

LIGHTING+SOUND

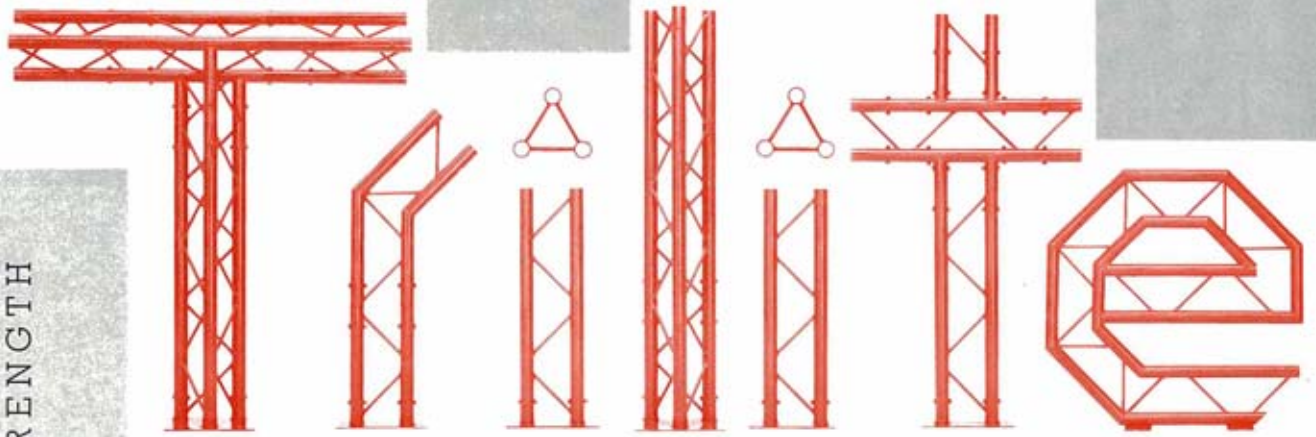
DECEMBER 1989 *International*



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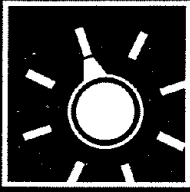
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Celco products are manufactured and distributed by: Celco Ltd, 1/3 Bellingham Road, London SE6 2PN, England tel: 01-698 1027 tlx: 927624 (CELCO G); fax: 01-461 2017 and Celco Inc, 30B Banfi Plaza North, Farmingdale, New York 11735, USA tel: (516) 249 3662 fax: (516) 420 1863.

Celco. Enough said.

LIGHTING+SOUND International

DECEMBER 1989

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Lighting Dimensions, Nashville

Pictured above is the High End Systems' stand with their new Intellabeam units in action. Tony Gottelier's report and John Offord's pictures start on page 24.

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PLASA
PROFESSIONAL LIGHTING
AND SOUND ASSOCIATION

Squires go County

Surrey-based County Sound PLC has acquired Piccadilly Squire Ltd - the UK's largest discotheque sound and light equipment company - from Piccadilly Radio, part of the Transworld Communications Group.

The company will now trade as Squire Sound & Light Ltd. from the existing premises in London, Birmingham, Manchester and Glasgow.

County Sound has also acquired the Guildford-based sound and light company, Rough Diamond, which will now change its name to become the fifth branch of Squire Sound & Light. Rough Diamond's present managing director, Simon Cummings, and technical director, Peter Balfour, will become managing director and technical director respectively of the combined companies.

The chairman of County Sound PLC, J Norman Cunningham stated: "County Sound has had a very good association with Rough Diamond over a period of years. The availability of Piccadilly Squire was an excellent opportunity to enhance the profits growth from the combined business, utilising the combined strength of the two management teams." He added: "The cost of this acquisition will be comfortably met by County Sound's strong cash resources."

County Sound's managing director, Mike Powell, told L+S: "For many years Squire has been the best-known name in discotheque sound and light. We will be aiming to re-vitalise the branches, build upon Squire's excellent mail-order business and expand the company's club installation division. We will also be looking at the possibility of opening further branches and expanding the company's existing European and International business."

White Light Invest

The shareholders and management of Lighting Dimensions (Dublin) have recently announced a new venture with London-based White Light. The Irish company came close to winding up operations due to under-capitalisation and poor market performance, but have now reached an agreement with White Light who will offer support in capital resources and degree of expertise. White Light's move is partly in anticipation of 1992 and the free market, and the company are keen to take advantage of the tax incentives resulting from a fast-growing Irish economy which is attracting major investment from industry. John Simpson of White Light told L+S: "We were interested in the company for several reasons, the main one being that a lot of UK companies take major tours through Ireland. A base in Dublin will enable us to provide a better service."

To be known as Lighting Dimensions (WL) Ltd.,

the company will continue to run as an independent operation, with Andrew Lennard and Bernard Griffin remaining in their present capacities. New purpose-built premises are planned for next year with areas for presentation and conference facilities, and the Modelbox and associated technology may soon be seen at the Dublin site.

Samuelson Sales Close

The Samuelson Group's equipment sales company will cease trading at the end of the first quarter of 1990. Chairman Sydney Samuelson states that the decision is in line with Samuelson Group's policy of closing marginally performing businesses. "Our agencies will be transferred to good companies and therefore product sales and service back-up will be fully maintained. Customers will not be able to see the join, that's the plan we have in mind," Samuelson told L+S. It is hoped that some of the eight members of Samuelson Sales' staff will be transferred to other Samuelson companies. The remainder of the Samuelson Group continues to trade well in the light of current market conditions.

Reverse Takeover

Wharfedale's considerable successes over the last two years have enabled its management team to succeed in bringing the company to the stock-exchange through a reverse takeover of Audio Fidelity plc.

The Wharfedale management will take over the Audio Fidelity group, which is disposing of two of its subsidiaries to concentrate on the audio and consumer electronics markets which Wharfedale has identified as of prime importance to the new group's future development. Audio Fidelity is now comprised of four companies: Fane Acoustics, McKenzie Acoustics, Fanfare Electronics and Wharfedale itself.

The deal is a direct result of the growth Wharfedale has achieved over the last two years, re-establishing the Hi-Fi industry's faith in the Wharfedale name and products. A 32% upturn in sales (1988-89) has provided a firm foundation for the deal. Wharfedale chairman, Ashley Ward, will become chief executive of Audio Fidelity whilst Keith Mellors of the Wharfedale board is appointed as the Group's chairman.



PLASA at Nashville

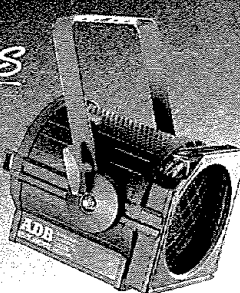
Exhibitors and 'just visiting' members pictured on the PLASA stand at the recent LDI 89 show at Nashville, Tennessee in November, with chairman-elect Kevin Hopcroft second from left. (More pictures on page 7, with show reports and pictures starting on page 24).

ADB

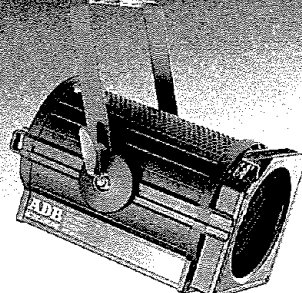
Lighting systems

A Siemens Company

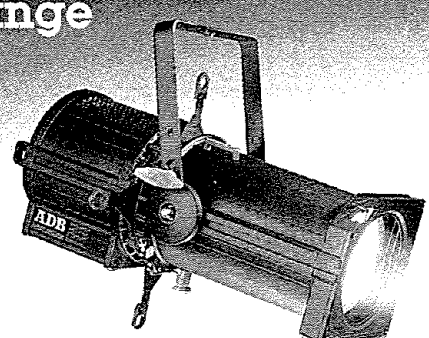
"EUROPE" Theatre Range



Europe
1000/1200 W Fresnel
2000 W



Europe
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1000/1200 W
Zoom Profiles

Ashley Ward is confident of the success of the venture and of its value to Wharfedale. "Linking Fane and McKenzie to Wharfedale's existing operations gives it an excellent opportunity to develop naturally into related sectors of the audio market which have already been determined as key areas of expansion," he told L+SI.

"Wharfedale's development as a loudspeaker specialist will be considerably enhanced by access to the wider resources of the group and we expect the deal to allow even better opportunities for real innovation and quality in the manufacture and development of loudspeakers and related technologies."

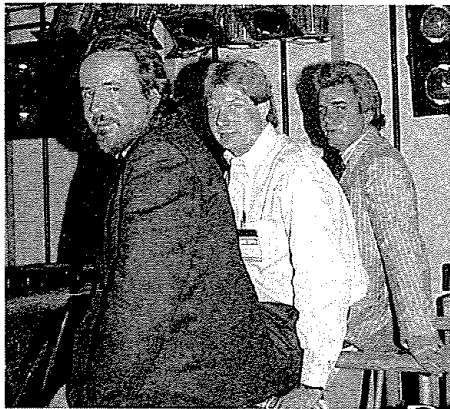
PLASA into the Nineties

Kevin Hopcroft of NJD Electronics is the new chairman of PLASA. His appointment follows the decision of Peter Brooks to step down, and will take effect from the 1st of January, 1990. Starlight Design's Marion Smith has agreed to take on the post of treasurer, and Tony Kingsley of Avitec continues as vice-chairman. As a result of the recent ballot, the following members, in addition to the above, will now form the Executive Committee of PLASA: Paul Adams, Tony Akers, Peter Brooks, Matthew Griffiths, Colin Whittaker and Mike Wood.

Tomcat Launch

Pershore-based Tomcat Engineering Limited and Tomcat USA Inc. of Texas announced at the Lighting Dimensions Convention in Nashville, Tennessee an expansion of their product line of staging, lighting and support systems for the entertainment and leisure industries. Tomcat introduced the following new products: Folding truss, 16" x 16" tower and a single tower system for sound delay towers which may also be used for lighting truss, 9" x 9" exhibition truss, single pre-rig truss, 12" triangle Lite Beam and 12" x 12" Lite Beam truss.

Prior to the convention the board of directors from both companies announced a restructuring programme. The board also announced that Chris Cronin is no longer a director of either company. Neville Lee was appointed engineering and design consultant for both companies.



New-look Tomcat (left to right): Dave Tomkins, Mitch Clark, Jon Tomkins.

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PLASA at Nashville



John McPhail (left) non-stop with Enigma.



Thomas party time: Mike Garl, Bob Gordon (GAM), Frances Thompson, John Walters and Mervyn Thomas.



PLASA chairman-elect Kevin Hopcroft with LDI 89 and Lighting Dimensions supreme Pat MacKay.



Ken Sewell and Derrick Saunders of Pulsar (left and right) with High End Systems' Lowell Fowler and Sue Fowler.



Dick Carrier (left) caught in mid-concentration on the Le Maitre stand.

M & M Appointment

White Light of London have been appointed by M & M Lighting as the UK Service Centre for all Rainbow products, including the Light Curtain, Follow Spot and 8 Light Unit Scrollers, as well as the standard Rainbow Colour Scroller.

White Light's experience with the UK's largest rental stock of Rainbows and their reputation for efficient service makes them the ideal company to undertake this work. In addition to the standard repair service they will also carry out all warranty work on behalf of M & M Lighting. John Simpson, managing director of White Light, told L+SI: "Our experience to date with the high quality and reliability of the Rainbow leads us to believe that very few people will actually be using this new service!"

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lighting systems

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Management Ideas

Lippman Kahane Entertainment has announced the introduction of a unique concept in the field of personal management by creating a new division representing the industry's leading Lighting Designers and Directors. Providing another resource to both artistes and managers, this new service is an innovative creation by the management team.

Represented in the new Lighting Division are: LeRoy Bennett, Marc Brickman, Paul Dexter, John Featherstone, Chas Harrington, Phelim (Famous) MacMahon, Peter Morse, Ian Peacock and Shawn Richardson. For more information contact London 01-493 1134 or Los Angeles 213 657 1776.

Distributor for EMO

EMO Systems have announced the appointment of a distributor for their products in Denmark. Per Meistrup Productions Co. of Karlslunde will be handling the full EMO range including the inductor-based graphic equalisers and stage and studio ancillaries.

SSE's Winter Tours

Birmingham's rapidly expanding SSE Hire Ltd has a hectic autumn/winter schedule, providing sound systems for more simultaneous tours than ever before. Continuing up to Christmas, the Sugar-cubes are touring with one of SSE's HB systems, using a TAC SR9000 front of house. Up and coming heavy metal act FM are currently on their first major UK tour of college and concert halls, using an Electro-Voice MT4 system with TAC SR9000 front of house and Scorpion 40/12 monitor desk. In conjunction with dB Sound of Chicago, SSE providing an 80kW EV MT4 arena system on the first ever European tour by Aerosmith, which is a complete sell-out.

This month sees Wet Wet Wet's first concert dates for 18 months. SSE will provide a 60kW EV MT4 arena system with TAC SR9000 front of house, and two TAC Scorpion 40-12 foldback



Lasers Light Up Eden

Laserpoint of Cambridge, one of the world leaders of laser displays and manufacturers of laser display equipment have just returned from India after completing a vast laser display for 100,000 Indian cricket fanatics and members of the Indian Government.

Six large frame 20 watt Argon lasers were

employed for these events. US heavy metal rockers Manowar are returning for their second major European tour of 1989, using an EV MT4 system with TAC Scorpions for front of house and monitors.

Soundcraft Line-Up

The owners of Pacific Studios in London, have recently replaced their DDA AMR with a 48 channel Soundtracs In Line fitted with Tracmix automation. The DDA console replaced a Soundtracs CP 6800 only 18 months ago. The In Line console, supplied by Larking Audio, was delivered at



Left, the lasers are hoisted into position at the rear of the scoreboard, and above Laserpoint crew enjoy the view from inside the ground.

employed and 2 x 5 watt Krypton lasers. The lasers were positioned high in the arena spread through 360° to give complete coverage. A multitude of stunning graphics were displayed onto the pitch and a specially constructed 60' x 100' screen 250 yards from the projection areas. The show culminated in an aerial battle of laser beams going out of the stadium to the suburbs of Calcutta enabling over seven million people to participate in the laser spectacular - probably the biggest audience ever.

7.00pm on the 7th November and just 6 hours later at 1.00am an installation engineer had the console fully commissioned and ready for the first session on the 9th.

Other recent Soundtracs PC Midi contracts include the installation of a PC Midi 24 at Island Studios. The console was installed in the newly equipped programming suite in July.

Dave Stewart has taken delivery of a PC Midi 16. The console was ordered specifically to be taken on the current European tour, and Queen's guitarist, Bryan May, is shortly to have a PC Midi 24 installed in his home studio.

YAMAHA



The Yamaha MC Series Mixer

The new Yamaha MC and MR Series mixers are purpose designed for theatre and conference use. Both Series come in 8, 12 and 16 channel formats, the MC Series with stereo outputs and the MR with four subgroups, 3 band e.q. with sweep and 48v. phantom power. Full monitoring facilities and inserts on every channel are also featured. In addition, the MR Series has separate phono/tape inputs.

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For further information on the colour changer that is fast becoming the number one creative choice contact us now for a copy of our brochure.



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United Front

Don Hindle, managing director of CCT Lighting, and Al Pfeiffer, president of LMI, have announced the formation of a new joint venture Company, CCT-LMI, based in Rochester, New York. The new company will manufacture and distribute CCT luminaires and accessories in the United States, and Central and South America.

CCT product has been available in the US for some years although manufactured in the UK. Much of CCT's design thinking has been influenced towards American techniques and technology. The new joint venture will provide better availability and service for the American market. All CCT luminaires are UL approved. The first appearance for the joint venture was at LDI '89, in Nashville.

Being shown in the United States for the first time was CCT's new discharge follow spot. It has five lamp options at the user's choice, including Phillips latest 1200W MSRHR. Other possible lamps are 1200W and 1000W HMI, CSI and CID. In designing the discharge follow spot CCT told L+S that every attempt was made to ensure that it is a truly operator friendly light. Also featured on the stand was CCT's 'Pursuit' follow spot, plus the latest version of CCT's Minuette profile zoom spotlight.

Lee Centralises

Lee Colortran International, the film, TV and theatre lighting manufacturer, is investing £1.3 million in a new factory at its Kearsley, Manchester site to centralise all its UK manufacturing, R&D and administration activities at a single location.

Production will transfer to the new unit from the existing factory at Thetford, Norfolk, in January next year, when the Thetford site will close. New offices and R&D laboratories will also open at Kearsley in March 1990. Although redundancies will occur the company feels the move to be vital. Managing director Jim Pollard told L+S: "The investment in the Kearsley site will enable us to bring our products to customers faster and more cost-effectively - vital considerations in the competitive markets in which we operate".

As a further step in the programme, Lee Colortran's theatre sales representatives have been increased in number and will now operate from the Kearsley sales office instead of from Lee's former industrial unit in Nottingham.

The sales office is open six days a week, from 8.00am to 6.30pm weekdays, and from 9.00am to 1.00pm on Saturdays. Lee Colortran say that extensive stocks at the large new warehousing facilities in Kearsley ensure nationwide same day or next day deliveries on all equipment and consumables. The new London trade counter at Lee Colortran's office complex in Wembley offers a similar service on lamps and filters.

Dealers Sought

The Hackney Cab Company is actively seeking new dealers after ending its association with Cue Systems Ltd in mid-October. Hackney Cab director John Greenough told L+S: "We acknowledge Cue's contribution in the early development of the Hackney Cab and wish them well in the future." The remaining dealers for the Hackney Cab range of loudspeakers, including theatre and concert sub-bass and stage wedge monitor are Hardware House Ltd.

Recent purchasers of Hackney Cab systems include the Half Moon Theatre, Richard Stokes Sound Services and Jeremy Farnell Sound Services.

Companies interested in discussing dealerships should contact John Greenough at Hackney Cab on 01-985 5337.

New Sound for RAH

N.S.R. Limited, owners and operators for the auditorium sound system at the Royal Albert Hall in London, have just installed a Soundcraft 200 series 24 channel mixer in the venue. This has increased the capacity from 18 channels to 24 channels with all channels now having phantom powering. The new mixer is housed in Loggia 1 and will give far greater control over the sound system.

SC Plus



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Studio 12

SR Plus

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SC Plus

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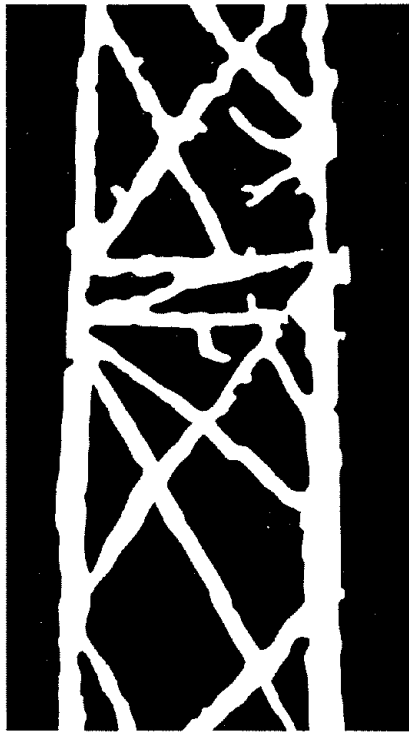
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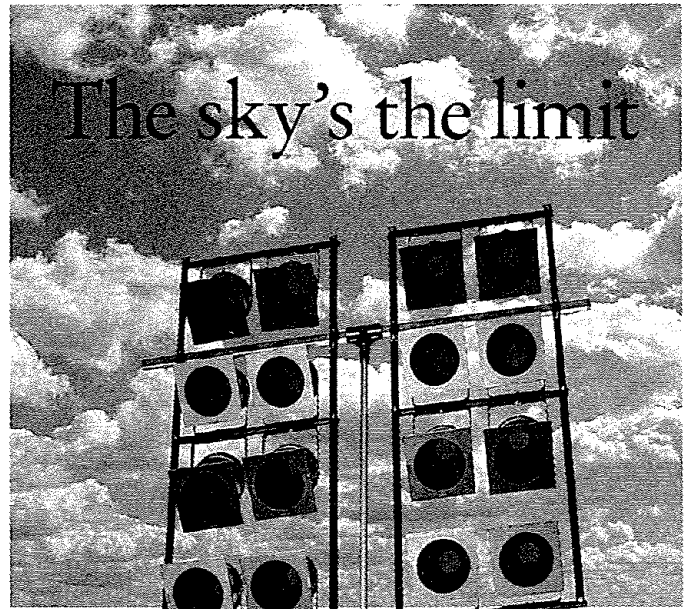
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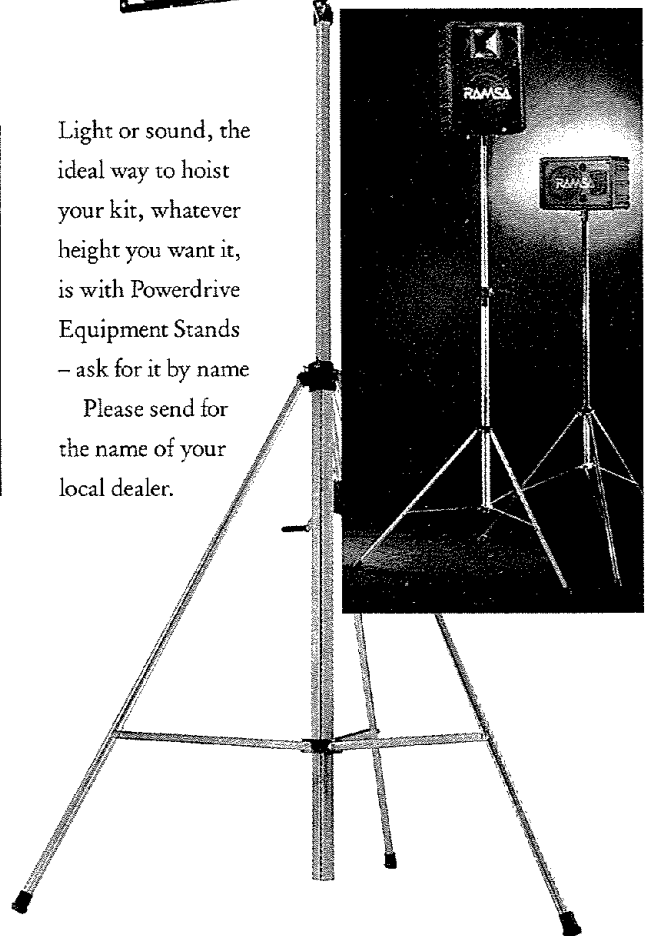
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Opus Soundcontrol

Burnley-based Opus Amplification have evolved from their roots in the late '70s mobile disco scene into a highly-regarded manufacturer of quality portable loudspeakers, now sold worldwide. Their flagship product, the compact Soundcontrol Range, has recently been expanded with the new Bass Station 15B. Designed for both installed and mobile use, the 15B enhances sub bass performance and, say Opus, it's ideal as an accompaniment to the Installation SC10 unit 'in any demanding venue'.

As well as the SC10 and BS15B, the high efficiency Soundcontrol Range (each model is rated at 101dB efficiency, to minimise amplifier costs) also includes the SC12, aimed at mobile DJs, and the SC15, an affordable 3-way unit featuring Celestion and Fane driver technology.

RB in Contact

In the article describing R.B. Lighting Stencils in last month's Lighting and Sound International, an incorrect phone number was given. The correct phone number for R.B. Lighting is 01-977 9665. And, whilst on the subject, R.B. reminded us that their stencils would make an ideal Christmas gift for the technician who has (or wants) everything.

Director Richard Broadhurst informed us that the company has been appointed a London distributor for Light & Sound Design Par Cans and associated equipment. This, together with being a main stockist of CCT equipment, puts the company in a very strong position to supply a wide range of lighting equipment off the shelf, at competitive prices to the trade, he said.

Cats Success

Millionaire composer Andrew Lloyd Webber has underlined his admiration of the Blackpool Cats production. On his second visit in four weeks to see the show in Blackpool, he stepped on stage to praise a delighted Cats cast and production crew, in front of a full house providing a fitting finale to the season.

"In the last month I have seen Cats in Blackpool, I have seen it in Moscow, in New York and in Las Vegas. It is best here in Blackpool," he said.

After the show Lloyd Webber was presented with a commemorative gold disc by Opera House owner's, First Leisure, to mark the show's unique record breaking achievements in Blackpool. (See picture right).

In a 23 week run it has been seen by 45,000 people and ticket receipts total £3½ million. PLASA members Stardream Audio Visual supplied all the equipment and special effects lighting for both the opening party, attended by Prince Edward, and end of season after-show celebrations.

CATS, ASPECTS OF LOVE, MISS SAIGON, ELTON JOHN, PAUL MACARTNEY, BAND AID, DEATHWISH, TV AM, CATCHPHRASE, SATURDAY LIVE, EXPO, IWM BLITZ.

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This is a position that will afford you plenty of customer contact. As a self-starter you will be keen to get on, realise the importance of your team to get things done, and regard this as a long-term career opportunity. Regular appraisal and recognition of success will give you the chance to take and expect greater management responsibility and reward.

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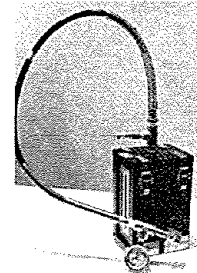
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POST-MODERN LIGHTING CONTROL AT THE BBC

Francis Reid

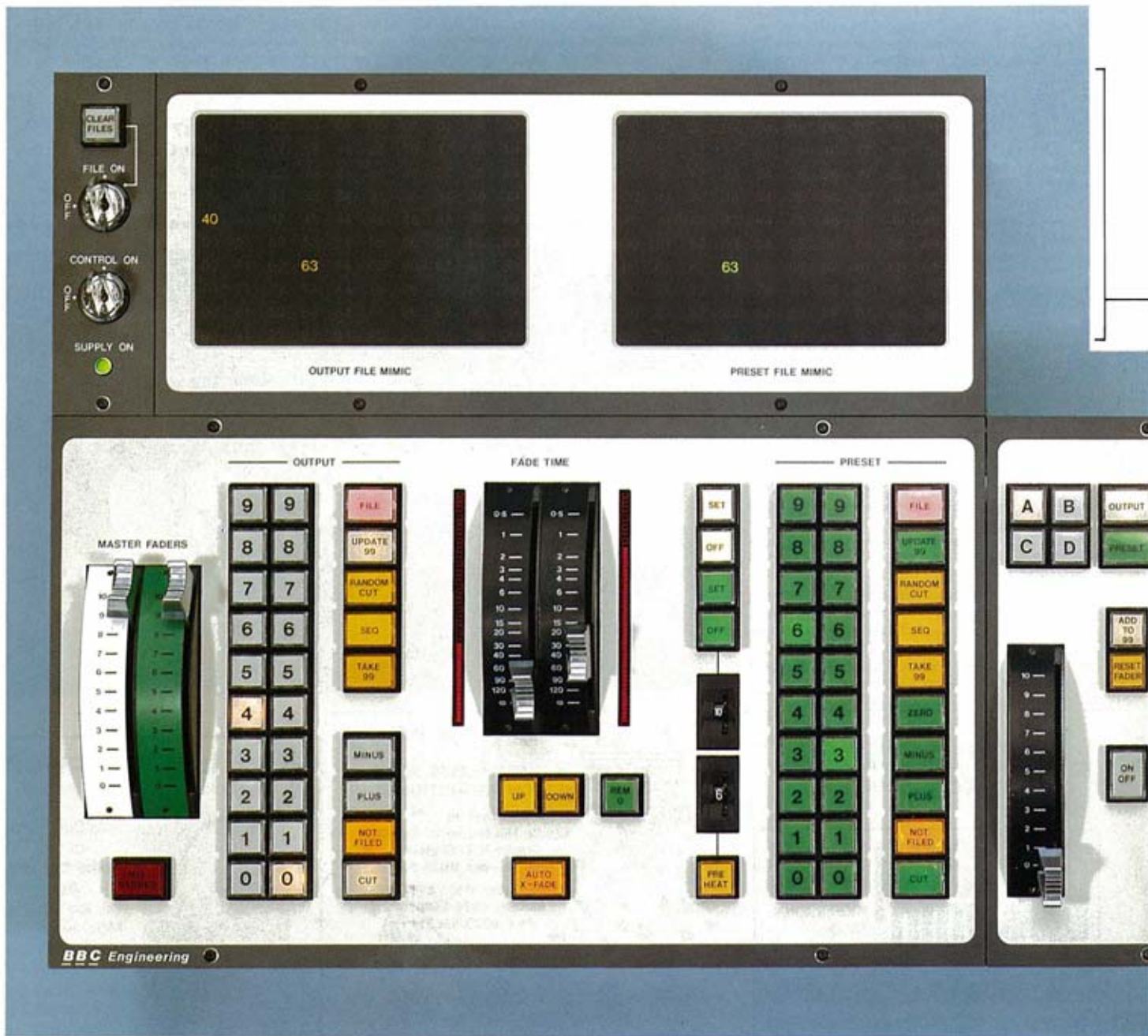
How will lighting control systems develop in the nineties? Will they continue to sprout more and more knobs? Will numbers be replaced by icons, keypads give way to interactive mimics? Or will it be voice activation that ensures lights do what they are told? Technology has reached the point where we may have whatever we want pro-

vided that we can pay for it. (The only really unassailable frontier is that light travels in a straight line and generates heat.)

Perhaps we shall rediscover simplicity. History teaches that to move forward we should first look back: the lighting directors and engineers at BBC Television have done just that. In looking to the future they have

rediscovered some features of earlier, simpler lighting controls which made them faster and friendlier.

Twenty years ago, when memory became feasible, the BBC analysed studio control requirements and the result was Thorn Q-File. Although it is some years since Thorn ceased to be active in lighting control manufacture,



The Output and Preset stores have a 2000 channel capacity. The memory has 100 files. Separate colour columns of pushes select files for recording and recall. Files can be combined by using plus and minus keys. In the case of lamp failure, channels may be overridden in all files by the Take 99 amendment function. Crossfade time from 0.5 seconds to 2 minutes is set on up and down time faders, independently for incoming and outgoing channels. Fades can be manual using the mixed stores mode. Lamps may be preheated for a smoother start from cold.

the last Q-Files are only now being replaced as part of the Corporation's rolling programme of studio refurbishment. Meanwhile various off-the-shelf systems have been installed, replacing but not usurping Q-File in the larger studios.

Looking to the future, a survey of the market concluded that none of the current systems on offer was an ideal match for the operational requirement. Consequently a decision was taken to opt for in-house development. Initially three systems have been built: one has been lighting Wogan at the Television Theatre since September 1st and the others will be installed in due course at Television Centre.

Two cardinal requirements were identified:

- a need to control in excess of 1000 sockets.
- a desk with an operational philosophy whose simplicity would enable fast confident actions.

As John Farr, Head of Television Lighting, says: "It is important that our consoles can be operated as instinctively as possible in order that a quick, accurate response can be achieved under programme pressure." This is particularly vital at Television Centre where programme strands and operators move between studios.



John Farr, head of television lighting, who steered the project, stimulating the debate between operational requirements and engineering solutions.

The Q 2 Lighting Control System

The solution is a lighting console called Q 2 and it is something of a born again Q-File. This is not to say that it is a clone but

that it adopts and refines appropriate proven features of Q-File philosophy and language. Access, both to channels and to memory files, is via illuminating numerical columns rather than calculator-style keypads. A selected channel level is set, indicated and modified by a motorised servo-fader which instantly (really instantly) jumps to its level point on the scale. This will either be its last used level or, if not previously used, an initial preset level. Four channel controllers, each assignable to either the preset store or the output store, simplify channel balancing and live/blind plotting. Since there may be times when the lighting director and operating assistant both have their 'hands-on', the priority if they select the same channel on separate controllers is normally left hand takes precedence but can be customised if required. A sub-master panel is under development as an alternative to one of the channel controllers and this will offer control of a further eight stores, giving more options for manual control and file balancing.

Separate colour-coded numerical columns for the preset and output stores control file selection for memorising and playing back. Plus and minus buttons allow files to be combined to produce complete scenes from basic compositional states. Separate up and down times are manually set (not recorded)

The **File Mimic** shows which files are in use in the output and preset stores. (Contents of stores can be displayed on a separate geographic mimic.)



Each channel controller can be routed, via bi-colour illuminated pushes, to output or preset store. Channel selection numbers are configured according to installation: this particular desk is configured to address up to 399 channels, each suffixed A, B, C or D. A touch-sensitive servo fader indicates the level of the selected channel and gives precise control. Manual control of a channel can be taken at any time, including during a crossfade, simply by touching the fader. Both on/off state and level are recorded for all channels. (An optional **submaster panel** can replace one of the Channel Controller panels, providing control of a further eight stores in addition to the output and preset stores.)

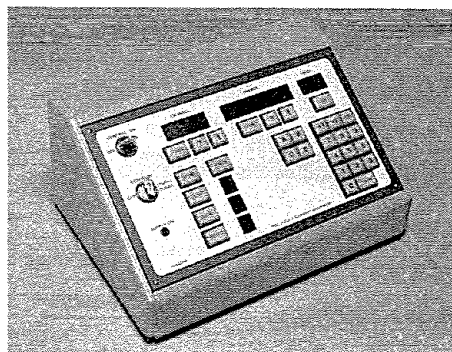
for crossfades initiated by an illuminated push. Fade progress is indicated by a dynamic light column display alongside the timers which, of course, offer the possibility of instant modification. Manual fades are possible using the 'mix store' mode whereby the preset store is fed directly to the studio output, bypassing the crossfader. There is a push, for optional preheat to a level preselected by thumbwheel. Performance modifications necessitated by lamp failures or knocked luminaires are handled by a **Take 99** amendment function similar to Q-File.

The desk is unique among current lighting controls in that it has no video display unit, either as an integral feature or as an option. Each push has its function clearly engraved and its status is immediately readable from its illumination and the colour of that illumination. A pair of **File Mimic** panels show which files are currently selected to the output and preset stores respectively. The channel content of each store can be displayed on a separate geographic **channel mimic**. (At the Television Theatre this mimic is mounted with the camera monitors and is the one from the original Q-File installation).

Q 2 is something of a triumph of self-display with all its control surfaces clearly indicating their function and status. With pushes dedicated to a single function (no 'shift') and active (no computer-style 'enter'), the cockpit drill is a model of crash limitation planning. Although the system has many happy operational details which are beyond the scope of this article, there is nothing superfluous: every function is likely to be in daily use.

There are no integral effects facilities. The BBC stock a selection of standard off-the-shelf portable effects desks and the most appropriate one for a particular programme can be patched in via the new 'Leopard' routing system.

In today's microprocessed world, some surprise may be occasioned by the use in Q 2 of a high proportion of hard-wired logic rather than software programming. However, we should remember that the first ever fully software lighting control, Strand's DDM of 1970, was only computer based because its design engineer, Alan Payne, did not have a clear, unequivocal operational specification - his prototype was a test-bed for experimental ideas. The BBC's Q 2 spec, evolved by a team of highly experienced users, was absolutely precise and therefore the design engineers could plan to take advantage of faster responses than are possible when a computer has to keep reviewing its decisions. And ten cuts per second is fast: run your finger up a column of memories and see the response.



Leopard is an electronic patching system for dimmer control signals, allowing up to 240 control channels to be patched to more than 1500 dimmers. Up to 14 patch states can be held in the memory.



The Q 2 Team: (left to right) Rick Dines (project manager), David King (design team leader), Mick Manning (ex-operator recently promoted to lighting director), Ian McLeod and Dan Shaw (studio engineers responsible for the engineering architecture and prototype), John Astle (head of Control Sections Design group). (Leopard was developed by a second team from the Video Design Group, led by Simon Auty.)

Q 2 has 100 files and is capable of controlling up to 2000 channels. The channel selection buttons offer 000 to 999, with the option of including a suffix of A to D which allows each luminaire hoist to be given a number and its four circuits identified as A, B, C and D. System output protocol is the internationally recognised DMX 512 standard.

The Leopard Electronic Patching System

Developed in parallel with Q 2, **Leopard** enables any special desks required for specific programmes to be interfaced with the studio dimmers. It allows up to 240 control channels to be patched to more than 1500 dimmers, with each control channel simultaneously routed to any number of dimmers. Up to 14 patches can be stored and the one controlling the studio lights can be changed instantly. Patches can be edited live or blind. Outputs from two or more drives can be paralleled, with highest taking precedence: thus the output of Leopard can be combined with that of Q 2. Protocol is, of course, DMX 512.

The BBC is anxious that a suitable company be found to manufacture and market Q 2, Leopard and the associated multiplex/demultiplex and dimmer drive units under license. Since component quality is higher than has become normal in lighting controls, the system cannot be as cheap to make as most current off-the-shelf models. But fast and friendly daily running can justify a lot of capital outlay, even to accountants. Especially when comparing the relative costs and lengths of expected service of sound and lighting desks. John Farr does not envisage all future installations being Q 2: each refurbishment will be assessed on its own merits and in some situations Q 2 would not be appropriate.

Indications for Lighting Control's Future?

The immediate response of any lighting control user is likely to be a consideration of, what the system would do for their own particular requirement. Since Q 2 is tailored to television in general and BBC practice in particular, there may be temptation to dismiss it as a special animal. However, with more memory capacity plus a VDU (for reference rather than operation) I, for one, would be

very happy to use it in theatre.

But, more importantly, I believe that Q 2 offers several indicators for a necessary debate about the future of lighting control as it emerges from the headlong 'Topsy' growth period it has enjoyed since electronic logic allowed knobs to be programmed to do anything. That anything has increasingly become everything, with engineers and marketeers only too happy to meet the challenge of user demand. The launch of any new system is the occasion for a frenzied search to find out what it will not do! Basic operation often gets swamped by functions which are there because they are possible rather than necessary.

At a time when we really need to discuss priorities, I would suggest that Q 2 offers some pointers for us all:

- As a lighting designer I now have to call for channels at a slower rate than I did with lever-per-channel or even with grandmaster. I realise that with today's number of channels there has to be a digital access, but linear columns are faster than conventional keypads.
- Controls which self-indicate their function and status surely assist operational speed and confidence. Numerical displays on video screens, as an integral part of operation rather than a secondary reference, come between operator and performance. The aim should be for head-up operators able to concentrate on looking at performers.
- I find it difficult to reconcile recorded time with live performance.
- Preheat is so useful. It was so easy on manual systems, yet on most of today's all singing all dancing computerised wurlitzers, I find myself having to plot warm-up levels into the previous cue.

Q 2 should provide serious thought for all concerned with the future of entertainment lighting control. Meanwhile my hunch is that for television it may well hit the user-friendly jackpot.



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BIG BUSINESS OR JUST BAD NEWS?

Mike Lethby examines past, present and future trends for the Acid House Movement

The endless, glorious summer of '89 found Britain basking in its longest spell of sunshine for over a century, and bopping, often illicitly, to the hottest musical hiatus since the snarling heyday of Punk - Acid House.

Nothing since Punk has stirred up such vitriol, hype and media fury. Must we expose our kids to this filth? ran the familiar war cry of the nation's tabloids. Excess piled upon excess as headline writers clamoured for attention with increasingly lurid stories of drugs, sex, easy megabucks, drugs, drugs, and more drugs. Acid House parties, you might have thought, were simultaneously responsible for blocking the country's motorways, deafening its grandmothers and corrupting its innocent young.

The entertainment industry began to feel a little unwelcome, to say the least; like a leper at a health farm. Inevitably, the crude generalisations, embracing fact, embellishment and pure fiction finally created a body of supposedly 'informed' public opinion which politicians and policemen simply could not afford to ignore.

From the outset, the Acid House scene was viewed by the Home Office in much the same light as pirate radio (but with added spice in the shape of possible drug abuse and public disorder offences). It is - according to your viewpoint - a spontaneous pleasure-powered progression from the mid-80's warehouse party movement or merely a cynical method of extracting huge profits from a naive audience with little care for the punter's safety or the law of the land.

Hardly surprising, then, that the legal twists and turns of the Acid House summer have placed many hitherto perfectly respectable equipment hire companies in the unexpected position of operating close to, and even, however unwittingly, **beyond** the edge of the law.

Although the government has proposed some new rules to regulate the policing and financing of what Whitehall now terms 'paying parties', apparently with the tacit agreement of some established party organisers, the legal status of most sound, lighting and staging contractors remains in a foggy minefield. At least two senior personnel in the sound hire industry face the serious 'catch-all' charge of conspiracy to cause serious public disorder. Others face similar or lesser charges related to all-night 'paying parties'. Some crew, installing sound and lighting systems - who are almost invariably self-employed contractors - have been arrested. At the time of writing, none of these had yet come before the courts.

But the catch-all charge of conspiracy to create a serious public disorder is what's understandably causing most worry in the business. As one sound firm put it: "95% of these events appear to be organised by very small companies. In this industry if one company subrents from another, the company who's hiring to the main contractor isn't normally told, and wouldn't dream of asking who the end user is, because it's commercially sensitive information; they could try to go direct to the client. It's an unspoken rule. So how is conspiracy defined?"

Small wonder then, that big-name suppliers



Photos: David Swindell



to this (to coin a tabloid term) 'shady' scene are reluctant to make public statements, or that major sound and lighting hire companies, accustomed to taking a promoter's word as his bond, were swiftly forced to insist on seeing a Public Entertainments Licence and cash up front before accepting any contract.

The major area of risk for most contractors is, of course, their equipment. Although few firms would leave thousands of pounds' worth of hardware in the care of inexperienced promoters without a few of their own staff to look after it, at least one company has had equipment impounded in the past few months; and there may well be many more. All the parties seemed to be organised by committee - lots of people with

mobile phones but very few surnames. Many people speak of various small 'bad debts' but in the main cash has been paid up-front as is the norm.

Liability normally rests with the main contractor, although that's often academic since many in this area couldn't begin to replace a £100,000 sound system in the event of a disaster. In fact, everyone's legal position is unclear, to say the least. A general 'lowest common denominator' view is that even though clients may sign a contract accepting liability for all licences and permits (the sort of standard contracts the industry has been using for 15 years or more), with Acid House it's different. The only way to deal with it now, I was told, is to check that an event is organised legally, and that means checking

with everyone from the police to the local council.

Sometimes the boot's on the other foot. One local authority had obtained an injunction to prevent a 'paying party'; but the promoter, having satisfied all the relevant requirements, went to court to get it lifted - and did so. As a result, the local authority and the police were powerless to stop it going ahead.

But how has the industry been backed into such a messy corner? According to the popular press, the chief reasons are obstructions caused by traffic, noise nuisance, and the lack of amenities plus adequate safety provisions at the events. The movement's association with the drug Ecstasy provided the flame to ignite this readily available matchwood.

The real reason, in the eyes of a number of major sound and lighting contractors, is far simpler. Acid House kids want to party all night - and it's very difficult to get an entertainments licence beyond 3 o'clock in the morning. In other words, to hold a party starting at midnight and running through till 7 or 8 in the morning is virtually impossible to do legally. Unless of course it's a private party . . . but who has 15,000 close friends in a field at midnight?

A Few Bedtime Stories . . .

So what of the plentiful myths of the Acid House scene? Beyond the screaming shock! headlines, a new musical genre found its voice and its feet. Hundreds of residents of the rural shires were unexpectedly woken in the dead of night by the sound of (as one party ticket put it) 50K OF SONIC POWER. A few country roads were hopelessly blocked; and an awful lot of people fervently hoped that out of all the fun and ferment would come a way of doing it all that wouldn't turn every raver into a branded renegade, and every village into a siege town.

The events are also major eye-openers for most PA hire companies used to dealing with the usual gamut of rock shows. Technically (in case you're interested), Acid House clients demand lots of bottom end, virtually no low mid and incredible amounts of top end. Few surprises there then for nightclub owners. Even more startling for the PA boys was the occasional 'rogue' demo tape or disk, recorded in someone's home or garage and full of weird HF information, which laid waste to expensive tweeters.

Now, since its Christmas, for some stories. All were passed on the backs of envelopes, in dingy back-street Soho bars by unidentified individuals in dark glasses. No-one gave their name, in case the Thought Police had a Tandy boundary mic thoughtfully stuck under the nearest bar top. Some tales may even be apocryphal. Who knows? They concern a balmy summertime, long ago . . .

. . . "I was asked to quote on a PA for a video shoot by a production manager I'd never met or even heard of. I said I'd like to do a site visit and we all met at an Oxfordshire hotel. The two guys who were organising it were at one end of the bar and their production manager, who was about 17, was at the other with all the suppliers, the lighting people, the stage people, and us. The organisers wouldn't talk to us. Then we went to look at the site, and they led us a dance right round Oxfordshire, presumably so we wouldn't remember the route - which was stupid, because we'd have to get trucks there two days later! We ended up on a smallholding, a scrub pasture beside a river. This guy comes out of a big caravan and says: 'We're going to move the caravan and put the stage right here'. And then his family came out! There were power lines 15 feet above where the stage was going to be. I thought for about four seconds and said, 'No thanks I don't want to get involved.'"

. . . "We were sub-contracted to a major sound company, a big show, four flat bed trailers, the stage stacked on them, 48kW system. All set to roll on the Saturday, we drove them down to the site. But the police came down and closed the site in the afternoon. They escorted the trucks out of Sussex into Surrey. The Surrey police escorted them round through the Dartford Tunnel. The Essex police then escorted them from the Dartford Tunnel. At the M11, the Metropolitan police picked them up!"

. . . "One party was held just outside London - a perfect site, a beautiful late summer weekend, in a valley with no houses around and no sound spoilage problems. Perfect road access too, right by a motorway. The organisers spent a lot of time getting it all perfect. The landlord had given his permission and been paid. And then the police turned up in strength at 10 in the evening, using dogs to clear the 300 kids who'd turned up. A police helicopter overhead for four hours. Full riot gear. Why? No reason what-

soever."

On another occasion, a convoy of four sound and lighting trucks, a crew coach, two cars and a 3-tonner full of soft drinks set off for a site, but it turned out that an injunction has been obtained preventing its use. So the convoy went round and round the M25, closely followed by roughly a dozen police cars and helicopters, while the promoter pummelled his car phone in desperation trying to find a site for that evening. In the end the truck drivers ran out of hours, and had to park up because they simply couldn't go any further. According to an observer: "An absolute bloody farce!"

Alas, things began to get a little nasty as the spirit of the summer wore off. At least one PA firm is said to have been threatened with something loosely defined as 'aggro' unless they supplied a system (which they didn't).

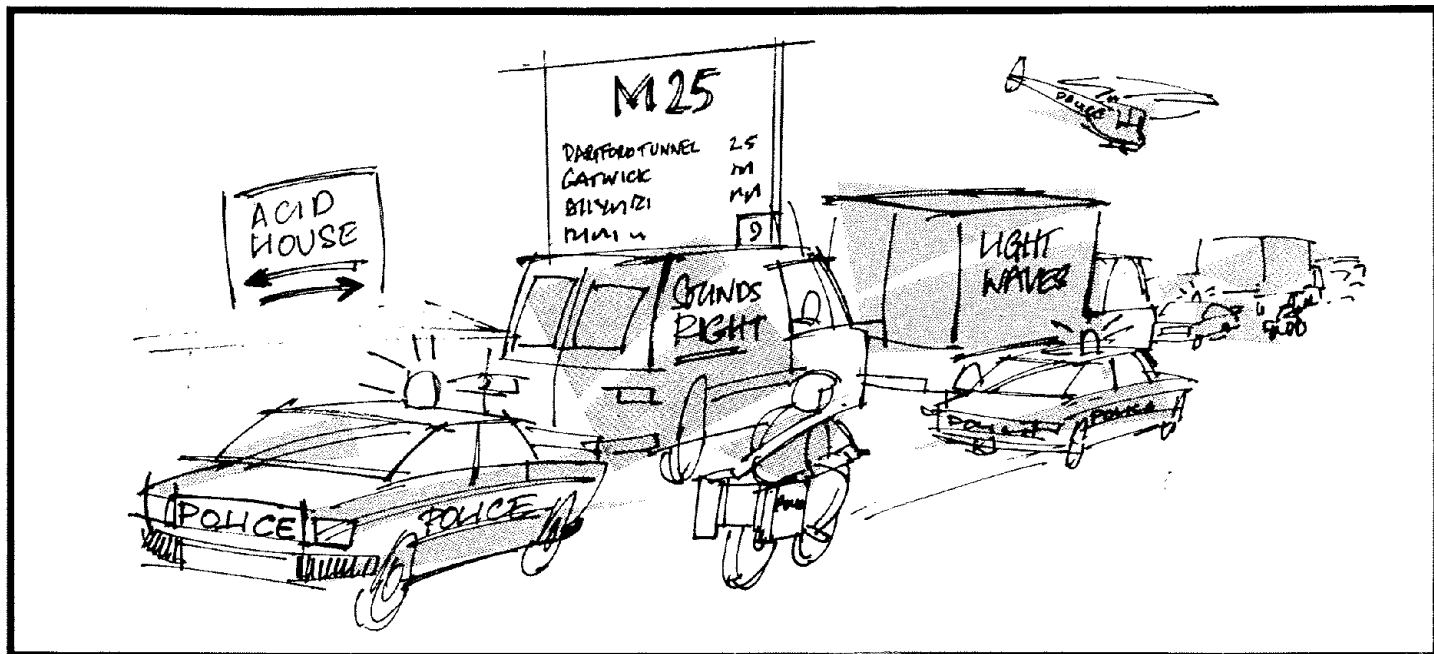
Finally, there's the PA supplier to a south-east England party promoter who apparently entrusted his site location effort to someone rather unworthy of the task. As the first trucks roared into what was supposed to be a remote farm entrance, drivers were dismayed to note the bucolic site's immediate neighbours - the County Constabulary Headquarters. . .

I'll leave the conclusion to a contractor who prefers, until the law is clarified at least, that his views should remain anonymous.

"It's a change in the trend of what people want. Kids like the excitement of 'It's Saturday night, it's a party!' and the fact that they have to drive 30 miles to the first rendezvous point, then find out where the next one is, all adds to the excitement and the build-up.

"For now, the legal clampdown is totally changing the scene. In its present format I think it's finished. But hopefully there'll be some compromise coming along, which will enable the scene to carry on. It's a bit like the free festivals in the late '60s. It was a complete revolution in live audiences, and in the end a few became legalised events. It's exactly the same now, except that the kids have got money and pay to go.

"I hope they can get it organised for next year, because there are some serious people already involved in it, who seriously want to do it legally and properly if that's the way it must be to keep it going. People who are prepared to put in the dedication, as they already have, and spend the money to make it a great scene for everyone."



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OLAVSHALLEN, TRONDHEIM

British input for Norway's latest concert hall.
L+SI gets the background from Techplan

Techplan joined the design team on the Olavshallen project following approval of the scheme by the Trondheim Kommune in the middle of 1987. This followed visits to England by the property company, Hartmann Eiendom AS and the Architects, during which various methods of achieving changes of function in theatre and concert hall auditoria were discussed and demonstrated, notably at the Derngate Hall in Northampton. Techplan's brief was to assist the Architects with the planning of the performance space and to design the technical installations for the stage and auditorium; these included the moving ceilings and other mechanical devices necessary to achieve the changes to the acoustics, and also the stage rigging, machinery, lighting, sound and communications installations.

The 1200 seat hall was to be first and

foremost a concert hall and the home for the Trondheim Symphony Orchestra. The initial list of other functions required included, in order: a hall for conferences and meetings, an auditorium for guest performances (classical, modern, popular), an auditorium for pop and rock music groups, and finally a theatre for touring opera, ballet and dance.

The lighting for the concert platform, stage and stage working areas was designed for Techplan by Paul Covell of Lighting Design Partnership who had worked for Hartmann Eiendom AS previously. The full Techplan specification was produced covering control, dimmers, working light system, luminaires and accessories and put out to bid last October to a selection of Norwegian and UK lighting control contractors. A reasonable range of prices were returned, with a par-

ticularly competitive price from Eurolight in the UK who had already completed the project in Sola (Stavanger) and hence had good background experience in Norway.

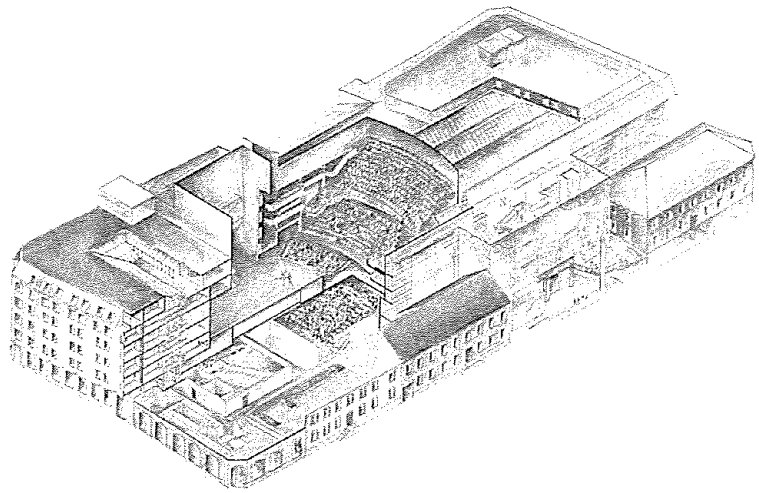
The stage lighting system control system is an Ovation 286 controlling 240 dimmer channels, 202 being 2.5kW and the remainder 5kW circuits. An Applause board provides the backup and may be used in the future in the Lille Salle, a 250 seat studio/conference break-out space which is still to be equipped. The dimmer system has the facility to accept analogue inputs so that touring desks can be used if required. The luminaire complement was selective with a large number of Silhouettes and 30 semaphore colour change units from CCT, operated by a Eurolight computer linked to the main system. Other fittings include Parcans, CCT cyclorama floods and two Pani



Norway's newest arts centre - the result of British and Norwegian expertise in the lighting and sound fields.

HMI followspots. Different states of the auditorium lighting can be recorded using Eurolight's Smart system for concert, theatre, conference and other functions. In addition to basic, but attractive, room lighting created by 300 watt general service lamps in Hovik Lys fittings (which comply with the particular Norwegian regulations), discharge sources in the ceiling panels can be used to provide a higher illumination level for conferences.

The audio and communications systems are based around a particularly flexible wiring infrastructure intended to allow almost any physical arrangement in the stage and auditorium of microphones, main and foldback mixing consoles and portable loudspeakers. This can also provide feeds for broadcast mixing. The house 32-channel Soundcraft desk with eight groups can be accompanied by two sets of portable racks containing jackfields and signal processing equipment. The loudspeaker system in the hall is by Adyton, a Norwegian company, selected after consideration of more well-known alternates, and it is proving to be very acceptable to both the staff and visiting companies. The main system comprises a central loudspeaker cluster which is suspended on a hoist over the front of the stage (the ceiling panel slides open to allow it to disappear) and full-frequency and sub-bass loudspeakers built into the return wall each side of the stage. Loudspeakers on delay reinforce the level and help achieve the required intelligibility at the rear of the auditorium. An unusual feature is a high-quality stereo monitor system which can be calibrated and set up for balancing if required in the control room and which also provides the source for the usual mono show relay.

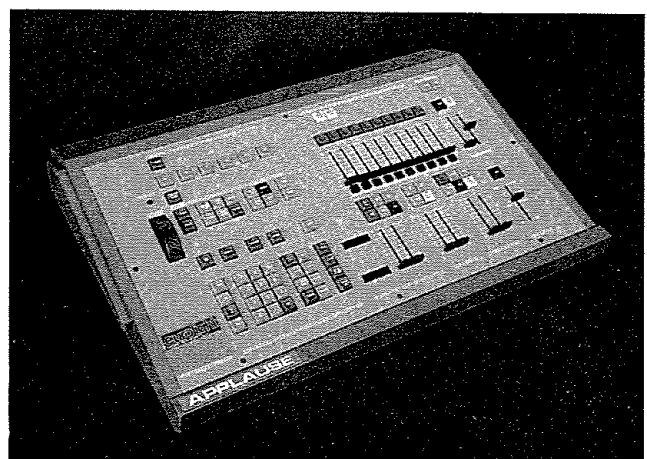
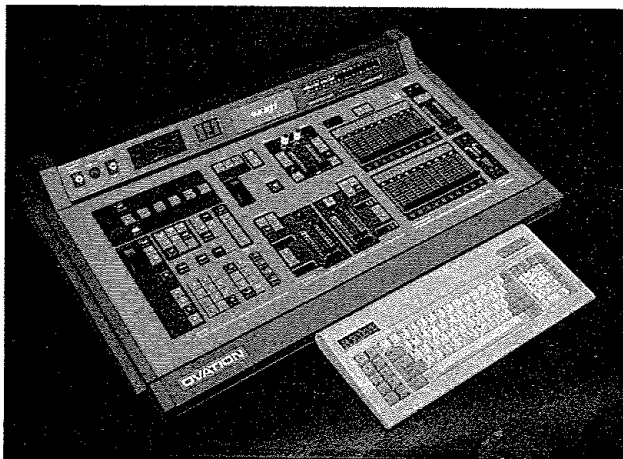


An artist's impression of the theatre and concert halls of the Olavshallen complex.

Because the building was constructed with sheet steel under the floors in the auditorium, an induction loop for the hard-of-hearing was considered impracticable and infra-red emitters have been installed. The control of all types of performances is centred on a stage manager's desk which provides cue lights, telephone and ring intercom to the main working areas, the usual paging services and a video relay of the activity on stage. The audio, video and communications systems design was a combined operation by Dick Brett, Sam Wise and Peter Mapp. The audio contractor was Seem Audio AS of Oslo.

A notable feature of the Olavshallen is that the acoustics and theatrical aspects of the overall design have not been significantly compromised during the restrictions necessary to maintain the project cost level. Where equipment has been omitted it can, generally, be reinstated. Certainly the success of the acoustics and of the changeable form of the stage and auditorium ceiling make the hall significant. It is anticipated that Olavshallen will succeed as a highly-acclaimed concert hall, as well as a very flexible touring house capable of handling almost any show that wishes to come to Trondheim.

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HONG KONG CULTURAL CENTRE

New Sails Set on the Kowloon Skyline
Francis Reid reports



The impressive approach to Hong Kong harbour is further enhanced by the addition of a new Centre for the Arts.

Hong Kong and Sydney can make legitimate claim to being the world's most dramatic harbours. (To my eye, the only other one in the same league is Mahon and not only because I can moor alongside my favourite gin distillery). A particular pleasure of cruising Sydney harbour is the changing perspective of the Opera House and now Hong Kong has added theatre sails to its Kowloon skyline. The curves of Hong Kong Cultural Centre may be gentler than those of Sydney Opera House but are no less dramatic when viewed in the context of a skyline where all lines are straight and most are vertical. Theatre buildings need a strong come hither element in their design and this one has it: just take in the view from the world's number one ferry trip - the Star (even more interesting and cheaper than the ride between Manhattan and Staten Islands).

Hong Kong almost scores over Sydney when viewed at close quarters from the street, and its stages are infinitely more practical. But, to home right in on the really incredible feature of the Hong Kong Cultural Centre, it has no windows. Performance goers have been denied the opportunity of looking out at one of the modern world's

stunning urban vistas - just about the last remaining place on earth where city lights, forbidden to flash, flicker or chase, are to be seen in gentle repose. Centre director Wayne Maddern, ex Sydney Opera House and therefore fully aware of the contribution that harbour windows can make to the ambience of audience circulation areas, puts a brave face on the situation: "The programming inside the Hong Kong Cultural Centre will be so entertaining that our patrons won't even notice the lack of windows!"

I can understand any artist wishing to steer clear of doing the obvious and I am sure the architect Jose Lie could offer a very logical explanation for such a fundamental decision. But when it comes to whether reasons justify results, I have to voice my firm personal view that, whereas the foyers are pleasantly welcoming, they are not particularly distinguished; and that narrow vertical windows could have been slotted into the walls in a way that would not have interfered with the exterior harmony and might indeed have enhanced it. Of course, I could be quite wrong. As a visitor I find Hong Kong by night full of visual excitement, but perhaps the residents would rather be transported away

from familiar sights when they have an evening out.

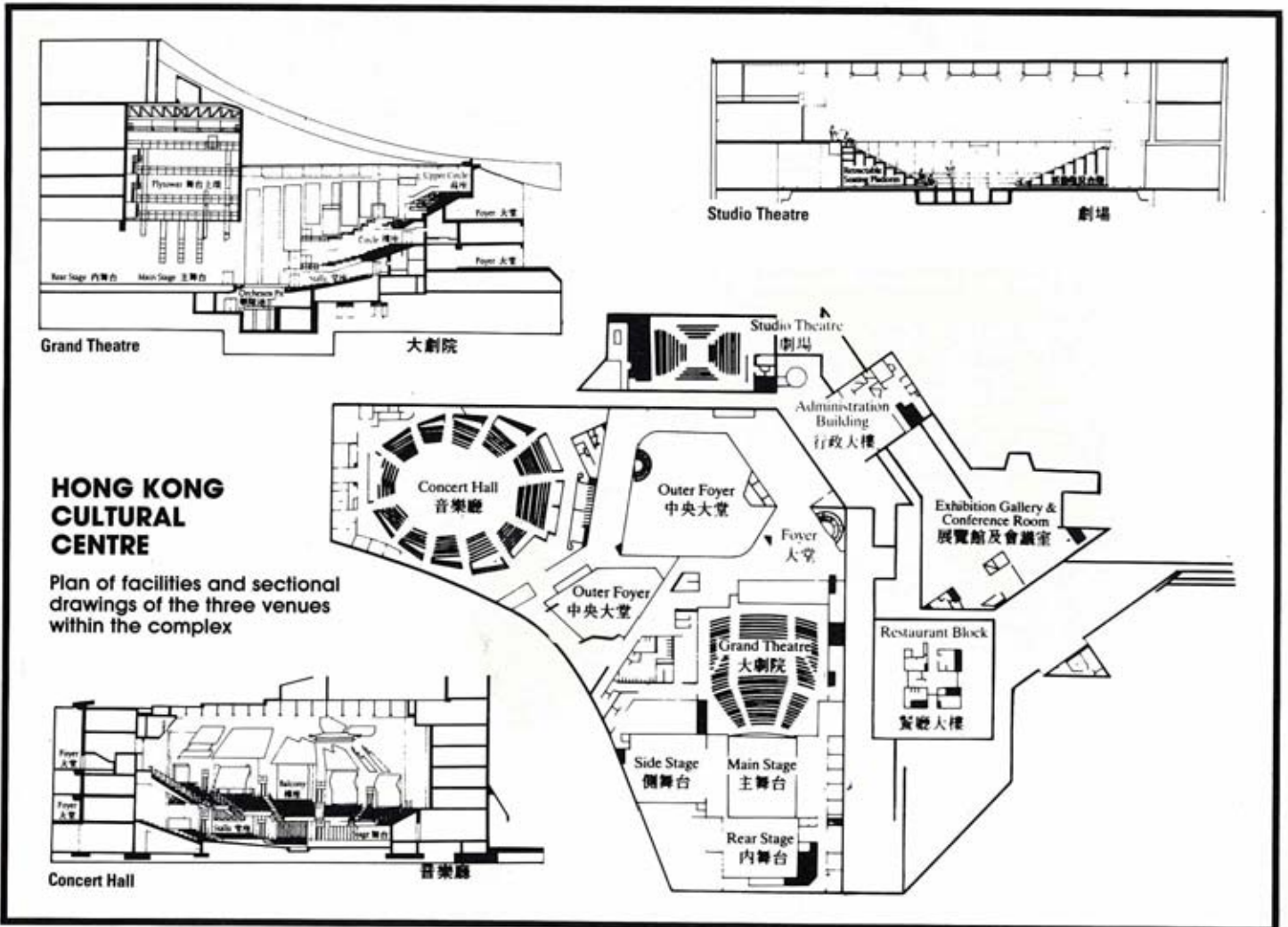
The Centre embraces three major performance spaces: a Concert Hall, a flexible Studio Theatre and a Grand Theatre on an operatic scale. They are linked by a foyer system which, despite any feelings I may have expressed about the windows, provides pleasurable and efficient circulation.

Concert Hall

The Concert Hall is a delight. I walked on to its stage, felt good and said 'Christchurch!'. And, no surprise, found that the acoustician was indeed New Zealander, Harold Marshall. This is music not quite in the round but in the surround, with audience wrapping around a platform stage which is towards one end of the oval space. Audience contact is good, both with one another and with the performers. Overall ambience is of light warm timber and there is but a single jarring visual note: the staircases for grandees to enter the circle. A bit of light-hearted pomposity would be fine here, but the result is humourless and oddly scaled. But that is a minor quibble because, quite simply, this concert hall has to be declared a hit. I say



Strand Galaxy in the Concert Hall.



this without hearing a concert but I have heard Christchurch and am fully confident.

No expense has been spared in equipping the hall. The Rieger Organ from Austria is said to be the world's 'largest' pipe organ and at 8,000 pipes who will dispute the claim. Lighting control throughout the Centre is standardised on Strand Galaxy and the Hall has a comprehensive Strand rig. Although this will be the new home for the Hong Kong Philharmonic, every kind of musical performance will be staged and so there is a comprehensive sound system with a central Altec speaker cluster, roll-on stacks and 24 channel Neve 5114 mixer.

Grand Theatre

The Grand Theatre is a 1750 seat opera house for Western and Chinese operas, musicals and epic scale drama. The Theatre auditorium relates visually to the Concert Hall through a common approach to acoustics with similar distinctive timber panels. The acoustician has clearly dominated the theatre auditorium design team. Side lighting positions are contrived with such negative priority that their non-integration in the design will only be justified if the acoustic turns out to be absolutely excellent.

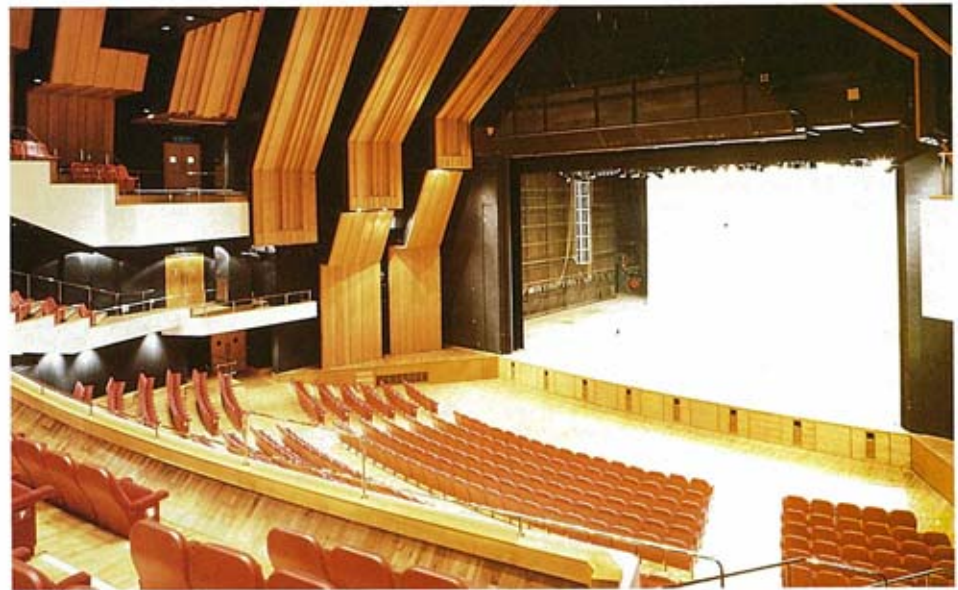
The neutral proscenium is framed by the side wall timbers in such a detached way that its rectangle is over stressed to an unfortunate extent. Its line just cries out to be softened with another, closer, timber frame. Not only would this overcome the proscenium's uneasy visual statement but would make the stage action seem closer. And it could perhaps be designed in such a way as to mask desirable additional lighting positions. The proscenium is debatable but there is something else that is not: every new theatre has one glaring omission and in this case it is the absence of light traps to the doors between foyer and stalls.

But, such reservations apart, the design is to be commended for its success in providing good sightlines and stage contact to 1750 seats without the auditorium appearing to have excessive volume. The circle and upper circle reach out with slender arms towards the stage: the side circle seats close to the stage enable the audience to gel into a cohesive unit and it will be very important to ensure that they are filled at all performances. I could spend many happy evenings in such a theatre: I wish it had been built in Norwich!

The proscenium (15m wide x 9m high) can be reduced by lighting bridge and towers to a minimum of 10m x 5.5m. The stage has a depth of 16.3m to the upstage limit of the grid which has 64 single purchase counterweight sets, half of them with hydraulic assistance. The rear stage (16m wide x 12m deep) includes a revolve (11.2m diameter) and there are compensating elevators to sink the wagon flush with surrounding stage areas in both its rearstage and mainstage positions. A side stage to actor's left has a width of 21m (max) to 16m (min) and a depth of 15m (max) to 11.5m (min). The rear and side stages have lightweight suspension grids with self-sustaining winch bars and hemp handline sets. A get-in with a clear height of 10m provides access to a store area of 205 square metres between the side and rear stages. Truck access to the get-in door is possible rather than easy. In due course an artic may unintentionally modify some aspects of the building's external decorative structure and this will simplify future navigation.



The Studio Theatre with over 160 Strand luminaires installed.



The Grand Theatre.

Lighting control is a 450 way Galaxy with an initial inventory of well over 300 spotting and 100 flooding instruments from Strand. Main sound desk is a Neve 5114 in the control room, with a Neve 5466 available for use in an auxiliary position at first balcony level. A comprehensive inventory includes 54 microphones. Stage management communication systems include show relay, paging, four ring intercom and CCTV. Conference facilities offer infra-red for up to six language channels and 20 microphone inputs in the seating areas for audience participation.

Studio Theatre

The studio is a flexible rectangular space with a grid at 7.8m and lighting bridges at 6.8m. A gallery runs around the walls and retractable seating provides four main formats with the stage in End, Thrust, Arena or Transverse mode. Seating capacity varies from 324 with end stage to 538 in Arena. Hemp sets and eight electric fixed speed point hoists may be spotted for flying as required. Lighting control is again by Galaxy, this one being 120 channel, and there are over 160 Strand luminaires. The main sound desk in the control room is a Neve 5455/16 and an auxiliary Neve 5465/12 has plug-in points at four locations.

All-in-all a particularly good example of a flexible neutral box whose major formats can

be achieved with minimum expenditure of time and labour. I have performed in this Studio - only as a lecturer - but enough to confirm that audience contact feels good.

Success

In terms of both audience amenity and stage facilities, the Cultural Centre provides Hong Kong with an integrated group of receiving venues capable of doing splendid justice to the impressive range of local and international companies who have been engaged to provide an exciting programme.

Theatre consultants have become recipients for many of the moans and groans that in my youth were directed at equipment manufacturers. I therefore feel that congratulations are due to John Wyckham on achieving such practical working theatres - particularly as he joined the project when it was well under way in many directions which were fixed beyond possible alteration.

With this new Cultural Centre, a splendid Academy for Performing Arts and many other spaces completed or in the planning stage, Hong Kong has joined the top of the world league of countries addressing the problem of preparing for the leisure century. The Hong Kong Government has a department of **Recreation and Culture**. These are well paired words and give me cause to wonder, not for the first time, why Britain seems to be the only country scared of using the word 'culture'.

LIGHTING DIMENSIONS INTERNATIONAL 89

from Tony Gottelier and Peter Wynne Willson
in Nashville, Tennessee - Music City, USA.

Listen up, y'all - this is the news from LDI Nashville (brought to you courtesy of Little Debbie's Snacks).

The big story from music city USA was that the battle between Clay Paky and their erstwhile distributors in the US, High End Systems, has moved into top gear with the release of Lightwave Research's 'Intellabeam', a new articulate projector aimed directly at the Golden Scan, which was launched from by far the largest stand at the LDI show.

(The story to date: It all started in Rimini this Spring when, as revealed exclusively in L+S's May issue, Clay Paky let it be known that they were adopting a direct selling approach, and prepared to accept orders from all comers, irrespective of existing overseas distribution arrangements. The Italian manufacturer remained unmoved by representations from the injured parties, and from Richard Belliveau of Lightwave in particular who, reportedly, advised Clay Paky to stick their product in that part of the anatomy where it would cause the most physical damage, after they had refused to relent.

At the PLASA Light and Sound Show, High End kept a relatively low profile, with Richard notable by his absence. However, a sighting shot was fired when enquiries after his whereabouts elicited the comment from partner, Lol Fowler, that: "The reason for Richard's absence would become obvious at LDI".

Strikingly, Belliveau and his team have made no attempt to disguise their intentions, for on the outside this is the clone of all clones. The exterior styling is so close to the Golden Scan that it would be impossible for the layman to tell them apart, indeed identical aluminium extrusions have been used. But there the similarities end, for inside the

case, Intellabeam is set to give the Italian product a serious run for its money.

The list of facilities reads like a catalogue of one-better features which pitch the new projector alongside the Coemar Jupiter for features, but at less than the price of a Golden Scan. While this may lead Clay Paky to rethink the much promised Superscan, it may also prove to be a worthwhile insurance against the threat of grey imports of the Coemar product, about which rumours have been rife for some time.

Beam positioning is by stepper driven, front surfaced mirror and gives 170° of pan and 110° of tilt. There are 12 dichroic colours and 12 gobos resident on board and all motorised functions, including strobing of the shutter, are speed controllable and self-homing. On top of all this, perhaps the most interesting feature of all is the selection of the MSR400 short arc discharge lamp which, it is claimed, can be dimmed to 40%, thus enabling the possibility of crossfades for the first time with a discharge lamp. (This, incidentally, holds out great hope for the future use of discharge lamps outside these projection devices. Luminaire manufacturers please note). All of this comes for a price well under the current cost of a Golden Scan in the US, and in the UK for that matter.

Control is via a dedicated programmable panel, reminiscent of the ColorPro controller, which will handle up to 24 Intellabeams and more with slaving. Although this controller uses a non-standard protocol via RS422, Lightwave have intelligently also provided a DMX512 facility on the projector thus accessing it to standard memory and rock desks, and an RS232 port on the controller provides the possibility of central co-ordination from elsewhere.

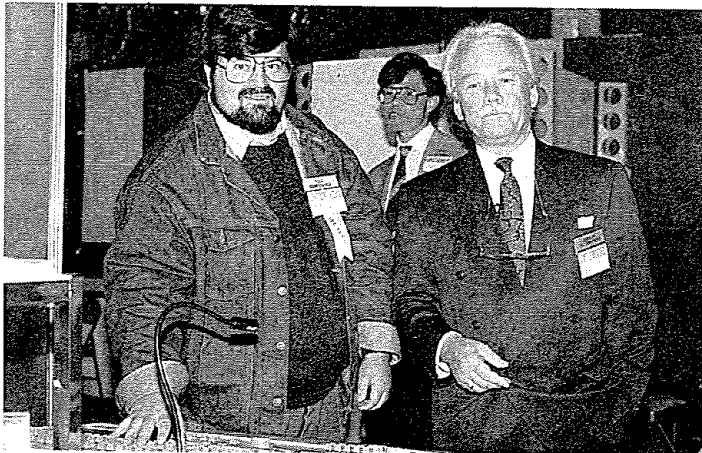
One truly amazing aspect of this development is

the lightning speed with which the American company were able to respond to the changing commercial climate and produce a product inside six months which seemed to work really well on its first outing.

The Emulator on the other hand, another new product from Lightwave and a direct competitor for Laser Media's ColorRay, showed the dangers of revealing new product to public scrutiny before it is fully tried and tested. Richard Belliveau himself was obviously not totally happy with the performance of this new line at LDI. Although it is obviously a product with great potential, it remains to be seen whether the instant response necessary for such a product is achievable via a stepper motor rather than the scanners used by its progenitor.

While the use of a compact 150 watt Xenon light source on board each fitting and 12 colours to flash through is a considerable advantage, I have the same problem with this product as I had with ColorRay; it's simply too expensive for the perceived effect. I really cannot believe that it has to cost \$3800 (£2375) or the same as an Intellabeam.

The moral to all of this is, as I have said many times before, that European manufacturers cannot afford to mess their US distributors around by non-performance in the area of delivery or reliability, nor can they aggravate them commercially. Under normal circumstances the Americans are extremely tolerant of imported product, after all, "why re-invent the wheel?" they would say. But an American businessman with a fistful of unfulfillable orders is a highly dangerous combination with every moral right, as he would see it, and an almost religious zeal to resolve the problem by any means open to him. And who am I to



New York lighting designer Michael Fink (left) gets a close-up on Sirius 48 from Zero 88's Freddy Lloyd.



Celco reception at the Stouffer Hotel: Colin Whittaker, Jack Kelly (Celco Inc.), Matt Deakin, Keith Dale with Graham Timmermans of Tower Lighting Productions of Perth.



Introducing the Jupiter show: Fausto Orsatti (left) and Ivano Burato (right) of Coemar Italy with Maisha of Futuro Cercano SA of Mexico.



Tony Gottelier (left) gets the low-down from John Linsell and Carl Dodds, fresh from yet another Pulsar/Clay Paky Golden Scan spectacular.

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Basic features	•	•	•	•	HTI 400 lamp or equivalent; color, gobos and aperture/iris systems.

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argue with that. As has been demonstrated, never underestimate his capacity to respond when the chips are down.

One last point of interest on this subject is who will import these products into the UK? Avitec would be a prime choice as they import ColorPro, but they already have their own Light Mover; Light Factor, the other ColorPro distributor, are also the ColorRay importer; Pulsar, who sell their product through High End in the US, are tied to Clay Paky. Perhaps this is an opportunity for Optikinetics to move into the current vogue in projection. How about it Neil and Phil?

Before finally leaving High End, I must give them my 'stand of the show' award; not for the impressive size of it, nor just for the new product, but for the huge sparkling fibre optic star cloth which backed the whole affair. This was an inspired idea for setting off the moving coloured beams and a brilliant demonstrator for the fibre optic curtains which are made by Mainlite in Delaware. Incidentally, I was also really pleased to hear, despite my earlier comments which were largely misrepresented in another trade magazine, that Dataflash is doing really well in the States.

Well, of course, LDI had a great deal more to offer than just providing the stage for the latest high drama in our industry. This extremely well organised show, with attendant workshops, in only its second year hosted over 160 exhibitors covering products from all walks of the professional lighting business from rock through theatre to film, and from television to club lighting. And what I especially like about these events in particular is that, because they are based around a headquarters hotel, there is a sense of belonging to a rather exclusive worldwide club as you meet people in the corridors, or in the bars, or at various social events in the evening. Even a ride in a lift can be a revelation. This is something missing from both PLASA and Rimini where the show itself is the epicentre and everyone, apart from Mick McManus, is constantly at their least relaxed.

So what else was new this year?

Aside from the rising tide, now a flood, of articulate and articulating projection clones, as

wonderfully sent up by the spoof product launched by Artifex; the Varimotopanascanacucsynchroflexbeam claimed to have 607,411.3 dichroic colours, 390° of movement on seven axis and 11 gazillion candlepower, there was a considerable presence from companies presenting scanning searchlight products. Based on Xenon lamps, generally from 1 to 4K, there were examples shown by Phoebus and Sky Tracker, both American companies, while Ushio and Engineer Lighting both had examples on show which are made in Japan. However, the one which most impressed me was from Paris-based Exterieur Nuit whose product comes fitted with a unique radial Aldis-type shutter, like a turbo fan to look at, it produced a very smooth continuous fade to black.

The night sky became a battle ground after dark as these companies, and others with laser equipment, took to the streets to do battle over Nashville.

At the more subtle end of things Fibre Optics made a big push this year. I particularly liked the side emitting stair nosings launched by Fibrelight and others, which at seven dollars per foot looks set to present a serious alternative to Tivoli nosings, at long last.

There were new memory boards from Avo, AVAB, ETC, Great American Market, Leprocom, Lighting Methods and Theatre Techniques, some of which are reviewed by Peter Wynne Willson in his adjoining review. There were also interesting developments in off-line editing from Lucida Corporation and others. Signs of development in homegrown club controllers were evidenced by a new range from NSI Corporation.

The NSI dance controller is a 24 channel memory system accessible to up to 128 output channels. Each control channel is assignable as a fader, or a switch, or flash button. 96 chase programs are available and up to four programs can be run simultaneously in synchronisation. Among other interesting features the DLC 2400 is fully MIDI compatible and inputs are provided from an external sequencer so that the benefits of instrumental triggering may be experienced for the first time. more of which later.

The unit is also DMX512 and standard analog

outputting. The same company also make 16 and 32 channel memory boards which could prove useful, while their eight channel by 20 amp wall mounting dimmer packs use dual SCR output devices protected by magnetic circuit breakers and are spec'ed to meet today's digital requirements - not yet seen from UK manufacturers.

Talking of dimmers, the new EHR dimmer module, developed for Lee Colortran, created a great deal of controversy and discussion. By utilising pulsating DC on the output, it was discovered in the development that it was possible to miniaturise filtering chokes whilst achieving previously unattainable benefits in noise reduction, hence the EHR acronym. To harness this technique safely it proved necessary to alternate the dimming curves between half cycles of the mains between two dimmers, and this has resulted in a neat high grade plastic flat pack only 32mm thick, and overall not much bigger than a video tape, incorporating two 2.4kW dimmer channels with magnetic breaker protection. Naturally, it is the presence of DC at all which is controversial, but the designer's claim that it has proved safe even with highly inductive loads. Since the US dimmer industry is into compact packaging, Colortran have created a series of highly space-economic racks, some of which are portable, with forced air-cooling and which accept these plug-in modules and an in-board intelligence module.

Two other products which caught my eye were Raztech's Servolite and Robolite products, both of which used a similar technique to spin this tiny tubular 75 watt MR16 fitting with lens, through 360° in either axis. External control for speed, direction and position is provided via IBM compatible miniature PC or conventional analog, and the Robolite, in particular, with a lamp at both ends of the tube spun away fascinatingly for hours on end. These could give the Colibri a serious run for its money.

Nevertheless, my vote for the product with most potential goes to Sharp's XV-100 LCD projector, shown on the Vizio stand, which must surely be the first of a whole range of similar developments to look forward to from the Japanese. At last a video product which, for the first time, holds out



Real Music City flavour . . .



Jim Gordon, director of marketing, on the Pan-Command Systems Inc. stand.

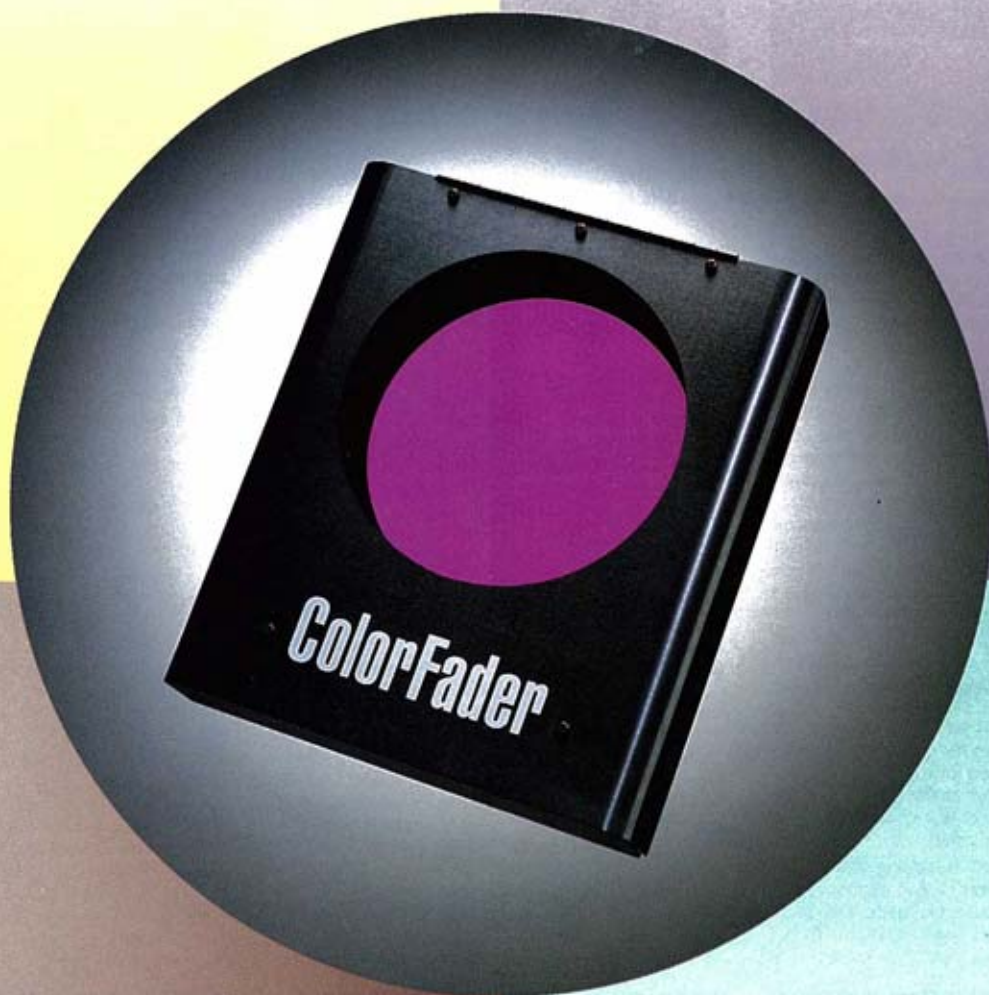


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The battle of shiny Pars and truss: Thomas (left) and Tomcat (right). Both these UK companies have US operations.

the real possibility of interactive video graphics with the operator in direct total control of the imaging events as they happen on the screen - and all for a price that makes the standard RCB video projector look ridiculously over-priced. Measuring only 250x250x535mm this impressively-styled projector uses a single 150w metal halide compact light source with a colour temperature of 9000°K. Dichroic filters and condenser lenses separate the special components into very pure RGB which is then passed through one of three individual 75mm twin thin film transistor Active Matrix LCD panels. Each comprise nearly 90,000 pixels giving a total of almost 270,000 and via the 300m lens an image of excellent contrast, and with no colour bleeding, of between 20 and 100" (at 15') is achievable.

Given the right software, the Sharp XV-100 holds out the promise of true user generated video shows which may, at long last, have the appropriate atmospheric to be relevant to what goes on in clubs, instead of simply providing moving wallpaper, as has been the case to date. The days of the scratching video jock may be on hand and video may take its place as the third leg of the sensory armoury available to the system designer. This is the future now for video.

One product that I found surprising is the Uni-Par, first shown in 1988. This Parcan cannot really be called a 'can' at all because it is made from high temperature thermoplastic! The USP seems to be that it is maintenance-free, but then so are the

cardboard goldfish bowls on sale in US giftshops this Christmas. But according to Uni-Par, their units are selling like hot cakes and they can't make enough to keep up with demand.

So what of the seminars? The organisers had certainly got the message this year, and kept the number of subjects to a sensible level. Indeed, it was often difficult to choose between the sessions. Subjects for these workshops ranged from discussions on the use of MIDI through interface technology, to the practical solutions to copyright infringement. All were extremely well attended, apart from one club session which was at the outrageous hour of 9am on the Sunday morning when all club people are tucked up in their beds. Apart from this one example of poor planning, the organisers can take pride in the fact that there was often standing room only at most seminars.

I attended several of these workshops, and Peter Wynne Willson was present at others as he reports in his piece. I generally felt that they were of value, and, of course, they had their highlights. However, you do have to sit through a lot of waffle to get to the speaker who really has something valuable to contribute, and knows how to put it over. These useful bits made the rest worthwhile, and I only hope that the PLASA seminar organisers will have similar successes next September.

Amongst the highlights from this year's sessions were Andy Meldrum's brilliant presentation at the MIDI workshop discussing the system's relevance

to Vari-Lite and giving the history of a practical application; John Lethbridge's down-to-earth comments from the floor at the same session, which neatly brought the subject back from the ethereal stratosphere; Ken Billington's impressive ability to present nine different scripts on the same subject (Ken is a Broadway, turned club, lighting designer about which he professes to be rather ashamed, yet can't resist talking about it); Francis Andrade's extraordinary description of the lighting spectacular he organises all over the world, involving commandeering a city's entire electrical grid for the period of the show, "or we don't do it," and, wait for it - the forthcoming 1.8 mile tightrope walk across the Grand Canyon at night by a fellow Frenchman accompanied by lights, lasers and Pani projections! Zut alors!

The one disappointment in this area was that the discussion about interface technology seemed to have missed the opportunity to thrash out the whole prickly subject on whether to DMX512 or not DMX512. It seems that everyone is looking for a standard in these matters of communications protocol, but only in a theoretical sense. In reality, the vanities and an element of protectionism against product accessibility often takes over.

What about the night life in Nashville? Well, if you are into C & W (not Cable & Wireless) you could be happy there, otherwise stay at home. You could, of course, spend hours browsing in Tony Alamo's Country and Western Clothing Emporium trying to investigate who buys all the zoot suits and panelled shirts, high-heeled snakeskin boots and ten gallon hats, only to discover that it was Mick McManus who adopted the full kit for this mandatory visit to the Grand Ole Opry.

By the way, the only thing 'Ole' about the Opry is the performers. The rest is a new 4,000 seat theater outside town within a large acreage theme park called Opryland. Well, Yee Hal Anyway, it was a case of been there, done that. But ah swear, if it hadn't been for the delightful company, I don't think I could possibly have survived the Schwartz and dairy product commercials for more than ten minutes on my own. (A condensed tinned milk called 'Pet', not for yur cat, but to make your Thanksgiving gravy greasy.)

All in all, the British contingent declared themselves well satisfied with the results from LDI and will presumably return to Orlando next November. Colin Whittaker of Celco sold the 120 channel Celco Gold desk straight off his stand, and that ain't no small potatoes! Neil Rice of Optikinetics, at his most cynical, labelled the Italian/American battleground as 'War of the Same', Mick McManus kept awake at the Opry, counting the dead between curtain calls, and our sponsor Little Debbie summed it all up by reminding us that 'Little Debbie has a snack for you'. Bye now Y'all.

Tony Gottelier



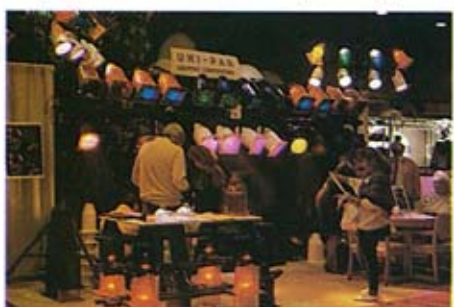
Pani projectors with Production Arts (New York).



Richard Belliveau (centre) of High End Systems with British distributors Tony Kingsley of Avitec (left) and John Adams of Lightfactor.



Theatre consultants Wally Russell (left) and Richard Pilbrow go Sky-Tracking.



Uni-Par with their coloured plastic cans.



Lycian's followspot parade.



LSD, Posispot and Powerdrive on the Cerebrum and Presentation Consultants stand.

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John Tadesco (left) of Phoebus Manufacturing with Nicholas de Courten of Power Light, Switzerland.



Strong's Super Troopers in battleship grey.

Watts of laser and thousands of watts of xenon light straffed the Nashville skyline around the LDI conference centre, but of course the air was so clean there compared with the traditional Hollywood big screen of smog that the Twentieth Century search light effect was a little lost. 'Laser One', a self contained mobile laser projection platform reminiscent of Ken Keasey's Magic Bus, did its best to create the right atmosphere by fanning out smoke but it was competing with the local weather that had left the high eighties of the day in favour of some light swirling sleet, via, incidentally, tornado winds.

The exhibition was on one floor which made it simple for those with limited time to conduct a 'raster scan' of the stands and collect the information they required. Here the searchlights were very much in evidence: Sky Tracker with their Quad and Programmable devices, Phoebus and the Japanese Robosearch as contenders, and a French system complete with a radial/sunburst shutter attachment - cute. Advanced Design Engineering showed Skylight, and Nu-tek the Premier, self-contained trailers with diesel generator and roving searchlights. Have 4x4k xenon, will travel; more Magic Bus syndrome.

The major follow spots were Lycian with a range from 1k through to a new intense line for arenas etc; Phoebus, the extended Japanese range that we know as Colorarc; Ushio, famous for their xenon lamps, now marketing; and of course Strong, synonymous with Supertroopers worldwide. Until recently I had often wondered why, when de rigueur, theatre lanterns are finished in matt black, followspots are battleship grey. When I put this question to Emil Neithammer - (not at LDI) - I was told: "After 1945, we are having surplus, a very large quantity of very good quality grey paint!" Question answered.

Theatre lighting was a little thinly spread for my taste but there was a fine display of the great Pani scene projectors crouching like giant reptiles on the Production Arts stand, proving that there is a market that will pay whatever is necessary for a product that is built to do the job in the best way possible, without compromise. From their 'Steel Wheels' application, it was good to see an overgrown Optikinetics liquid wheel in the gate of

one of the machines (not one of their best efforts however, a bit fuzzy and faint). Great American Market, plough the projection and sfx field, and still offer hand painted scene slides.

CCT's 120volt Minuette spots kept Don Hindle busy - there is no doubt that any effort to address the American market in comfortable terms is well rewarded; whether it be obvious, as in the case of voltage, UL, and DMX, or more subtle as in printing information in imperial format. DeSisti and Teatro's diecastings lend their ranges a deal of style and strength but many electricians wish that along with other theatre lantern manufacturers they would optimise design of extrusion sections and so lend a little less weight. Times Square have overcome the 'lens droop' of the fixed angle profiles, with a zoom version. These are strong, but so light to handle that the miniatures are causing a stir out in the display market.

Despite the presence of over 15 derivatives of the humble Pancan, and almost as many from the Vari Lite, driven lighting for the theatre stage was poorly represented. Charlie Paton's Pals system for Strand remains almost alone as a serious instrument. Acculite offer the VLS9000 motor yoke system but the impression gained was neither of strength nor accuracy. Certainly the VL designation should not be confused with the Vari VL3s which can do some useful work.

In control boards, GAM's monitor based Access line seemed to be in constant demand. They have an interesting item called Easy Rider that is basically a play-back only device, releasing the expensive resource of the full spec board once the show is plotted and programmed. The Expert from Avab has all the facilities you would expect but is finished with transparent topped keys which give a cheap look to the board. If they are committed to replaceable tops for language reasons, then a lens moulding would get rid of the unpleasant refraction from the edges. Colortran's Status also suffered from indifferent feel. Not so, however, their new 6x6k dimmer; each module, barely bigger than a VHS cassette, can be configured as 2x2.5k and therein one of the secrets of the slender pack - two chokes are easier to mount than one of twice the rating. The custom rack, in fact more of a custom case, would be proudly car-

ried by anyone from Gotham City, and as such, gets my 'design of the show' award.

Leprechon's latest controller, the LP2000, had a Toshiba laptop rather crudely spliced into the front panel - I don't think you can get away with that these days. In fact, because of the high level of sophistication offered by so many makers, sometimes the most important element in a customer's choice of equipment is the aesthetic. ETC's Expression has exceptional styling, an operator must feel more confident behind such a board, and among the smaller controllers, Zero 88 continue to enjoy the runaway success of the Sirius, due, in no small part, to its fashionable looks. Their competition in the states, like Teatronics and Dove will surely be aware of this. Ironically Techmaster, from the latter, looked a little like an old Eclipse with a mouse added! For the price that Strand ask for a Pallette 90, for all its 512 channels and for all its pretty looks, they might spec a fader requiring a more even force over its length. Although I would not be surprised if the monstrous din from the tents of the disco demons in the neighbouring caravanserai was making the very brushes skate on the tracks. It took one back to the bad old BADEM days of unrestricted sound levels!

Always with a sharp looking stand, Celco were flushed with pride at having two Golds on the Stones tour and they had just sold another actually at the show. Will they reply, with built-in colour lcd, to the challenge of their top end competitor, Avo, who demonstrated the QM500-TD with improved el screen. Behind the stand, serried ranks of Geljet scrollers formed a 'wall of death' matrix, brought to slightly reluctant life by Rick from Avo UK - the picture of a latter day time code lord. Should you wish to stage this effect you will need 165 Geljets using every step in all 600 memories of a QM500; and the print out of the position sequences will consume seven, yes seven, inches thickness of fanfold. (Do remember to use recycled listing paper). Oh, you will of course need another QM to control the parcans behind the scrollers, and last but . . . 1,500 amps of power, an item sadly unavailable at the conference centre in Nashville. Be consoled, the board is fast, it will refresh your outputs, in less



Bill Groener of Strand Lighting Inc. demos Light Palette 90.



Rosco president Stan Miller (left) with Mike Hall, managing director of Roscolab Ltd.

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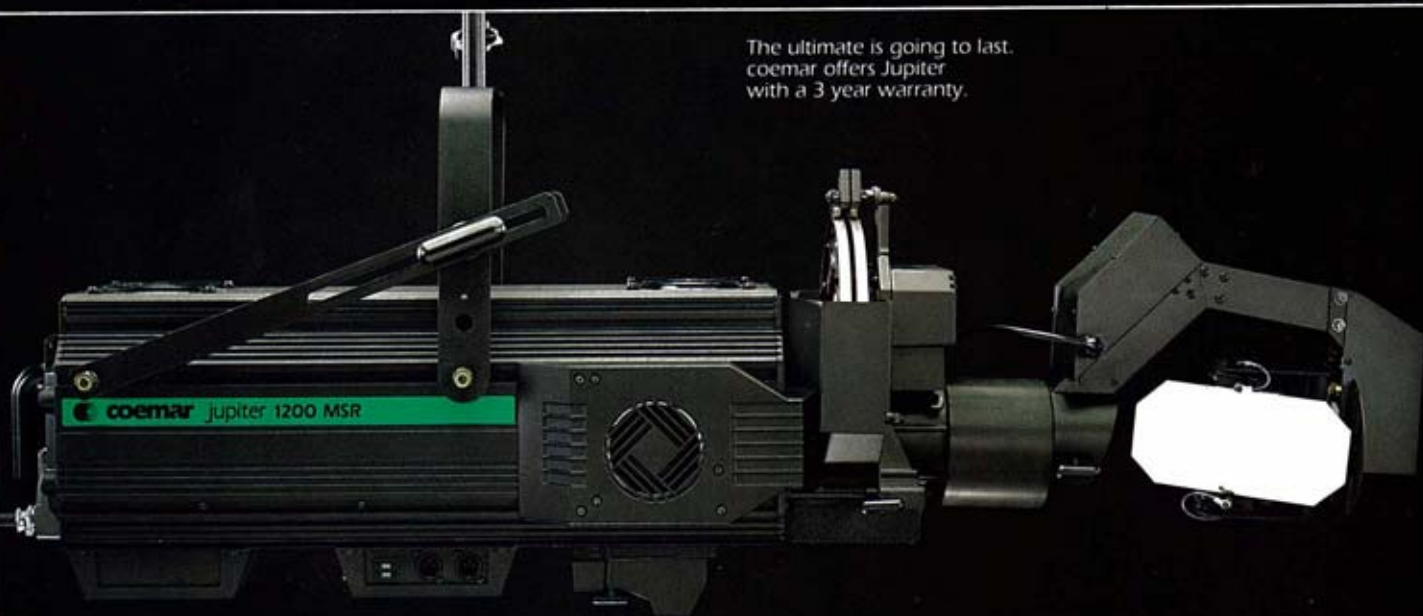
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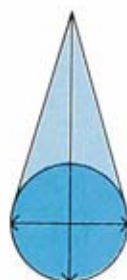
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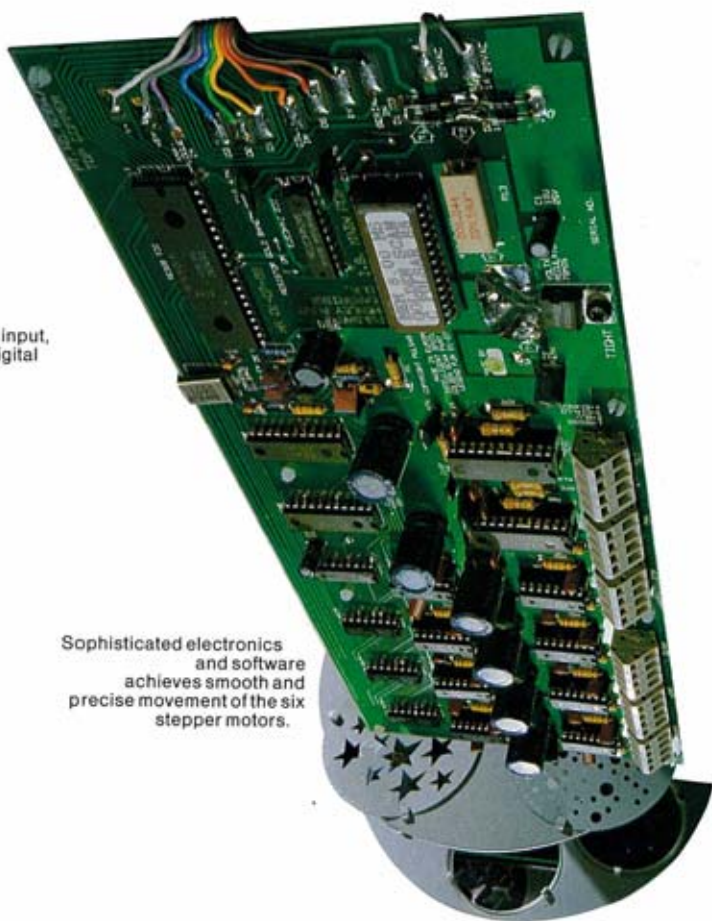
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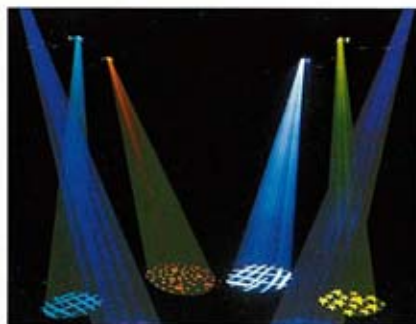
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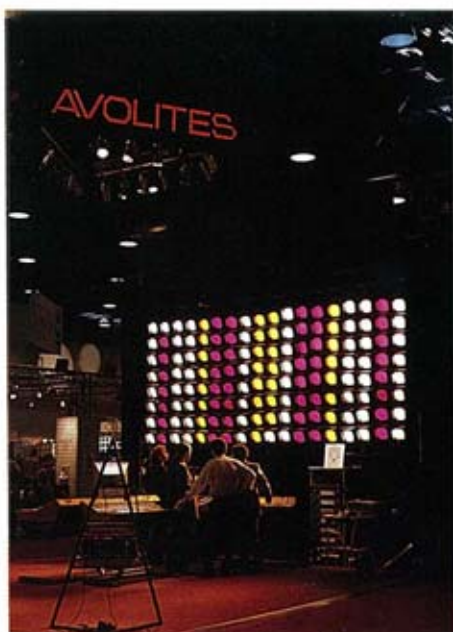
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Serried ranks of Geljets under Avo control.

than 30ms - all 512 of them.

Pitching at the top slot jointly held by Avo and Celco, is MA of W. Germany (should the W. be left out now?). Their LCD 120 with, naturally lcd displays, where Celco has leds, appears to be a solid item with all the usual, plus 240ch softpatching and a neat cut and paste facility for building chases, ten of which it will run simultaneously, each with 1000 steps. Assuming you had the will and the imagination, and assuming you could program one step every two minutes:

- 1) how long would it take you to fill the memory with commands for 165 scrollers?
- 2) how many inches of recycled fanfold would the printout require?

The rock novelty was found on the Acculite stand. Consider if you will, short sections of ladder truss linked together as in a length of cycle chain and with small hooks projecting from each side at each joint. Coil the chain round the horizontal shaft of a low geared motor. Now place three of these items (on the floor of your mind), so that you can engage the hooks of the first link of the three chains forming a triangular section of now vertical truss. Start the motors of your mind and watch the triangular truss, now sporting a lighting bar complete with Acculite VLS driven lights, rise up as if by magic. Picture a sequence of moves of the lights beginning to sway



Rock magic from Acculite . . .

alarmingly. Seriously though, and all things considered, it was remarkably solid and I am sure they will improve on this prototype, and two or more towers together would naturally be more rigid and . . . good fun tho'.

No doubts over the rigidity of the truss work on the Thomas Engineering stand. Every permutation was on display making it a little difficult to focus on any one item. However, the truss f/s operator's station stood, or rather hung out, and just detectable nesting in the aluminium forest was their Par 64 with a simple attachment to triangulate the yoke suspension, for use when scrollers and the like are hanging on the front. Presumably next year, Kupco of Taipei will offer a similar device, their stand held not just clones but replicas of the Thomas pars including a logo in the same format.

Morpheus issued invitations to 'Pan Command Land', a ballroom on the floor above, where we were subjected to the full theme park treatment by the sales team, in itself a novelty as this is the first Vari*lite clone to have the confidence to break out of the assisted hire syndrome and go on public sale. All the usual features: mega-arcs of pan, ultra-rads of continuous tilt, several hundred gobos in several thousand layers, with rotation, several million colours in several billion hues.

But they had some really neat touches: their iris is fully compensated, following the perimeter of

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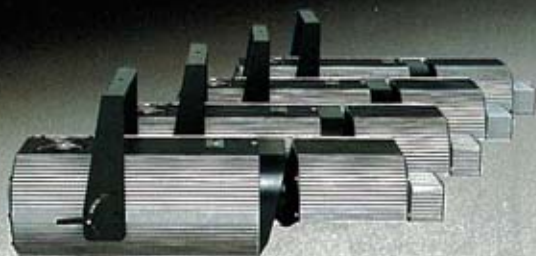
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GAM: an ever-busy stand, with plenty of product to talk about on control and much else besides.



Citronic's Larry Dane (right) with US distributor Eric Loader of Light Force.

the cone of light from the lamp as it opens and closes, the focus adjusting likewise, so all the available light can be used all the time. A Par 64 reflector with adjustable focus! By that I do not mean that they just move the light centre; the very focus is changed by means of a construction remarkably similar to the old camera flash folding reflectors, or those collapsing vegetable steamers that always have one section out of kilter - at least ours does.

Finally, a graduated colour changing scroller. I've often dreamt of such a system employing the said three scrolls, but Pan Command has done it far more practically with just two, not quite the random access performance, but much less bulky. The graduation is achieved by progressively perforating the gel until there is more hole than colour, then taping onto a clear section which is in frame at rest. It certainly works, but the intermediate colours are somewhat washed out

and disappointing, a problem freely shared amongst the colour mixing systems. Even the VL3 and the ColorPro, which are the best of the bunch, suffer thus.

These super systems present the LD with awesome flexibility and therefore burgeoning choice and decisions to take. The push, I feel should now be in the control field, where units are required that will cut the huge task of programming multi-axis rigs down to manageable proportions. It seems strange that the only two boards with a truly integrated approach to control, Oska and the Enigma, have both been developed on budgets that are microscopic in comparison to those for the super lanterns. The impression I am left with from the show, is that a different scale of resource is needed behind these controllers if they are to mature into really intelligent conduits between LD and his lighting.

Peter Wynne Wilson

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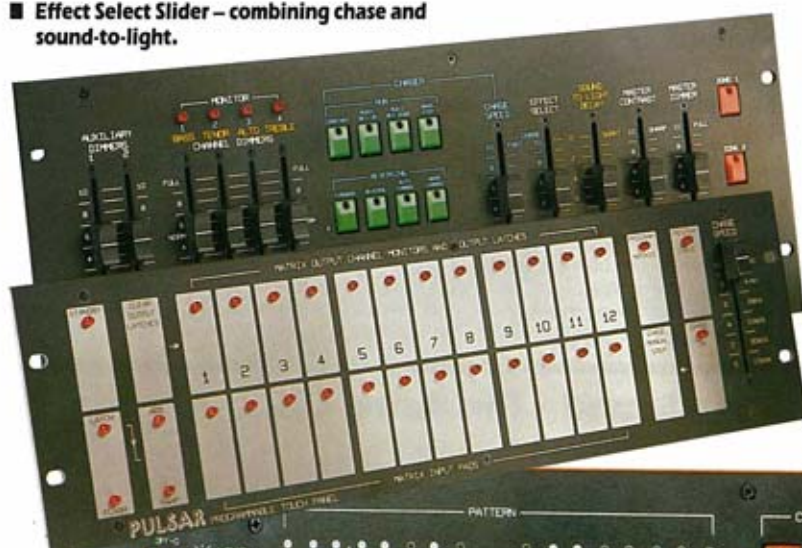
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DISCO+CLUB SCENE

David Neale

This autumn has seen a great deal of activity from the corporate side of the Leisure industry with companies buying and selling, refurbishing and various openings. This month we take a look at two new clubs from First Leisure - The Blue Orchid, Croydon, and Discotheque Royale, Manchester.

To redress the balance slightly, (and head off to anyone accusing us of pandering to the leisure giants) we also include a brief preview of an independent operation from Avitec's Tony Kingsley, whose company has just completed the Astra Disco on Gozo.

On page 40, five industry 'notables' sum up the eighties.

First Leisure opened two major venues in the space of six days in November. This, in itself, may not raise too many eyebrows to the hardened operator who will tell you of the time he opened simultaneously in Aberdeen and Lands End. However, the sheer scale of both venues at least warrants a nod towards organisation of resources.

The two in question are The Blue Orchid, Croydon, and Discotheque Royale, Manchester. The Croydon club was first previewed in the October issue of L+SI, but basic information is worth repeating, if only to gauge the size of the venture. With an overall budget of £4.5 million, the Newton Abbot-based design company, WFC, headed by Ian Frost, have converted the former Greyhound Public House into an all-singing/all-dancing state-of-the-art night club. (No, that didn't come from the First Leisure Corporation's PR company, but more of that later).

The figures stun you - two floors, two disco balcony areas, seven bars (even I gave up at the sixth). A look at the lighting and sound equipment installed gives one the idea of the kind of shopping list much frowned upon in last month's L+SI by Dick Carrier.

The Blue Orchid represents intelligent lighting in the most expressive way. As a statement, if one were needed, that the industry at the highest level has nailed its colours to intelligent lighting, this is it.

The lighting and sound design was the work of Leicester-based Effects Lighting, with the sound installation being carried out by The Music Company from Bradford, via the capable hands of Paul Smith. The rest, as they say, is history. Blue Orchid opened on November 16th, with many industry people there to see it off. Two people do stick in my mind though. One highly visible person upstairs was LSD's Dick Carrier, this month being part of the 'hoi polloi', and downstairs, in one of the quieter corners of a yet undiscovered bar, First Leisure's MD, John Conlan. As my 101 year old grandmother always says 'Every picture tells a story'. Blue Orchid is a 'go and see club'.

When First Leisure Corporation identified the Theatre Royal, Manchester, as a potential discotheque they called in Group Northern Design to carry out a feasibility study. The building was in an unhappy state. It had suffered from an unsympathetic bingo conversion and there was water penetration in the walls and ceiling. It was, however, a Grade 2 listed building. Many features including the imposing stone frontage and internal plaster work, although much the worse for wear, were protected.

"It was a very interesting exercise," said Terry Wheeler, Group Northern's managing director. "In spite of its condition, the old building had great potential. We had to produce a design which would blend the features of a 150 year old theatre with the style of a sophisticated modern discotheque. When we finally obtained planning approval, it was strictly on the basis that our scheme should be sympathetic with the original details."

The premises hadn't been built to accommodate all the service facilities that First Leisure wanted, and careful planning was required to make space for them in the split level at the front and the rear basement. This left the whole of the stalls, circle



The spectacular chandelier style lighting rig above the Discotheque Royale dancefloor.

and upper circle to be exploited to the full. The next thing was to alter the theatre lay-out, from people sitting still and looking at the stage, into a place where they could roam around from one level to another. In addition the visual focus had to be moved away from the stage and out onto the main dance floors.

New bridges and staircases were constructed in front of the proscenium arch, connecting the 'dead ends' of the existing balconies, and at the rear of the auditorium, to provide circulation routes between all levels. The back stage wall was mirrored, with the upper part angled out towards the auditorium, creating an exciting visual link between the three levels. The tiered floors were decked over to form a complex arrangement of multi-level areas for seating, dancing, dining or simply watching the action. The club entrance leads into the stalls where there is the main split level dance floor, DJ unit, two licensed bars, a fast food servery and numerous seating bays. The Circle has another licensed bar, two small illuminated dance floors, comfortable seating areas

and 'promenades' from which the voyeurs can survey the proceedings. At the rear of the upper circle is a Chinese Restaurant and VIP Lounge Bar, with a further bar, seating areas and promenades at the sides, all commanding views down into the club below.

The decor has been designed to complement the existing features within the building, employing rich burgandies, blacks and golds, with drapes and swags to walls, ceilings, bar canopies and mirror features. The original plaster mouldings have been repaired, and an atmosphere of opulence and grandeur is completed by the use of gold chandeliers and wall lights. The effects lighting rig, which incorporates sound as well as lighting equipment, is suspended like a great chandelier over the dance floors.

Group Northern Contracts Ltd were responsible for the main contract works. In spite of the problems of handling large steel girders through small openings and with working on many levels within the confines of the building, the tight contract programme was completed on time.

On a Maltese Island - The Astra Disco, Gozo

George Said, owner of Gozo's famous La Grotta open air discotheque visited the Light and Sound Show in 1988, and told Avitec of his plans for a second indoor discotheque. Quick off the mark as ever, Avitec had formulated the lighting and sound design before the end of the show.

The 1500 capacity discotheque was built from the ground in an inspiring location beneath the shadows of the island's citadel and cathedral, and is due to open in the middle of this month.

George Said, an art teacher by profession, took charge of the interior design, while the construction of the steel rig was undertaken locally. Easily the most high tech club on Gozo, the Astra has soon become a talking point for the Gozotans (locals, to you and I) and will no doubt enhance further a Gozo which is already ranking alongside sister island Malta as a major tourist attraction.

The lighting and sound installation was completed last month by Avitec's regular overseas installers, PSD Electronics of Newquay in Cornwall. The comprehensive lighting scheme sports a huge Nisel Maxi Radar on a Lynx Elevator as the centrepiece. The large sound system has the first full Cerwin Vega speaker array to be installed on Malta.

Tony Kingsley told me that such overseas in-

stallations mark a significant step forward for the company: "British companies are becoming the most experienced in the world in terms of total package discotheque installation, and I believe that we have so much to offer to clubs worldwide. From Avitec's point of view, we have learnt much about the difficulties with installing overseas. We are now confident in being able successfully to install anywhere in the world."



A section of the lighting rig.

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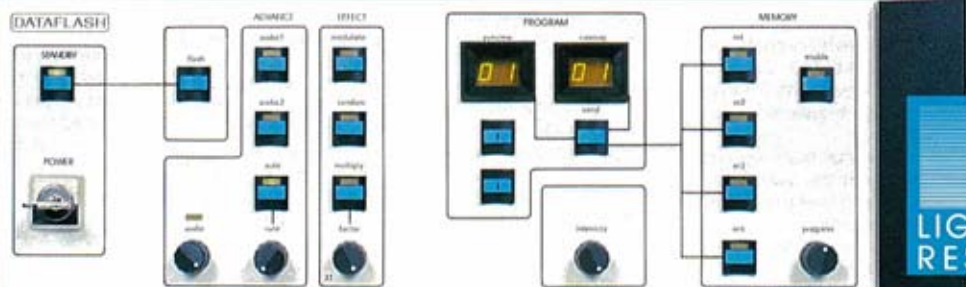
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That Was The Year, That Was

Yes, it's that time of the year again. And if you hadn't guessed already, it's not only a year end, but the end of a decade also.

Thank god I hear you say. But heaven keep me from all those programmes and articles in the papers telling me what happened, who died, and why the next decade will be the business.

Everyone, from Prime Ministers to the landlord of 'The Windmill' keeps telling me that as soon as the big hand reaches twelve, and everybody goes loopy, things will change for the better. Somehow, I find it hard to comprehend.

To ask any one of our busy members to give a resumé of the past decade by tomorrow would be, even by my standards, pushing it. But we can't just let the year go by without some comment. So I phoned five industry luminaries, and asked them what they thought of the past 12 months.

The reactions were surprising to say the least. The sentiments voiced below are their own personal thoughts, and I'd like to thank them for their time and trouble at a busy time for all of us. The drinks are on me next time we meet. (Some hope - Ed).

Tony Kingsley, Avitec

The years at Avitec (and we'll have had ten of them come January!) have always been marked, for me, by exhibition times rather than by seasons; the real world seeming to be a place I only get to visit occasionally. This year has been no exception, but my late season visit to the LDI show in Nashville was a new mark on the calendar for me. It was a well run exhibition and a good insight into the US market, but I'm not sure if I can justify another expensive trip to break the pre-Christmas period in the same way next year.

Avitec hasn't traditionally experienced real world seasons in sales activity: perhaps it's our broad customer base which keeps us busy throughout the year. Tradition was broken in 1989 when, for the first time, sales didn't rise with the external temperatures in the hot summer. This was more than compensated for by post-Light and Sound Show record sales over three consecutive months.

Other changes for 1989 were the trips to Djerba, Tunisia and Gozo, Malta, where our installations in holiday resorts gave me a good excuse to mix a little pleasure with business.

So many key people in our industry seem to be eternally busy, chasing their tails. Whilst this may be a penalty of success, 1989 was the year that I said 'There's got to be a better way'. Avitec have now overcome the many problems that come with phase three of company expansion (we didn't manage with phase one or two, but got through them anyway!).

We're concentrating on organisation, systems and efficiency, and to getting on real talking terms with our new multi-user computer, whilst ensuring an even better service for our customers and suppliers. All this means even more work, but the idea is that life will be easier in the future. Please will anyone let me know if they've managed to achieve this, (Phase 10!).

1989 was the year of the biting interest rate, possibly the cause of the industry discounting problem in this country raising its ugly head yet again. As vice-chairman of PLASA, I invited Mike Gerrish of Citronic to address this problem on behalf of the Association and its members, as he had already achieved much for his own company on this issue. Last month's L+SI reported on this, and Mike's ideas were also aired in Viewpoint. Positive responses have already been registered from various sectors of the industry.

We can sell a product at nominal mark up and achieve high turnover, but even the guy who's lucky enough to buy kit at close to cost price must realise that this is a short term luxury.

Where's the funding to come from for R&D for new and better products, for holding stock of spares, for back up service et al?

The leisure and entertainment market is an exciting one to be in and sell to, but we, the manufacturers and suppliers, who contribute so much to this excitement must maintain fair profits to sustain valuable input.

On that note I wish all L+SI readers a stress free and successful 1990!

Marion Smith, Starlight Design

Looking back on 1989, it has been a strange, unpredictable year with peaks and troughs at odd times. The very hot summer, I think, had an adverse effect on the industry generally with takings down in the clubs as people stayed outside for barbecues and other outdoor pursuits. This, combined with high interest rates, resulted in a late start to the pre-Christmas rush which usually gets underway directly after the Light and Sound Show. This year, its start was delayed until mid October. From an export point of view I would like to see the pound find its own level to boost our growing export business and as a bonus make us even more competitive against imports.

On the plus side, the Light and Sound Show was again a great success for us and the quality of visitor was high, especially from overseas. I think the show has now established itself once again as the premiere international exhibition. The feedback we get from customers is that quite a lot of club refits will start in the early part of 1990, and we are hopeful of a good start to the new decade.

Martin Prescott, Martin Sound & Light

Judging from the comments of selected suppliers and fellow outlets alike, 1989 has been a pretty poor year. With the high cost of borrowing beginning to bite really hard, overhead costs marching ever upwards and a perceived lack of any really interesting NEW products, times have not been good apparently.

Unfortunately, we don't see it that way. We could bleat on and on about high interest rates, excessive discounting, nightmare credit control, comic delivery times, even the traffic on the M25, but, in truth, it doesn't make a lot of difference. The fact is that we're not the only ones to suffer, because everyone's in the same boat. We have survived, and indeed prospered in 1989 by giving good service and value for money, and working very hard for it. We believe it's the only way.

For years I've heard (and have frequently been the source of) criticism regarding the lack of professionalism in the industry as a whole, and the retail sector in particular. A great deal of the problem must be the lack of confidence and enthusiasm that has been so evident at this end of the market. Our enthusiasm was re-kindled earlier in the year with a move to bright new premises, and our confidence boosted by an overwhelming level of support from all major suppliers.

There will always be outfits that are prepared to rest on their laurels and wait for business to come their way. They make no attempt to promote themselves, take no time to canvas for new business or even make any great effort to maintain existing contacts. Then they moan when business is bad!

I have no sympathy, it serves them right!

Joe Sharpe, Jasco

Thoughts on 1989. 'Who's done a deal?'

This was also my thought for 1987/88. Who supplied the end user with goods at rock bottom prices? A recent issue of the minutes from the Plasa Executive Committee's meeting under the heading of **Trading** (which in my opinion should read **Ethics of Trading**) briefly outlined the difficult areas of who should be supplying what to whom and at what price? And it would seem, referring to ethics, that there are companies and individuals within our small community that have no ethics at all.

One small example of this was an experience suffered quite recently, on preparing a scheme and estimate for a job. On presentation to the client (end user) we were told to delete the cost of fittings from the budget as these would be supplied by the client himself. As he was able to get a better discount margin than we were getting. My reaction: sorry my friend, we supply all or nothing. Result: no further contact from client, i.e. **Job Gone**.

On another occasion, being asked to quote for supply and installation of equipment by a design company, we were asked the question what discount would we give the client. Answer: 5% for immediate payment on completion with 50%

before commencement. "Not 25% then," asked the design company. "No" was the answer.

The design company then contacted another installation company who eventually went to a large disco supplier with a shopping list which was loaded into their vehicle, and a cheque was passed over for the amount owed, the discounted rate. **The installer paid with the client's signed cheque!**

This, to me, shows that not just one area of our industry is unethical, but that such things are quite widespread. Who's cutting who's throat? Certainly, in my opinion, we are cutting each other, and to conclude, unnecessarily.

Mike Gerrish, Citronic

1989 - what a \$£& year. Or was it. It was certainly a difficult year for us at Citronic, but we did more business and we still made a profit. It's true to say though, that we were never quite sure where it was coming from.

There were two factors that made 1989 indeterminate for us; firstly the nature of the UK market, and secondly, things of our own making. So what about the market for audio products in 1989. Well, the market is fragmented into the mobile discotheque, the installation and the so-called pro-market which also has sub-sectors.

The odd ball is unfortunately the mobile discotheque because, apart from musicians and the much younger home studio market, it is a side of the business where products are sold to owner operators. This side of the music industry has been severely hit by the high cost of credit and buying decisions have most certainly been delayed or made in favour of lower cost items. This means that from a manufacturers point of view the buying profile of dealers has changed and it has been difficult to predict how much, and in what way.

The Installation market has held up better being less affected by the cost of credit because of its competitive nature combined with a growing awareness and requirements for quality. It is also a market sector where there is much more money involved and investments are considered on longer term basis. Investors do not buy products, they buy environments that allow them to sell other profitable products like alcohol. So, from a manufacturers point of view this side of the business is of great import. If we don't have a substantial range of products suitable for this sector one can't hope to increase market share to compensate for the less buoyancy end user sales.

It's debatable whether the installation market is a discotheque market sector or a pro market sector because the two really have come together in recent years. It is the one place where the traditional discotheque equipment manufacturers and the traditional pro audio equipment manufacturers come together and compete, head to head.

From Citronic's point of view, 1989 has been critical because it has seen the culmination of long-term investment plans begun in 1985 to generate a pro audio product line. This has enabled us to increase market share in the installation market as well as permitted market entry into other sub sectors of the pro market like concert touring and theatre at a time when, for corporate growth, it was most needed.

What about the problems we created for ourselves? Well, the introduction of Optimised Production Technology (OPT) basically a computer-controlled manufacturing philosophy has certainly caused enormous upheaval internally. It has meant a great deal of re-training of personnel and adoption of new ideas as well as investment but, it has led to a reduction in our requirement for cash reduced component stocks, reduced production lead times, increased efficiency reduced manning levels, improved satisfaction of customer demands without increasing finished goods stock and allowed us to increase production output.

1989 has really been a tough year and I liken it to 1979 when we last suffered such a serious restriction of the money supply and for those who remember, it led to a thinning out of the number of manufacturers and suppliers. I think this will happen again and only the strong will survive. If 1989 has taught us anything it's to get our act together and become more competent and aggressive in all aspects of our business.

THE LIGHTING SPECIAL

Julian Williams talks to Howard Eaton in his Workshops during preparations for two more Phantom Productions

"Major shows and musicals are so complicated these days that they have to involve an enormous amount of technology" says Howard Eaton. In my view, he has to be the most experienced and longest standing all-round theatre lighting person.

Eaton has recently lit the UK tour of 'Cats' in Blackpool - his tenth involvement with the show. As well as lighting a very wide range of shows, both commercial and for the RSC and National Theatre, his work now covers many areas on the production side of the theatrical lighting industry. "I am very hard to put a title to, as my job brief changes all the time," he told me.

Though many are familiar with the name Eaton, one could wonder why a lot more has not been heard about what this designer gets up to. For the most part he gets involved in many of the big commercial shows, and most of the larger legitimate theatres.

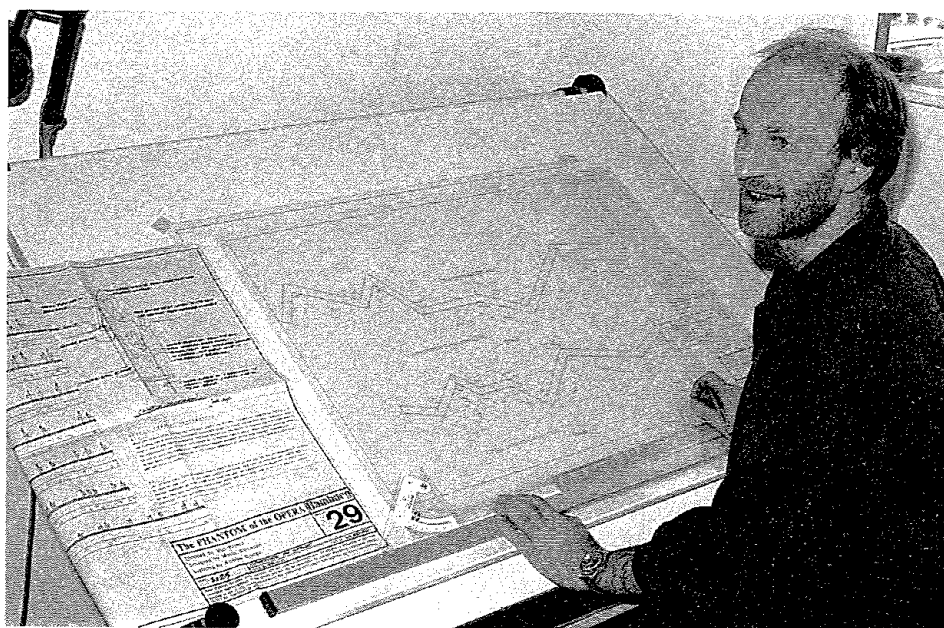
To find him you have to either venture to one of the international cities where he is in production or to the depths of the Sussex countryside where his business, Howard Eaton Lighting Ltd, operates from workshops and offices in the middle of a farmyard - complete with ducks and geese.

Between shows at the moment, he is concentrating on the expansion of his commercial enterprise. His company, which has been in operation for three years, has developed further during the last year. He now employs three full time and four part time members of staff, according to work load. "Recently we had more than 20 people down here working on the 'Cats' tour."

Howard Eaton explained: "For many years, because there hasn't been a company specialising in 'specials', technicians have been building equipment for major productions in theatre basements during the production period. These conditions were less than ideal, as so often was the brief from designers and directors. Consequently the results were often less than perfect, although the show always got on. As a result of this experience we realised that there was a better way of doing things and this was the main reason for expanding the company into this field."

"We will provide just about any service for a production, although generally we would rather stick to the specials - meaning everything that doesn't come from the hire company - but we have also organised complete lighting installations and staffed fit-ups. With the years of experience we have between us we are able to ensure that everything gets done properly. There are too many people around that claim they can do anything but they usually get caught out in the end."

As I walked into one of the workshops I noticed the central revolve mechanism for the candelabra held by the statue that sits stage right of the large staircase for use in Phantom of the Opera. "We now do quite a lot of metal fabrication here. It's not what we set out to do, it is merely an extension of doing special lighting. For instance, in 'Aspects of Love' there were several pieces that were frankly more lights than scenery so it made sense for us to build the complete pieces.



Howard Eaton at his drawing board. To his left are the plans for candle effects for Phantom of the Opera.

"One of our workshops is dedicated to metal fabrication. We built a 40 feet truss for 'Aspects' that had special motorised light curtains with control of pan as well as tilt, and on top of that there were five flying ladders that had to fit through it.

"Aspects really stretched us because we didn't get information until the last minute and very often even then we were only interpreting ideas which meant that we had to design a lot of the effects ourselves. However, because of our very good relationship with Andy Bridge, the lighting designer, and Maria Bjornson, the set designer, everything came together in the end."

Eaton's company designs and builds specials for specific theatre projects, as he went on to explain: "We build our equipment to very high standards. At present we are busy with 'Phantom of the Opera' for Toronto and Stockholm. It takes about four weeks to build all the specials for a 'Phantom' production, and at the moment we do three every 12 months. There are, however, knock-on areas to this. We have just supplied some equipment to the National Museum in Ottawa which came from our involvement with 'Phantom' in Toronto.

"We are currently developing our range of standard equipment, much of which has grown out of the 'specials' business. This includes remote control dry ice machines, rotating effects, sequence controllers, non-dim interfaces, Xenon flash equipment and motor controllers."

Howard Eaton also designed the mini 'Howie' batten - though it was made by others but carries his name - for 'Phantom' and which is currently in use in numerous West End shows for cyc lighting. "Recently we have supplied effects for New York City Opera, 'Anything Goes', a Broadway production of 'Meet Me in St. Louis', Glyndebourne Festival Opera and even 'Miss Saigon'," he said.

Talking about 'Phantom' Eaton described behind the scenes: "Basically all Phantoms

are the same, they get redesigned for the specific theatre so the actual dimensions change, but the result is the same. The production is packaged so that the producer gets a kit which starts with the creative team. The lighting designer, Andrew Bridge, supplies the plan and paperwork then we sort out the rest of it. We explain the show to the technical staff and help them decide how they can solve the technical problems of the show. This involves many meetings both in London and at the theatre as the detail on 'Phantom' is so extraordinary it takes forever to get through it. Finally I set up the show on site, focus it and prepare the basic cues in the board. For the next production in Stockholm I'll carry on and light the show as well."

We then discussed the present state of the game. "The lighting business is very lively at the moment which is a result of the fact that when people have cash they tend to spend it on entertainment. The West End is very buoyant due to this and the current high levels of tourism. Trade shows have their usual summer and Christmas lulls but even so there is plenty of work around. As a result it is easy to get work as a freelance technician so there are many people working who really aren't very good. Frankly, there are very few people who are very good!"



Howard Eaton (right) with Andrew Bridge on the set of Time at the London Dominion.

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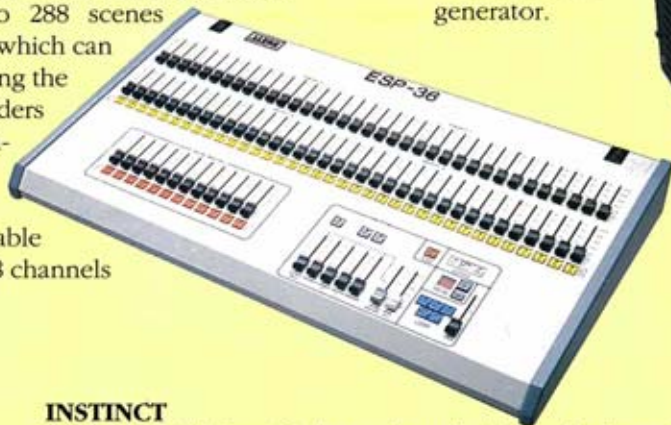
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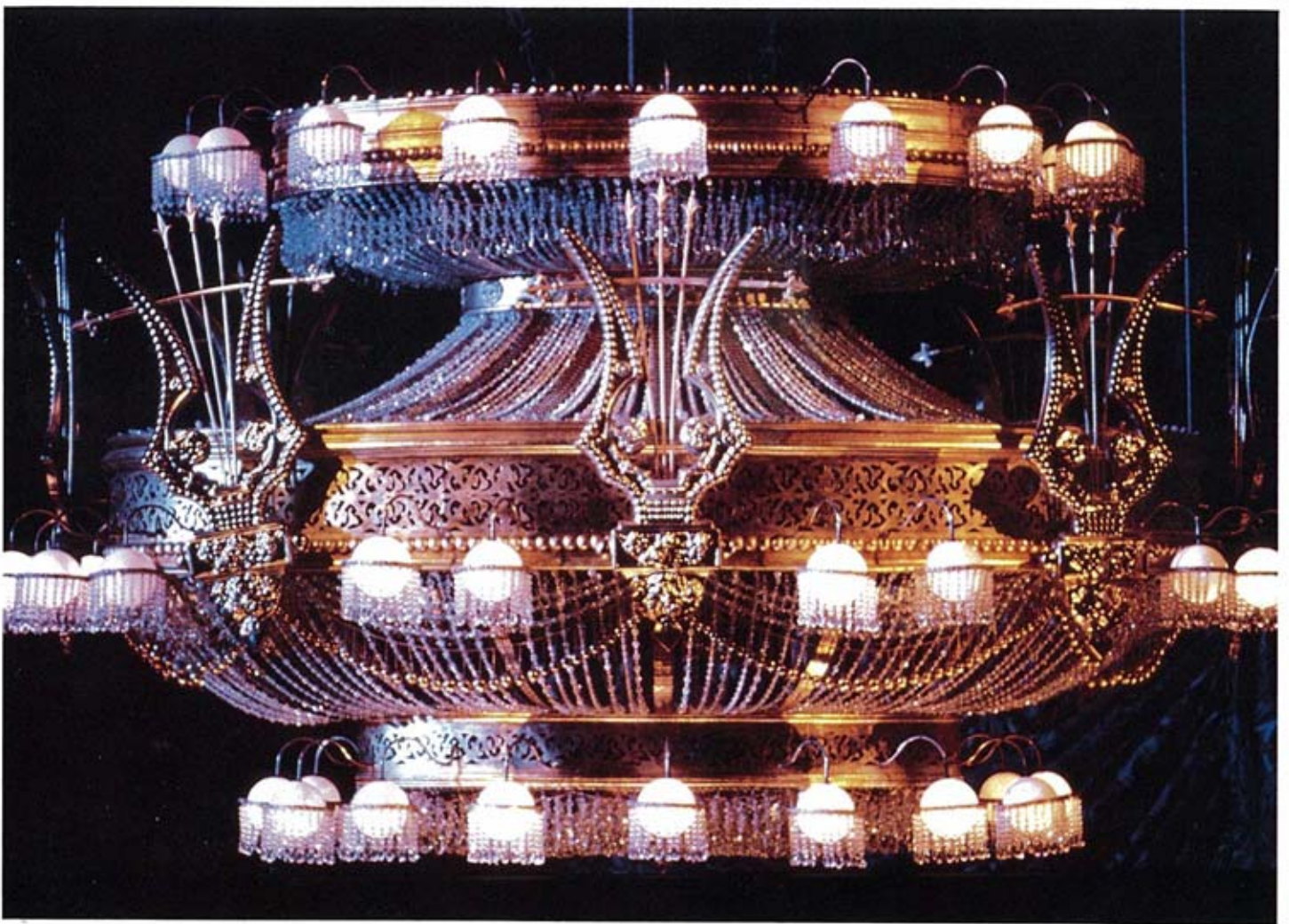
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Close up on the ornate chandelier that features in Phantom of the Opera.



Preparations underway for a staging of Phantom in New York. The chandelier (right) is in the process of being hung.

I asked him if more training would help. "I can't see training here ever really working. The ABTT have tried very hard but the problem stems from everything being geared to getting a job as a theatre electrician. Theatre technicians are so badly paid that hardly anybody wants the jobs.

"This problem is at its worst in the West End where the wages mean that it is almost impossible to get good technicians to take full time jobs. The result is that theatre staff simply are not up to dealing with the complex productions that are the norm these days. The productions, therefore, bring in their own technicians. The local staff get fed up, and if they are any good they go freelance. Consequently, I can count the good West End electricians on the fingers of one hand. This seems to be an ever decreasing spiral and the solution is very hard to arrive at. On some shows that I have been involved with in London, there hasn't been a full local staff, so the production has had to employ everybody. The advantage of this is that your staff work for the show alone which means that they can dedicate their time to the production without having to worry about the lights in the toilets and the heating going wrong in the winter, because the building is looked after by maintenance staff.

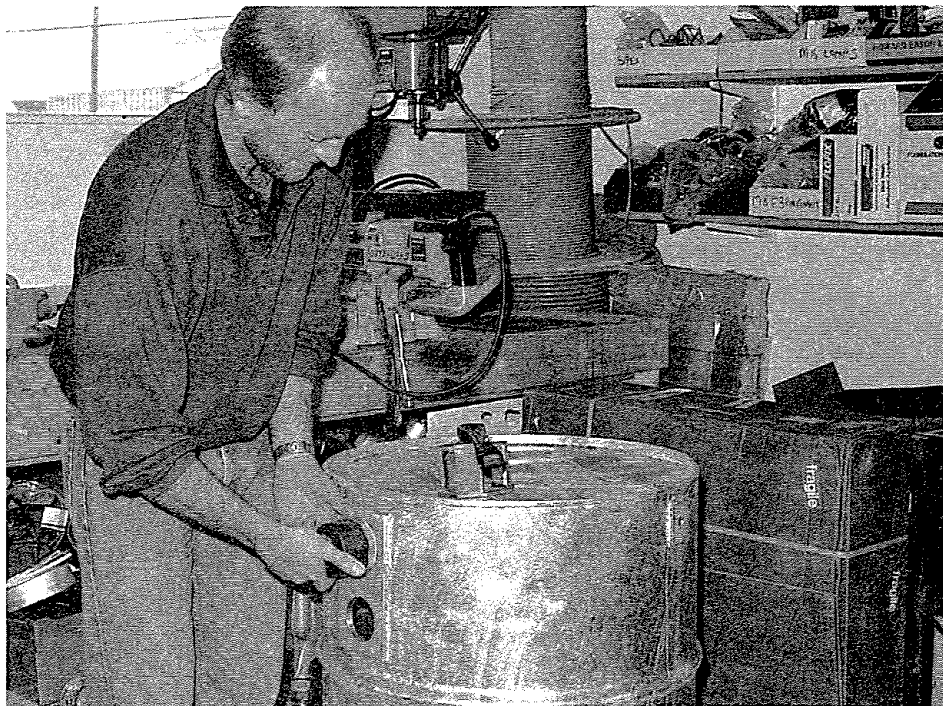
"The difference in pay scales around the world is quite incredible. In New York a follow spot operator can support a family, a mortgage and two cars. In the West End they can hardly support themselves. However, if this were to change radically it's possible that the London production costs would discourage producers from opening shows here. It is widely believed that the high wages paid in New York mean that new shows rarely open cold there.

"This is a good thing for those of us working in London, and as a result the world's best overall base of technical theatre is probably here. However, the New York technicians are extremely good. Their general skills are much higher than those of West End staff but then this is not surprising with the difference in pay. I have been very lucky in that my involvement with big shows like 'Cats' and 'Phantom' has taken me to many places. I have been able to bring the best ideas and practices back here and try to incorporate them into our way of working."

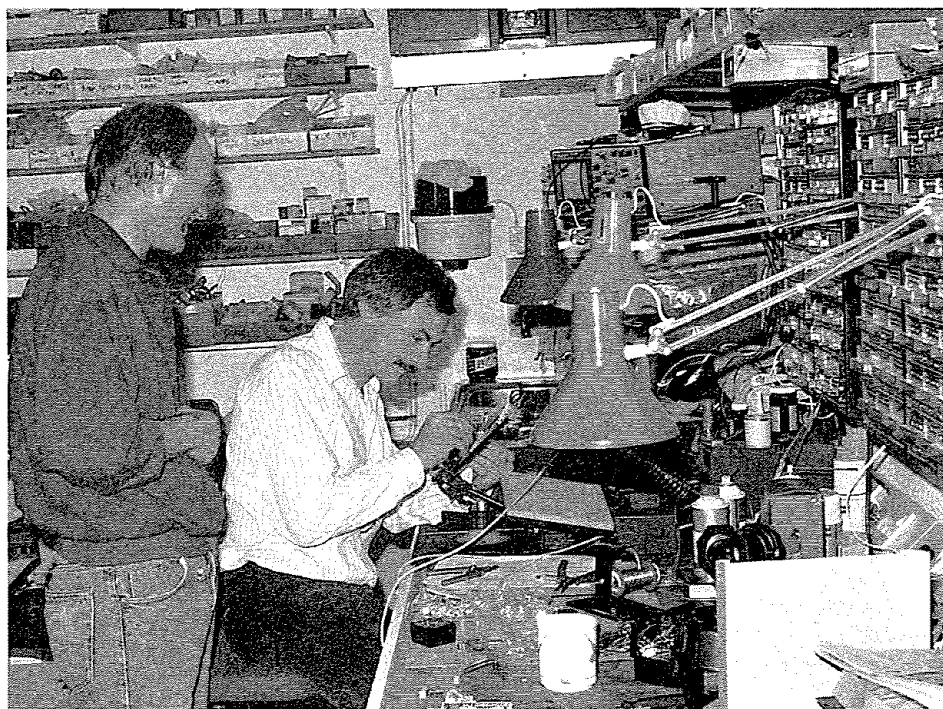
I asked Howard Eaton about future trends. He doesn't foresee major changes in lighting rigs apart from the much wider use of moving lights. "People will get larger budgets to do bigger things on large shows," he said, "but with smaller shows I can't see any major changes for a long time.

"Once your lighting is based on incandescent units, hanging in straight lines, which is normal, there's not a lot you can do to change things. Control systems will obviously get smaller and cheaper and have more facilities, but still all they do is fade light bulbs up and down because that's all that a light bulb can really do! What I'm saying is that change will come from lighting designers, not equipment manufacturers." He also feels that colour change systems will be more widely used now that scrollers are becoming reliable and affordable.

Howard Eaton started his career as a casual doing scene changes on a Cyril Fletcher pantomime in Croydon. "The state of the scenery was awful, I now realise. Still, I learnt a lot," he said. His first full time job was with the Tyneside Theatre Company, Newcastle's repertory company. He did two seasons at Glyndebourne, and then became assistant for four years to the renowned lighting



Howard Eaton fine tuning his company's own dry ice machine.



Howard with Mark White, building a light curtain controller.

designer Joe Davis. "It was a great experience working for Joe. We were doing shows all over the place, he just never stopped."

His first freelance job as a production electrician was on *Evita*, when the production office began. "This was the time when big musicals started to happen in London. It was a good time to be around. We had a lot of fun doing shows like 'Sweeney Todd', 'Cats' and 'Starlight Express', of course a lot of this was due to Andrew Lloyd Webber. His shows have given this industry a lot of opportunities.

"It's the experienced electricians who stay in this business the longest, as they are the ones who actually know how to do their work - and because of their love of theatre."

He explained that when he lit 'Cats' in Blackpool he had masses of enquiries from people who wanted to work on the show simply because it was theatre. They just wanted to get away from trade shows for a while so they could do the 'real' thing.

Among Eaton's favourite shows of those he has been involved with, was the huge *Torvill and Dean Ice Show*, which opened in London before going on a world tour which started in a tent in Nottingham. "Mind you, it was the biggest tent in the world," he said.

But one of the best, he told me, was working with lighting designer David Hersey on what he describes as 'a brilliant piece of theatre' - The Royal Shakespeare Company's 'Nicholas Nickleby', which was televised before going on to a limited run in New York.

I asked Howard Eaton if he will remain working in the theatre industry without being sidetracked into other related areas which could use the products and expertise of his company.

"You never know what's going to come along," he said. "If an interesting project crops up then of course we would look at it, but basically it's theatre. That's how it's going to stay. It's where the fun is . . . It's better than having a job!"

MAKING GOOD

Ruth Rossington takes a look at one of Ark Light's recent projects in Wolverhampton

Theatre lantern restoration is the foundation on which Ark Light have built their reputation. However, times have advanced and so has the company's sphere of operation. Though still working within this field their recent projects reveal a tendency towards problem solving, and a determination to get involved in more than just the restoration of lanterns.

The reconditioning of equipment is more common than one might imagine - usually when a tight budget is involved or when small-scale modification to existing products cannot be met by the large companies. With only three people involved full time in the company, it is not surprising that it can be a good deal more flexible than most. Based in Leicestershire, it is headed by Joanne Taylor; Mike Taylor works on the technical and electrical side of things while John Landamore concentrates on electronics.

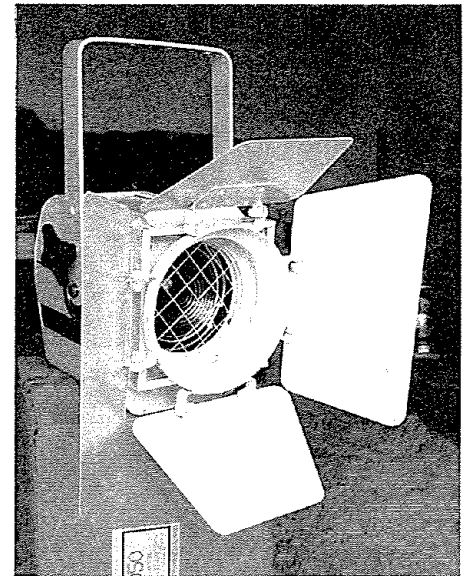
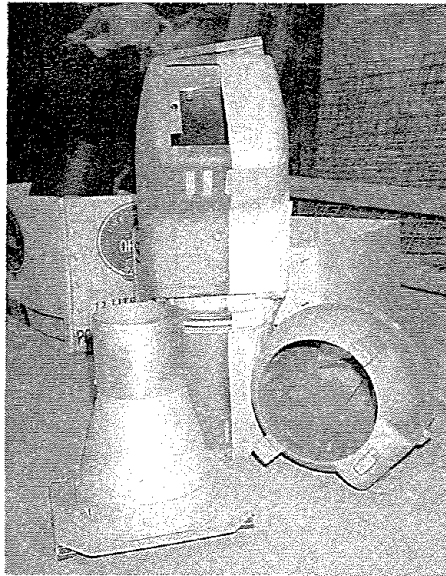
Ark Light has created for itself a comfortable position in the market and could be regarded as the supreme example of niche marketing. This is not to suggest though, that the gap is manufactured. Far from it, it's a very real one, and Ark Light are sensibly exploiting it to the full.

In a society which is ready to dispose with most things, it's refreshing to come across a company that isn't pushing the latest innovations in technology. Ark Light's whole ethos focuses around the restoration of equipment which may otherwise find itself en route to the scrap heap.

In a very serious industry, one can't help reflecting on the irony of Ark Light's position. While the rest of the lighting and sound industry is busting a gut striving for technological and design advancement, Ark Light are working hard to create new lamps from old. When the latest computer gimmicks have been obsolete several times over, the longevity of a restored lantern is still a subject of after dinner small talk.

Though specialising in theatre lantern restoration, the company have recently been demonstrating how widely they interpret this brief.

A project undertaken in the last few months involved the restoration of lanterns for Wolverhampton Civic Hall, who wanted to offer visiting acts good facilities despite



The Strand lanterns stripped for re-enamelling (left), and the end product after 10 days hard work.

budget constraints. During the refurbishment programme, Ninian Wharton and Mark Blackstock, functions manager and general manager respectively, came across a strange lantern in an advanced state of disrepair. Wiped clean of dust and cobwebs, its origins remained uncertain. They approached Ark Light to resolve the mystery and restore the lantern.

Joanne and Mike Taylor believe, though they're not sure, that the lantern is an old 'Spectrola', possibly manufactured by a company called Major who ceased to operate some time ago, and would welcome contact from anybody who could shed light(!) on its colourful past. Ark Light converted the pre-focus 1K fresnel to tungsten halogen, and replaced the lantern's mirrors, along with the six lenses. The company also found a near match for its original texturing and colouring, and the whole operation was completed in under three weeks.

According to Mike Taylor, Ark Light have created a bigger, better light of much stronger construction than formerly, and with the added attraction of it being something of an historical curiosity.

It is widely believed that, in a former life,

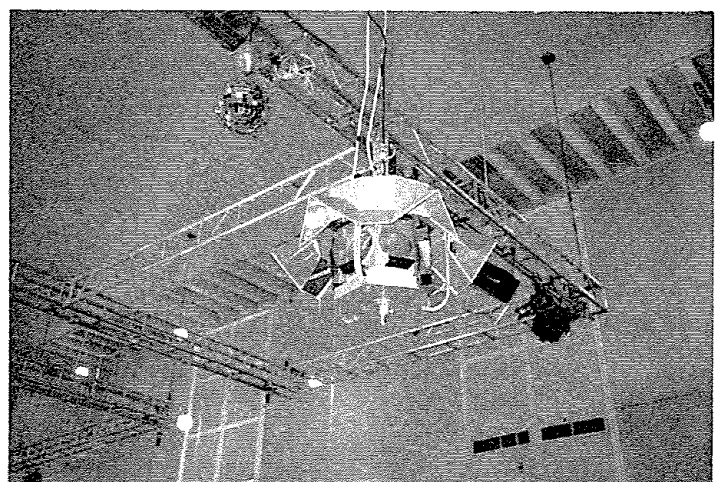
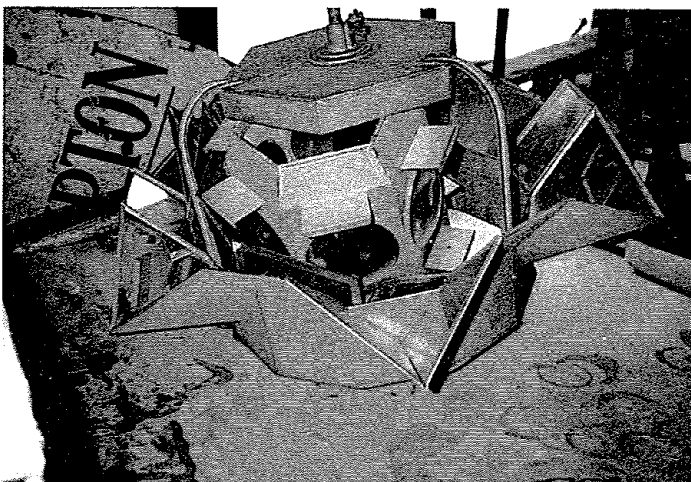
the 'Spectrola' and the panels in the Wolfrenon Hall sailed the high seas as part of the fixtures and fittings aboard the Queen Mary.

Prior to its programme of refurbishment, the Wolverhampton Civic Hall was not fulfilling its role. The facilities were woefully inadequate, having only side rails, basic lighting and a Rank Strand dimmer system to offer. Along with new trussing, new paintwork and new furnishings, the hall now boasts a renewed potential. Ark Light have cleaned and refurbished 30 lamps and restored a further 20. The Strand Patt 293 have all been converted to tungsten halogen running on CP43 lamps.

The appeal of the hall is in its combination of the old and the new, and the fact that this in no way undermines its first responsibility which is to the paying public, and to the acts that appear on stage.

Mark Blackstock has spent money in some areas and deliberately reduced costs in others, and believes that the venue can offer the majority of performers what they require. In the region of £500,00 has been spent restoring pride to the old venue.

Everything installed is completely



The 'Spectrola' before . . .

. . . and after.



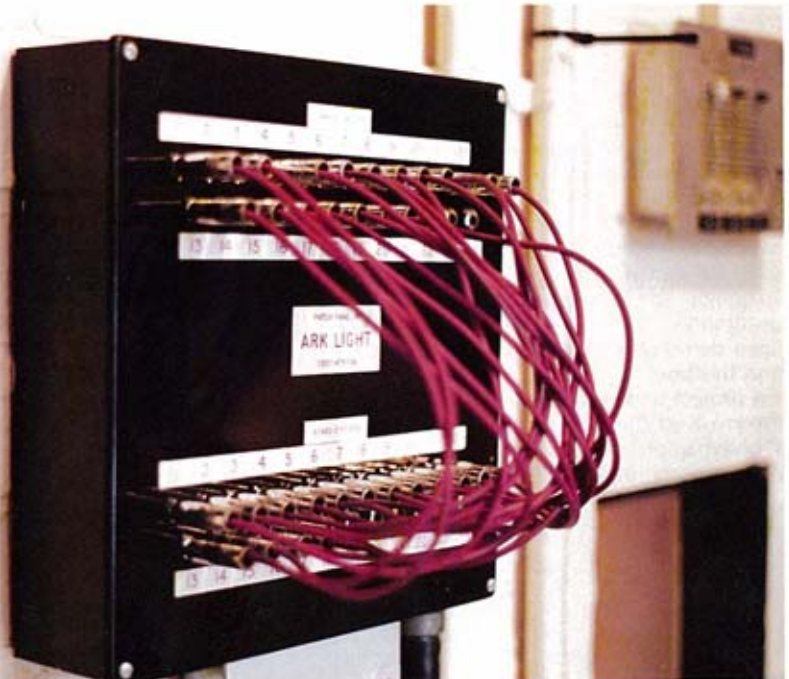
The new look lighting and sound rig installed at Wolverhampton Civic Hall.

removable and has to be because of a protection order placed on the building. Thus the lighting rig can be placed anywhere, well almost! Mark Blackstock estimates that going the restoration route has saved them in the region of £40 - 50,000 and enabled them to get the show on the road immediately rather than wait for delivery dates. One of the few things actually bought new is the ElectroVoice sound system installed by Shuttle-sound.

Ark Light can take pride in the fact that if it were not for their services, venues such as Wolverhampton, may never have broken free from the constraints of diminishing public funding. As a municipal venue it will always be subsidised, but some 18 months after refurbishment began, the Civic Hall is having to refuse some bookings and making less of a loss than it used to.

One example of Ark Light's activities extending beyond the restoration of lamps is the design of a patch panel for the Civic Hall. The building is hard wired with fixed circuits and Rank Strand UTM racks. The patch panel allows the circuits to be patched to any combination on the control side making the venue much more flexible, and thereby allowing professional shows to be staged. Ark Light also installed a Strand Tempus 24-way desk.

Ark Light's willingness to tackle anything has stood them in good stead as a recent job for Strand testifies. A north London hotel recently ordered a new lighting rig from Strand, but it had to be in white, and this meant right down to the barndoors. Ark Light came to the rescue and began the process of dismantling the lanterns. They removed the innards, the lamp tray assembly and the lens assembly. They then



The customised patch panel specially designed by Ark Light for use in the Civic Hall.

reassembled the casing with the apertures masked to prevent the spray paint getting inside. Primer was applied and then the lanterns were stove enamelled in white. This being complete, Ark Light restripped then reassembled the interiors. In total, they re-enamelled 81 lanterns in 10 days to meet the opening date.

With an increasingly restrictive economy, and a reassessment of values in the leisure industry, Ark Light may well find themselves in demand more than ever.

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ON TOUR

Carlona Forcer

Julia Fordham UEA - Norwich LD: James Louden

To sign off the '80's, I talked to James Louden, currently On Tour with Julia Fordham.

"I never wanted to be a lighting designer. I was a victim of a series of accidents. I was into graphics and photography when I started to do the lighting for a few local bands, but only because there was no-one else to do them. After a while I came to the conclusion that the only way to make a lucrative career in graphics was to get into forgery, but I didn't have the contacts or equipment to do that.

"I got involved with a rather questionable band called Here & Now. I did a lot of ridiculous psychedelic projections for them which were completely uncool but good fun. At the time I certainly didn't regard it as a career move. Eventually it was decided that the band needed more than just projection and I started to get into lighting properly.

"I never really knew how to do lighting. The only show that I'd seen, and been impressed by, was Pink Floyd although that was purely special effects and not lighting. I was never told how to do stage lighting per se, although I had messed about doing fringe theatre. It was more the effects aspect that took off, so I learned to do lighting from the wrong direction which, to some extent, I still do. A lot of the concepts that I try to sell to people I haven't done or seen before and, fortunately, 99% of the time they work. When I first started doing lighting I used lots of localised lighting - things on sticks all over the place! It was a bit risky but it worked. Totally concealed lighting was another idea that I had. I used a white net which doubled as a cyc, with all the lamps behind it for the first Waterboys tour. None of the instruments was apparent until they were used. Unfortunately, I've never been able to develop this idea as much as I would like to.

"I built up my own rig with Here & Now which I went on to use with The Thompson Twins, The Passions, The Piranhas, Killing Joke and some bands that I believe should still be around today - unfortunately they are not. I stayed with The Thompson Twins for about four years and built up a lot of contacts in the lighting business. I was using my rig less and less and hiring in equipment instead. One of the bands which I used to do was Dance Society, which was early gothic and I did some strange stuff for them as they didn't want to be lit! Through them I got to know Jazz Summers



A mix of huge projection washes and close range lighting for Julia Fordham.

and I worked for a few of the bands that he managed including Wham, with whom I did a tour. I did some work for Rick Wakeman but he didn't pay me. At the time I was surprised but, having spoken to other people in the music business, apparently it's not that unusual.

"Today my major acts are the Waterboys, their off-shoot band World Party, Everything But The Girl and Julia Fordham. The Waterboys are the most passionate band that I've ever worked with. It's the best of all possible worlds because it's rock and roll but it's really passionate and intense. I spent the first six months of this year touring with them. Their music has become more folkie which doesn't give you so much scope for dramatic lighting, but they are still fun. I'll be doing some Christmas shows with them.

"At the moment, Julia Fordham's tour will last only four weeks and is pure promotion for the new album. We're probably going to Europe in January and possibly Japan and the United States after that. I was working with Mike Sutcliffe on Wired when I first met Julia, and everyone thought her act was brilliant. Through the connection with Entec I was asked to do the tour and, having already got the album, I knew exactly what I wanted to do. The rig was very spacious and I used a mixture of huge projection washes and very

close range lighting using small Par 16's.

"I've carried a little of the old show into the current one because some of it looked so good I couldn't see any point in changing it just for the sake of it. On the first tour I had no brief at all, I did what I wanted. This time however, I had some artistic input from Julia and her manager. They wanted the show to be more intimate, a sort of 'let's create Ronnie Scotts at Wembley Arena' type thing. They wanted the red velvet drapes that appear on the album and promo video to be everywhere. It works well, and is pleasing because I would probably not have thought of doing that.

"It helps to have some artistic input from the band as you don't have to start with a completely blank sheet. With some acts I've wanted to be left alone to do things my own way and I've had unwelcome interference. At the end of the day because they're up on stage and I'm out front doing the lighting I usually end up doing it my way anyhow. Not many acts are peering over your shoulder all the time and I'm usually trusted to do the lighting.

"With Julia we had four days of rehearsals which was good for a two truck tour playing medium-sized theatres. Normally you don't get any production rehearsals and so you have to



Recently on tour were Jesus Jones, seen above at UEA, Norwich. Lighting design was by Tony Leblond, and a full equipment list is given on page 48.

have a lot of ideas formulated in your head before you start the tour. I had the basis of the show plotted on the board before the first concert. The beauty of using this board is the speed at which I can edit and change the look of the show as it goes along. I don't think I've ever done a tour where the show looked the same when it finished as it did when it started. It doesn't change completely, only slightly.

"There's always one song in everybody's set that I never know what to do with and in this one it's 'Manhattan Skyline'. Whatever I do, I'm not happy with it. What normally happens is that on the last day of the tour I come up with the ideal solution. I like moving and spinning things and there are quite a few on this rig. I've got about 12 different light sources including pars, lekos, groundrows and three or four different motorized moving effects. I don't think there are enough but my crew would probably beg to differ.

"I like any lighting designer who's got the bottle to do something a bit different and a bit controversial. Roy Bennett's Prince show was fairly stunning. There's a lot of conformity which doesn't exactly annoy me, it's just that there's a lot of people who could do with a tad more imagination. Being radical may not be a very good career move but I don't think that being in this business is a very good career move to be honest! As I said earlier, I started off my career by lighting things the wrong way and it looked great. As I started working on a regular basis with large companies, not necessarily as designer but racks man or crew chief, I began to fall into the trap of conformity. Fortunately I got out of that phase".

EQUIPMENT ON TOUR

Jesus Jones: Kenwood Tour
 October 10 - November 4
 Lighting Designer: Tony Leblond
 Best Boy: Gary Massey
 24ft ladder beam
 Lengths of assorted scaffolding

- 4 Tank Traps
- 7 Manfrotto wind up stands
- 2 stations intercom
- 5 Thomas bars of 6
- 2 Thomas bars of 4
- 4 Thomas bars of ACL's
- 4 zoom Projects
- 2 DHA gobo rotators
- 4 White Lightning strobes
- 4 400w UV guns
- 1 Le Maitre Smoke Processor
- 1 wind machine
- 1 Celco Series 2 30 lighting console
- 1 Entec/Avo 40 channel dimmer rack

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Christmas Greetings and Best Wishes for 1990

We'd like to thank all of our readers who have sent gifts so far, and for those who have not yet decided, the following hints may prove helpful:

John Offord has a preference for anything French (including crepes), plain Bounty bars, good stories, steak and chips, and advertising orders.

Ruth Rossington welcomes with open arms anything red and vaguely alcoholic, DIY manuals, editorial scoops, and anything small, expensive and exquisitely packaged.

Alison Hunt is particularly fond of satsumas, new advertising clients, Peugeot 205 spare parts and accessories, and anything that makes her laugh.

(Not necessarily in that order).

Any gifts, however large or small, will in no way affect editorial content next year.

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Light & Sound Design

SOUND adj. firm, solid, substantial, safe.

SOUND n. music, esp. rock, jazz or pop.

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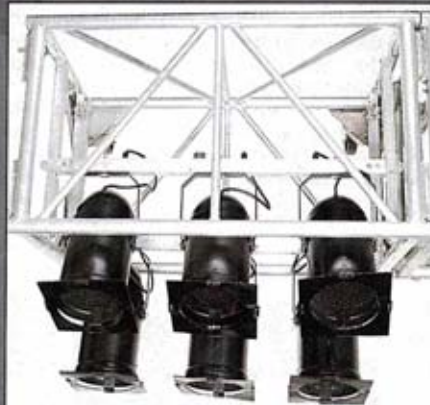
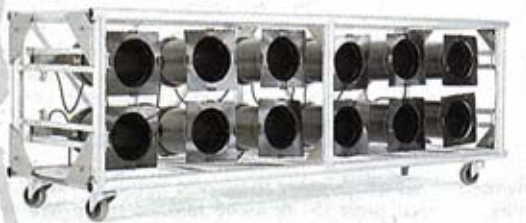
From one of the world's leading concert lighting companies comes a fully integrated range of lighting instruments, trussing, colour change and motor control systems.

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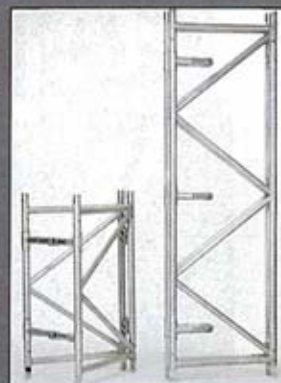
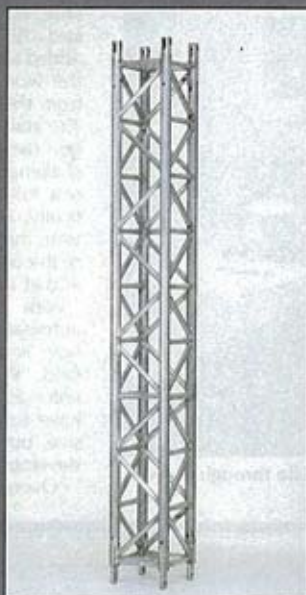
L. & S. D. trussing and ground support is probably the toughest system in the business.



Pre-rigged truss in trucking position (8'). Pre-rigged truss in hung position (4').



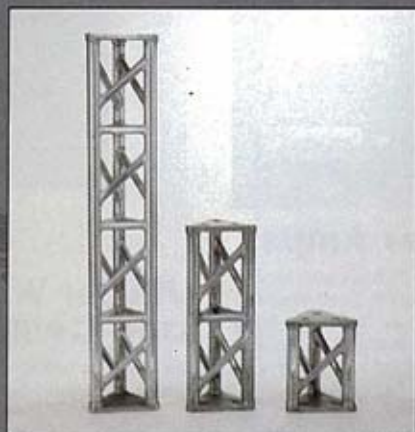
A-type general purpose truss.



F-type folding truss.

S-type square truss.

E-type triangular truss.



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EQUIPMENT *News*

Vari-Lite and the Ultimate Luminaire

A year ago, Vari-Lite Inc. of Dallas had a set-up of five distributors or branch offices. They now have 12. And during 1989 they've introduced three major new products: the VL2B spot luminaire, the VL4 wash luminaire, and the mini-Artisan control console. To back all that up they've also set-up the best in-house demonstration and design studio I've had the privilege of visiting.

I spoke to president and chief executive Rusty Brutsché at the company's Regal Row HQ in Dallas recently during a stop-off en route to Lighting Dimensions in Nashville. I asked him about the background to the huge network expansion in 1989.

"There has always been the underlying philosophy of its presence, from the beginning,

and for us to be a part of all the major markets, and there will be more additions until the network is complete. I anticipate the current rate of expansion to continue, as it is the culmination of a lot of previous planning, and in response to competition. We are certainly in an aggressive mood, and want to beat the competition."

On the product front, Brutsché also views this as part of an ever-moving programme of development. "We have a conservative plan to improve the products and the range. To have really powerful instruments is our philosophy, and the new VL4 is a unique instrument which will cross over into a much broader market," he said.

So what's going to be next from Vari-Lite? "Our next project!?" Brutsché quizzed back. "We still need to come up with the ultimate luminaire, and we certainly intend to do it," he retorted, with a twinkle in the eyes, whilst at the same time emphasising that control improvements and development have to go hand in hand.

"Automation to all systems of lighting is a very sophisticated dedication. It demands more all the time, but also needs to come down in price," he said. "No less than 20 new parameters have been added since we began. We want to be the best in the world at **one** thing. Maybe that's a change from the early days, but there is a market for it. The ability to use fewer instruments is the way to go - the ability to do more with less. The biggest challenge is always product development - the rest follows. Production itself isn't the main difficulty, and with the developments over the past year, manufacture has been one of the smoothest of the operations, and we've had no trouble at all in that area."

With increasing competition in the area of automated lighting, protecting valuable know-how is a prime concern of practitioners in the field. "We have a commitment to, and intend to enforce our patents," said Rusty Brutsché. "We have to protect our technology. It's very expensive, but you have to be willing to protect your developments.

"Overall, the best strategy is to stay at the

leading edge, and we intend to stay out in front. Fair competition is very helpful, but for the industry, integrity counts."

The new Vari-Lite products:

The **VL2B** is a high-performance automated spot luminaire with an HTI 400W S/E Osram metal halide arc source which can be adjusted to peak or flatten the projected beam field. It features the patented Dichro*Wheel colour changing system, the Vacu-Dep interchangeable patterns (which can be customised to any design), and precise control of soft or hard edge beams and beam diameter.

The new **VL4** wash luminaire's smaller size and lighter weight allows for versatile placement (see L+SI article on Miss Saigon, October 1989), easy handling and quick pan and tilt motion. The same HTI light source as the VL2B incorporates the Dichro* Tune colour tuning system. Important new feature is a high-speed douser for instantaneous black-outs, bumps and strobe-like effects. The unit also provides for continuous adjustment of diffusion and beam angle for enhanced control of beam characteristics.

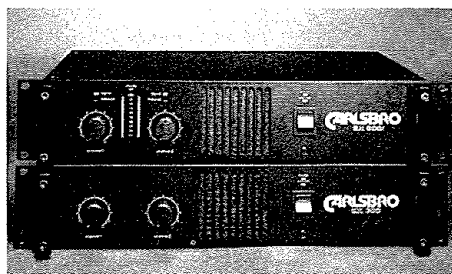
The **mini-Artisan** control console is designed as a back-up system for the Artisan and provides manual and programmed control of up to 1000 channels and 1000 cues per channel. Disc compatibility with the Artisan console allows for all programmed data to be transferred into the mini-Artisan. A bi-directional digital data link to the luminaires offers exceptional control and response, and disc storage of console data and cues allows the operator to save programmed information and move from one system to another with grouping of like functions providing ease of operation.

For detailed information of the new Vari-Lite products and lease availability contact Vari-Lite, Inc. at 201 Regal Row, Dallas, Texas 75247 USA or in the UK from Vari-Lite Europe Ltd. at 112 Cricklewood Lane, London NW2 2DP telephone 01-450 8955.

John Offord



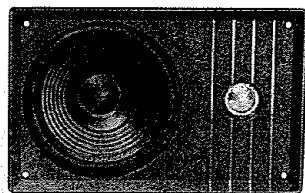
Rusty Brutsché, steering Vari-Lite through growth.



Carlsbro Power Amps

New from Carlsbro is a pair of 2u high, rack mounting, no-frills, twin channel power amplifiers; the SX300 and SX600i. Both feature balanced (XLR) and unbalanced (jack) inputs, bridged mono and stereo options, resettable thermal trip protection, and low noise variable speed fan cooling.

Capable of delivering 150 watts per channel into 4 ohms, the SX300 has been designed as a power source for home studios and 300 watt PA systems. The more powerful 300 watts per channel SX600i offers the added benefits of thermal and signal LED indicators, LED VU meters with clip indicators plus a 'soft start' feature to prevent speaker damage during switch-on operation. For further information contact Carlsbro on (0623) 753902.



JBL for Wall and Ceiling

JBL have introduced two new loudspeakers for the installation market, the S3 and S4. Both models are designed for wall or ceiling mounting, and the fixing hardware supplied allows for their easy installation in new or existing structures.

Both units feature JBL's renowned 1" titanium tweeter and polymer laminate bass drivers. Each S3/S4 package contains two loudspeakers, mounting hardware, templates and a mask to cover the drive units if the wall is to be painted after the speakers have been installed.

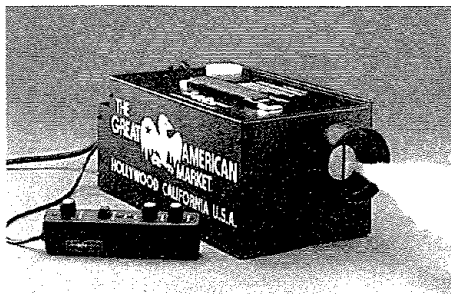
Ivie Software

American real time sound analyser manufacturers' Ivie (formerly Cetec Ivie) have launched two new software packages which further extend the already extensive capability of the computer based PC40. The PC40 - PC (IBM) software link allows either individual memories or the block of 20 memories to be stored firstly within the PC40 and then transferred onto a PC (IBM), or compatible.

Once on the PC the data can be manipulated by adding, or subtracting, A or C weighting. A second curve can be superimposed over the first, or a graph can be plotted against NC or PNC curves.

The PC40 RT60 software allows extremely fast RT60 measurement of all 10 octave bands or all 30 1/3 bands - simultaneously. As many samples as required may be automatically averaged. The information can be printed in tabular form for every band giving Early Decay and RT60 calculations as per ISO20 and ISO30. Select any portion of the delay curve and you will be given an RT60 calculation based upon this section. Any delay curve from any band can be displayed and/or printed, and each curve annotated and stored in the memory.

For further information concerning these or any other Ivie products contact Smart Acoustics, telephone (0633) 252957.



GAM Fog Machine

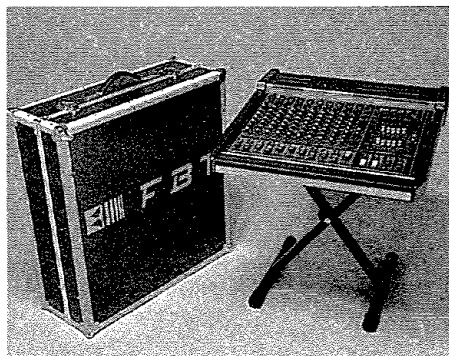
A new fog machine is now in stock at The Great American Market. It is a heavy-duty, professional quality unit and designed for safety and reliability. "We have made a reliable, high-delivery machine," said Joseph N. Tawil, general manager of The Great American Market. "It produces a large volume of smoke fast; the output is variable and completely controllable by the operator. It is safe, dependable, and easy to service."

The Great American Fog Machine can be operated manually or by auto-cycle. The volume of smoke delivered can be controlled in either mode. The manual mode includes an auto-reverse action which drains excess fog fluid from the heater, eliminating the unpredictable stray puffs of smoke which often plague production personnel. The auto-cycle includes presets for length of delivery and the interval between deliveries.

The unit contains a 2-quart inboard tank and can also be serviced from an external supply. It measures 18"x8" by 7½" height and weighs 19lbs empty. The hand-held controller is equipped with a 30' cord, extendable up to 250'. Black industrial grade flex hose is available, 4" in diameter, in 10', 15' and 25' lengths.

For more information contact The Great American Market, 826 N. Cole Avenue, Hollywood CA 90038, telephone 213/461-0200.

Audilec for F.B.T.



F.B.T. Electronics of Italy have appointed Audilec Distribution their sole UK importer and distributor. Audilec's sales director Phil Price told L+SI: "F.B.T.'s excellent line up will fully complement our growing profile of exclusive agencies: RCF, Audio Technica - Vogel's etc."

Mauro Zazinni, export director of F.B.T., told L+SI he is looking forward to a close working relationship with Audilec now that they are commencing a carefully planned market approach in Great Britain.

To coincide with the announcement F.B.T. have launched a new line up of five mixers and powered mixers.

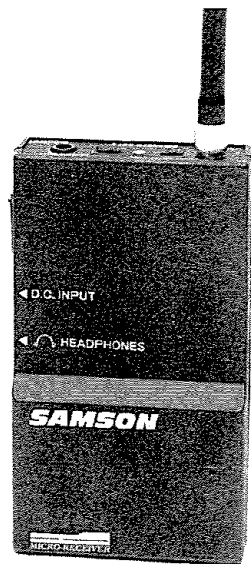
The DX 322 offers 10 channels into two outputs, 3 band equalisation, two auxiliary sends, a five band stereo graphic equaliser plus an extremely punchy 2 x 150w stereo output. All models in the range including the two unpowered 12 and 16 channel desks feature a unique 128 program stereo digital echo/reverb processor. Optional flight cases for the powered desks and heavy duty vinyl carry cases for the unpowered desks are also available.

For further information contact Audilec Ltd at 6 Hornsby Square, Southfields Industrial Park, Laindon West, Essex SS15 6SD. Telephone (0268) 419198/9.

Samson's New Market

Now entering its tenth year in business, radio microphone specialist Samson Technologies of New York is making serious inroads into the video market, having already captured a substantial slice of the professional audio and live music markets. According to newly appointed sales co-ordinator Mike Hennessy, recent R&D developments resulting in the company's MR-1 Micro Receiver have provided Samson with a vehicle that is already enabling the company to establish itself in this brand new marketplace. He told L+SI: "Our participation at the Video Expo in New York City gave us an opportunity to talk to corporate audio visual and wedding videographers. The feedback we received on the MR-1 was positive and the general feeling was that we had addressed and answered the needs for a receiver with multi applications."

Samson intends to build on the New York show by exhibiting at both C.E.S. and Infocomm shows this winter. For further information contact Samson's UK distributor Shuttlesound Ltd on 01-871 0966 or their European agents Executive Audio on 01-541 0180.



Designer's Dream becomes Production Nightmare

an L+SI exclusive

News of a massive colour scroller "to end all colour scrollers" has been leaked to L+SI by an environmentally conscious reader from the West Midlands.

Evidently the 'unit' under construction in a former bus depot near Birmingham City Football Ground will enable a complete stage area to be covered with a giant sheet of scrolled colour up to 30 feet wide, and it can be placed in either an upright or horizontal situation.

The technical problems that needed to be overcome to achieve smooth operation of the scroller were enormous, but various specialised engineering shops in the area have been called in to perfect the system which has to allow for large tension and temperature changes that could cause colour shift of "feet rather than inches" from colour to colour.

The motivation behind the project came as a result of the huge success of Light & Sound Design's huge units built for the current Rolling

Stones tour of the United States, and visitors to the recent PLASA show will remember seeing them towering above the Zero 88 stand on the ground floor.

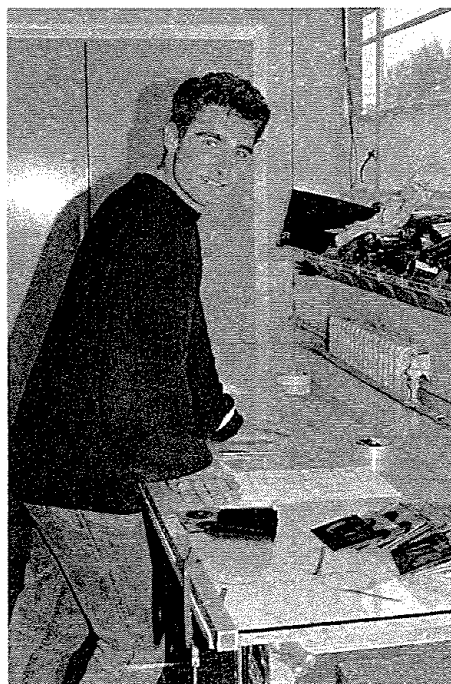
John Lethbridge of Presentation Consultants, LSD's selling arm, was one of the consulting team on the project. Rather bemused by the fact that L+SI has got hold of the story at such an early stage, he admitted that they had had serious problems to overcome, and that a group of PC and LSD directors had been working on the project in some secrecy. LSD director Simon Austin has been primarily responsible for the developing of the wind-up mechanism, and another director, Terry Lee, has made a serious study of FOH effects from various positions in the auditorium.

"We had tremendous difficulty joining the various trial sheets of colour," said John Lethbridge. "In the end we had to call in Tony Slee of Meteorlites who was ably assisted by his specialist gel team, whose knowledge of colour scrolling and tensioning of materials is second to none in the industry. Also, the perennial problem of green gels burning out was overcome thanks to the help of Supermick Lights, who tested a prototype version at a recent Friends of the Earth benefit, utilising 12 green gels in the scroller.

"However, we are almost ready to launch the idea, which we are sure will be given a massive send-off. I would like to pay tribute to the support we've had from the various colour manufacturers and we hope they will be lining up stocks of pre-stretched and tensioned gels in the appropriate widths. Mike Hall of Rosco has even gone to the extent of building special extension carriers for the tops of their vans to overcome transportation problems."

The new system is expected to be given a first showing at a major pantomime in one of Birmingham's leading theatres over the Christmas period. "We are hoping to arrange a special industry preview," said Lethbridge, "and will be announcing this shortly."

Note: L+SI also heard that theatres ordering the new system can have the option of creating their own colours as the high tension scroll travels through backstage areas. Sensitisers UK of Falmouth are at the final stages of converting a former car wash unit which can spray on polycarbonate colour lacquer at will from an expansive pantone range. Cerebrum Lighting are also working on a manual system which will provide six ladder stations for application of colour by hand.



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Stocking Filler

Bose has launched, in time for Christmas, the new passive 102, shown right in a suitably colourful and festive arrangement. The Bose 102 has become one of the company's most successful and professional products, and this latest version offers several added attractions to the original, once dubbed the 'invisible PA' because of its discreet, flush-fitting design.

The passive 102 doesn't require the system controller, and is ideal for smaller installations such as restaurants, wine-bars and pubs. It is equally suitable for 100v line installations as well as multi-zone applications, and is available in flush-fitting as well as surface-mounting configurations.

All the coloured grilles are available for the latter, and a choice of black or white cabinets. For further information contact Bose UK Ltd on 0795 475341.



Bopper UK Roadshow



Tecnation's 'Bambino' Bit Bopper.

Following on from the well received launch of the Bit Bopper Digital Entertainment Processor at PLASA, Tecnation have decided to take the system on a Roadshow. They are spending an evening at selected clubs and various audio visual market venues. This will give potential users an ideal opportunity for 'hands-on' operation of the system and will allow buyers to judge how the Bit Bopper's wide range of effects and messaging facilities can be used to add a dramatic atmosphere to any video screen based venue. Tecnation staff will be on hand to answer questions about the system. The Roadshow started last month, and details of the exact venues and dates can be obtained by contacting Tecnation on the Roadshow hotline (0831) 491137.

Tecnation have also announced that the Bit Bopper is to be supplied ready mounted in two tough 19" format flight cases - all ready to go. The main CPUs are in the larger lower case and the Emission Control Monitor in a smaller case which rests on top. This will make transportation and installing of the Bit Bopper quick and easy. The toughened cases will ensure that the Bit Bopper's on board computer and video hardware can withstand transportation when the system is used on the road.

To complement recent developments and to cater for the live music event, large nightclub scene and hire market, Tecnation have produced a special Professional Bit Bopper. The Professional system is two 'Club' Bit Boppers in one for far less cost than two separate systems. It offers spectacular mixing of the visual effects and message display facilities, along with increased storage capacity and archiving facilities due to the in-built 600Meg Erasable Laser Cartridge Drive.

Tecnation have also announced, more recently, the launch of the 'Bambino' Bit Bopper. It consists of just two small units, and is far more compact than the standard club system. For further details contact Tecnation on (0235) 848755.

New Philips Catalogue

The new edition of the Philips Lighting Catalogue has been published, and it provides an important source of product and lighting information for specifiers and users of professional lighting equipment.

The catalogue not only lists and illustrates Philips' entire current product range with many diagrams, technical and ordering information, but also has a number of helpful explanatory details on lighting products in general.

Larger than the previous catalogue, the new issue comprises 576 pages, and the section devoted to lighting control has been completely rewritten to explain the flexibility and energy-saving benefits of the company's products. A handy 5-page quick-reference guide to the most commonly used lamp types together with characteristics and applications has been inserted at the back of the book.

The catalogue is available on a complimentary basis from: Philips Lighting, Marketing Communications, City House, 230-240 London Road, Croydon, CR9 3QR.

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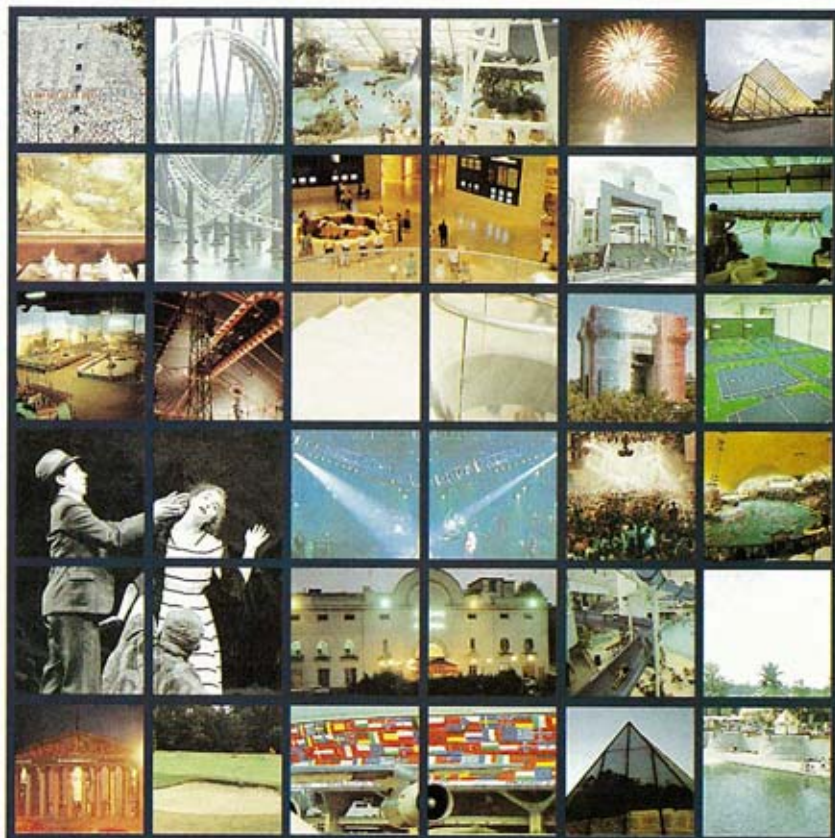
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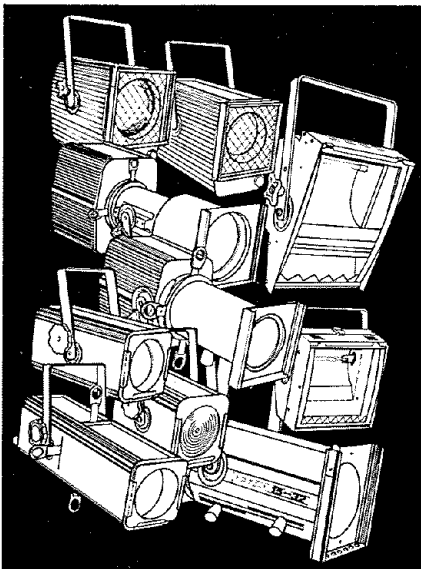
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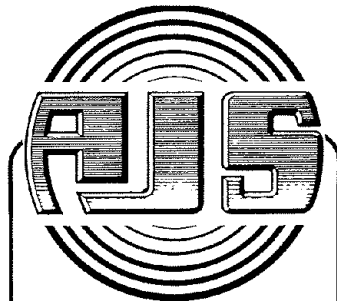
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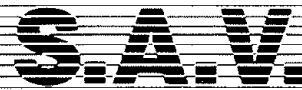
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VIEWPOINT

Matt Deakin on the The DMX/Communications Debate says Keep It Simple!

There has been a certain amount of debate in this magazine, and others, in recent months over the suitability of various communications protocols for lighting and moving light control. During this, the DMX512 protocol has come in for some criticism. Whilst I agree that DMX is too slow in its basic format, that error checking is not defined and that this is made worse by DMX being unidirectional, these shortcomings can be overcome.

Three major drawbacks to DMX?

With a refresh rate of 44Hz if all 512 dimmers are sent, DMX is slow. However, where speed is of the essence a short block of as few as 24 bytes can be sent. This will give a refresh rate of 836Hz! This obviously reduces the amount of data sent and a compromise for a given application has to be found.

The lack of error checking can be overcome by defining a new header code (there are still 255 spare) and for that header code to specify a data structure that contains a CRC or check sum. If a receiver unit gets a data block with this new header it can then read the CRC from, say, the last byte position in the data string. If the CRC is correct, then all well and good. If it is wrong, then what do you do? In a constantly refreshed system, as most lighting systems are, it would be perfectly valid to simply ignore the correct data packet and wait for the next one. An alternative is to send an acknowledge or not acknowledge (ACK or NAK) back to the transmitter. Great, but we said DMX is unidirectional. Wrong! The two spare pins on the DMX connector are defined as a return path. So it would be perfectly correct for a return path to be used with a DMX frame defined using two or more header codes as an ACK and a NAK.

So now we have a bidirectional error checking system which can be used to refresh at speeds of up to 640Hz all from a system that, supposedly, couldn't do any of these things. Furthermore, this has been achieved without going outside the original specification or causing incompatibility with existing equipment.

This sounds too good to be true! Well, the only problem is that DMX is a single master/multi receiver system. As soon as you

introduce the return path you get the problem of how to control which receiver talks on the return path and when.

There are several solutions to this. Either the transmitter can poll each receiver after sending a data packet to get the receivers to send their ACK or NAK packets. Alternatively, each receiver could actually input and retransmit the data it receives on the return link. It could then interleave its own data packets when required.

Getting a bit complicated?

Well this really brings up the problem with any complex protocol such as Strand's proposed SMX. If the protocol is fast, (unlike Strand's SMX) it will take a lot of processing power just to handle the communications.

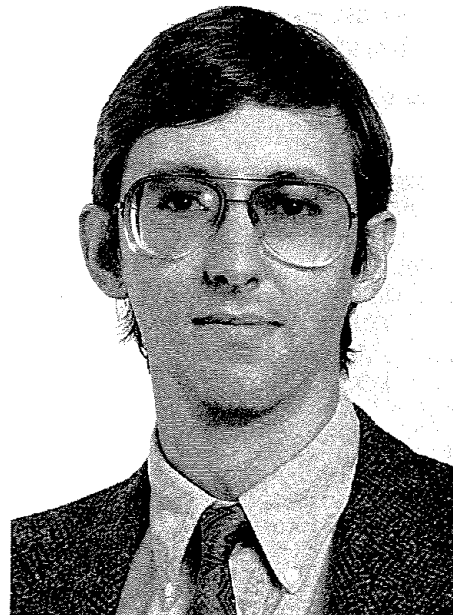
The need for more processing power is less of a problem today with ever increasing CPU power and ever decreasing prices, but even now MIPS cost money!

The industry is fairly price sensitive except at the very top, so defining a very fast, sophisticated protocol will almost certainly mean it won't get used. It's too complicated for most of the applications, the hardware costs too much and the prospect of implementing the protocol will give the software engineers nightmares.

From this article you may have got the impression I think DMX is the best thing since sliced bread. I don't. It could do with being a bit faster, 1 Meg Bits per Second for example and having a better defined more comprehensive protocol.

However, it is now being used and becoming accepted in the industry. A great plethora of new standards or proposed standards will either stop more people adopting DMX, while they wait to see what happens, or upset those who do use DMX when customers ask for 99 other standards.

I feel that any new systems should be backwards compatible with DMX and should bear in mind the vital fact that lighting is a real time application. When you press the flash button you want the light to come on NOW, not a week next Thursday. This calls for a fast communication system sure, but above all it has to be simple and designed for the purpose. Not a system for word processing and database networks!!



Matt Deakin is the technical director of lighting control manufacturer Celco Limited and one of the founders of the company.

His background in the lighting industry dates back to 1977 when he was employed by lighting rental company Showlites and their manufacturing division Alderham. After gaining experience with Showlites, he started his own manufacturing company, EFS Limited in 1978 and also embarked on a university degree course.

He graduated from King's College London with a BSc in Electronics and Computers in 1980. The following year, EFS merged with lighting rental company Celco to form EFS Celco Limited, now shortened to, and known internationally as, Celco Limited.

He is responsible for Celco's R&D department and manages the design of all new products.

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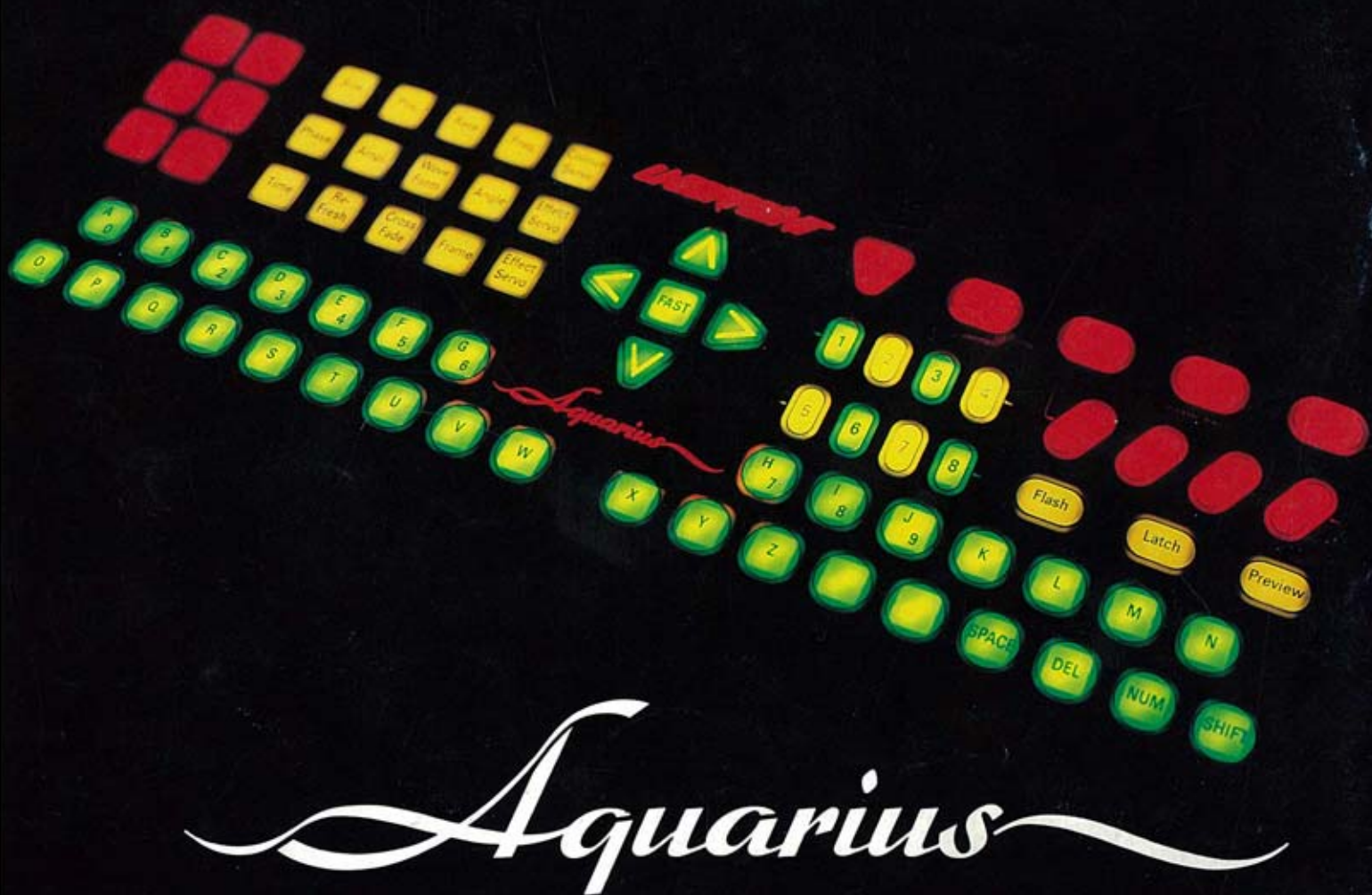
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