV and different colour cyc lights, which the band really liked as you get moody, silhouette lighting. There are also plenty of Lekos. On the last tour we had colour changers on scrim legs - but that wasn't suitable for this design.

After this tour you will be joining the 10,000 Maniacs tour. What is your role on that tour?

I will be production manager and general lampee. It's quite refreshing after being the designer to go out on someone else's tour, to see their designs and make it all happen for them. It's an American designer called Darren and the rig consists of two trusses, plenty of Lekos, aircrafts, floor lights with

colour changers, and gobos projected onto a rear scrim. Surprisingly, he's not using smoke machines like most bands. It should be an interesting show as he's bought custom gobos from America.

What, if anything, do you hate to see in this business?

I don't like people sending out shoddy equipment - although they can put it out at a good price - because it's the crew that suffers. You hear so many reports of the crew having to spend ages fixing equipment and ages putting it up. The job is hard enough as it is, and it should be made as easy as possible by having good equipment.

Who would you like to design for?

Genesis - probably because I'm an old hippy! They have a good blend of songs - some moody and some lively. The work that I've seen people do for them in the past has always been excellent. You have a chance to be very creative.

I'm quite happy designing for Then Jericho as they are a very up and coming band. I'd also like to do the lights for Tanita Tikaram, as I particularly like working with female artistes.

Which lighting designers do you admire?

I like the work that Bob Hellier does for Cliff Richard and I think that Alec Nisic's work with Wet, Wet, Wet was excellent, as were his early shows for The Psychedelic Furs. The last show that I saw and thought was really good was Rush. It was excellent lighting - good spot calling, back projection, use of colour and Vari*Lites. Also, Pete Barnes doing The Blow Monkeys a couple of years ago was good. There was expert use of back projection and backdrops which is a bit of a Chameleon speciality. I hope that in the future people will come to us when they want something a little different - but at the moment they go to Chameleon because they come up with the excellent ideas!

Equipment List: Then Jericho

10 x 1 tonne Verilinde motors
Avolites motor control
110' x Tomcat 'A' type
2 x Tomcat 'A' type universal corner blocks
4 x Tomcat 'A' type 30" wedges
4 x Tomcat 8' sections of pre-rig

2 x Tomcat 5' sections of pre-rig
2 x Tomcat underhung followspot chairs
50' of modular aluminium tab track
40' of double Kabuki rail
10 x bars of 6 Thomas par 64 c/w narrow bulbs
8 x bars of 6 Thomas par 64 c/w narrow Raylights
8 x bars of 6 Thomas par 64 c/w narrow bulbs
8 x bars of 4 Thomas par 64 c/w ACL bulbs
4 x 4k Thomas groundrows
6 x Thomas par 64 floor cans c/w narrow Raylights
4 x 8 light Thomas Molefay units
6 x GAM Color Wiz units
2 x short throw 1200W HMI Pari truss spots
2 x short throw HTI 400 Lycian truss spots
2 x Terrastros
3 x 400W UV floods
8 x Altman 6x16 Lekos
4 x breezer fans
2 x Le Maitre Smoke Processors
72 channel Avolites dimmer rack
60 channel Avolites Rolacue desk linked with
30 channel Avolites Rolacue desk
24 channel Zero 88 Orion console
Metro Audio master station intercom system c/w
5 stations

crew:

Pip Munden (dimmers) Bob Niering (rigger)
Dave Ridgway (LD)

Equipment List: 10,000 Maniacs

3 x 10' 'A' type truss
2 x 5' 'A' type truss
2 x 10' Slick Litebeam
2 x 5' Slick Litebeam
5 x 8' pee rig truss
4 x 18m Verilindes
4 x Supertowers
19 x 6 lamp bars Pars
7 x 4 lamp bars ACL
1 x 6 lamp bar (4 Pars + 2 x 6x12" Lekos)
6 x 6x9" Lekos
2 x single Pars
3 x dummy cans
6 x floor cans
72 way AVO dimmer rack
60 channel Celco Series II Major
8 x Color Wiz colour changers
2 x Lycian long throw Super Arc 400
1 x Smoke Processor
4 way intercom system

crew:

Dave Ridgway (production manager)
Ian MacEwan
Darren Brown (lighting designer)

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The best supporting act around

China Crisis

University of East Anglia,
Norwich

L.D.: ALEC NISIC

Since designing for Wet, Wet, Wet Alec Nisic has been doing a variety of work including a tour with Celtic Frost, a Swiss thrash metal band! He has also been to Japan with The Christians which was, apparently, a fantastic experience. This Autumn, there might be a serious schedule conflict for Alec when his two major, and regular, acts, Kim Wilde and The Psychedelic Furs both plan to tour. At the moment, he is touring with China Crisis and he explained his design for them.

"This is not a beamy show," said Alec. "I set a mood for a song and there are no flashy lights. I've got white backdrops with gauze behind them. There are colour changers under each drop and in the gaps on the gauze, and there are some aircraft lamps to add a 'streak' here and there on a couple of numbers. The music doesn't call for frantic colour changing - in fact, the songs are brilliant, and they're great musicians. I was pleasantly surprised as I didn't know their music before this tour. The first gig was in Sheffield for the Hillsborough Disaster Fund which was a nice gesture."

When the China Crisis tour finishes Alec will be going to America for three months with Love and Rockets which consists of three members of Bauhaus and a vocalist from 'somewhere else!' Alec isn't going as the lighting designer. In fact, he's not quite sure what form his contribution will take. Apparently he was asked to go because of his American experience. The mind boggles!

Equipment List: China Crisis

- 40' x 'A' type truss
- 2 x Genie supertowers
- 2 x Zodiac winch-up towers
- 2 x manual chain hoists
- 4 x frames of 6 Par 64
- 3 x bars of 6 Par 64
- 17 x Thomas Par 64 floor cans
- 2 x single Par 64 long nose cans
- 1 x mirror ball
- 4 x tubular ripples
- 9 x Color Wiz colour changers
- 4 x bars of four Par 64 as ACLs
- 1 (40' x 20') white scrim
- 1 (40' x 3') white Bolton truss border
- 5 (4' x 20') white Bolton legs
- 2 (4' x 20') black Bolton legs
- 4 x tank traps
- 1 x Parri followspot c/w 40cm lens

Elton John

Wembley Arena

L.D.: PAUL DEXTER

"When I was 15 years old I met Frank Zappa's manager and through him I got to attend many concerts. I persuaded him to produce a band that I was particularly interested in, and I made their lights out of Hawaiian pineapple cans. With this band we entered 'Battle of the Bands' where the lady in charge of the lighting offered me a job touring with Elvis Presley! I was only 18 at the time and I decided that I was perhaps too young to join such a big name. Instead I stayed with the original band for another three years gradually building up my lighting system and getting better at my work.

"My first major band was Rick James who in 1981 was super big. From there I went on to do Ozzy Osborne's 'Diary of a Madman' tour in 1982, and then I did Ronnie Dio who was also heavily into large sets, lighting and production. Since then other bands I have designed for include Triumph and Motley Crue. One of the reasons that I have stuck with Heavy Metal for the past seven years is due to the fact that they have the budgets for big-

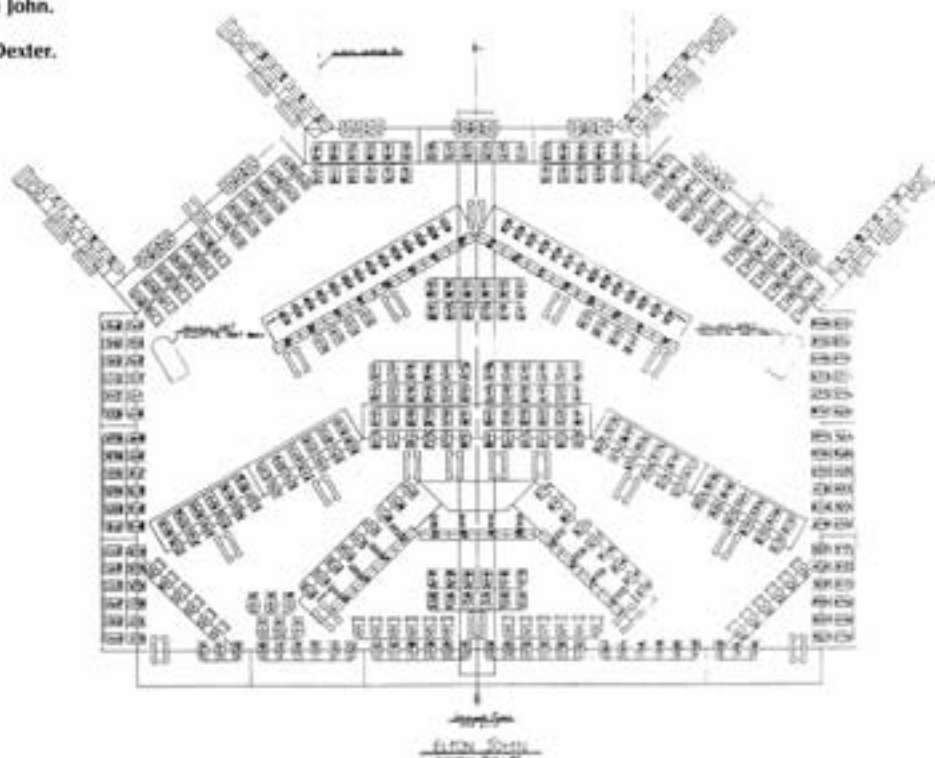


Paul Dexter.



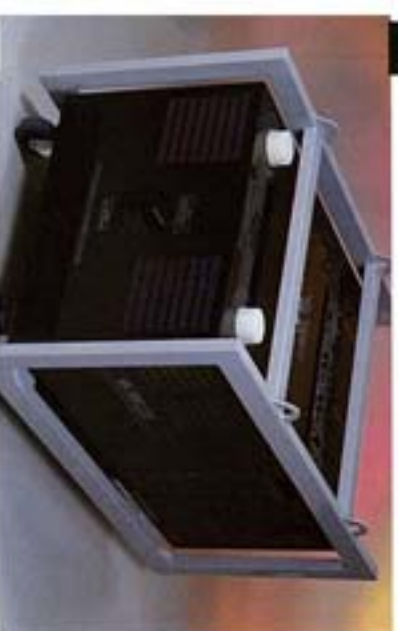
'Curtain' call for Elton John at Wembley Arena.

Lighting Plan for Elton John, European Tour 1989. Lighting Design: Paul Dexter.



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"The only thing that Elton said to me was that he wanted spectacular lights - and that was it," - Paul Dexter.

ger productions. They go all out, the sky's the limit; anything to get the effect they want. All of them were very involved in their own productions and, because I received a great deal of input from the bands, they made all the designs different.

"I don't always do my own sets, but I've always had a very big hand in them. I've been set consultant on most of the Ronnie Dio tours which, on the 'US Today' tour won Performance magazine 'Set of the Year' award. That set included a 23ft dragon which breathed fire and had wriggling ears! There were also knights that came on stage and shot lasers at each other. I've always been in-

terested in sets and, because of that, it's made the lighting on them better. I feel I'm very good at lighting sets, and recently I've been designing more sets alongside the lighting. I did Poison and Tangerine Dreams' last tours, and now this one.

"I was referred for this job through Tasco in Los Angeles because we've had a long relationship and my reputation has always been one they could rely on. When I first heard of the job I didn't want it because I had decided that I wasn't going to tour any more. After a couple of days I changed my mind mainly because of who it was. I took three videos to the interview including one that I

had done for Poison which was the number 1 video on MTV at the time. The only thing that Elton said to me was that he wanted spectacular lights - and that was it.

"The show has to be seen in its entirety for all the effects to be revealed. Every song is different and every move is to whatever the music wants it to be. I don't ever overshadow or compete with the music. I accentuate what it's about, and I use all the tools of today. Almost every light known to stage design and lighting is in the show from MRT16's to Vari*Lite's to Parcans to Raylights to Aircrafts to Lekos - it's all there.

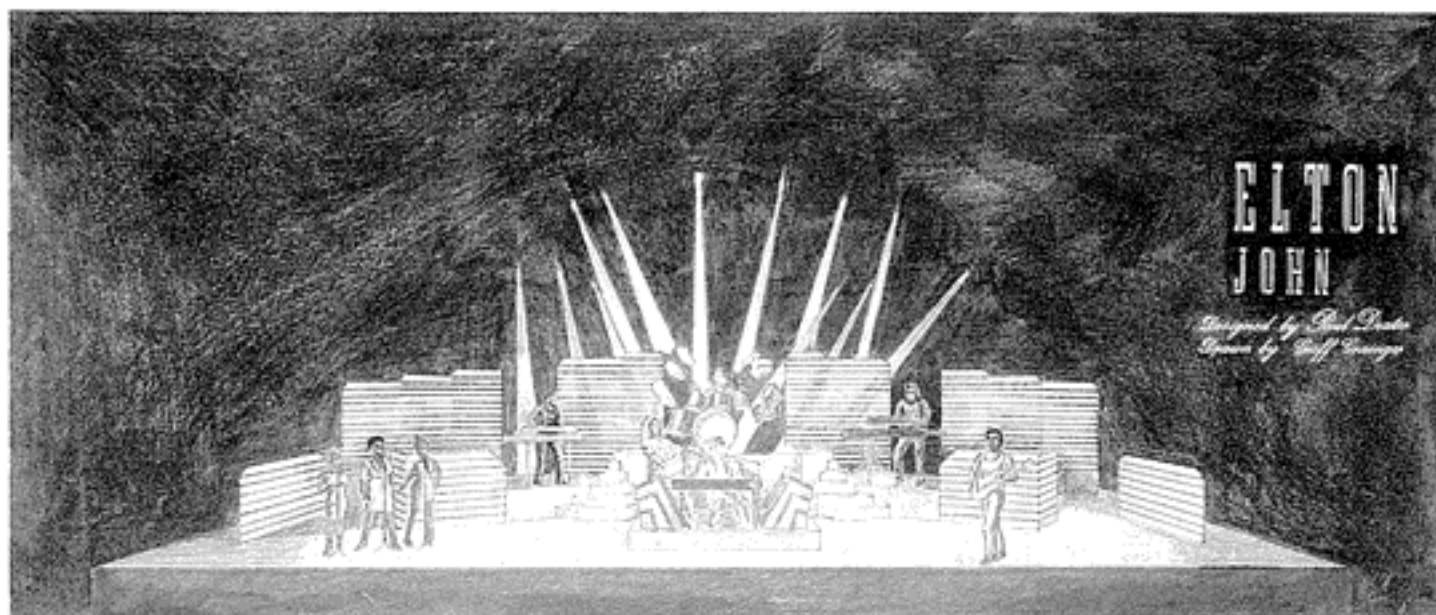


Paul Dexter's set design for Dio. Voted 'Most Creative Stage Set' by Performance Magazine.



Above and below: Dynamic lighting and design for Motley Crue. Photos: Lewis Lee.





Stage set drawings for Elton John's 1989 American Tour.

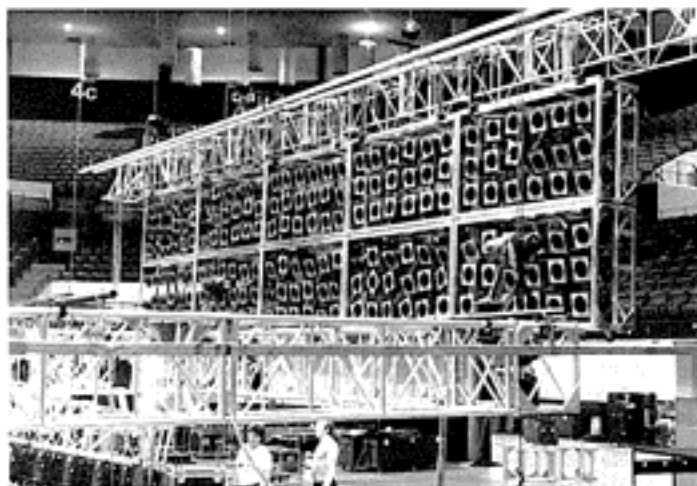
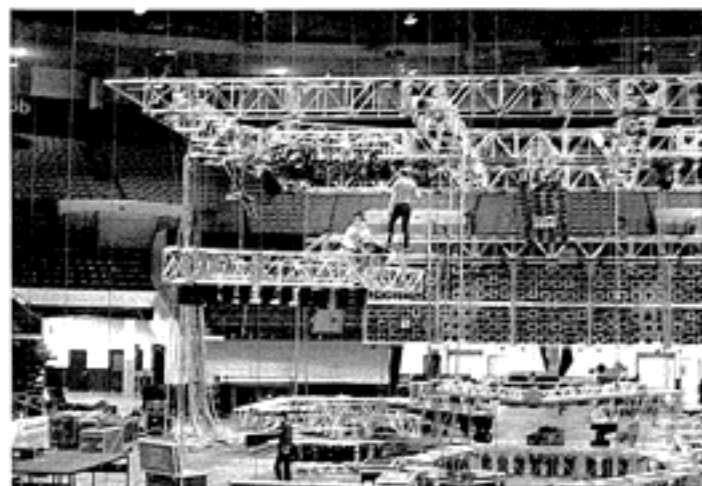
"I admire the work of Roy Bennett as I think we are very much alike. I also like Allen Branton's work because he has got his own style to the craft which really impresses me. There are really only a handful of designers who are doing things today.

"Designers like Allen Branton who do not tour with their shows don't have time to explore further beyond rehearsals. I've been doing this show since last September and I'm constantly changing

it. I have a basic programme, but each day we progress and make it better. I've done shows and handed them over to someone else, but when I've returned to see them a few months later, they are not my shows any more. So Allen is continually dealing with equipment but not using it constantly as an expressive tool.

"When the Elton John tour finishes I would like to work on more videos and design more sets. As

I don't want to tour again, I'll only design lights if the person that I'm giving the show to does it like I want it to be done, and I can continue to help make it grow. I've already refused to do designs on the basis that I won't be there the whole time. I want to do whatever comes up and sparks my interest. If the artist is really into his work and likes to use ideas of the time creatively - then I'll do just about anything."



Paul Dexter's designs for Motley Crue involved an enormous operational exercise. Pictured above is the set-up in progress at San Diego in 1987.

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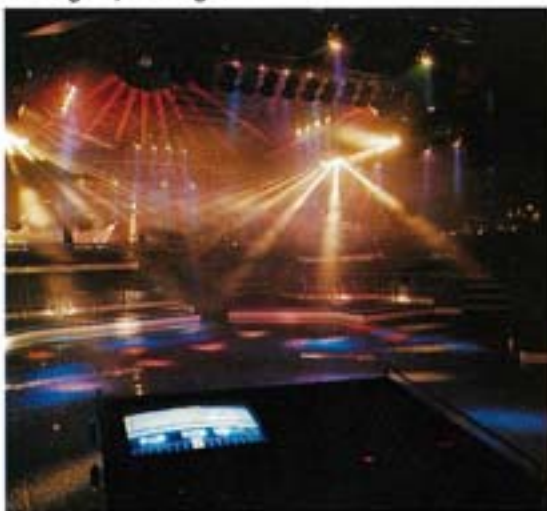
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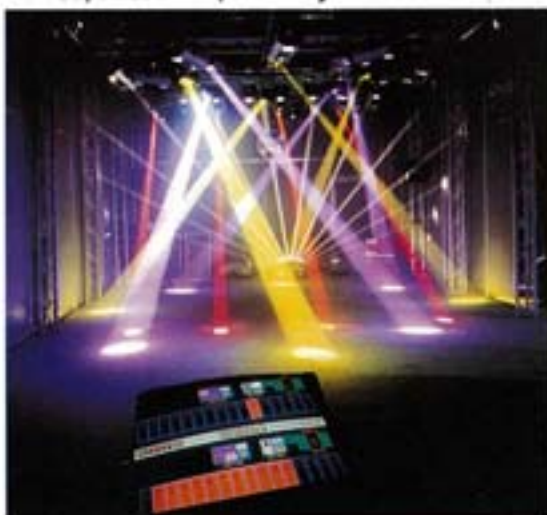
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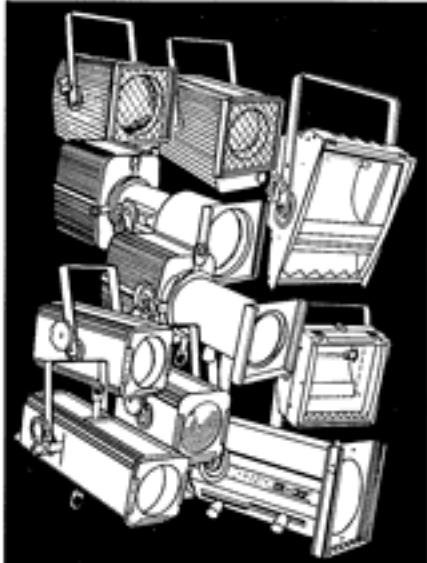
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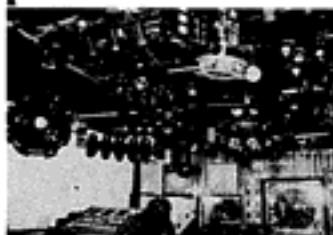
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VIEWPOINT

Keith Dale says

Lighten Up!

Nowadays, rock 'n' roll audiences are so much more aware of the role of lighting than they were say 10 or fifteen years ago. This, because performances of the eighties use lighting as an integral part of the total performance rather than a mere adjunct.

Fast, flashy and frenzied lighting has been synonymous with rock 'n' roll ever since Glam Rock hit the headlines. And, as the music has progressed and diversified so too, along with the array of other visual effects and delights, has the lighting.

Prince's 'LoveSexy', Madonna's 'Who's That Girl' and Bowie's 'Glass Spider' tours saw artists using the stage as a stage, creating a two hour theatrical and dramatic act rather than a mere 120 minutes of music. Where now does concert end and theatre begin?

There were cadillacs, telephone boxes, cranes, motorbikes, no end of dancers and props, a mass of special effects and countless costume (yes costume rather than clothing) changes. What's more, instead of solely illuminating the performers, the lighting was used to set the scenes, create the atmosphere and narrate the story.

In each of these cases the lighting was striking and essential. It suited the events and became embodied in the performances. In other instances, however, it has attempted to overpower and overtake. Good lighting which integrates sound with movement and adds meaning to melody is as cohesive an element within a production as a soundtrack is to a film.

Each is meant to add strength, to support, to emphasise the other. When a film is fast and furious in pace the viewer is, generally speaking, oblivious to the soundtrack because the visual elements tell the story. When a film slows down and silence sets the scene, the soundtrack is intended to intensify the message. If the two don't fit together, it is either aurally or visually noticeable.

Likewise, at a concert, if the lighting is overpowering it overshadows the music. If the lighting is of poor quality, or worse irrelevant - dramatic greens, flashing reds and frantic blues during a love song - the music can lose much of its meaning.



Equating a balance is often difficult and many LDs are guilty of over lighting in order to lift poor quality musical performances. Fill in the gaps, cover up the joins, take people's ears of the music and instead turn their eyes onto the lighting effects. Sad really, as the music is ultimately what the audience has

come to hear.

Trouble is, audiences are not as naive as some would have us believe. They are more aware of the lighting because the drama and theatrical content of many of today's performances has made them so. They do understand what the lighting is doing and they do notice when the lighting is wrong.

Trying, therefore to pull a fast one by using every lighting effect in the bag for a performance that doesn't require all, is a bit like hiring the London Philharmonic Orchestra to busk in Piccadilly Circus: It's a little overcrowded, a bit out of place and rather overpowering.

A leading figure in the industry, Keith Dale is marketing director of Celco Limited. As much as he wanted to keep in close contact with the heart and soul of the business, he recently had to decline the job of designing the lighting for Joe Jackson's forthcoming 'Blaze of Glory' world tour. "I'm extremely sad I can't do the lighting, but it would be impossible to leave Celco for the four month duration of the tour," he said. "I wish my successor the best of luck, but for the moment my first choice must lie with Celco. May be next time, Joe!"

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