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JANUARY 1989



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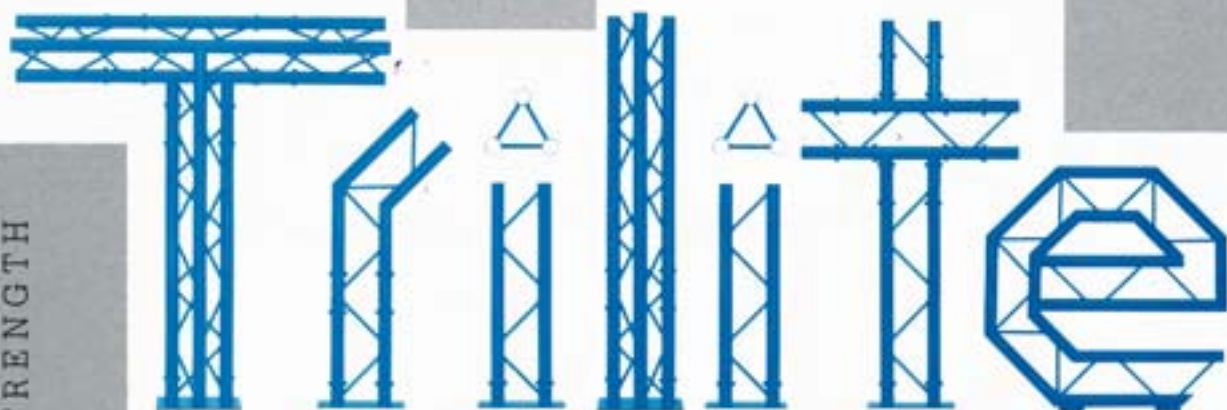
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# LIGHTING+SOUND *International*

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### Cover Story

Our cover picture this month shows New York's famed Studio 54. Michael Fink recently presided over the venue's resurrection, and also cast his spell on Club Merlin, formerly 4D. Tony Gottelier talks to him in this issue - see 'Of Myth and Magic in Manhattan' pages 40-43.



## LIGHTING+SOUND *International*

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**PLASA**  
PROFESSIONAL LIGHTING  
AND SOUND ASSOCIATION

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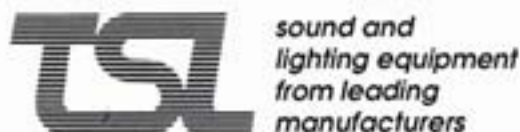
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## Early boost for 89 PLASA Show

PLASA Show organiser David Street has reported buoyant interest for the 89 Light & Sound Show due to be held at Olympia 2 in September.

With an additional 900 sq. metres of stand space available on the second floor, this year's show will again be PLASA's 'biggest ever'. Stands are currently on sale to PLASA members, many of whom are re-booking for 89 with requests for even larger stands.

With numerous enquiries in the pipeline, many from overseas, the big rush for stand space will be from February 1 onwards when space is available to non-member companies.

Full information on the Show from David Street on 01-994 6477.

## Ozone-Friendly Haze

M & M Lighting are now the sole distributors in the UK, Eire and Scandinavia for **Diffusion**, a canned spray developed especially for studio lighting effects. The atomised spray is completely non-toxic, odourless, tasteless and has no harmful effect on the ozone layer.

Diffusion works by the reflection and refraction of direct light from particles small enough to be supported by the air's own molecules. Using high intensity, sharp focus spotlights, it can create light beams of great clarity which possess a three-dimensional quality. During photography, Diffusion allows the light to be balanced and redistributed rather than lost as often happens during more traditional methods of filtering. M & M Lighting are looking for new dealers for the product.

## Eurolight Scoop More Major Contracts

Over the next few months **Eurolight Ltd** will be working on several major contracts, gained as a result of the significant increase in sales last year. The first contract, due for completion in July, is for the supply and installation of production, con-



## Anytronics' Light System

Our company profile this month features Hampshire-based Anytronics (see pages 26/27). Pictured above, managing director Bob Hall with Light System One, premiered at PLASA 88, and now in full production.

ference and light control systems for the Olavshallen in Trondheim, Norway. Worth in excess of £200,000, it represents further sales of Ovation and Spirit lighting control desks.

The second contract involves the supply and installation of luminaires, dimming, control systems and allied equipment for the new Glasgow Concert Hall. The company has also won a £50,000 contract to carry out a complete electrical re-design for the Lords View corporate entertainment centre in London, and in conjunction with Theatre Sound and Lighting, have won a further contract with the Natural History Museum. The two companies will provide lighting and structures for Gallery 11 at the museum.

## Miller to Launch Lighting Symposium

The International Philips Centre for Lighting Education and Research at the Bartlett School of Architecture and Planning, University College London is organising a one-day symposium that will be of interest to all amateurs and professionals concerned with the fundamentals of stage lighting, as well as lighting designers in all fields who would like to know how experts in the field of theatre lighting go about their task. The symposium, which is co-organised by the Lighting Division of the Chartered Institution of Building Services Engineers, the Association of Lighting Designers and the Association of British Theatre Technicians, begins at 10am on April 20th, and will be held in the 500-seat Bloomsbury Theatre.

In the morning session of the symposium, which will be introduced by Jonathan Miller, Francis Reid will talk about the aims of the stage lighting designer and Bob Anderson will review the latest equipment available for stage lighting. After lunch, two leading theatre lighting designers, David Taylor and John B. Read, will describe their work, and Andre Tames will close the symposium by describing his work and its links with the work of the architectural lighting designer. Both morning and afternoon sessions will close with a period for questions and discussion.

Registration fee for this unique and interesting symposium is £75, with a discount of £10 for members of the co-organising institutions. The fee includes coffee, luncheon and afternoon tea. Special rates are available for students. Applications for registration forms should be sent to Ann Nash at the Bartlett School of Architecture and Planning, University College London, 22 Gordon Street, London WC1H 0QB.

## PLASA Legal Seminar

PLASA will be holding a one-day legal seminar in mid-March, with contract law the main theme.

The morning period will cover formation of contracts, incorporation of specific points, i.e. items such as retention of title and notices covering the Consumer Protection Act 1987, insurance, international trade, passing of title and risk, penalty clauses, etc. The afternoon session will cover recovery of debts, disputed litigation and contested litigation.

The main speaker will be Alex Carter-Silk who will be supported by a barrister. Full details will be mailed to all PLASA members in the near future.

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## PEOPLE

● T.I.S. Lighting Ltd., welcome **Terry White** to the company as resident lighting designer and technical manager. He brings to T.I.S. a long pedigree, having worked for many companies in the theatre and conference field both in the UK and abroad. Terry White's knowledge and experience will further enhance the facilities that T.I.S. have been offering to the industry, including their range of services from design and hire to installation, sales and refurbishment of lighting equipment.

● **R. McKeon**, president of Electrocomponents Inc and **J. Wright**, director responsible for the distribution to retail sector, were appointed to the board of Electrocomponents plc, on the 1st of November last.



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● **Michael Quadrini** has been appointed to the board of European Leisure.

● C Audio, the Cambridge-based power amplifier manufacturers have added **Kevin Lamb** to their team of research and development engineers. Before joining the company, Kevin Lamb spent two years with Celestion as production engineer prior to being promoted to a post in their electronics research and development department. Working alongside head of engineering Steve Hale, Kevin Lamb will assist in the design of all future C Audio products.

● Electrocomponents plc, the parent company of RS Components Limited has announced the appointment of RS' managing director, **Norman King** as Electrocomponents group marketing director, whilst **Neil Coultts** will take over as RS managing director. Norman King joined the company in 1972 as marketing manager and became subsequently marketing director of RS. He was responsible for establishing Pact International, and was appointed to its board before returning to RS as managing director. Neil Coultts joins RS from Mars Limited, where he has held a number of senior management positions over the past 15 years.

● **Lee Magadini** has joined the staff of The Great American Market as sales representative and technical consultant for the east coast. Previously, she worked in sales for both Kliegl and Strand Lighting and, more recently, she served as east coast operations manager for Strand Lighting. "Lee's varied background gives her an excellent overview of the industry... She knows the ropes and will work closely with designers, consultants and dealers in all areas." Joseph Tawil, general manager of Great American Market, told L+S.

● Joining Elliot Bros. (Audio Systems) Ltd. as projects manager will be **Andrew Riley** formerly from BBC Radio Capital Projects. He will take over engineering responsibilities from Bruce Elliot who, in the future, will concentrate on corporate strategy.

● Roscolab have appointed **Joanna Butler** as sales manager, she worked for the company as paint



**Joanna Butler.**

product manager for several years before leaving for a brief period of time to set up a sales division for a distributor. Her return to the company involves managing the marketing team for Roscolab's UK and International operation.

● Earlier in the month, Jivelight Ltd. were joined by **Mike Henden**, formerly of Luton Sound and Lighting. Mike Henden brings to the company a background in electronic and mechanical engineering, and joins Jivelight as a sales manager. His brief will be to increase the company's market penetration worldwide, but with particular reference to the UK northern sector.

The company is sole UK distributor for Copperluz and Sapro lighting effects, in addition to which, Jivelight manufactures its own brand name of lighting effects and smoke machines.

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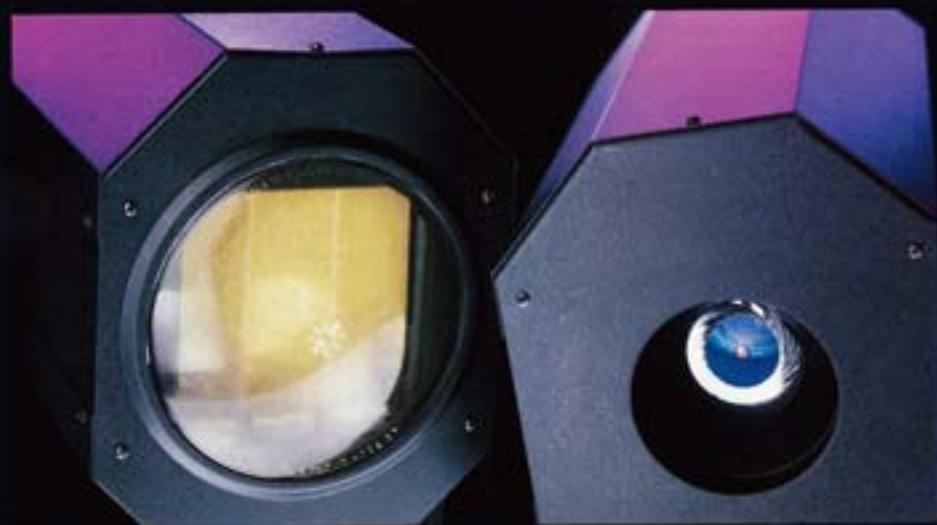
## ARTISAN™ CONTROL CONSOLE

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Made under U.S. Patent Number 3,845,351.

Specifications are subject to change without notice.



## Tomcat Teamwork

Whilst in the local area in December, L+SI's editor John Offord popped in to see Tomcat Engineering at their Pershore, Worcestershire base, a regular hive of truss-making activity.

Just being loaded was a consignment of Parcans, various trussing and a ground support system on its way to Cologne, West Germany. It was typical of the projects now being handled by the company, and director Dave Tomkins told L+SI that 1988 had seen no less than a 300% increase in turnover on the 1987 figures.

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Tomcat's engineering team.



Tomcat directors (left to right): Chris Cronin, Neville Lee, John Tomkins and Dave Tomkins.

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## Birthday Ace

It's gotta be some kind of record! Well-known golfer and boozier about the lighting industry, Freddy Lloyd, gave himself a birthday present of a different kind on Saturday, January 7th.

Being so close to Christmas and the New Year, his birthday was constantly being overlooked, so he decided to treat himself (and his long-suffering wife) to a golf weekend at the famous St. Pierre Golf Club in Chepstow. On the very day of his birthday, he hit his career first 'hole-in-one'. Frustrating for him was the fact that the only observer privileged to witness the miracle was his wife! Therefore, it doesn't count!

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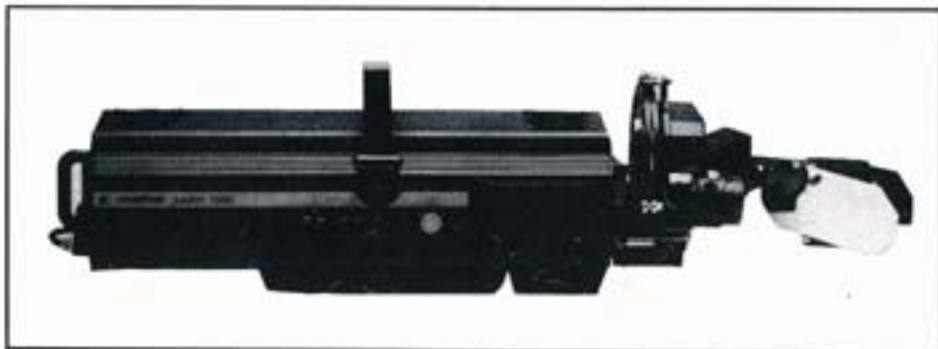
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## Coemar's new Jupiter

Coemar has recently introduced the new **Jupiter** projector system to its range of lighting effects, and a bank of 12 were on view at the recent Discotec exhibition at Dusseldorf. The system can incorporate either the 700 or 1200 Watt Philips MSR discharge lamp. A beam diverging mirror at the front of the projector is moved under remote computer control to accurately position the beam of light.

The optical system contains two rotary cassettes for 12 pattern gobos and 12 dichroic colours, and a black-out shutter is also included to switch the beam on and off.

The design of the system permits maximum user flexibility through the use of standard fixtures and fittings, and Jupiter is supplied with 12 commonly used effects colours. The glass dichroic filters provide extremely sharp and strong colours, say Coemar. Additionally, a larger range of colours is available, and the Jupiter's colours can therefore be adapted and customised to suit any performance. Gobos and colours clip into their respective cassettes, and the cassettes are designed for quick and easy change-over, even when the unit is in an installed situation.

The beam-deflection mirror is mounted on an adjustable frame which can be positioned to give optimum beam coverage. Micro-stepper actuators and stepper motors are used to position

the mirror.

Data transmission from the central computer controller to each Jupiter is multiplexed on three wires which link each projector in turn, and the number of channels available is governed by the capacity of the computer control.

Jupiter is available in the UK from WB Lighting of Northampton on (0604) 499331.

## PALS for Hire

As announced in the June 88 edition of L+S, Cyberdescence Lighting have for hire the Precision Automated Lighting System (P.A.L.S.). Unfortunately, the preview of remote control luminaires, published in our December issue, indicated that the system was not available for rental. Cyberdescence have a full range of units including 5kW and 1200W fresnels, 1200W profile spots, PAL 64 and 56 units and scrollong colour change units. The equipment is available for hire from Cyberdescence's new premises in North Finchley. For further details of their hire facilities, ring 01-446 4248.

## News Briefs

● A record 170 exhibitors will greet visitors to **Lightshow 89**, the 25th Anniversary International Lightshow, which runs from 15-19 January. "We

are delighted with the response and it means we are also covering more floor space than ever before," Lightshow organiser and director of the Decorative Lighting Association, John Tengwall told L+S. He put the increase of exhibitors and stands down to the continuing expansion of the retail sector of the market.

● The annual Student Lighting Design Award, also organised by the Decorative Lighting Association has attracted increased entries this year. 21 colleges have so far indicated that their students will be entering for the award which carries a top prize of £1,500. Initial flatwork presentations will take place in February, with the finals being staged in May at the Royal College of Art in London. A selection of the 1988 entries will be displayed from the 15-19 January at the International Lightshow at Olympia.

● The Rt Hon Kenneth Baker, MP, is to present the **Young Woman Engineer of the Year Award** in London on the 10th of this month. Jointly sponsored by the Institution of Electrical and Electronics Incorporated Engineers and The Caroline Haslett Memorial Trust, the award is intended to focus attention upon electrical and electronic engineering as a worthwhile professional career for women. In addition, three finalists have been selected for the Mary George Memorial Prize, presented to a young woman showing particular promise as a technician engineer.

● **Smithfield Electronics** has recently celebrated its 10th anniversary by promising a whole new product range in the coming months. Concurrent with this their phone number has been changed to 0244 349062.

● In August 1987, Wigwam Acoustics installed a central cluster in Harrogate's prestigious Conference Centre, comprising of components supplied by **Shuttlesound**. One year on the company's Electrovoice system has been highly praised by Bill Graham, technical director at the centre. He told L+S: "The system is a major improvement, firstly because it doesn't fight the auditorium's acoustics and secondly, it produces quality of sound."

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## THE·SOUND



## DEPARTMENT

# A Rock Rig for Algiers

L+SI talked to Charles Wass of Tele-Stage Associates about the background to an unusual export contract and behind the scenes preparations and training for the local crew.

Tele-Stage Associates recently arranged a major concert touring system for the Algerian government. Other British companies involved were Shuttlesound, Avolites and Tomcat Engineering.

Originally featured in our News section in September, L+SI takes an in-depth look at the project.

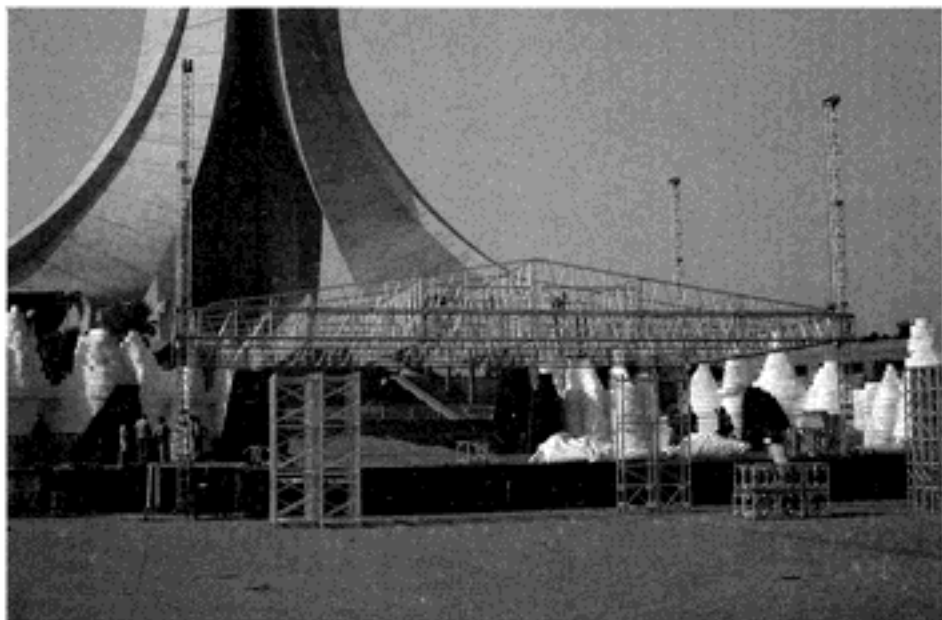
It was something of a surprise when Tele-Stage Associates of Bury St. Edmunds in Suffolk received an enquiry from Algeria (via the Department of Trade and Industry) for a complete rig for rock shows - for that was what the barely legible list of equipment clearly comprised. It was even more of a surprise to find that the source of the enquiry was from the Ministry of Culture and Tourism of Algeria and that the finance was to be a British loan - the sort of thing you associate with worthy endeavours like building schools and hospitals.

Anyone who has worked in North Africa, or for that matter the rest of Africa or other Arab countries, has seen the impact of Western rock music and the way it has led to the development of local bands. Even so, it was intriguing to find a government department involved in promoting them. It's a far cry from the British scene, but these discoveries and thoughts came later.

Though the context was unusual, the immediate requirement was all too familiar to Tele-Stage - a quotation within days. And the list of equipment wasn't completely clear. Avolites and Soundcraft desks were obvious, but guesswork was required to decide what some of the speakers might be, as no manufacturers' names were given.

However, a quotation was put together in a few days, with Shuttlesound offering a great deal of help and alternative proposals, especially with regard to the speakers.

Following such an odd enquiry, it was encouraging that an invitation to visit Algeria came shortly afterwards, and it was during



The rig set up in Algiers ready for lighting to be installed.

this trip that the surprising background started to come to light, and the team of Charles Wass and Richard Northwood of Tele-Stage, and Mark Burgin of Shuttlesound proved to be well chosen, as a wide range of topics inevitably came up.

## Two into One Will Go

Most interesting was the requirement for the system to become two, or at least one system large enough to be divided into two smaller self-contained systems. And this applied to everything: lighting, sound and rigging. The original request for two lighting desks and four mixers now made sense!

More important was the realisation that the rig was for use outdoors and there was no ground support system included. Mark Burgin was luckily prepared with pictures of a suitable system from Tomcat Engineering

and calls to England enabled a quick proposal to be put together for this essential element.

The team then returned to the UK with a PA system schematic in red and blue to show how the system split, and with a request for the ground support system and five trailers to transport the rig.

## Getting it There

Another visit to Algiers by Mike Bacon and Charles Wass of Tele-Stage shortly afterwards resulted in a contract on 13 April, but that was when the problems started. The purchaser, Office Riadh el Feth (OREF), which is part of the Ministry, wanted the equipment in 13 weeks to enable a period of training for their technicians before they used it for National Day Celebrations in September. But banks in Algiers and London



Training in the UK: rigging PA monitors.



Algiers: learning to fit up the PA towers.





The system set up in Algiers (above and below) with the Victory Monument dominating the scene.

and ECGD in London took a long time to agree formalities in spite of being regularly chased. The suppliers had to commence preparations before the formalities were completed, and that finally happened on 11 August, six days after the Algerian crew arrived in England to start a period of training.

There was a further period of nail biting during shipping. The route chosen to get the

equipment to Algiers in the shortest possible time was overland through France with shipment from Marseilles. The trailers sat on the quayside at Marseilles for almost a week while client and contractor remained in the dark about what was happening. They certainly never made it aboard the first or second ships they were booked on, and Tele-Stage never found out why. Certainly



the client was extremely annoyed as the vital training period began to tangibly diminish.

#### Training

How do you go about training a foreign crew in lighting, sound and rigging? As Mick Williams later commented, he realised that he had 'trained' people before without having thought about it, just as others must have done often with inexperienced crew members. Being conscious that this was what you were actually doing, and being forced to do most of it divorced from the reality of a gig, made the exercise a completely different experience.

Arranging a whole programme in advance for a group whose abilities were unknown was a problem, and it was worsened by the fact that they expected to use their own equipment. However, the delay in starting the contract meant that much of the equipment would not be ready when they arrived. Madame Sahraoui of OREF, who organised things at the Algerian end, had not been sure how many there would be who had worked on their previous festivals. In the event it was encouraging to find that when the crew arrived; most of the team of eight had worked on rock shows before.

Matters got off to the worst possible start when the first group of six were held up by immigration at Heathrow. Tele-Stage's project manager in the UK had to vouch for them, explain the reasons for the journey and guarantee departure within a month. Not surprisingly, Tele-Stage's visitors were very annoyed, and neither were they too pleased to be packed off to the Tele-Stage factory at Bury St. Edmunds. Remotest Suffolk was not what they expected! The split into two groups was unavoidable, and fortunately for both parties they accepted matters quickly. The sound system was still being put together in Putney by Shuttlesound, lighting equipment had yet to be delivered by Avolites and other sources, and Tomcat were just completing the roof and towers in Pershore, Worcestershire.

The pattern was different for each group. Ideally they would have been out on gigs learning in the usual way, but that wasn't easy to arrange for a foreign crew and they expected training to be with their own equipment. The exercise had to begin without a complete system.

Mick Williams' activities were inevitably based, to begin with, at Shuttlesound where the PA was being prepared. A start was made on familiarisation with the equipment. The mixers, amps, graphics and some monitors were ready and the visitors were







The rig in action: a fashion show in progress.

able to use them straight away. They all had some experience, but it became clear that they were familiar only with a limited range of equipment and naturally they compared everything new with the equipment used by their own organisation. They were not aware of the large range of equipment available in this country.

Learning without music would be impossible, and it had not been viable to take the crew on a gig. Time was therefore arranged at Guerilla Studios. First they worked through the kit-use of jackfields, routing, and processing. With two two-inch reels of 24 track available, much could be done. They

then moved on to attempt to improve the signals and an exploration of the potential of noise gates, compressor limiters and so on. Finally they went on to do a balance.

Another visit was made to Samuelson Concert Productions where Steve 'Rodent' Connolly was very helpful. OREF was planning to run a hire operation, and this was something new for them. A tour showed the Algerians something of what is involved in running such an operation, from servicing to preparation of kit ready for the road. They came upon an even wider range of products on a visit to the Prosound Show at Heathrow, where they were also able to

meet such industry luminaires as Bill Kelsey.

The highlight of the visit to Britain was certainly the Pink Floyd concert. Even though they had not been able to do a gig in the UK, the concert demonstrated what it was all about, what can be done and what they might aim towards.

The rigging crew seemed to evolve by default, nobody having been specifically assigned to it by OREF. A variety of people became involved when Chris Cronin arrived at Bury St. Edmunds to demonstrate, along with Ian Hill, how to assemble the roof and towers. Inevitably, learning this had to be an entirely practical 'copy what I'm doing' exer-



Pete Wilson (right) at the lighting controls and Ian Hill at rehearsals.



Another scene from the fashion show.



cise. Though the covered yard at Tele-Stage is very big there was no way to put up the 18m by 12m roof - it had to be a smaller roof to a lower height - and Chris and the team spent three days putting it up, demonstrating alternatives and changes, and taking it down again.

Pete Wilson handled lighting from a base at

Bury, making a start with pencil and paper. This approach turned out to be very worthwhile especially for one of the crew who had no experience at all and who had to start from scratch. After theoretical coverage of lighting techniques, functioning of the equipment and electrical essentials, he moved on to practical exercises. At Avolites the

desks were ready and hands-on learning started. Only the control system was available there of course, but with the lighting desk, the displays enable you to understand the operation without necessitating the provision of the complete system to understand individual functions.

Having worked with the complete system at Bury, the lighting crew did have the benefit of working on an actual gig at Bristol which Pete Wilson arranged. Learning about the rest of the kit started at Bury where a structure existed to hang lights on. Soon the whole Algerian crew were together, but there was no way to demonstrate the interactions between the different activities that happen on a show. That would have to wait until their return to Algeria.

#### Credits

Client: Office Riadh el Feth  
Ministry of Culture and Tourism, Algiers  
Contractor: Tele-Stage Associates (UK) Ltd.  
Lighting: Avolites Production Co. Ltd.  
Sound: Shuttlesound Ltd.  
Roof Structure: Tomcat Engineering Ltd.  
Crew:  
Ian Hill, manager/structure  
Pete Wilson, lighting  
Mick Williams, sound (to October)  
Will Roberts, sound (December)

## The Equipment in Detail

The complete rock and roll staging system comprised:

1. Ground support box truss - complete with waterproof roof.
2. Lighting - luminaires, dimmers, control and cables.
3. Sound - 40kW PA system complete with monitor system and effects.
4. Transport - 40' trailers to store and transport the equipment.

The brief was to supply a 60' x 40' stage with a box truss roof 30' above floor level, cyclorama, back cloth, concert lighting and PA system. The whole package to be capable of being used both indoors and outdoors in any of three basic configurations. The equipment could be used as one large set for shows with a 60' x 40' stage or alternatively split into two autonomous sets for use with 40' x 30' stages.

To this end the Tele-Stage design team worked as overall project management in collaboration with three UK companies to produce the systems detailed as follows:

**1. Ground Support Structure** In conjunction with Tomcat Engineering Limited an extremely versatile solution was produced to fulfill the brief. A free-standing structure of aluminium trussing with a self-climbing box truss was produced, and this was fitted with truss cross members which rose to form an apex for support of the roof material. With the addition of a small quantity of extra pieces and two more legs, the split into two systems could easily be achieved.

Four custom PA towers, also of a ground support self-climbing style, were also produced. In the main configuration these form two front-of-house towers and two delay towers. Because all four were of the same design when the equipment was split, they could be used as two pairs of FOH towers. These towers were also supplied with follow spot seats for use as various shows dictated.

**2. Lighting** The main supplier for this equipment was Avolites Production Co. Ltd. who supplied their own dimmers along with a QM500-90 and a Rolacue 60. The client specifically requested these boards as their staff already had experience with them from foreign tours to Algeria.

As well as complete mains, signal and distribution cabling a large quantity of luminaires, Par 64 lanterns, aircraft landing lights, Leko's cyc lights and follow spots were supplied. The system was rounded off with Rosco smoke guns and line conditioners for the control desks (to try and smooth out the notorious Algerian mains supplies).

**3. Sound** The main credit for this section should go to Shuttlesound Limited who had the unenviable task of coping with largely untrained Algerian engineers who knew exactly what they wanted! In the end the new Electro-Voice MT4 system was chosen because of its high power handling capability for a small system and its ease of touring. EV speakers were also the choice for the monitor system, sidefills, drum fills and floor wedges. All of these units were powered by 56 Amcron amplifiers.

Once again, the choice of mixing consoles was largely decided by the previous experience of the Algerian crew. Because of this and their ease of maintenance, Sound

craft was the order of the day with one Series 8000 and three Series 500 desks being selected.

The outboard equipment came from such names as Electro-Voice, Furman, Micro Audio, Tascam and Yamaha. All this was fitted in flight cases custom built by Stirling Cases (who also supplied the lighting cases) complete with transformer isolated power distribution.

Over 60 microphones and two Samson radio mics were supplied complete with all necessary multicores, cables, stands, etc.

**4. Transport** At a late stage in the contract, five 40' trailers were added to the shopping list to serve as both shipping containers from the UK to Algeria and as local storage and transportation.

#### PA Towers:

- 12 x 10m truss legs c/w head blocks, hinges, bases
- 8 x PA trusses
- 48 x stabilisers
- 12 x 1/2 tonne motor hoists c/w control
- 6 x follow spot chairs

#### Roof:

- 28 x perimeter truss sections
- 8 x Tomcat roof truss sets
- 8 x 10m truss legs c/w head blocks, hinges, bases
- 32 x stabilisers
- 8 x 1 tonne motor hoists c/w control
- 3 x roof covers

#### Lighting:

- 3 x Avolites 72 x 2k dimmer racks
- 1 x Avolites QM500-90 control desk
- 1 x Avolites Rolacue 60 c/w P&G mastering and disk drive
- 1 x 600 amp three phase mains distribution
- 2 x 150m double remote
- 1 x 150m single remote
- 6 x cyclorama lights
- 4 x long throw Lycian follow spots
- 2 x short throw Lycian follow spots
- 2000m Socapex multicore
- 1000m TRS cable
- 8 x Socapex spiders
- 2 x Rosco 1500 smoke guns c/w fluid
- 63 x 6 way IWB fitted with Par 64 lanterns
- 16 x 4 way IWB fitted with Par 64 aircraft landing lights
- 10 x meatracks
- 16 x cable bins

#### Sound:

- 14 x EV MT4H high frequency cabinets
- 14 x EV MT4L low frequency cabinets
- 8 x EV SH1810 speaker enclosures
- 4 x EV SH1810S split speaker enclosures
- 8 x EV FM1502 floor monitors
- 8 x EV FM1202 floor monitors
- 56 x Amcron amplifiers
- 4 x complete sets MT4 flying equipment
- 28 x graphic equalisers
- 8 x Furman compressor limiters
- 2 x Micro Audio digital delay lines
- 870m various speaker cables
- 4 x 150m multicores
- 2 x 32 way 3 way split stage boxes
- various desk looms, stage links, delay lines, etc.
- 4 x Patch systems
- 68 AKG/Shure/Sennheiser mics
- 24 DI boxes
- 2 x 6 channel Samson radio mic systems
- 2 x Tascam 122B cassette players
- 2 x Yamaha Rev7 digital reverbs
- 4 x Yamaha SPX900 effects processors
- 8 x Furman stereo limiter/compressor/gate/expanders
- 1 x Soundcraft 8000 32/8/2 console
- 1 x Soundcraft 500 32/12 console
- 1 x Soundcraft 500 32/8/2 console
- 1 x Soundcraft 500 24/12 console
- 1 x Cirrus Research CRO231 meter
- 2 x 100 amp mains distribution systems

#### Transport:

- 5 x Lodge 40' step frame air-ride trailers

## Report Back

(extracts from a report from Ian Hill in Algiers, December 1988)

"We have supplied so much aluminium trussing etc. that the trainees are all excited by the possibilities, and it is played with like lego. We have just re-designed the PA towers to give a higher lift, and different configurations, for example.

"Safety is a predominant problem, and another reason for worrying that when someone nods their head, they may have no idea what you are talking about. (This problem arises even without a language barrier).

"The standard of equipment supplied is extremely high, and so far we have had few problems. One is with the extremely high humidity, which encourages corrosion unbelievably fast, perhaps salt-laden, also. Every single nut and bolt needs to be galvanised. We have had 3 out of 8 1-ton Verlinde's fail due to the clutch plates corroding together. Fortunately this is easily remedied, but extremely worrying if they fail in a fit-up.

"Another more abstract idea we have to instill is that of order. With five trailers full of equipment, if an essential component (and let's face it, in any system most parts are) is in the wrong box, it can be hell to find it. So, every box is now marked and has a contents list in the lid.

"Shuttlesound did a particularly good job in producing their own attractive booklet. The sound equipment splits into a red and blue system, and all the cases and equipment are so marked, but we are now encouraging the crew to make their own decisions about what is needed, as we enter the planning and design stages of the training.

"Since they have no one in the country with contract or hire businesses in this field we have had to explain the principles of rental charging, how to cost a job, how to make up a contract, maintenance schedules, etc. There is always the fear that, because of the expense and difficulty involved in buying new equipment, or spare bulbs, for example, the equipment will be run into the ground, the time taken to do this depending on the efficiency of the training.

"They have a total monopoly of North Africa, and are unquestionably in a position to dictate to their customers, rather than the other way round."

# EQUIPMENT *News*

## Celestion Expand SR

Celestion recently announced the arrival of the latest addition to the SR series - the **SR3** loudspeaker and the **SRC3** system controller. The former incorporates a specially developed 8" driver employing 'hard dome' technology. Its extra long edgewound voice coil ensures full control of all frequencies at high sound pressure levels. The SRC3 system controller provides the necessary equalisation to give smooth response over a 60Hz range with a power handling of 150 watts per unit.

For details contact Celestion International on (0473) 723131 or see the new products at the Frankfurt Music Messe.

## Lee Colortran Product Catalogues

A new set of colour literature covering its main product ranges is now available from Lee Colortran International. The colour brochures give details and photographs of: Lee Colortran's **Daylight Luminaires** range, **Tungsten Luminaires** range, the **Flexkits** portable lighting range and a variety of suspension equipment and filters.

The company has also produced a new product catalogue for its **Windsor** theatre luminaire range. Steve Hall, head of marketing, told L+S: "Together with the existing product literature - including a 48 page price list and buyers guide - we now have a comprehensive and up-to-date set of literature."

Contact Lee Colortran on 061-788 0174 for copies and further information.

## Studio Power Designer

Studio Power have launched a **Designer** range of loudspeakers, and the **SUB 2000** is a loudspeaker system that the company have created to blend into any environment. The system incorporates two 8" bass units mounted out of phase with each other in a 'push/pull' arrangement in one cabinet. By designing the bass cross-over at very low frequency, it is possible to site the sub woofer anywhere in the room, producing a clean responsive sound without affecting the stereo image, say Studio Power. They have used this design feature to create satellite units for the system.

Alongside these developments, the company have also introduced to the market, again with the emphasis on design, a compact sound panel incorporating a 6" bass drive and 2" cone domed tweeter that reproduce an open and dynamic sound.

For full details contact Studio Power at 65 Victoria Road, Guiseley, Leeds LS20 8DQ telephone (0943) 870057.

## Panasonic Consoles

Panasonic Consumer Electronics U.K. have introduced two new mixing consoles to the entertainment industry.

The first is the **WR-X01AE**, a compact mixer offering push button control over eight separate stereo inputs, plus four microphone inputs. Packaged in a compact cabinet, and offering such features as auto ducking, compression and effects return, not normally found on small mixers, the unit's intended application is within the small entertainment environment.

The second unit falls at the other end of the scale - the **WR-SB40** monitor console and the house version **WR-SB52** - are based on the forty input frame with a design that facilitates low levels of noise. According to Ian Sharpe, product manager at RAMSA, the two mixing consoles are fast becoming an industry standard.



Celestion's new SRC3 speaker and SRC3 control.

## Three from Klark-Teknik

Three new products have been added to the Klark-Teknik range, the **DN500** dual compressor/limiter/expander; the **DN510** advanced dual gate and the **DN514** quad auto gate.

The DN500 offers a combination of variable knee compression, independent limiter and clipper and a variable ratio expander/gate. The DN510 sets a new standard in creative audio gating with advanced mask and delay functions and velocity sensitive midi, say K-T. To complete the range, the DN514 will find its application wherever 'quick to set' auto gating is required. The unit provides full frequency-conscious gating in the minimum of space and, according to Klark-Teknik, has a unique sync function which synchronises harmony parts, brass sections etc. by interlocking all four gate-release times.

For further details contact Klark-Teknik at Walter Nash Road, Kidderminster, Worcs DY11 7HJ telephone (0562) 741515.

## Le Mark Tour Labels

Requests from customers visiting Le Mark during the PLASA Light and Sound Show have led to the introduction of standard format 'tour labels' offering high initial grab, yet peel-clean adhesive when removal is required. The company offers two standard sizes and formats for the labels which are produced on durable matt write-on vinyl.

The company has also launched a new range of crystal clear tape to assist in the make up of 'filter scrolls' for the lighting industry. The **Limpet Crystal Tape** is coated with age-resisting acrylic adhesive, and its excellent transparency and high resistance make it ideal for the manufacture of filter scrolls, say Le Mark.

For more information contact Le Mark on (0480) 494540.

## Spectrum Analysis from Vector

Vector Marketing have introduced to the market the new **IVIE PC-40** computer-controlled spectrum analysis system and precision sound level meter.

The IVIE PC-40 is a significant advancement in spectrum analyser technology. Capable of making a variety of measurements, both quickly and accurately, the PC-40's capabilities are almost limitless, say Vector.

The PC-40 has 20 non-volatile memories, plus parallel and serial outputs. In addition to its built-in functions, it is user programmable in BASIC, giving it wide flexibility.

It has a 'tilt-up' LCD screen with selectable octave, one-third octave and weighted one-third octave display, and the powerful internal memory allows the display of two or more curves simultaneously. In addition to the standard features, software options available facilitate the measurement of RT60 and enable the unit to PC transfer data files for manipulation and documentation. A specialised environmental software package will shortly be available which will enable the PC-40 user to satisfy a whole range of specific requirements.

For further information contact Vector Marketing on 01-359 1298.

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## Macro-Tech 2400

Designed to meet the demands of digital audio and withstand the rigours of touring, the new **Macro-Tech 2400** is a miniaturised 3½" high rack mounting power amplifier from Crown. The Macro-Tech 2400 offers low distortion, a high dynamic range and patented circuitry that allows for extreme swings in voltage without putting output transistors in series. This is achieved through Crown's ODEP output protection device which simulates the output transistors and has the ability to detect and compensate for both overheating and overload.

Able to deliver 1580 watts in bridged mode, 800 watts per channel into 40 ohms or 525 watts into 8 ohms, the unit benefits from a variety of optional plug-in circuit cards that tailor the amplifier to user's needs.

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

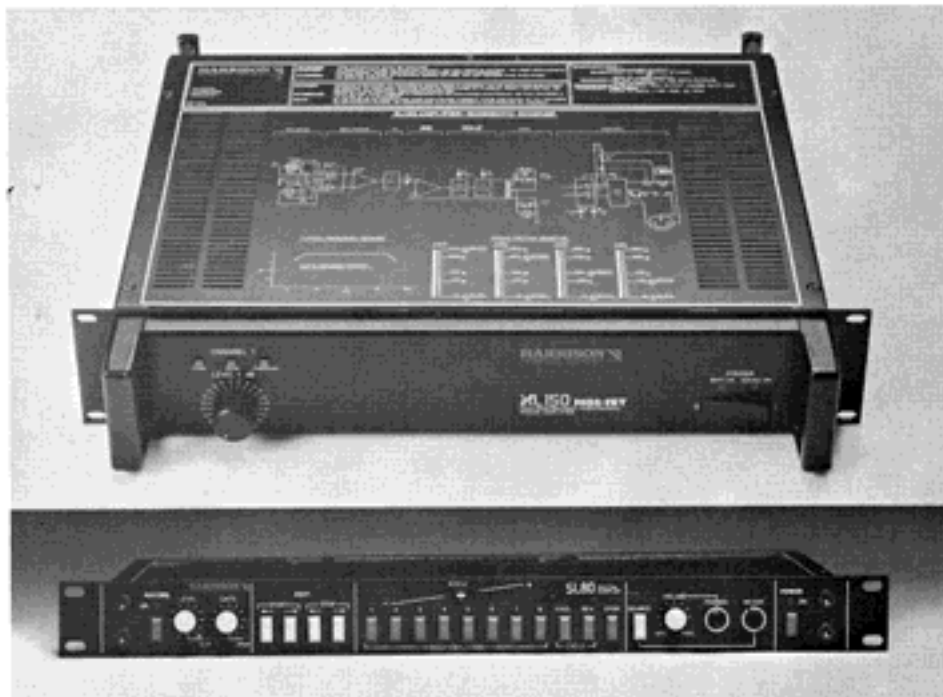
## Price Plunge

Architectural and stage lighting control manufacturers, Lytemode of Milton Keynes, have produced a **product range catalogue** detailing the company's range of equipment along with a list of prices that are actually less than the list prices of 12 months earlier. Details of the company's new DMX range is given for the first time.

## New AKG Mics

The **C525S** is a hypercardioid condenser, purpose developed by AKG to provide high levels of sound quality on stage, coupled with the benefits of ruggedness and durability more closely associated with dynamic microphones in live performance. A major advantage of the C525S is that it can be phantom powered either from a mixer in the normal way or by a battery, giving much greater freedom on stage, say AKG.

AKG are expanding their range of budget line microphones with the addition of two new dynamics, the **D90S** cardioid and the **D95S** hypercardioid. Both are of particular interest to musicians who perform live for they feature specifications which include a frequency range of 70 -18,000Hz and a sensitivity of 1.3mV/Pa, and both are built for durability.



Harrison Information Technology's XL150 Mosfet power amplifier (above) and the SL80 digital sampler.

## New from Harrison

The research and design engineers at Harrison Information Technology have produced a digital sampler specifically for the disco market. The **SL80** contains no less than 2 megabits of Random Access Memory which is programmed to accept and recall eight different sound samples, each of which may be played in forward or reverse. Pitch may be varied up to an octave by the means of a simple slide control. Sample start points may be precisely recorded by the gate 'sound detector' incorporated and precise editing facilities. It has on-board battery back-up so that the operator can retain favourite samples long-term, and to protect against accidental power loss.

Also new from Harrison is the **XL150** Mosfet power amplifier which generates 150 watts of high quality audio. Incorporating a dual supply system and an additional optional plug-in microphone input the model offers complete fail-safe performance, say HIT.



## Anchor Mini-Vox

Boasting a 5" waterproof full range speaker and an indestructible polyethylene casing, the **Anchor Mini-Vox** portable sound system is now distributed in Europe by Executive Audio. The system, claim the company, is ideal for tour security liaison and crowd control.

Contact Executive Audio on 01-541 0180.

## Milab from Court

Milab International of Sweden have introduced two new microphones, the **D-37** and the **BM-75**.

The D-37 is Milab's first high quality dynamic microphone and has been designed to cover a wide range of applications. The BM-75 is based on the BM-73 which it replaces, but with switchable 10/20 dB pads, switchable high-pass filter and 12-52 V phantom powering. Both are available from Court Acoustics in London on 01-960 8178.

## New from Opus

Opus Amplification have announced a new addition to their Sound Control range, the flagship - **Sound Control 15"**. Designed to match existing models in the range, it is a three way system housed in a sturdy MDF cabinet using a Celestion sidewinder 15" for the bottom end. Mid range is provided by a tandem Fane 5" unit, giving excellent vocal reproduction and dispersion, assisted by the Celestion high frequency bullet horn.

For further details contact Opus Amplification on (0282) 20795.

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# OSKA

## winning performances

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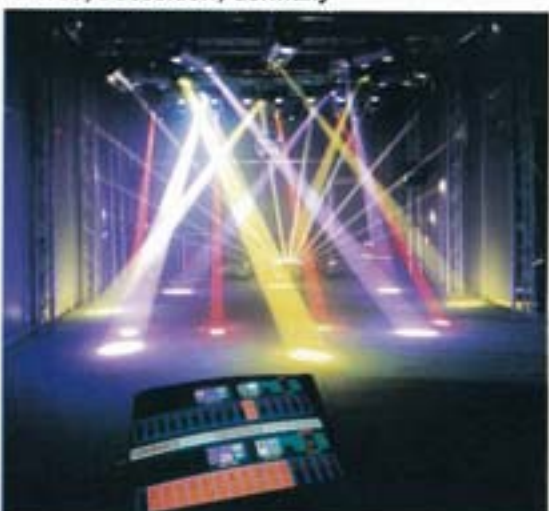
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# Vari-Lite, Inc.

## The Automated Lighting Company

John Offord went to their Dallas HQ and talked to Rusty Brutsché, president and chief executive.

Since its inception, the Vari-Lite automated lighting system has been a sort of 'un-hidden secret' of the entertainment lighting industry. The big boys with the big budgets and the big shows have always known about Vari-Lites and how the rental 'system' works. The rest of the industry has always known about Vari-Lites too - but from a distance. To them it has been a kind of dream machine.

Times are changing. Vari-Lite, Inc. are coming out-front, and giving their famed system some real active promotion. The company has grown fast, overseas bases have been set up - with more to come - and there is the obvious prompting from competition as more and more remote and colour change systems come on to the market.

Vari-Lite had their first-ever exhibition stand at Lighting Dimensions International 88 at the Infomart in Dallas in November (see L+SI cover picture, December), and I took the opportunity of visiting their HQ in Regal Row, just a few miles away from the exhibition halls.



Rusty Brutsché, president and chief executive officer, Vari-Lite, Inc.

Vari-Lite, Inc. was founded in 1981 by Rusty Brutsché, Jack Maxson and Jim Clark, principals of Showco, Inc., the major sound hire operation based in Dallas, together with members of the British music group Genesis. And the company was established to design, build and lease automated lighting systems that would overcome the limitations inherent in conventional lighting equipment. To say they succeeded is something of an under-statement, with Vari-Lites now an established part of the entertainment lighting repertoire world-wide.

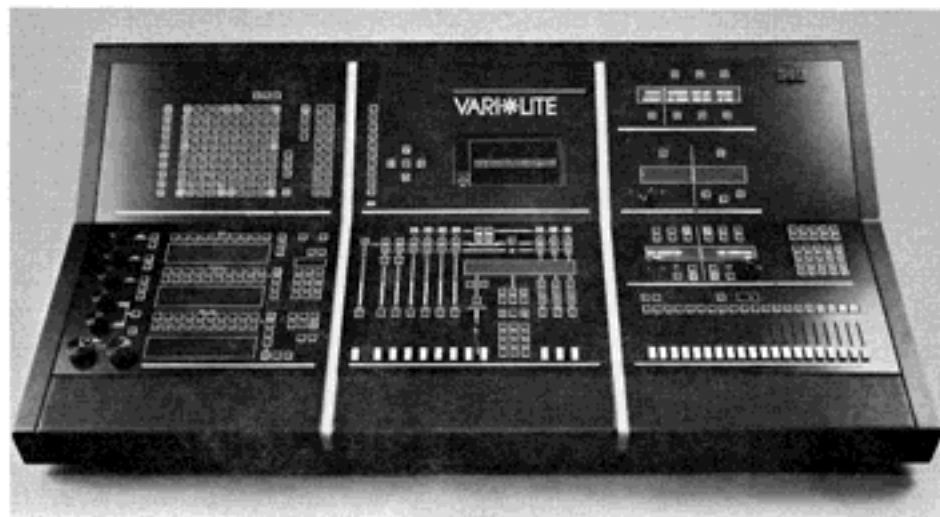
The Vari-Lite Series 100 system, comprised of a control console and automated spot luminaires, was first introduced in 1981. Rusty Brutsché's team included Jim Bornhorst, an electrical engineer, and John Covington, an analog circuit designer, who were given the task of designing the luminaire. Tom Walsh, an expert in digital and micro-processor design, and Brooks Taylor, a systems/software engineer, designed and programmed the control console. They created an automated lighting system



Two scenes from the 1987 all-Vari-Lite Genesis world tour, lighting designer Allen Branton.

all show photography: Lewis Lee.





The Artisan control console, Series 200.

that allows the lighting designer to automatically control pan and tilt, colour, beam size, and intensity, and with its dichroic filters and arc lamp source, the system's ability to vary colour, saturation, and intensity provides a range of looks not possible with conventional gels.

Rusty Brutsché told me about the first-ever use of the system: "The Vari-Lite Series 100 automated lighting system made its debut at the first performance of Genesis' 1981 world tour. Held in a bull ring in Barcelona, that show marked the first time that a truly automated lighting system - one in which all major functions are under the real-time control of a remote console - was put into practical use.

"Many attempts at automation had been made before, but the Series 100 was the first to combine all the important features: high speed, reliable mechanisms, and control of pan, tilt, beam size, intensity and colour. It did so with a dichroic filter colour-changing system, a compact arc source and a custom-designed control console, and this winning combination made it possible to produce stunning lighting effects never before seen," explained Rusty Brutsché.

Working hand-in-hand with Genesis and other clients, Vari-Lite progressively

evaluated and improved upon the Series 100. In 1986 this effort resulted in the Vari-Lite Series 200 system, boasting a new wash luminaire and advanced electronics throughout.

"Genesis' 1986/87 world tour was the showcase for the Vari-Lite Series 200 system, the second generation of Vari-Lite equipment, which comprises the VL2 spot luminaire, the VL3 wash luminaire and the Artisan control console," explained Rusty Brutsché. "The Genesis rig - 150 VL2's and 150 VL3's - contained no conventional lighting fixtures, making it the first totally automated high-speed lighting system under real-time computer control.

"Because each parameter of a Vari-Lite luminaire can be programmed from a single remote console, both systems gave Genesis lighting designers previously unheard of power to create dynamic pre-programmed lighting effects. They also made it possible to achieve an almost infinite number of traditional lighting scenes, and do so with fewer lights."

I asked Rusty Brutsché how lighting designers reacted to and accepted the new system in its early days.

"The touring and television industries have readily accepted Vari-Lite's technology

## The VARI-LITE® Series 200™ system.

### SYSTEM FEATURES

- Total digital control of any combination of up to 1000 VL 2, VL 3 and VLD
- Luminaires report operational status to the control console display through a two-way digital communication link with self-diagnostics
- Operates on any line voltage worldwide
- Total digital design provides high degree of reliability
- VLD dimmer interface operates any conventional analog device
- Low operating noise level

### VL 2™ SPOT LUMINAIRE

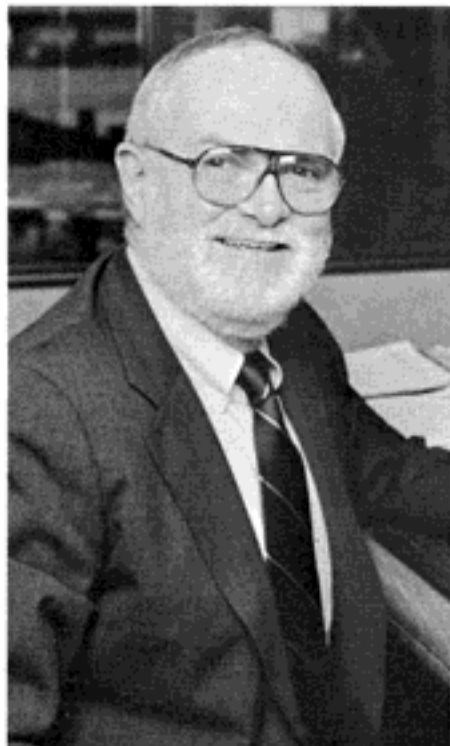
- Dichro-Wheel™ color changing system produces 120 dichroic colors from light pastels to rich saturated hues in a fraction of a second
- Consistent color from one luminaire to the next
- OSRAM HTI source with consistent 5600°K color temperature rated at 250 hours
- Produces 1000 foot-candles at 20 feet
- 9 Vacu-Dep™ reflective coated gobos that are user interchangeable, with custom design available
- 270 degree tilt and 360 degree pan
- Continuously variable beam diameter
- Hard and soft edge beam
- Full field intensity dimming

### VL 3™ WASH LUMINAIRE

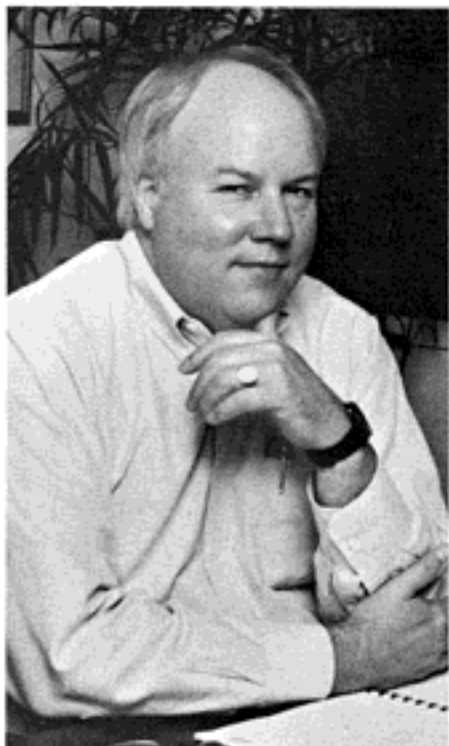
- Dichro-Tune™ tunable color system produces over 1000 dichroic colors from light pastels to rich saturated hues at variable speed
- Consistent color from one luminaire to the next
- Continuous color crossfades
- 475 watt, 53v tungsten source (3200°K) custom design by Venture Lighting International
- Low voltage efficiency produces 1000 foot-candles at 20 feet, comparable to a 1000 watt PAR lamp
- Low voltage dimmer in each luminaire
- Variable beam size from broad wash to narrow beam
- Soft edge beam
- 270 degree tilt and 360 degree pan

### ARTISAN™ CONTROL CONSOLE

- Stores 1000 cues
- Selective disc storage of all programmed cues and console functions
- Individual programmable crossfade times for color, pan and tilt, and intensity for each luminaire in any cue, in any submaster
- Instant access to 1000 individual instruments and 80 group presets
- Built-in touch sensitive display screen
- Variable speed control
- 80 focus reference presets allowing streamlined focus updates
- Manual control of all lamp functions
- 2 direct cue recall submasters
- Manual crossfade submaster
- 2 chase submasters allowing recall of 200 sequences
- 240 preset colors



Jim Clark, director, Vari-Lite, Inc.



Jack Maxson, director, Vari-Lite, Inc.



Jim Bornhorst, vice-president, engineering and development, Vari-Lite, Inc.

because it gives them a broad new range of artistic capabilities," he explained. "Automated systems do, however, require re-thinking some traditional concepts. For example, dichroic colour mechanisms produce not only most of the colours that are available with gels, but many others that are not.

"Dichroic filters do not burn or fade, colour change can either be instantaneous, as in the VL2 spot, or of variable speed to enable colour crossfades, as in the VL3 wash. There are no dichroic colour swatch books for designers to refer to when designing a show. Although several hundred specific dichroic colours can be programmed into the Artisan console and recalled with an identifying number, experience using dichroic colours is required to understand how they correspond to gel colours.

"The control of an automated system also challenges designers to re-think old ways: instead of having to control a single parameter per luminaire (intensity), an automated system must control ten to twelve parameters per light, which is vastly more complex. Vari-Lite's philosophy has been to custom design a control console specifically for automated lights, rather than try to adapt conventional consoles to them. This philosophy requires a lighting designer to use an unfamiliar controller, one that did not evolve in the context of conventional lighting.

"Some users have resisted the change, but the company believes that to achieve precision control of large numbers of automated lights, a fresh approach was required. We know that any revolutionary technology is usually greeted with some apprehension and scepticism, but most designers who have made the switch say they find the new control system far superior.

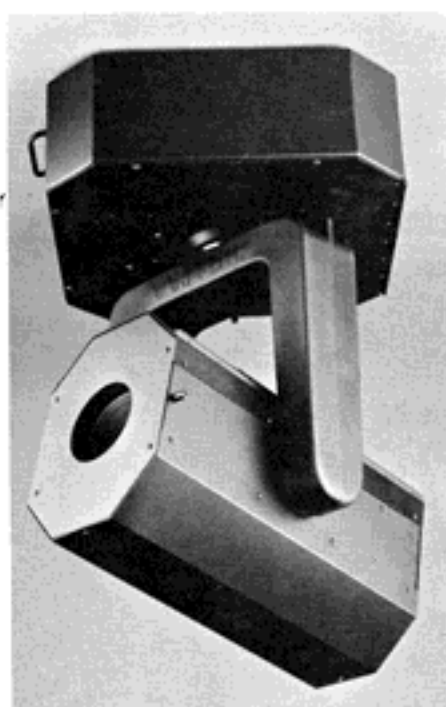
"Vari-Lite's objective has always been to design a totally automated lighting system, one that would meet the needs of designers in all fields of lighting. We developed the Series 100 system, then immediately began working with our customers to adapt and perfect it. Using knowledge gained from the first system, we spent three years developing the Series 200. We are continuing to develop new products that will enable automated lighting to flourish in all segments of the lighting industry."

British lighting designer Jonathan Smeeton has regularly worked with Vari-Lite systems, and the first time he used them was in 1983 for the Peter Gabriel tour. "I seem to recall using 24 VL's. I'd never seen them used until then. I went to look at the equipment in situ at Wembley on the David Bowie show, but I deliberately didn't go and see the show itself because I didn't want to have any preconceived ideas of what I should do.

"I adopted a 'virgin' approach, as opposed to having anybody else's ideas already installed before I'd actually managed to learn the system. I had an excellent operator on the desk, and Peter Gabriel was a really good person to work with as well because he's so theatrical.

"Technically, the system is now very advanced, and as it has developed, the control system has now taken on all sorts of other abilities. It can manage conventional lighting, programme smoke machines, and so on, and it is much easier to handle the finesses and subtleties that the designer requires.

"It's future is open-ended," continued Jonathan Smeeton. "It's endless. Vari-Lite have taken things one step further, and it's now not only computerised moving lights,



The VL2 spot luminaire, Series 200.

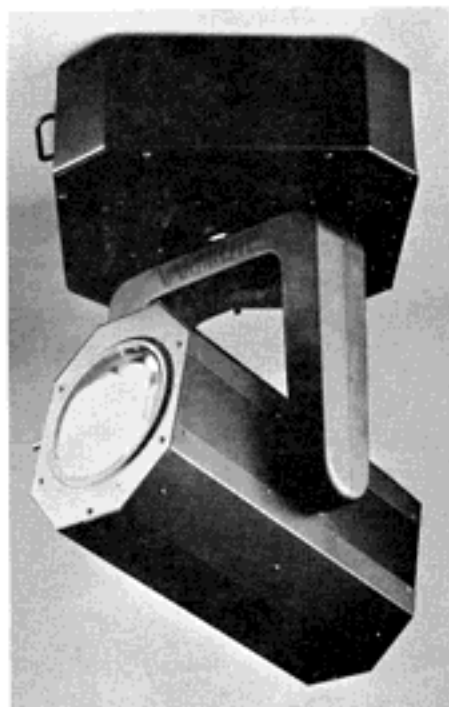
but computerised light control. I do think people have yet to realise its true potential. The desk is a master and phenomenally able. It works very well, and it's not difficult to master, or to understand the concept.

"I like to use Vari-Lites all the time, and have them on all the time - doing something. I think they should also develop long and short range remote follow spots, and I see this sort of development in the very near future.

"One of the very big pluses that doesn't show to the audience, and is definitely one of the reasons why they are so successful is that they have phenomenal back-up facilities. They are as near instantaneous as they can possibly be - anywhere in the world. The equipment is very, very reliable. The crews are extremely technical and able, and the company has a very strong corporate structure. The man at the top - Rusty Brutsché - is just brilliant. And brilliant at organising people to be very positive. This is a big plus for Vari-Lite and the user."

Jonathan Smeeton admitted Vari-Lite systems were his favourite subject, but however much you may like them, you can't buy them. I asked Rusty Brutsché why the company has a 'lease only' policy.

"Automated lighting is in a state of rapid development. Vari-Lite is leading this development, investing huge sums in research and development," he said. "Each time an advance is made, we up-grade our



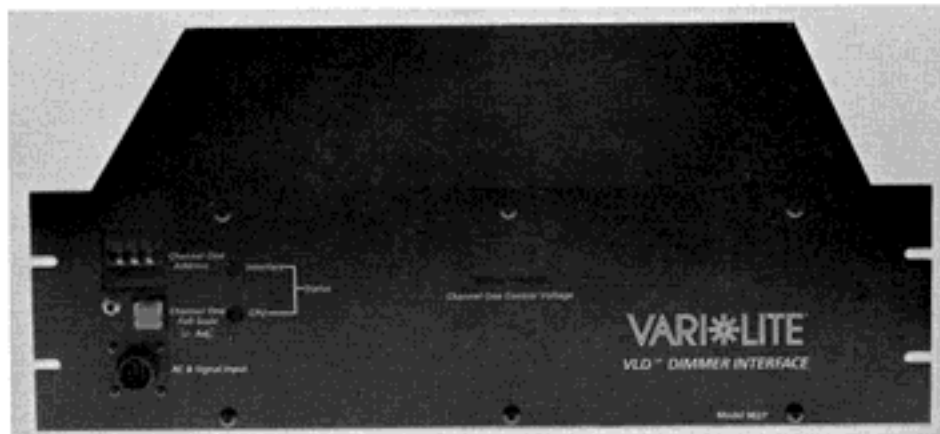
The VL3 wash luminaire, Series 200.

entire world-wide rental inventory. That way our customers have the benefit of state-of-the-art equipment. Such flexibility would not be possible if we sold our systems outright. We therefore feel that this 'lease-only' policy enables us to best serve the needs of our customers. We do, however, offer special financing arrangements for long-term leases in fixed installations."

I had to ask the obvious follow-up: "Why do Vari-Lite systems have to come complete with technical operators?"

"Vari-Lite is a service-oriented company, and our highly trained operators are the key to the service we provide. For this reason, our customers almost always contract for Vari-Lite personnel to operate and maintain their systems. We are actively training freelance designers, however, and upon request will train any customer to operate a Vari-Lite system. We also train the employees of long-term lease customers in the operation and maintenance of Vari-Lite equipment," explained Rusty Brutsché.

Continuing to develop new products, Vari-Lite introduced the VLD dimmer interface in late 1987. This device allows the Artisan console to control conventional equipment, thereby serving as the 'missing link' between the Series 200 system and all other devices typically controlled by a conventional lighting board (as mentioned by Jonathan Smeeton earlier in this article). In 1989 they will be introducing a new luminaire and con-



The newly-introduced VLD dimmer interface.



trol console.

"These products will represent a breakthrough in terms of added features, increased brightness, low cost, light weight, and compact size," continued Rusty Brutsché. "Automated lighting has a place in many lighting markets: television, film, music video, trade shows and theatre. We have a large research and development department committed to creating automated products to address the needs of these diverse markets."

To meet the growing demand for automation in the various fields of lighting, Vari-Lite is developing a world-wide distribution network.

"We have distributors in London, Sydney, Tokyo and Toronto, and our London distributor, Samuelson Vari-Lite Europe Limited, has recently established operations in both Paris and Madrid. In the United States, we opened a Los Angeles office in April 1988 and we have just appointed authorised representatives in New York and Orlando."

For the final word I spoke to Daryl Vaughan, head of promotions for Vari-Lite Europe Limited, based in London.

"The key to the successful development of our European market lies in the need to make the Vari\*Lite system as widely available and as easily accessible as possible to potential clients.

"To this end, as you know, we've recently opened offices in Paris and Madrid with full complements of equipment, qualified personnel and skilled operators. Over the coming year we anticipate setting up further operations in Germany and Italy.

"In addition to regional expansion we're beginning to promote Vari\*Lite into other areas than live music productions, and in particular to events such as trade shows, exhibitions, conferences, product launches, and the like. They present us with very significant opportunities. Also, rental to both BBC and ITV companies is increasing all the time and I'm confident that television business in general will continue to grow."

The de-mystification of the Vari\*Lite has begun . . .

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Vari\*Lite close-up - the Genesis world tour.



The corporate headquarters of Vari-Lite, Inc., located in Dallas, Texas, is the centre of research and development, design, and manufacturing.



Lighting consultant Arthur Smith (right), based in Dallas, pictured during technician training.



Checking Vari\*Lite luminaires at Dallas.



Genesis in close-up.





Genesis and Vari\*Lite on tour. Photographs were taken at various locations during their latest (1987) world tour.





# Designs on the Future

## L+SI COMPANY PROFILE

### Ruth Rossington visits the Hampshire base of Anytronics

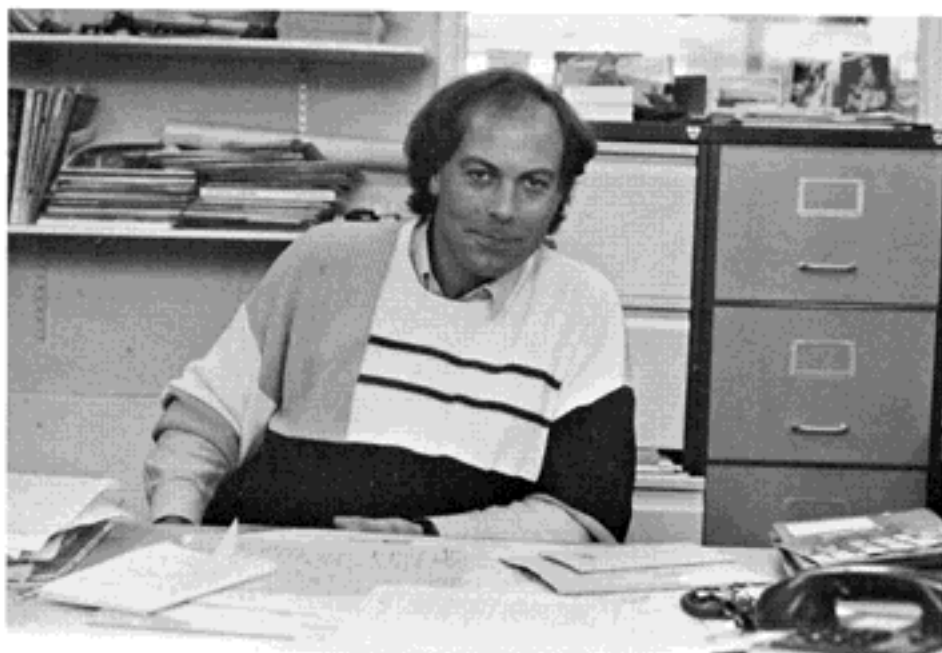
On first arriving in Hordean, the Hampshire base of Anytronics, one is struck by the altogether unassuming and unadorned quality of the place. Appropriately enough, there is something about Anytronics that symbolises the nature of its surrounding environment. Industrious and unpretentious, the company occupies a small unit on the outskirts of the town. There are no billboards blazing a trail to the front door, but rather, a small sign politely indicating the way forward; which is why it comes as something of a surprise to meet Bob Hall, managing director of Anytronics.

He, in total contrast to his surroundings, occupies a desk strewn with papers and other oddities and seemingly straining with the weight. But this is no front of organised chaos, this is but the first of many reminders that the company has quite simply outgrown its present premises. For Bob Hall, an enthusiastic and gregarious man, whose appetite for life is infectious, this is a welcome headache and one which is being resolved as I write.

Bob Hall is one of life's natural high-flyers, he even trained as an airline pilot before joining Icelectrics. Having spent 12 years at Ice, he decided the time was right to start a new company and so agreed to a management buy-out, and together with his father, Charles Hall, who is also a director, they bought the present freehold premises. They haven't looked back since.

I asked Bob Hall to explain the decision-making processes that motivated Anytronics' early development. "The first products we decided to look at were strobes, obviously, the reason being that they had been in production within the industry for 10-12 years and had been selling extremely well. We decided to improve on the strobes available at the time, so, together with the strobes, we introduced switch panels and power packs and launched ourselves on to the market.

"We started design on the two products in May 85, the idea being to combine a product and company launch at the PLASA Light and Sound Show when it first moved to the Novotel." Although the company had a coil winding division running which produced coils for people outside the industry, there were no other products than the three being worked on. Initially, the industry was reluctant to test new waters and so Anytronics relied on orders from Norway and West



Bob Hall, managing director, Anytronics Limited.

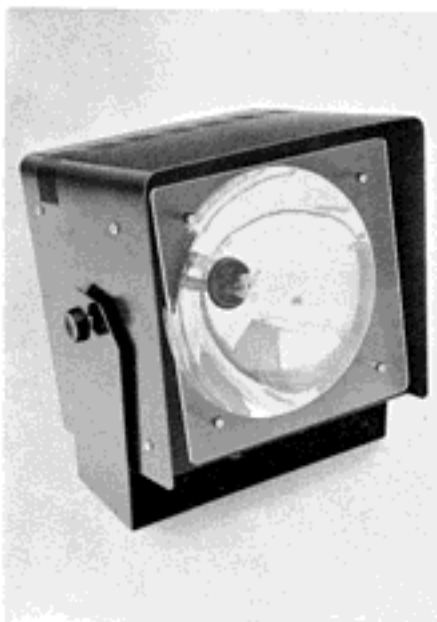
Germany. Had he known the barriers to be surmounted, Bob Hall may well have returned to his goggles and flying hat: "I never realised how difficult it would be to establish the company, a lot of people were interested, took literature, knew myself and my team very well, but decided that they wanted the product and the company to have a track record, before they would invest their money into buying stock."

Within six months however, the mood in the market had perceptibly altered and Anytronics was fast becoming a byword for reliability, quality and value for money. As Anytronics' reputation began to grow so did its product range: "We extended the power pack range, which had hitherto consisted of a 4 x 5 amp switch pack, the PP405, to include two further models in the switch range plus a dimming pack model which, although we didn't manufacture other control equipment as such, was intended to be part of a power pack

range to be used with any low-voltage control equipment. I'm glad we made that decision because it suits and it's served us very well indeed."

The decision-making process has been a critical element in the company's present success and with 28 products on the market in three years, demonstrates the kind of buoyancy that can be achieved by a small operation toiling away in a quiet backwater. Fighting against the constant distraction of the phone, I suggested to Bob Hall that he might like to highlight some of the more significant product introductions and extensions of the last three years: "After 12 months we decided to modify the strobes to work with our extension speed control system, that certainly increased sales no end.

"We also added to the range, by bringing out a linear tube strobe more for the theatre and the very large discotheque market. We were worried



First strobe: the Superstar was introduced in 1985.



The Anytronics Megastar Strobe in assembly at Hordean: production space has just been doubled.



Simon Fickling, Anytronics' technical manager (right) pictured with Bob Hall in the test and research area.

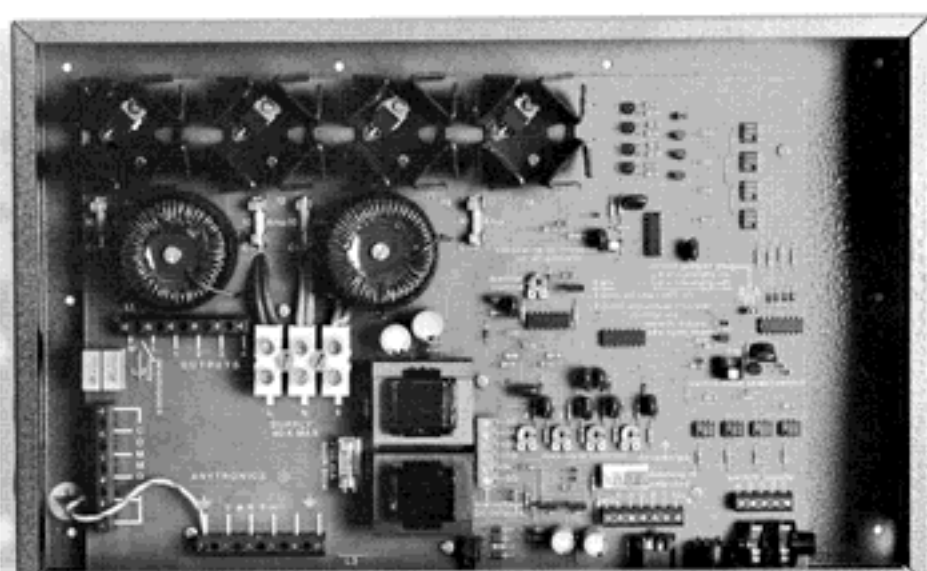
to a certain extent that the product might not sell, it being a much more upmarket, much more expensive product than its contemporaries, but sales have been incredible, far better than we ever imagined. Alongside this, we've expanded into, not only the theatre side, but the TV market also, so again a new market has been opened to us; one that we never envisaged as likely.

"On the power pack side, once we'd brought out the dimming pack, the theatre market started looking at it, especially the section with limited budgets. A number of them bought it and were amazed that a product at that price could be as reliable and versatile as it's turned out to be. We've done exceptionally well and just cannot believe that sales figures are as high as they are across the world, literally, from Singapore to Canada."

Anytronics' products are divided into four areas - strobes, power packs, modular lighting control systems and transformer winding. The company moved into modular lighting in 1987, with the intention of creating a system that would possess characteristics of durability, versatility and longevity. "We released the first modules really as add-on units to enhance existing low-voltage control equipment. We didn't have a controller as such, but we thought that if we produced 4-way fader panels they wouldn't be as transient as other products, but essential add-ons and not something that goes in and out of fashion. The panel sells very well and about 70% of dimming packs go out with the 4-way fader panels."

Broken down into percentages, the strobes account for approximately 25% of turnover, the power pack side for 50%, 15% for transformers and the rest 10%, though that should increase with the new control range due out this month.

Bob Hall is quite certain that Anytronics' current levels of performance are a direct result of his unwillingness to commit the company solely to the provision of goods for the disco and entertainment industries. Whilst at Icelectrics, he learnt how fickle the dictates of the market can be. In the late seventies disco hit problems, and in the States 'Billboard' was reporting the demise of disco, whilst in the UK, 'Saturday Night Fever' was the one surviving testimony to an apparently bygone era.



The PP410 dimming pack was introduced in mid-1986.

"The philosophy behind forming Anytronics was to establish a much broader-based electronics company that could feed into the wider area of leisure. With a name like Anytronics, we could branch into other areas that we might find ourselves wanting to explore without anything as major as a name change. We decided on a company beginning with the letter 'A', so that we could be towards the top of all the directory lists!"

The company are at present hoping to secure a contract with British Rail for the supply and maintenance of a xenon warning beacon system. Their first presentation to BR was back in 86 when Anytronics simply modified one of their existing products to meet specific criteria. The product was then approved and a small R&D budget followed. Three design modifications and 95 units later, Bob Hall and his team have produced a product which they believe will be difficult for the rest of the competition to beat.

Optimism such as this is all too often taken to be synonymous with naivete, but there couldn't be anything less naive than the manner in which Bob and Charles Hall have steered Anytronics towards a period of sustained growth. Two new lighting controllers are due out this month, and I asked him why the company believed the products to be so important: "There's a very large market for 4-channel controllers. We wanted to make an expandable lighting controller that could be afforded by the average user, so that when they want to add to the equipment they can without selling it or exchanging it, in the same manner one would add to lego! The other major factor governing these controllers was ease of operation. We will be adding new products all the time, so that the controller, instead of becoming obsolete in a few years time, can remain the base of a larger control system."

The product was a result of the company's wish to produce a lighting controller; and whilst still in its conceptual stage, it became the subject of discussion at a chance meeting with the Design Council, whose interest encouraged Anytronics to get away from C.M.O.S. Control and into EPROMs. The Council were offering money to those willing to explore new areas of design and visited the unit in Horndean.

Bob Hall takes up the story: "After the initial

presentation, they returned again with a senior industrialist, and sat the other side of my desk, looked at each other and said: 'well shall we give him the money or not?' The guy turned round and said 'Harry, I think it's a good idea' and the money was duly arranged."

It provided for all the development costs for the auto display pack and the light systems 1 and 2, which are available as from this month and which were first premiered at the 88 PLASA show. The launch of the product coincides with Anytronics' expansion of their present premises to incorporate the adjoining unit, which means that the company will have freehold ownership of just under 4,000 sq.ft.

Perhaps to some, Horndean is not the ideal location, from which to compete in an industry, whose main thrust is London oriented. But when one considers the many benefits, not least the close proximity to the A3M, which provides easy access to the Capital, one realises that Hampshire has more to offer than rural charm. The move will enable the company to compartmentalise the product and test areas, allowing the 10 on-site staff more scope in their work. Such is the scale of the operation that in addition, Anytronics also finds it necessary to employ 16 specialist sub-contract staff.

This is hardly surprising when one considers the company's impressive record in sales and exports: "We sell mainly through the trade and distribute to over 20 countries overseas. Our direct exports last year were just under 50%, and we reckon on another 25-30% going abroad through UK distributors such as Cerebrum Lighting."

There are many examples of the company's determination to succeed in an extremely competitive market. Part of that resolution is reflected in the structure, which has its foundations in 'esprit de corps'. Charles Hall and Simon Fickling are key members of Anytronics, having been involved with the company since its inception, and, it is interesting to note that all the original workforce remain.

Bob Hall welcomes the increasing professionalism within the industry and would like to see PLASA and the government working together to improve the reputation and potential of the lighting and sound industry. I asked him in which particular areas he would like to see progress: "I'd like to see more organisation with regard to European electrical approvals; it seems to be a very grey area. I understood that all electrical products would be E-marked and that eventually we would get the approval in this country and then purely register in other countries, but since then we've heard no more about this."

"I'm sure that there is a lot more that the British government should be able to offer exporters like ourselves, to enable British products to stay where they are at the moment and maintain the lead in their field; otherwise the light and sound industry will lose this advantage as so many other British industries have done."



Now available: Anytronics' Light System Two - a new generation of expandable lighting control systems.



# West End Sound

Ben Duncan interviews Rick Clarke, theatre sound designer, and director of The Sound Department

**The Sound Department** was founded in 1984 to provide design and equipment rental to theatre producers, principally in London's West End. More recently, the company has expanded to provide equipment installation for all kinds of Pro-Audio users, from nightclubs to studios.

Co-founder Rick Clarke started working in rock and roll sound reinforcement in 1970. In 1974, he left to work on West End theatre productions, creating sound systems and effects. Rick joined the National Theatre in 1980. Later, he was contracted to design sound for 'The Hired Man' (a Howard Goodall musical) and 'Me & My Girl'.

BD: How did The Sound Department begin?

RC: "I wanted to use EV speakers, which at the time weren't available from hire companies. So I approached Shuttlesound (the sole UK agent) and presented my problem. We ended up setting up The Sound Department in partnership, to satisfy two goals. First, to supply my services to theatre producers, and second to generate some exposure for Electro-Voice's products. After one year, Shuttlesound were satisfied that their own objectives were met, and I bought their 50% shareholding.

"The Sound Department has since continued to do shows and grow. In May 1988 Steve Smith (previously 'director of operations' at Shuttlesound) joined us to develop the sales and installation side. Later in the summer we were appointed sole UK agent for Community Light & Sound, a leading US speaker maker whose wares haven't previously been represented in the UK. Then in September '88, we moved into a 4000 sq. ft. facility off the Uxbridge Road. Our new premises includes demonstration and show rooms scheduled for completion early this month."

BD: How many staff do you employ?

RC: "Six full time, with Steve Smith looking after sales and installation, supported by Iain Macdonald. I look after design and hire, supported by Kahren Williams. Jennie Dodd handles marketing, with Perri Northage running the office. We also call on a large pool of freelance engineers and riggers."

## Theatre Sound Reinforcement

BD: What are the system requirements for theatre?

RC: "Theatre sound reinforcement needs to be subtle; the audience should not be aware of it. Whilst the average SPL is very low, headroom is essential. Any distortion at all would destroy the illusion of a natural acoustic. Speakers are chosen first on the basis of pattern control, important to maintain an even SPL throughout the audience and to improve gain-before-feedback. Equally important is the transient (leading edge) response, and an open, 'natural' sound. We don't use processor controlled boxes (speakers); I've yet to hear one which doesn't sound 'constrained'. Besides, they're really made for continuous high levels, which we don't need.



Rick Clarke.

BD: How does a system come together?

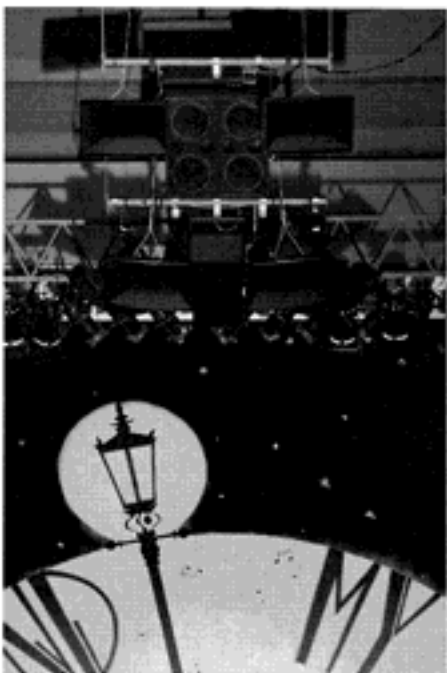
RC: "A producer hires me as an independent sound designer. I then produce an equipment list. The producer puts the list out to tender to get the market price. As a designer, I have to accept a certain responsibility for theatres' tight budgets. In the past, theatres managed without sound reinforcement. Today, with it in place, more of the audience can enjoy the whole of a production. Even so, audience numbers and the price they're prepared to pay are inevitably limited. Hence sound reinforcement, meeting the requirements of the production, has to be shoe-horned into tight budgets.

"Once a supply company has been chosen, great care has to be taken with the installa-

tion - particularly with reference to safety. Because of open-ended runs, a temporary system may be in place for many years: 'Me & My Girl' for example. So there has to be a policy of maintenance, updating and overall quality control throughout a run."

BD: Why is sound reinforcement beneficial in the first place? Have the audiences become noisier?

RC: "No, they haven't become noisier. In fact, it's a reliable phenomenon that an audience will always quieten down to the basic dynamic of the performance. Reinforcement is needed to resolve the imbalances within the music score and between voice and music levels. A properly distributed system will resolve problems created by the



Two views of the central cluster for 'Me And My Girl' at the Adelphi Theatre, London.

acoustic response of each part of the auditorium. Also, reinforcement is used to dramatic effect to create for example, a different ambience (sic) or to enhance the dramatic dynamics of a performance."

BD: What steps do you take to make the sound system 'invisible' to the audience?

RC: "We delay each part of the system back to nominal time zero reference points, either on stage or in the pit, in order that the apparent source of the amplified sound is either on stage (voice) or in the pit (music). We also use an Inflexor processor, a sort of intelligent, dynamic and progressively operating loudness button, to maintain focus, timbre and audibility of instrumentation, during quiet passages."

BD: Can you trust radio mics? If there's a drop-out, the illusion that the sound is 100% natural must be well and truly blown!

RC: "Radio mics have become very much part of modern theatre, giving great freedom to the actor, director and choreographer, as well as the composer, in offering intelligibility to a performance which obviously would have been inaudible. They do, however, need to be looked after. In a normal production, we have a stage sound engineer whose principal job is to monitor each actor's microphone even before they leave the dressing room, learning all their cues so that a failure will be recognised and corrected before an entrance is made. This person also understudies the balance engineer."

BD: What would you say is the most important part of a theatre sound system?

RC: "Without a doubt, it's the operator. It is a very skilled and exacting job, calling on great concentration and fast thinking, as well as a keen ear for sound balance, and an understanding of the politics of theatre."

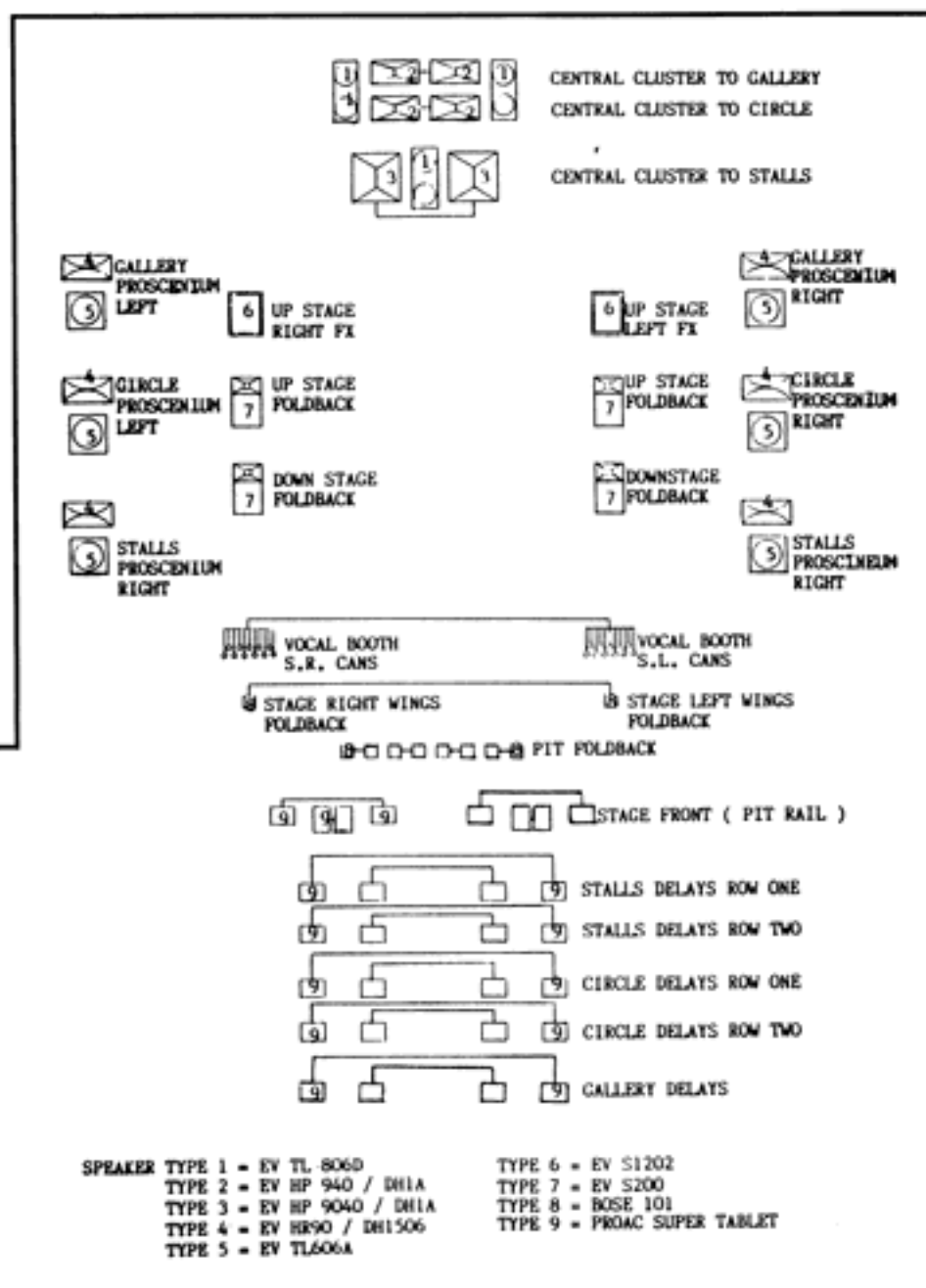
BD: What do you mean by the politics of theatre?

RC: "This could mean anything from persuading a performer that they must remove a significant piece of costume to allow access to their transmitter pack, whilst standing in the wings with less than a minute to their entrance. Or explaining to a star, that despite everyone's best efforts, it's possible for a new battery to fail during their big number. But more specifically, it's about gaining the confidence of the whole company."

BD: Can you give readers an example of the



The set for 'Brigadoon' whilst at Plymouth Theatre Royal.



## VICTORIA PALACE A Typical System

Victoria Palace Theatre (opposite Victoria Station in London) is presently running **Brigadoon**. Looking at the adjacent plan, the system divides readily into four zones.

**Central Clusters** in three tiers reinforce actors' voices for the Stalls, Circle and Gallery.

**Proscenium Speakers** mounted left and right reinforce the music score, again for each of the three levels.

**Delay Speakers**, mounted on the ceilings of the Stalls, Circle and Gallery respectively, back up the actors' voices, particularly for those seated towards the back rows.

**Folddback Speakers** provide the actors and musicians with monitoring facilities and cues. The pit rail provides speech to the first few rows, and orchestra imaging.



fast thinking that's required from your operators?

RC: "Yesterday, a mixer was **stolen** from a West End show. We had just a few hours to find a replacement. Then we had to repatch it from scratch. We were still doing this as the cues came up during the matinee. In circumstances like this, there's no time for discussion; we have to 'go for it' and get it 100% right."

BD: Where do you see things going from here?

RC: "In equipment terms I am quite excited by the range of Community equipment that is now available. Until now, three-way systems using horn-loaded midrange units (which produce much greater vocal intelligibility than conventional systems) have not been viable in theatre, because of their

size and cost. Today, this is no longer true, thanks to Community's range of products. Their all-fibreglass baffle moulding series gives exact time alignment for each component within the speaker. And the all-horn loading displays predictable patten-control over the **whole** vocal range - unlike many other speaker systems! Altogether, they produce an open sound with excellent leading edge characteristics and they fall within existing budgets for theatre."

BD: Do you have any advice on sound systems for theatre management?

RC: "Theatres should spend their money wisely, on infra-structure, rather than on equipment. For example, delay speakers and multicore runs are always going to be needed in the same places. A lot of rigging time and expense could be spared if these locations were ready-fitted with mounting brackets, cable runs, traps, and so on."

#### SHOW LIST

Me & My Girl, 1984-88\*; Torvill & Dean world tour (UK part), 1985; Girlfriends; Jeanne D'Arc; Are You Lonesome Tonight; The Hired Man; Killing Jessica; Aladdin; Spin of the Wheel; Arturo Ui; When Did You Last See Your Trousers?; Beyond Reasonable Doubt; Black Heros in the Hall of Fame; Cinderella, 1987; Carrie; The Foreigner; South Pacific; Child in the Heart; Godspell Tour, 1988; When I was a Girl I used to Scream & Shout, tour; Sugar Babies, 1988\*; Brigadoon, 1988\*.  
\* open-ended runs.

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Adelphi: Me & My Girl  
Donmar Warehouse: 3 Men Naked from the Waist Down.  
Lyric: Dry Rot.  
Queens Theatre: Beyond Reasonable Doubt.  
Prince of Wales: South Pacific.  
Savoy: Sugar Babies.  
Victoria Palace: Brigadoon.  
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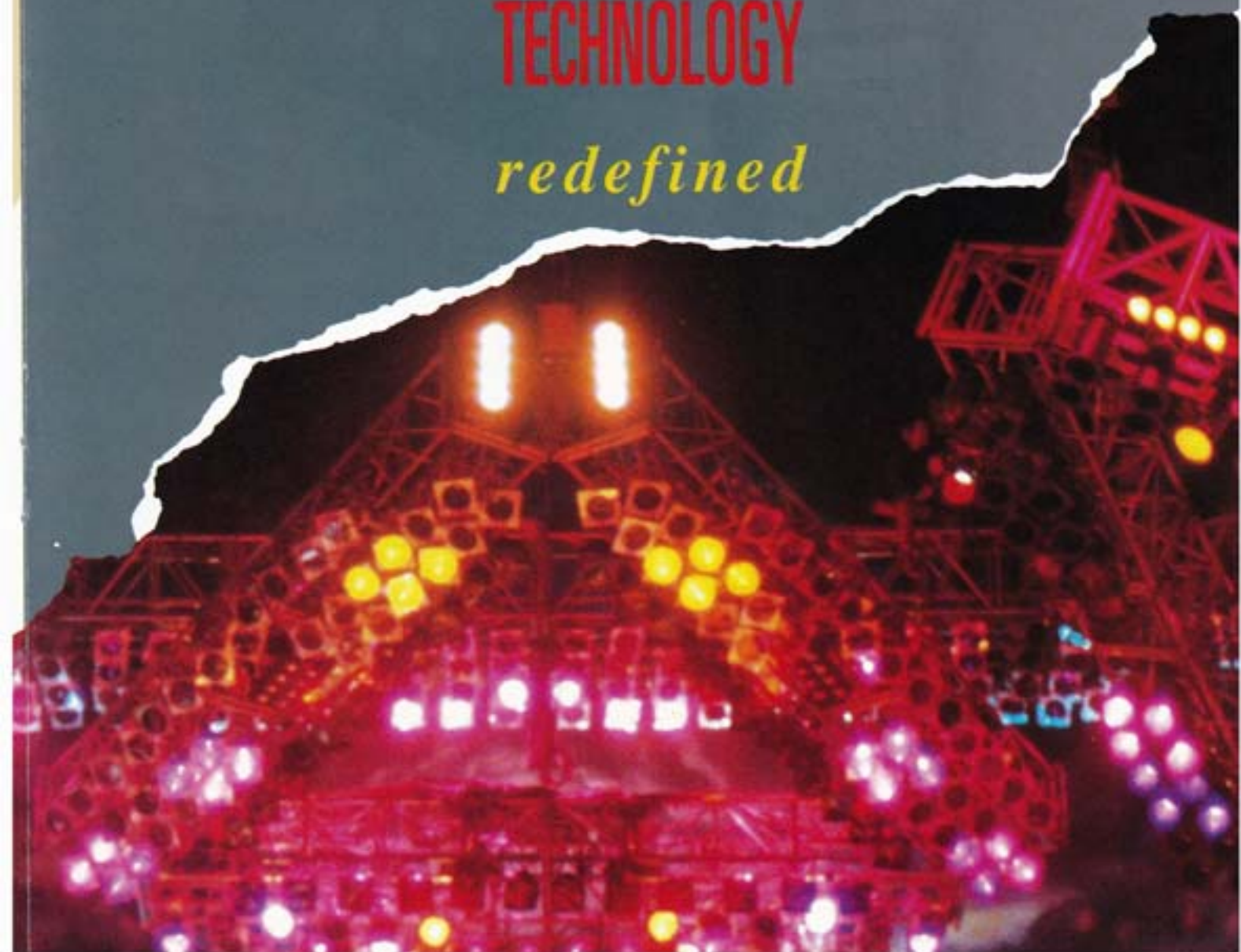
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# LIGHT

*LIGHT* adj. not heavy;  
weighing relatively  
little.

*LIGHT* n. the medium of  
illumination that  
makes sight  
possible.



*PAR 64 lantern  
(wired, unwired,  
black, silver or  
coloured).*



*Floorlite and water-  
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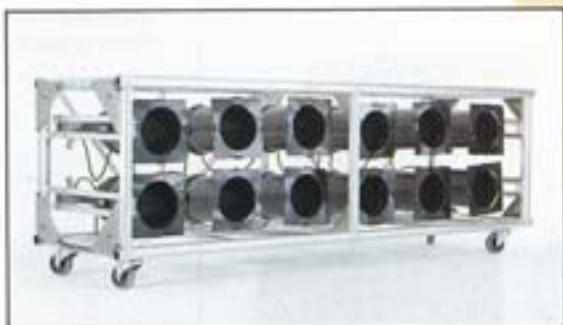
# SOUND

*SOUND* adj. firm, solid, substantial, safe.

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



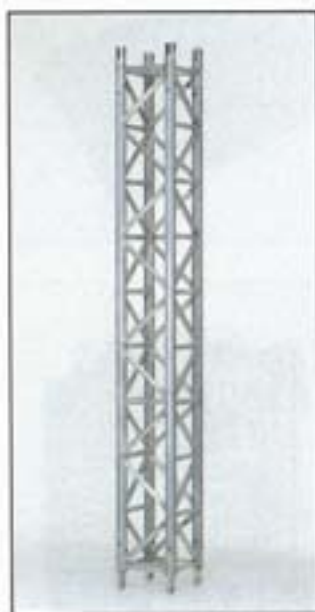
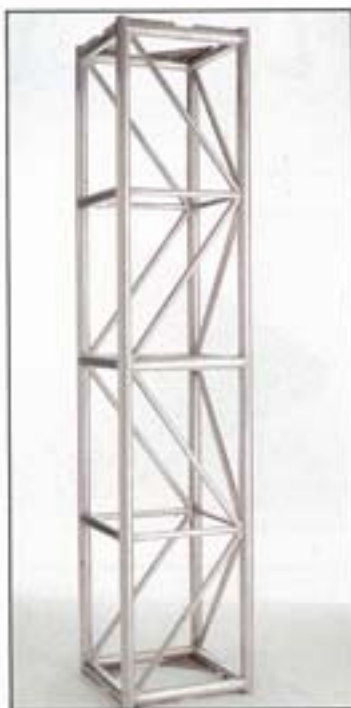
*Pre-rigged truss in trucking position (8').*



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



*A-type general purpose truss.*



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*E-type triangular truss.*



*S-type square truss.*

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# DESIGN

*DESIGN* vb. to plan and make something artistically.

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



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# CLOSE-UP

## Sam Wise looks at **SABER** Allen & Heath

My visit to Allen and Heath to view the new Saber range of consoles was met by the smell of change - offices were being shuffled around and staff responsibilities were being altered. Further investigation revealed what looks like the return of customer as king at Allen and Heath.

For many years the company has carried on its business in virtual ignorance of its potential UK customer base, doing reasonably well on extensive US sales, where its products compete favourably with the likes of Peavey, sometimes entering the top 10 in small mixer sales. Allen and Heath will continue to retain strong US sales, but the attitude to the home market is changing and the new Saber console is only part of the story.

John Ball - a man with his roots in live entertainment via Rank Strand and Theatre Projects - joined in October 87 as chief executive officer and has been involved with the rest of the directors in the formulation of new strategies for growth in the competitive mixer market.

In recent months technical director Glenn Rogers has moved to company manufacturing headquarters near Falmouth in Cornwall, streamlining the introduction of new designs into production. His R&D colleague Ted Rook has remained in Brighton to become technical sales support engineer, with the goal of improving the UK and European product application knowledge and to link the technical requirements of the market efficiently to R&D.

Other changes are underway, many with the UK customer in mind. Saber is part of that package, and an interesting product for live sound use.

### **SABER Live Sound Console**

The Saber mixing console is offered in two basic versions: recording and PA/sound reinforcement. Input modules are common to both versions, while the group and master sections differ. A useful selection of traditional facilities is offered at a competitive price, making Saber worth investigation against competitive models from DDA, Soundcraft and Soundtracs. In addition, all Saber consoles offer a well thought out Mute Memory system with MIDI control interface which brings with it many of the advantages of a programmable routing console five to 10 times the price.

### **Initial Impressions**

Following my visit, a production prototype of a Saber recording version was delivered to my test lab on the Isle of Wight. On arrival, the packaging looked a bit dishevelled, but inside everything was perfectly intact. The packing was not the production version, I am told! The stand, optional on PA versions, was easy to assemble and quite rigid when installed onto the mixer chassis. All that remained was to plug-up the power supply and go. Though the test unit was a recording version, the PA model will be described here, obviously being of more interest to L+SI readers.

### **Construction**

The chassis is quite rigid, formed from folded all-steel construction, so it should survive touring with little trouble. Visually the mixer is attractive, the controls are sensibly colour-coded for ease of location, and the legends are easy to identify and interpret. One initial confusion related to Allen & Heath's use of arrows to indicate switch up or switch down, and these can sometimes suggest a tie-up with nearby controls. Rotary controls, faders and switches have an acceptable feel to them, though it is sometimes difficult to discern



Allen & Heath's recording 'Saber' 32x8x16 MVU. Other sizes and live sound versions are also offered.

whether switches are in or out, a problem common to other manufacturer's products in this price range and many which are more expensive.

In all there is little to quibble about. I personally was pleasantly surprised by a sense of quality far beyond what I had come to expect from Allen & Heath in years gone by. The company has clearly made positive moves recently, in more than just organisational structures. The PA version is designed to be low profile - having an essentially flat surface - easing sight-line problems when used in the upper parts of a theatre. Standard console formats are 24, 32 or 40 input channels, in eight groups, though as you will see, additional line inputs abound, bringing the total available on the large frame version to 60.

### **Input Module M310**

Standard on all versions, this module provides a useful range of facilities. Starting at the top, three alternative inputs are selectable: Mic, Line and Tape. The Tape In connector is wired in parallel to the Tape input on the group monitors 1-8, but is independent on inputs 9 and above. The console is designed for easy use with an 8 track recorder. If such a machine is not in use, Tape becomes an alternative line input. The usual +48 V phantom, 20dB PAD and phase reverse switches are also present. The Gain control is common to all inputs.

Next, the routing switches allow routing in pairs to groups 1-8 and directly to the L-R main stereo output. It would have been nice to see a Pan In/Out operating on the group selectors, allowing mixed mono and stereo routing. Being near the top of the module, the routing switches are somewhat distant for effects playback, but the programmable muting system described later more than compensates for this.

Auxiliary send controls follow, six in all. Two are switchable Pre/Post, while the remainder are set pre-eq, pre-fader or post-fader by internal links, a reasonable compromise. Below is a four band equaliser. The top and bottom bands have two switchable frequencies and a shelving filter shape. The upper and lower mid controls are peaking filters with frequency ranges of 1kHz to 10kHz and 200Hz to 2kHz respectively. All equalisers have a boost/cut range of +/-12dB. Equaliser In/Out and fixed 80Hz frequency 12dB/octave Low Cut switches complete the eq section.

The provision of shelving equalisers is encouraging, especially at the bass end. The trend has been to use peaking shapes everywhere and to count on a low-cut filter or natural roll-off to reduce the bottom end. In practice this often results in the kick drum or bass guitar harmonics being attenuated while the fundamental leaks everywhere. The end result sounds like pigs rolling in the mud. Saber got this one right. The frequency and boost/cut controls worked well with good control laws as shown in Fig. 1.

Just above the fader are the Pan, Check and Mute switches and a peak overload indicator. These are explained in detail later. Mute has the obvious function of turning off all channel post-fader audio paths, but it is also part of the console programmable muting system - one of the more exciting features of the console. Both Check and Mute have adjacent LED indicators. The Peak LED is connected to the pre-fader audio path, illuminating at levels about 4-5dB before clipping. It would have been safer to include a post-fader connection as well, since this can be higher in level.

A scribble strip is provided just above the fader which is removable for cleaning or module extraction. Lastly, the fader is a long travel type made by Alps with a nice feel and noise-free operation.

### **PA Group Module M325**

To keep the mixer profile flat, the meter is fitted at the top of the module, a two colour type with a very useful display range exceeding 50dB. Again, it is encouraging to see that a mixer manufacturer has finally noticed the live sound engineer's need to see low level signals on his meter. The meter has a fast rise and slower fall time, but is not a true PPM.

Moving down the module we find a Line Input complete with Level, Pan, Check and programmable Mute controls. The signal from this input is sent only to the L-R master outputs, providing a further 8 line inputs on the mixer, one on each group module.

Below this is the Group Monitor Section with a basic two band equaliser, four auxiliary sends, Level, Pan, Check and programmable Mute controls. This section serves multiple purposes according to the setting of its input selection switches, its output always going to the L-R master mix.



When both selector switches are released, the Group Output is routed through to the L-R master bus. During multi-track recording, this allows the groups to be monitored using L-R as a stereo monitor. If the L-R outputs are instead being used for the main stereo array during sound reinforcement use, this enables the group to be considered a sub-group of the stereo output.

Pressing the top Tape button selects the Tape Input instead onto the L-R bus, in multi-track recording this provides monitoring of the recorder output. During PA use, this allows an additional line source to be input to the Tape In connector and routed through to the L-R stereo output. The group meter follows this switch, so that if Tape is selected, then Tape is displayed on the meter. No matter what monitor source is selected, the Group Output continues to function and could, for example, be used for a sound effect or fill loudspeaker. However, unless selected, the group cannot be monitored.

The second monitor Select button reverses the Line and Tape inputs over, making the more sophisticated facilities of the monitor section available to the group monitor Line Input.

Just above the group fader are the Fader Reverse and Group Mute switches. Fader Reverse swaps the function of the group fader and the group monitor level control - most useful when recording. Group mute allows the group output to be turned off, but it is not a part of the programmable muting system.

This collection of group module functions is both functional and versatile. My only criticism is that Fader Reverse seems less useful on a PA desk than a group PFL or Check function allowing the group to be monitored when necessary while leaving the group monitor inputs free as extra line inputs. The terminology of 'Group Monitor' left over from recording applications is perhaps out of place in a PA desk.

#### PA Monitor Module M355

This takes up four frame module spaces and contains the auxiliary master controls; a further four routable line inputs intended principally as effects returns; the L-R and Mono Master Faders; plus master controls for console monitoring, external intercom, talkback, Check and Mute Processor.

The left half of the module begins with six sets of Aux Send Master controls, each consisting of Level pot and PFL and Mute (not programmable) switches. Below this are Returns 1 and 2, each routable in pairs to groups 1-8 and L-R; and Returns 3 and 4, only routable to L-R. All four returns also include auxiliary send pots for Aux 1 and 2 (normally intended as Stage Monitor/Foldback sends), plus Level, Pan, PFL and Mute (programmable). The Returns are not muted by the operation of Solo in Place, allowing reverb and other effects to remain active on Solo'd sources.

At the bottom of the module are Left and Right peak overload indicators, the stereo L-R master fader and the Mono fader. Mono is always the sum of the L-R outputs and is mastered by the L-R fader.

Moving to the top of the right side of the module we find a Talkback Mic socket with phantom powering. Below this are the internally illuminated L and R VU meters. Next, the Talkback Preselect switches allow talkback to be preset to any or all of Aux 1, Aux 2 and L-R outputs. Talkback is actually activated by a large red button near the bottom of the module.

Below this is a feature which we have all been wanting for years - a built-in ring intercom compatible with TecPro/Clearcom standards integrated into the console monitor. Either or both of two external intercom channels can be selected and are thereby mixed onto the console monitor loudspeaker and headset outputs. Each has an adjacent Call LED indicating operation of an external call button. A momentary switch just below the two station selectors mutes the incoming intercom audio and sends the output of the talkback microphone onto the selected ring, allowing the sound engineer an easy means of talking to the rest of the crew. Gone are the days of wearing two headsets at once. The intercom facility was not tested but I am told that it functions perfectly.

Monitor master controls follow, including an EXT switch to bring in an external source such as a dummy head show relay (for those control rooms

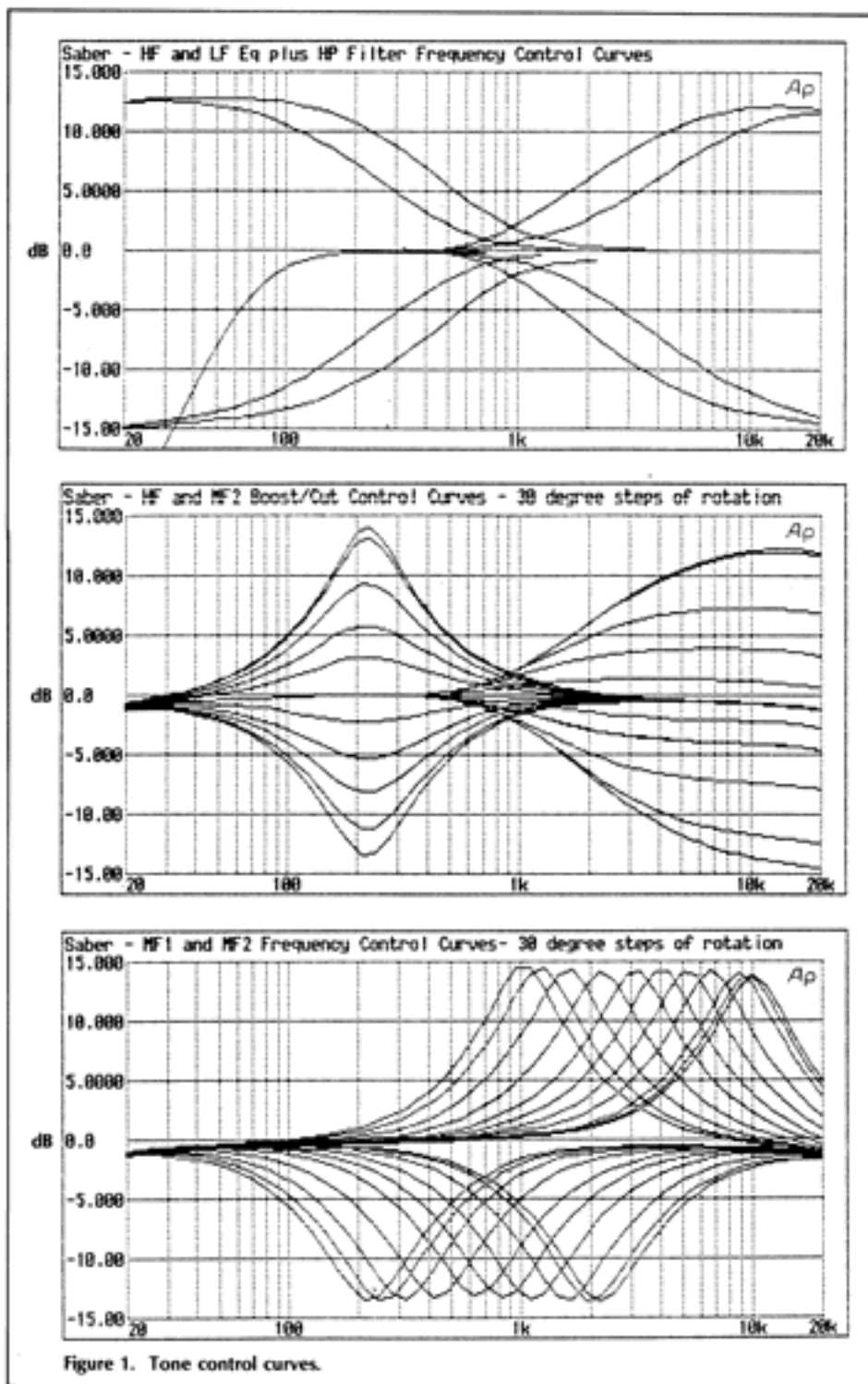


Figure 1. Tone control curves.

with sealed windows) or a stereo tape return. There are separate loudspeaker and headset level controls.

The two remaining sections contain the most interesting and potentially useful facilities on the console - Check Mode and Mute Processor.

#### Check Mode

Every 'check' button has two possible functions - PFL and SOLO - which are selected on the master controls on the Monitor module. The function of Check on the channels and group monitors is independently selectable and can be linked or left to operate separately. When PFL mode is active, operation of a Check button latches the pre-fader signal of the selected module onto the monitor inputs and onto the L and R meters. Any other non-PFL source is taken off of the monitors. Several modules can be PFL'd together if required, allowing the operator to listen to the selected module and to observe the pre-fader operating level on the meters.

When SOLO is selected, operation of Check on one or more modules causes all of the other modules to mute, leaving only the Solo'd module(s) routed through the console. This

displays the operating level of the selected source(s) on the L-R meter, and enables them to be heard with all effects etc. operating, and on the performance loudspeaker system. This is useful, not only as a quality check, but also makes it easier to debug a touring system. By selection of the master Check Mode switches, Solo can be made operative on the channels or group monitors separately, or they can be linked to operate as a unified system. Because Solo has a destructive potential during actual performance, Allen and Heath have provided a master solo enable which operates beneath a protective cover, preventing accidental operation.

#### Mute Processor

Doing sound effects or pre-setting multiple mics during a major musical? The mute processor provides at least one extra hand, possibly two. Mute switches on the input modules and group monitor sources are coupled to the mute processor which can memorise 32 complete sets of console mute set-ups. Manually, it is easy to use, with battery-backed memory. There is not room here to describe its uses fully, but here are some application examples.

Suppose you require a sound source to appear at different times with completely different sounds e.g. normal voice, telephone voice, and a voice from 'heaven'. It might also be routed to different loudspeakers on these different occasions as well. One way to do this is to put it through a channel and then reset between every operation, perhaps the traditional way of doing the job. Another way might be to send the signal through several channels in parallel and then to enable the right channel at the right time. This latter method could be automated by the use of the mute processing system.

Another example is a multi-mic'd musical, where different groups of mics are used at different points in the production. Traditionally this has meant clearing down the whole console between scenes, or manually muting the unused mics - an effort which is distracting and prone to error. The programmable muting system allows 32 different set-ups used, randomly or sequentially, to be stored for error-free recall.

But Saber doesn't stop there: the mute programmer also operates over MIDI. For example, this could allow a keyboard player who issues a MIDI Program Change to alter the voicing of his synthesiser to simultaneously recall a new muting pattern. Or the sound tech could issue a Mute Memory recall which also alters MIDI programmable equalisers or digital effects units connected to his system. The possibilities are endless.

Want to go further? The MIDI interface allows the whole set of mute memories to be stored on a sequencer for future use; very useful in a rep situation. Would you like your effects tape to control its own routing around the theatre in real-time? Add a synchroniser and sequencer and using the above techniques recall an infinite variety of set-ups in real time. Set your minds to work fellows, there is a lot of creative opportunity here.

#### Last details

All connections on a Saber PA console are located on the rear of the mixer as either XLR's or 1/4" jacks. Insert points are included on inputs, groups and L-R master outputs. The recording model can be purchased with a built-in patchfield. There is also a stereo line input module M360 which can take you up over 60 inputs in the large frame if required.

#### Summary

The performance of Saber was checked thoroughly and meets its published specifications. If you are working with only a few inputs in use, the noise is in excess of some other types of design since it is fixed at its maximum mixing noise, but with 20 or more sources active at once, there's not much in it between this and other similarly priced consoles - one noisy source will swamp the lot anyway. The facilities offered in terms of equalisers or the quantity of auxiliary sends can be beaten by some others, but usually at the expense of those hateful dual concentric controls. Headroom is 2 or 3dB better than that of several well-known manufacturers, but still too low for my liking for live sound use. However, the majority have been living with this for years. Still, if I had the budget for a medium-priced replacement console for my theatre or hire company, Saber would certainly be worth serious consideration - it looks tough, performs well and is provided with some unusual but useful features. Keep your eye on Allen and Heath. They may be a new dark horse in the UK mixer market.

#### Stop Press

Since writing this article, I have heard rumours of a new Saber development - a real theatre/sound reinforcement group module. It is said to have matrix sends, programmable muting on group and matrix output and improved metering selection.

Contact Allen & Heath for further details.

S.W.

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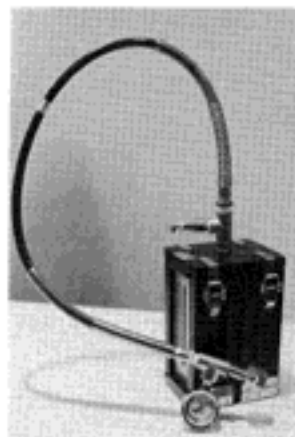
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# PLASA News

● Rob Peck, managing director of Icelectrics Ltd, has been elected chairman of the Professional Lighting and Sound Association for a three year term with effect from January 1, 1989. Rob, a long-serving member of the committee, takes over from Peter Brooks who has retired after six years as chairman of the Association. Rob told L+SI he is firmly committed to consolidating the work of Peter Brooks and strengthening the ever-widening base for the benefit of all members. One of his main priorities as chairman will be the expansion of PLASA membership to include companies in all areas of audio and visual entertainment.

● Also stepping down in the New Year will be Ken Sewell who hands over the mantle of PLASA treasurer to Kevin Hopcroft of NJD Electronics. Kevin has served on the committee for just over a year.

● The recent committee elections saw Tony Akers and Tony Kingsley return to their positions on the PLASA committee. Tony Akers will continue his role as vice-chairman and also standards sub-committee chairman, whilst Tony Kingsley will remain as chairman of the sound and PR sub-committees. Seven people stood in the elections, and 60 of the 142 member companies voted.

● Revised dates have been offered by the DTI for the venture to the Far East in 1990. However, due to the unsuitability of the dates, Tony Andrew is



Rob Peck: PLASA's new chairman.

to liaise with the DTI in an attempt to secure more acceptable ones. Alongside this the DTI has proposed a renewal of its joint venture offer for the Frankfurt Musik Messe for 1990. The DTI have also provisionally offered joint venture to Lighting Dimensions International due to take place in

Palm Springs in November of this year. Further details will be available shortly.

● The second PLASA annual dinner will take place at the Royal Garden Hotel, Kensington on September 10, 1989 on the first night of the 1989 PLASA Light and Sound Show.

● Stand sales for the 1989 Show began in December and members will have until mid-January to re-book their 88 stand site. From then until the beginning of February, non-members may re-book their 88 site, and after this date stands will be made available to all interested parties. There is a commitment this year to approach new markets within the lighting and sound industry in order to broaden the scope of the show. In particular, it is hoped that the show will attract more European visitors and encourage greater representation on the exhibition stands from ancillary suppliers and club owners.

● The PLASA committee is researching the possibility of introducing seminars and workshops as an integral part of the Show, covering a range of topics relevant to the industry.

● Standards were discussed at the last PLASA committee meeting with special emphasis being placed on the Spanish Royal Decree, effective from December 1 last, which prohibits the import of non-approved low voltage equipment into Spain. It is hoped that a standards report will be processed shortly and published in L+SI in the near future.

## Exhibition Diary 1989

January 15-17, 1989.

**Atlanta, GA.**  
Contact: Angela Bervenutti, Night Club & Bar,  
305 W Jackson Ave., Oxford, MS 38655.  
Telephone: (601) 236-5510.

**Frankfurt Music Fair**

January 28 - February 1, 1989.  
Frankfurt Fair Centre, Frankfurt, West Germany.  
UK Representatives: Collins and Endres,  
18 Golden Square, London W1R 3AG.  
Telephone: 01-734 0543.

**Sound Eighty-Nine**

February 21-22, 1989.  
Heathrow Penta Hotel, London.  
Enquiries: SCIF, 4b High Street, Burnham,  
Slough SL1 7JH.  
Telephone: (06286) 67633.

**SIEL 89**

April 9-12, 1989.  
Porte de Versailles, Paris, France.  
Organised by Bernard Becker Promotion,  
161 Boulevard Lefebvre, 75015 Paris.  
Telephone: (1) 45.33.74.50

**Pub, Club and Leisure Show**

April 11-13, 1989.  
Olympia 2, London.  
Angex Ltd., Europa House, St. Matthew Street,  
London SW1P 2JT.  
Telephone: 01-222 9341.

**SIB/MAGS**

April 10-13, 1989.  
Rimini, Italy.  
Ente Autonomo Fiera Di Rimini,  
PO Box 300, 47037 Rimini, Italy.  
Telephone: 0541/782000.  
UK enquiries: PLASA general secretary,  
Tony Andrew, 7 Highlight House, St. Leonards Road,  
Eastbourne, East Sussex BN21 3UH.  
Telephone: (0323) 410335.

**USITT Conference & Stage Expo**

April 12-15, 1989.  
Calgary, Canada.  
National Office: 330 West 42 Street, Suite 1702,  
New York, NY 10036.  
Telephone: (212) 563 5551.

**Expo Musica, Madrid**

May 17-20, 1989.  
Madrid, Spain.  
Organised by IFEMA (Institution Ferial de Madrid),  
Avda de Portugal, s/n Casa de Campo,  
28011 Madrid 1101.  
Telephone: 470 10 14.

**Audio Visual 89**

May 8-11, 1989.  
Wembley Conference Centre, London.  
Organised by emap Maclaren Exhibitions Ltd.,  
840 Brighton Road, Purley, Surrey CR2 2BH.  
Telephone: 01-660 8008.  
Contact: David Copeman.

**Showlight 89**

May 15-17, 1989.  
Hilversum Studios, Amsterdam, Holland.  
Organised by The National Illumination Committee CB  
in association with Netherlands Broadcasting Svs.,  
NOB, PR Department, Postbus 10, 1200 JB Hilversum,  
Netherlands.  
Contact: Maureen van Wouderberg.  
Telephone: 035-775115.

**ABTT Trade Show**

May 18-20, 1989.  
Riverside Studios, Hammersmith, London.  
Enquiries: ABTT, 4 Great Pulteney Street, London  
W1R 3DF.  
Telephone: 01-434 3901.

**NOTT 89**

May 28 - June 2  
Copenhagen, Denmark.  
Union of Theatre Technicians in Denmark  
Telephone: (1) 245808.

**APRS Show**

June 7-9, 1989.  
Olympia 2, London.  
Enquiries: APRS, 163a High Street, Rickmansworth,  
Herts WD3 1AY.  
Telephone: (0923) 772907.

**PLASA Light & Sound Show '89**

September 10-13, 1989.  
Olympia 2, London.  
Exhibition Organiser: David Street,  
Telephone: 01-994 6477.  
General Enquiries: PLASA general secretary,  
Tony Andrew, 7 Highlight House, St. Leonards Rd.,  
Eastbourne, East Sussex BN21 3UH.  
Telephone: (0323) 410335.

**Lighting Dimensions International 89**

November 3-5, 1989.  
Palm Springs, California.  
Enquiries: Patricia Mackay or Jackie Tien,  
Lighting Dimensions, 135 Fifth Avenue, New York,  
NY 10010, USA.  
Telephone: (212) 677 5997.

## New PLASA Members

**CYBERDISCENCE LIGHTING LTD.**

1001 High Road, Finchley,  
London N12 8QX.  
Tel: 01-446 4248.  
Director: D. S. New.  
Formed in 1983, the company deals in conference and exhibition  
lighting, and are main agents for Trilite having one of the largest  
hire stocks in the country.

**MARQUEE AUDIO LTD.**

Shepperton Studio Centre, Studios Road,  
Shepperton, Middlesex TW17 0QD.  
Tel: (09325) 66777 Fax: (09325) 68989.  
Directors: S. Brooks, A. Pendleton, B. Pendleton.  
The company is a member of the Marquee Organisation, and deals  
with professional audio equipment for both sales and installation.  
As a main distributor, Marquee Audio has an impressive array of  
stock and also manufactures custom-built JBL loudspeaker  
enclosures.

**OXTRON DIGITAL SYSTEMS.**

Baron House, 2 Severn Way, Watford,  
Hertfordshire WD2 6DQ.  
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Directors: C. Kingdon, D. Burns.  
Manufacturers of environmental lighting controller, the Oxtron  
CL600 and the digital music system, Database. The company also  
offers services in electronics hardware/software development.

**PRESENTATION CONSULTANTS LIMITED.**

168 Chiltern Drive, Surbiton, Surrey, KT5 8LS.  
Tel: 01-390 4841 Telex: 892337 CELCO G.  
Directors: John and Jane Lethbridge.  
The consultancy was recently formed to act as both a wholesale,  
world-wide distributor for Light and Sound Design Ltd. and a con-  
sultancy service to the entertainment world.

**RAMSA PANASONIC CONSUMER ELECTRONICS UK.**

300-318 Bath Road, Slough, Berks SL1 6BH.  
Tel: (0753) 34522 Fax: (0753) 38781.  
Directors: Mr. Hashiguchi, Mr. Hamblin.  
Manufacturers and importers of professional sound equipment.

**SUPERVISION INTERNATIONAL DISCOTHEQUE SERVICES LTD.**

320 Munster Road, London SW6 6BH.  
Tel: 01-385 2383 Fax: 01-386 9206.  
Directors: C. Bradbury, S. McDonagh, T. Reader, P. Morin.  
Supervision specialise in the design, supply and installation of  
sound, light and video systems for international hotel operators,  
plus DJ, record and service contracts.

**TOMCAT ENGINEERING LIMITED.**

Unit 24, Peshore Trading Estate, Peshore,  
Worcestershire WR10 2DD.  
Tel: (0386) 556640 Fax: (0386) 554950.  
Directors: C. Cronin, N. Lee, J. Tomkins, D. Tomkins.  
Established in 1986, the company manufactures truss, Par cans,  
outdoor structures, lighting equipment and a variety of hardware.

**TUNEWELL TRANSFORMERS LIMITED.**

115A Myddleton Road, Wood Green, London N22 4NG.  
Directors: J. Turner, I. Turner, H. Turner.  
The company produces neon sign transformers and high power  
amplifiers.



# Of Myth and Magic in Manhattan

**Tony Goffeller undergoes a mystical experience talking to Michael Fink sorcerer-in-chief of lighting designers Magical designs of New York.**

Sitting on two of the panels at Lighting Dimensions International 88, I found myself next to the same expansive character whose strong, and obviously hard-learned, views on the problems encountered by lighting designers immediately caught my attention.

This broad, bearded, larger-than-life Brooklynner turned out to be Michael Fink of Magical Designs, who I knew to have recently presided over the resurrection of the mythical Studio 54 along with casting his spell over the reincarnation of 4D - now called, would you believe, Club Merlin. So, at the first opportunity, I took him off to the bar for a strong potion, to get the words of wisdom recorded for posterity. (OK, no more allusions to illusion, I promise).

"At Studio, I had a very clear brief as the new owner felt that basically they already had many great effects, some of which were generic to the club," Michael opened. "The problem for me was that none of them worked any more and there was no co-ordination."

As a result, the client apparently thought that he could get the system tidied up for \$75,000 but in the face of quotes for \$750,000 and \$1.5 million, agreed to give



**Michael Fink.**

Mike Fink \$260,000 to play with.

As he expected, the bulk of this money was spent on re-wiring and making good circuitry which had been neglected or abused by previous managements. "Someone had come in and cut all the control cables between the non-dims in the basement and the

control," winced Fink, "and someone else had come in and tried to rewire the Litelab equipment to the point that whenever you touched it, it sparked! I found that there were no grounds at all, someone had pulled them all."

The problem was further exacerbated by the fact that, whilst the first two designers at Studio, Jules Fisher and Ferren Associates, left good records the third one didn't.

According to Fink, he did a good job of sabotaging their efforts. "I ran into one situation which really pissed me off," Mike told me. "This guy, whoever he was, kept no records, ripped off circuit tag numbers and fried others, one of which was overloaded by 60 Amps! Some of the circuit breakers for the major effects pieces had been placed in a cloakroom down the corridor and out in the hall, for God's sake, so there were some things I couldn't even begin to assign."

Fink is a believer in getting the basics right first, so having got his wiring straight, he allocated money to what he considers good, standard lighting effects. "Basic colour washes, not primaries, but interesting tints and a rainlight show," is how he describes it. Subsequently, he looked at what could be



A general view of the dance floor, Studio 54, New York. The light-poles are an 'essential part' of the Studio's image.



done with the club's existing signature effects.

The neon on the light panels was renewed to give more flexibility of control and the colours and motion of the famous light-poles were changed to give them a new lease of life. "I hadn't done light-poles since the 70's, but the owner felt it was an essential part of Studio's image," Mike grumbled.

He decided to retain Mark Fleichman's second level design, which involved the use of 1kW ellipsoidal profiles, and found the solution to making them more versatile through the use of the British-designed Pan-can. "Unfortunately, I was only able to get Series 2 units with that crazy little controller," Fink told me, "and I realise now that I should have got System 3 and patched it into a standard 0-10v analog control board. Nevertheless, they gave me a lot of flexibility and enabled me to move my gobos and change colours." Elsewhere, mirror sweepers were used to generate animation from existing lanterns.

After all this, there was just enough money left to re-work the original neon star with more colours and to duplicate it in miniature around the dance floor while more subtle control was provided by a Pulsar Modulator. Control of the Par 36 pinbeams and colour washes was given to a Composer control board, which allows regulation of the various areas of the dance floor.

All other effects had their own individual controllers, so I asked how he felt about coordinated control. "Well I certainly realised after Studio that that was the way to go



Lighting and audience make contact at Studio 54.

and so I am now using the Zero 88 Orion which enables me to control motors and strobes as well as the lights and to programme them as I want," replied Michael. "So you can say 'this is what I want and that is what you see'."

Looking through the dimmer allocation schedule from Studio 54 is a bit like reading a piece of disco history handed down in tablets of stone. To find it was all done with

only 50 control circuits makes one realise what a fantastic piece of theatre it really was in its day. Now, liberally sprinkled with finkisms such as "Circuit 11, DO NOT USE BAD JU-JU" we come to realise the kind of problems he had to resolve, and to understand better his plea for all designers to leave good schematics behind them. (I do try Mike, honest).

So, having exploded somewhat the myth



The Magician' neon panel at Merlin's.



Club Merlin's VIP lounge.

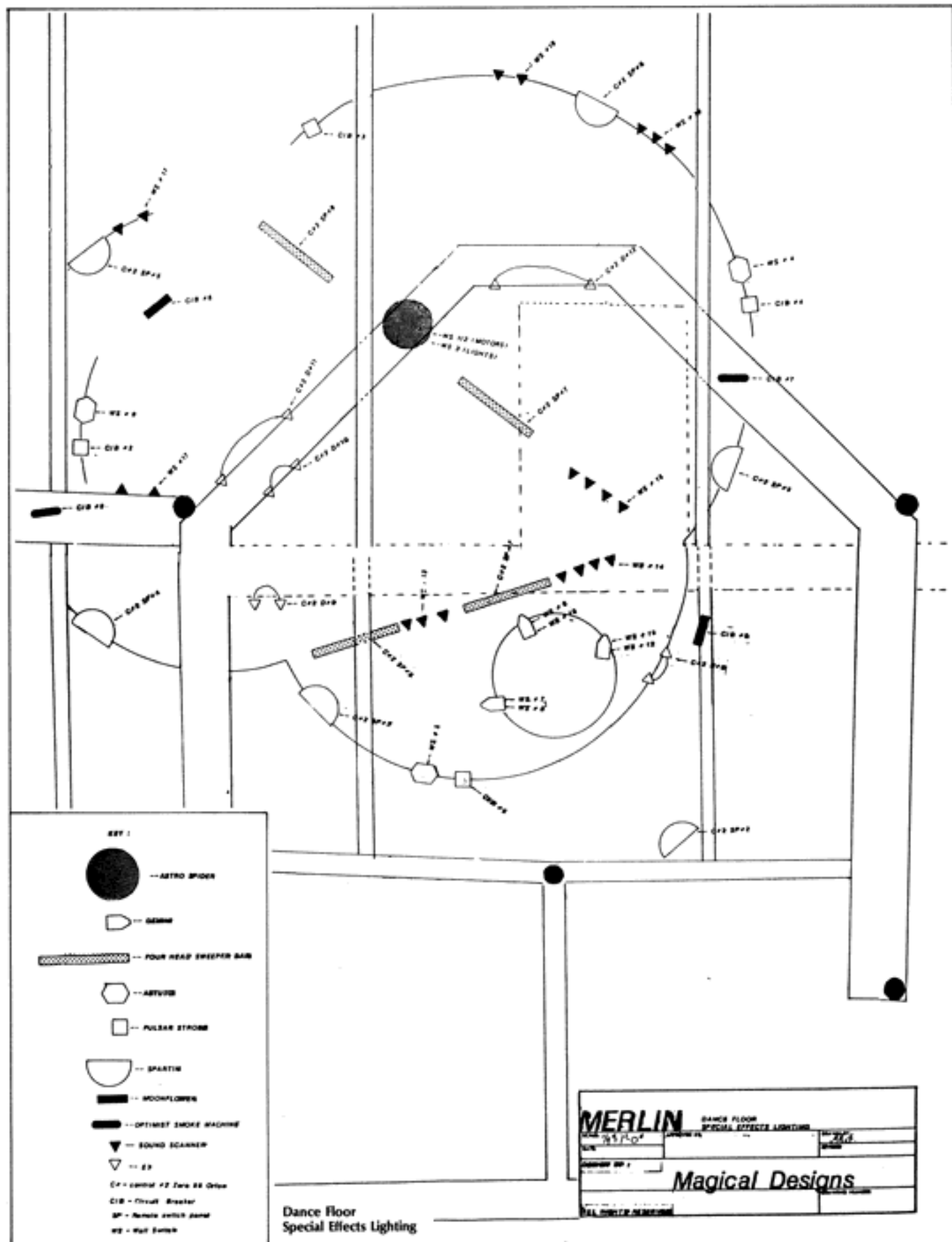


The dance floor at Club Merlin.



Club Merlin, New York: view from the entrance through to the dance floor.





that was Studio 54, now trading, incidentally at weekends only, as an unlicensed juice bar, we moved on to talk through his input at Club Merlin. Here the nightmare of the vestiges of previous incarnations was even greater. "We even found two dimmers plastered behind a new wall and absolutely no drawings were available whatsoever."

Originally owned by Frank Lynch, the Glaswegian entrepreneur who established the famous Muscular Arms, it had already gone through two previous existences as Visage and 4D respectively. "4D was a kind of surreal mish-mash of conflicting ideas which never really came off," was Fink's view with which I concurred after an earlier visit.

Fortunately, he was given more of a free hand to create a thematic for Merlin, which was a concept which he felt had a strong affinity with disco. So he made up large neon tarot cards in which the featured character's identifying props, such as the magician's wand and the justice's sword are animated. The dance area, which Fink described to me

as a 'big potato' was given effects chosen deliberately for their lack of strong form or fixed shape. Coemar Spartans were used to give a fierce white infill from the perimeter, with an Astrosider in the middle as a central effect. Elsewhere, Astutos were interspersed with Pulsar strobes and, of course, rainlights and Par 56 colour washes for his essential basics. This time, control was by Zero 88 Orion, and the original stage system was simply repatched and reconfigured.

"Then I asked Bruce Solotoff to come in and paint space scenes and alien landscapes on the walls and ceilings," said Fink, "and then I said to myself, magic is a science of a sort, so we painted atomic structures on the columns and highlighted them."

As you go in through the front door, you are confronted by a giant outstretched hand from which lines of neon emanate from the fingers. These lines, representing illusory energy from the magician's fingertips, are supplied by an R.F. generator which creates a chase effect within each single piece of neon.

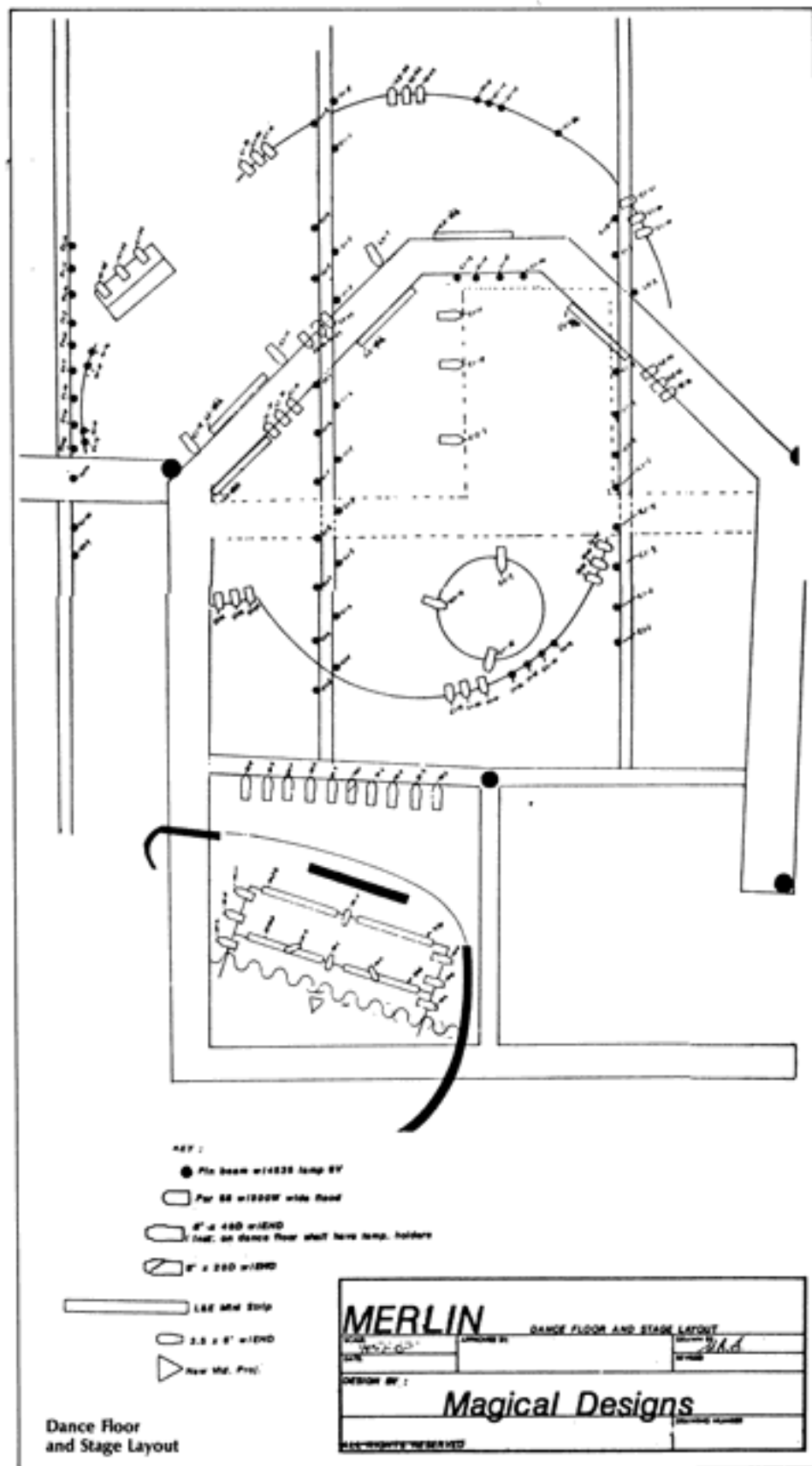
Then you move through areas of changing shapes and reactive angles, created with triangular neon and black Metalmar panels positioned in sharp relief. Then a circular antechamber with a domed ceiling presented a new problem which Fink resolved with typical flair and inventiveness. He dragooned Lonnie Juli to make some activator driven articulated arms, holding Plasma balls and draped with wizards elongated sleeves. These arms slowly dip in and out of the ceiling in a balletic, mysterious, marionette show - "As if Merlin himself is up there pulling the strings for the whole joint," illuminated Fink. "Actually it's quite subtle. Often people walk through and then come back to make sure that they've really seen what they think they have."

Clearly, Merlin is Michael Fink's most innovative project to date, although with his theatrical background, he must be used to dealing with such creative challenges on a regular basis. I look forward to great things from his next project, rumoured to be a revamp of New York's 'Ritz' nightclub. I also foresee exciting developments when he has more of an opportunity for origination and to demonstrate his skills in a start-from-scratch situation, rather than with retrofit and renovation as in the two cases described here.

As a statement of intent, what could be clearer than his closing thoughts: "When I do a club I don't feel that I am just an electrician nor do I feel that I am just a designer. This is my art, I don't do this for jollies, I do it because, at the end, this is an opportunity to create what I want to see."

It's strange, but when I first clapped eyes on Michael Fink I had an uneasy feeling of *deja vu* and I realised, eventually, that he reminded me of the Robert de Niro character in *Angel Heart*. Come to think of it, Michael is just the kind of character you would cast as Merlin in a movie. Had I known I was sitting next to the reincarnation of the mystical and mythical wizard of Camelot, I would certainly have treated him with considerably more circumspection.

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# Museum of the Moving Image

Mark Mumford shows Graham Walne around London's latest exposition.

If you haven't recently negotiated the maze of concrete trenches that forms London's South Bank Arts Centre, then you will be pleasantly surprised to discover the new entrance to the National Film Theatre. And having found that, you will find that it has been enlarged to include the entrance to the new 'Museum of the Moving Image' - a fascinating exhibition about film and television, which opened in September 1988.

Funded by private and corporate benefactors, the Museum is the brainchild of Leslie Hardcastle, controller of the British Film Institute's South Bank Centre, and together with the Bradford exhibition England now possesses a world-beating collection of artefacts on the subject.

The Museum is contained within a new building, the majority of which is constructed under Waterloo Bridge and on part of the site of the old NFT car park. Perhaps Doctor Who's Tardis (on display inside) would have formed an appropriate entrance because from outside it is hard to see how the Museum's three levels of exhibits are possible in such a small space.

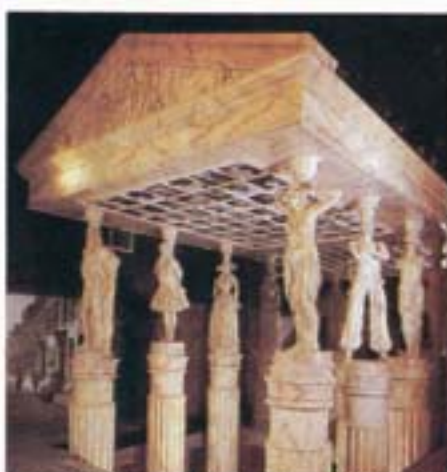
The layout is chronological in that it begins with the earliest experiments into projection and concludes with television, and there is a space for the inevitable shop and temporary exhibits. This is currently occupied by a selection of Jim Henson's surprisingly large creations, from Sesame Street through the Muppets to the Dark Crystal - all clearly constructed with immense skill, care and resource.

Visitors to MOMI are encouraged along by eight actor-guides who are constantly in touch with the central control room which monitors the flow via numerous cameras and also via the entry and exit gates. 1200 people can be accommodated at one time, and the gates count accordingly. At regular intervals there are maps which are specifically designed to keep the public aware of their progress, and a Monty-Python-type foot is shown on each map, and it gradually gets redder and redder!

These days, the word 'museum' is not popular, many designers opting for the livelier word 'exhibition' or even omitting the description altogether. MOMI, as it is known, is neither a collection of dusty relics nor a mass of captions, and is an object lesson to museum designers everywhere. Much of MOMI's life is provided by six cinemas and 93 video screens which are constantly in use, and elsewhere considerable attention has been given to three-dimensional reproductions of early equipment, many of which are working.

Indeed, the early sections are fascinating in this respect, starting with the Greek experiments with crude lenses for shadow projection, and passing on to the 19th century discoveries including an 1802 display of projection into smoke. (There's nothing new!) And who would have thought that the first colour print (by hand) and the first 70mm print date from 1896?

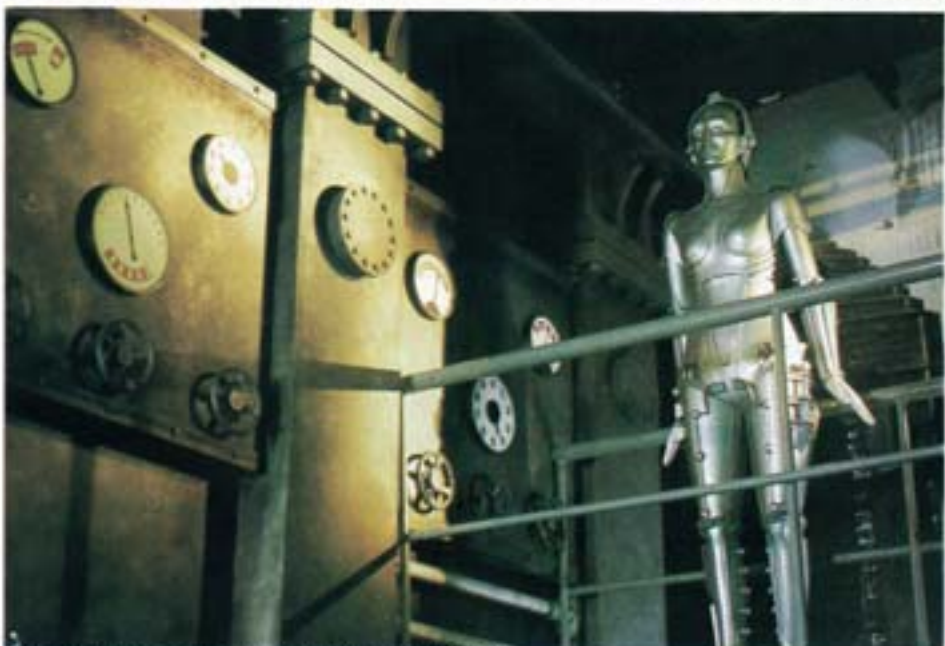
The Golden Age of Movies is celebrated by a spectacular staircase flanked by statues of Theda Bara, Mary Pickford, Rudolph Valentino, Douglas Fairbanks, Buster Keaton and Lillian Gish, whilst the ceiling above contains



One of MOMI's most spectacular exhibits is The Temple of the Gods.



A triennial lantern. Substantial improvements in magic lantern design in the 19th century led to a surge in its popularity. One refinement was the development of biennial, triennial and even quadrennial lanterns which enabled the lanternist to dissolve from one slide to another and thus create the impression of continuous movement. The handsome mahogany and brass lantern above was made in London around 1890.



MOMI's False Maria from Fritz Lang's 'Metropolis' (1926).

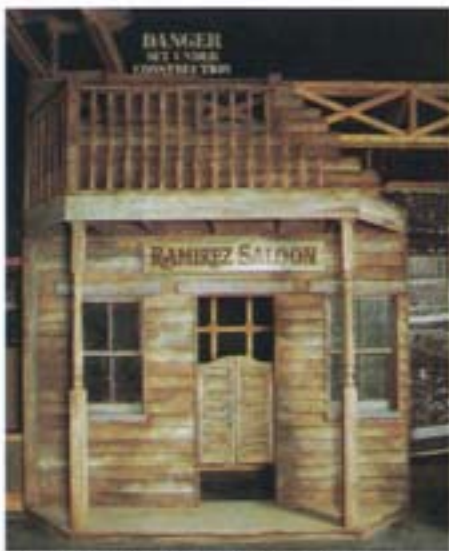
portraits of another 56 'greats'. Appropriately, the staircase leads to a reproduction of a Lambeth shop-front which contains Chaplin's hat and cane, and perhaps more interestingly, a collection of documents, contracts and programmes spanning his life.

The comments on Chaplin's political affiliations form a useful introduction to the next section which deals with the growth of cinema as a vehicle for propaganda, and the centre-piece of this is a train carriage cinema from Russia dating from 1919 - complete with agit-prop actor to help you in. Film clips include 'Battleship Potemkin' and nearby Fritz Lang's Maria robot from 'Metropolis' watches the scene. Closer to home, a Movietone News camera-van is on display with a clever gantry which allows the public to share the cameraman's view of events, a historical selection of which are projected nearby. These help to trace the cameraman's transition from observer to journalist, and film's transition from pastime to communicator.

In any exhibition, sound is difficult to use because of the problem of separating one display from the next. MOMI has a fascinating area which contains a wide selection of sound projectors and speakers dating from the very first sound-to-disc machines of 1927 through to the latest Dolby stereo units. The commentary is given progressively through each system so that one can judge the improvement in quality; a simple, very clever, and highly effective method.

MOMI offers many opportunities to take part. There's a make-up table and chair which when occupied by a member of the public fades out his reflection in the mirror and fades in a video of an actor being slowly made up for a horror movie, Bella Lugosi-style. Nearby, there are swing doors from a cowboy set, ready with guns and a camera for anyone to swagger through. Opportunities are provided to 'see how it was done'. There's the 18" model from which





A cowboy set, complete with 'swing doors'.

King Kong was made using stop-frame photography, and also an animator on site to make your own drawings come to life.

An actual Odeon frontage (complete with actor-commissionaire) ushers in many memories (for me, of Saturday morning cinema), and other recollections are prompted by numerous displays of posters and stills. Indeed, there's hardly any empty wall space and everyone's favourite film is here. Appropriately close to the Odeon is a reproduction of what was to herald cinema's biggest threat, television, and billed in a Coliseum poster of 1929 as 'the new radio sensation! The growth of television, marked by a fascinating line of early receivers, leads to a display of wide-screen cinema and other attempts, such as 3D, to compete. Ironically, television is now the greatest user of films; a true love-hate relationship.

The television section does not impress as much as that of the cinema, perhaps because television is too transient to possess a common Golden Age. We each have our favourite period, and perhaps also because its techniques have little mystery (or magic?).

However, there are some interesting displays: a video wall of fifties commercials, an actual Spitting Image puppet Mrs Thatcher watching videos of earlier prime ministers through the window of Number



A MOMI exhibit of typical equipment found in a low budget do-it-yourself independent filmmaking studio of the 1960s and 70s.



MOM's Odeon cinema frontage.



Visitors can board a full-size replica of a 1919 Russian railway carriage and watch agitprop footage and extracts from Soviet silent cinema.



The control room: around the desk are video monitors which look at pictures from 27 cameras placed through the museum. The technician even has a video display giving information on the state of the air conditioning within MOMI.





MOMI visitors can practice on an autotape machine and then watch themselves on a recorded playback.

10, and side by side comparisons of how different channels' news teams covered a demonstration (rather differently).

Nearby in a mock-up of a urinal, Alf Garnett offers 12 specially recorded opinions (including one of the NFT itself!), each available via push button. In lighter vein still, there is an opportunity to read the news and also to be interviewed by Barry Norman. After a brief pause the 'victim' can then see on video how he fared. A chroma-key display also offers a chance to 'fly' over London.

The route passes several of the projection rooms, many of which are open to view whilst in use, and it also passes the central control room which is also open and where video screens display the Museum's statistics. From here the security, video and sound are controlled, normally by one technician, assisted by 28 computers. In all there are 72 Phillips videodisc players and their extensive use tests the technology to its limits.

The control section is always being closely monitored in case new developments in digital audio and video could be useful, and the Museum also has the capability to receive up to eight satellite channels. All non-cine controls were provided by Electrosonic Limited who help with maintenance and training and regular intervals. I was taken round on maintenance day (every Monday, when the Museum is closed), and Electrosonic's technical director Mike Ray was getting his hands dirty, along with the resident staff, which normally numbers eight. (The lamp-round alone takes 12 man-hours!). One main cinema is provided with four screen surfaces for rear, flat, Perlux and 3D projection, and there are also extensive video and stage lighting facilities for presentations and

set-ups.

It seems to me that the Museum is whatever you want it to be: technical, nostalgic, political, or contemporary. Certainly you will need more than one visit to do any section justice. So, to quote Dr. Dolittle: 'I've never seen anything like it in my life!'

Co-ordinators: Leslie J. Hardcastle OBE, David Francis OBE, Anthony Smith OBE.  
Services manager: Martin Harvey.  
Technical manager: Charles Beddow.  
Exhibition designer: Neal Potter.  
Architects: Avery Associates.

Mark Mumford is a lighting designer in his own right, currently working with Samuelsons, a name synonymous with film and television, and who sponsored many of the fund-raising events.

Photographs are taken from the MOMI brochure with permission; photography by Paul Wilson and Clive Sawyer unless otherwise indicated.

The Museum of the Moving Image is open 10am to 8pm Tuesday to Saturday and until 6pm on Sundays and Bank Holidays.



'The Jazz Singer' (1927) was shown on a sound-on-disc machine like this. Warner Bros called the system Vitaphone. It was superseded within a few years by the Fox Movietone system which recorded sound directly onto film.

The London Coliseum poster of 1929 advertising a public showing of television. It was billed as 'The New Radio Sensation'.



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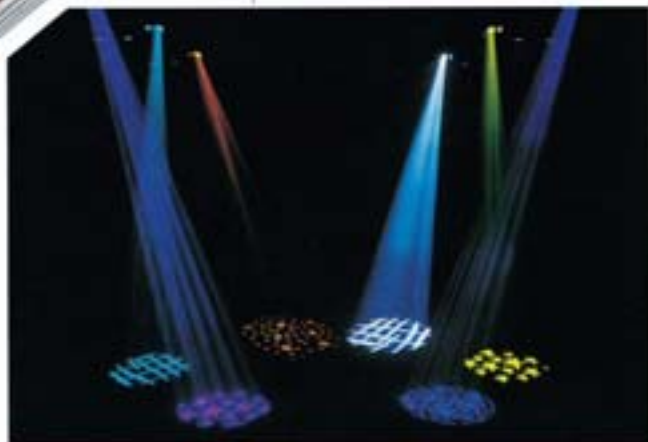
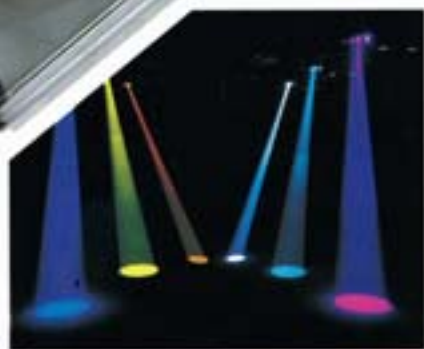
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# Disco Wheelies

Tony Gottelier visits Big R Leisure's new roller skating rink in Peterborough.

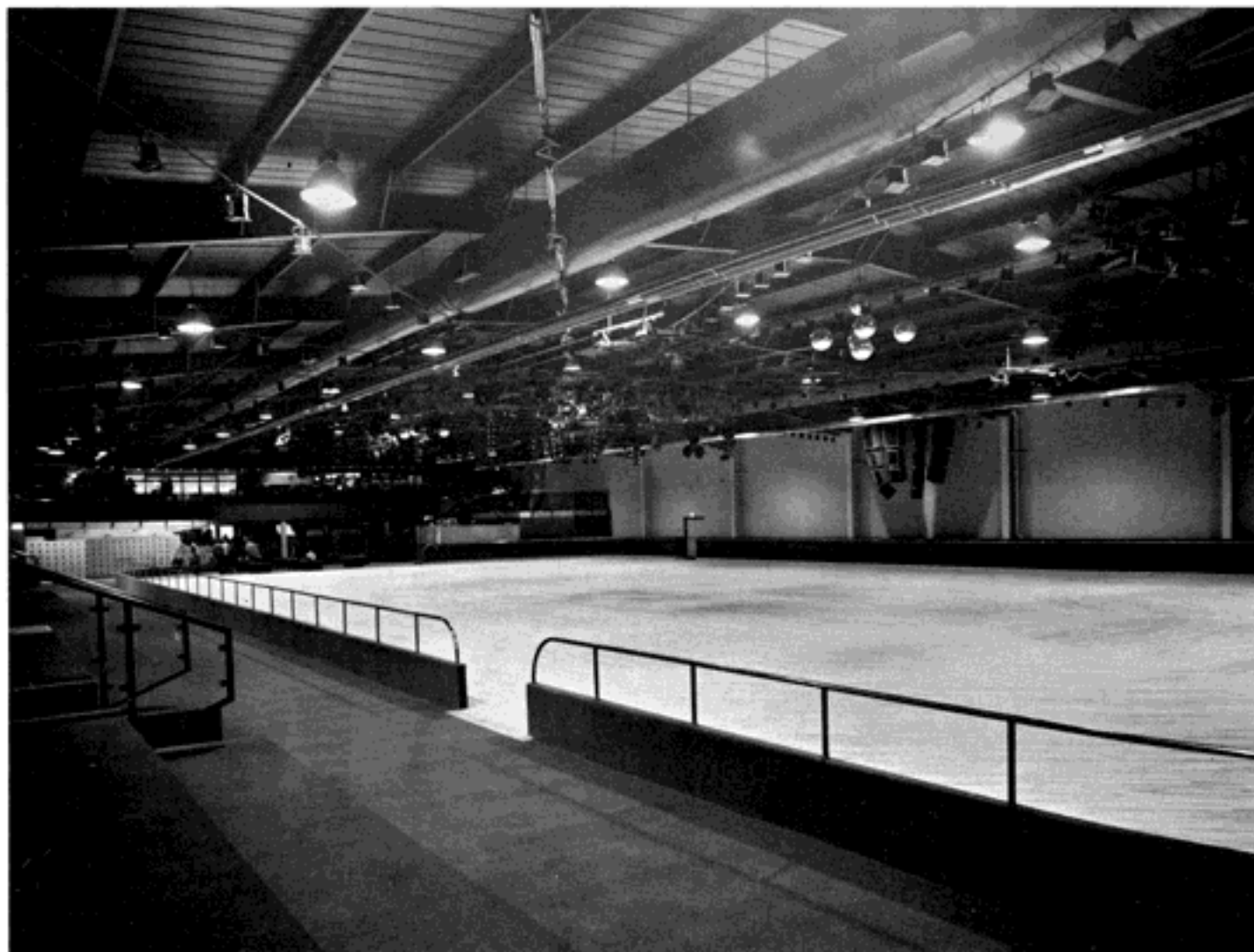
If you think a roller rink seems an unlikely venue in which to find Avitec applying their lighting skills - then you ain't seen nothing yet! For Rollers in Peterborough claims to be Europe's biggest roller skating centre with a performance area of 3080 square metres, a mighty big floor by any standards. The management reckon that they can safely allow up to 2,000 rocking and rolling punters on the floor at any one time.

While the vast open roof span clearly presented its own problems of installation logistics, the difficulty of creating an effective lightshow over such an area, and maintaining a consistently safe level of illumination for the skaters, was the paramount consideration facing Tony Kingsley's team. Dramatic changes from dark to light were out as, of course, were strobes - after all roller disco is a madcap, hell-for-leather business sometimes undertaken at breakneck speeds in a seemingly endless rotational process.

Its only true connection with disco is the music and the lighting (as I've always suspected, it's quite impossible to bop in roller skates!) Anyway, it's family entertainment, the majority in attendance being young kids, some of whom have mastered



Rollers at Peterborough claims to be Europe's largest roller skating centre.



Rollers 'performance' area covers 3080 sq. metres. The lighting rig can be seen and also the speaker cluster against the side wall.

the complexities of skating at the tender age of seven.

With this in mind, Paul Dodd, Avitec's in-house designer, went for a lot of punchy sources - Raylights, Discolux (40V, 150W) of which 288 are used in one single feature, and 100W Par 56's. For softer, more subtle washes, 48 Color Pros are configured from within a smoke curtain created by a JEM 428 smoke system with four heads. (The skaters seemed to cope well with the lack of visibility thus engendered). The Color Pros and smoke feature are mounted within a central fixed octagonal rig of Meroframe, literally bristling with Kremesa and Clay Paky devices, four of whose Astrospiders are fitted to Lynx elevators to provide some vertical movement amongst the mass of horizontal and gyrating effects.

The whole frame is surrounded by red neon flashes, a further 32 of which, in ice blue and green, storm out from this central feature towards the perimeter. Similarly, the 288 Discolux lamped Parcans are configured in radiating lines, zoned and matrixed to cover the rink to the outside. At either end of the oval floor, two large triangular Meroframes, again forested with hardware, are enabled by winches to swing from flat to an angle of approximately 45 degrees with the idea, presumably, of giving economical coverage of the periphery which might otherwise be dead.

Paul Dodd has a very definite opinion with regard to the significant alteration of perspective yet to come: "The trend for the future is more synchronised colour change and movement within one system. This is the key to Rollers. Here is an extremely large lighting system, versatile and yet, at the same time, easy to use from an operator's point of view."

Additional effects have been provided on a red Trilite rig in a bay adjacent to the balcony and CCT Minuettes with gobos provide subtle wall decoration at either side of the rink. All together, the two set-piece light shows we witnessed adequately satisfied the remit to make it exciting without causing any hazard. In fact during both these demo's, we



Another interior view of Rollers, looking 'down' the rink.

only noticed two kids crumple to the floor, probably due to inexperience as much as anything, and both picked themselves up with ear-to-ear grins. Obviously all part of the fun!

Avitec resolved the practical logistics of dealing with the installation and the miles of attendant cabling by handing the whole package into the capable hands of Jasco Light and Sound, whose Joe Sharpe told me: "In order to minimise time spent on site, which was restricted anyway, we fabricated as much as possible in our factory. For example, unlike many installers, we don't believe in bolting dimmer packs to walls, but instead prefer to fabricate a complete distribution unit with everything on board in advance. In this case we constructed an island unit with what are normally wall-mounted packs bolted around the outside and the cabling taken away through the centre."

This unit is housed in the middle of the switch room floor and certainly provides good accessibility and visibility for service and replacement. For example, any dimmer pack can be readily detached and a new one retro-fitted. Another surprise was the small amount of space devoted to the 24 switching packs. This, I discovered, was because these four-channel packs, based on an American four-way solid state relay package, had been custom-made for Jasco who intend to market them in future.

Each unit measures only 20x9cm; the dimmer packs, which naturally occupy a greater area and of which there are 18, are Anytronics PP410. If it was unusual to find an electrical contractor supplying his own control packs, then a greater surprise was in store with the discovery that Jasco are jointly developing a multiplex with Rimar Microsystems. A prototype of this 256 chan-

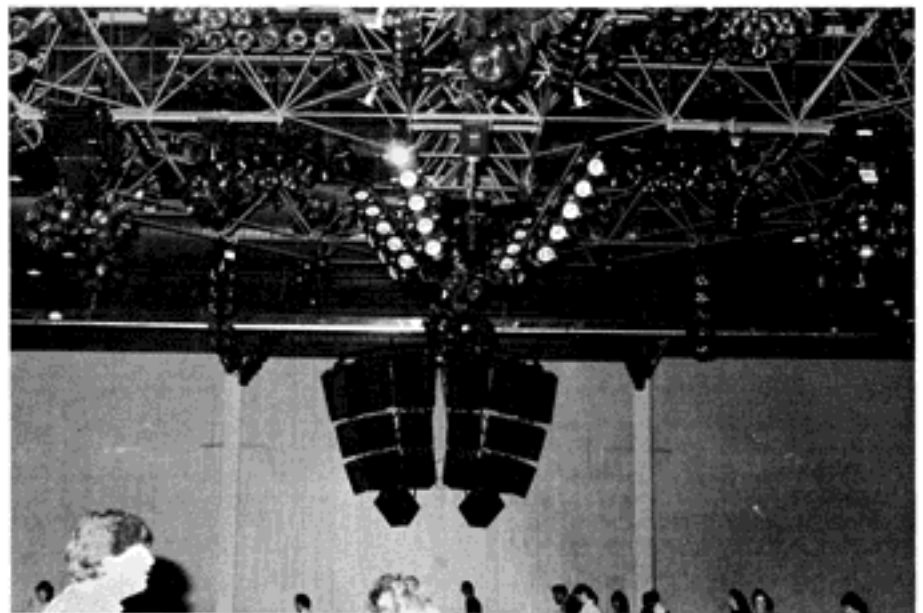
## Sound at Rollers

The sound system at Rollers sees the first UK installation of the new Turbosound TSE-112, and the project was undertaken by their London dealer, Electromusic. "The acoustics of this venue were certainly not sympathetic to the installation of a high-powered sound reinforcement system; parallel hard walls, hardwood skating rink and no acoustic treatment," said Turbosound.

"The nature of the environment called for a very careful acoustic study, as the client was insistent that the system should provide a clean clear sound capable of creating a discotheque atmosphere." The sound reinforcement system chosen was a Turbosound 180° cluster. It comprises of 12 x TSE-112 Mid/High packs, 6 x TSE-215 bass enclosures and 2 x TMS-1's. A further 4 x TMS-2 full range enclosures were chosen to provide sound coverage at the balcony level.

Electromusic's Mike Novak told L+S: "We had to locate the cluster against a wall, which meant that the enclosures had to project up to a distance of 40m to achieve complete coverage."

Turbosound's marketing manager, Richard Frankson, added: "Installations of this complexity represent perfectly how the TSE series of modular enclosures can be utilised. The range allows the system designers com-



The Turbosound cluster.

plete freedom to specify exactly the enclosures necessary against the room response, without having to compromise or over-specify. Rollers is an outstanding

example of TSE application and the ability of Electromusic to accurately interpret specification within the confines of a very reverberant environment."





Lighting in action at Rollers, Peterborough.

nel digital interface was in use at Rollers, and I took the opportunity to talk to both Joe Sharpe and Paul Dodd about the pros and cons of multiplexing.

First Joe: "Naturally what attracted us as installers was the massive reduction in control wiring from the desk to the pack room, in this case the 24 switch packs are supplied from one four core to five pin din cable. Additionally, the ability to use the unit as an electronic pin matrix saves us a lot of time and enables the lighting designer complete freedom to change his mind without coming to blows with his electricians."

Although Paul Dodd admitted to being a reluctant convert, he has found the practical use of multiplexing a considerable benefit: "It has meant that I have been able to design the controls in a much less rigid format than hitherto possible, whilst retaining instant access to all my effects via touch panels."

He regards himself as the Picasso of the lighting industry, painting, in this instance with lights. Such diversity allows him to maintain a fresh approach in his design work, and as he explained: "One must enjoy the difference, in the same way that one enjoys the difference between people." Vive la philosophe!

In fact, he has created a hybrid control system using six Mode TC16 programmable touch controllers and three Zero 88 Mercury units. As the Genesis multiplexer is not suitable for transmitting real levels, it has been used basically to provide a soft patch between some of these units and the 96 switching channels out of the total of 168 circuits in the whole system, including dimming.

At the pack end, the digital signals are demultiplexed and sent via 24, five pin din cables to each four-channel switch pack. In order to make the Genesis unit more understandable for the disco market, where soft patching and the concept of universal

multiplexing often falls on deaf ears, Rimar has packaged the internal software to provide accepted formats. Thus, sections of software are devoted to zoning and matrices, while 64 channels are excluded from the multiplex to facilitate safe motor control for hoists and moving rigs.

A further 64 channels can be switched back to direct control as a back-up against a possible system failure. Input/output configuration is via factory installed E-Prom or additional plug-in programming keyboard. Paul Dodd has used the TC16's both to initiate his selected lamp groupings and to enable the Mercury controllers which provide the necessary clock drives to the various four-channel zones. In addition, one of these touch panels cues the Color Pro

programmer to provide a flash facility to the colour changer.

While this set-up could perhaps be rationalised, it provided Paul Dodd with a fully accessible hands-on control system plus the flexibility provided by the multiplexer and, as we were reminded by all concerned, at an economical price. Nevertheless, having dipped his toe into the warmer water, I feel sure he will be making fuller use of the benefits experienced in future Avitec installations.

Meanwhile, Big R Leisure, the proprietors of Rollers, have shown the world that rumours of the demise of roller disco were grossly exaggerated. Not surprising as it is certainly a fun family affair. So for the people of Peterborough it's start the music, light the lights and let the good times roll.



Paul Dodd at Rollers' lighting control.



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# ON TOUR

Carlona Forcer

## Terry Gerard

## Natalie Cole Hammersmith Odeon

Natalie Cole has been touring the USA for over 12 months, and her recent departure from that schedule to Hammersmith Odeon, marked her first appearance outside America since the tour began in November 1987.

"This is not a structured tour," explained designer Tony Gerard, "as we tour all year long without an itinerary. We travel in a sporadic manner, so we don't carry production, which necessitates picking up a new rig every day. This particular show tonight is what I call the 'Vegas' show, which is more than a one day set up. We did it here in London because it is what we call a 'buyers' show. Normally, I would come in with a much smaller rig as it is not always practical to do it like tonight.

"This past year, I have toured for a total of 36 weeks with Natalie, and when I'm at home, I'm constantly advancing the show as I don't get the freedom offered by using only one design. I have to redesign the lights for every show and, because of our budget situation, I don't always get what I want. I have to be very flexible, as mine is the only area in which cutbacks will be made. The tour will always have to have all the sound requirements!

"Natalie is doing very well at the moment and is about to record a new album, and has told me

that she doesn't wish to introduce further cutbacks, but that can be a problem with this type of act. In fact, whether she wants to cut back or not could determine whether we stay at home or not.

"It's difficult not having the same design every day, although I endeavour to maintain some similarity in order to communicate properly with the companies and to get the system to the venue efficiently, which requires the correct documentation."

I asked Tony how he got into the business. "I've always wanted to work in entertainment, ever since I was growing up in Lake Tahoe, where my folks used to take me to many shows. I can do sound as well, but lighting is definitely my forte, and I find it more enjoyable. Sound is often either good or bad, whereas lighting can affect a show in so many ways. I worked in one of the nightclubs in Reno for a while and it was there that I had the opportunity to light a wide variety of acts from Country to top artistes. It's a really interesting feel moving from one to the other.

"I then started on cabarets and worked my way through the blue, red and amber washes to moving lights and articulated trusses. I've always been a designer, although I'm not a 'white-glover' by any means! I don't like sitting at home and I'm quite happy to work on a lighting crew. I have to admit that it's nice not to have to though. I don't get to see many shows and I haven't attended any of this year's major shows like Prince or Michael Jackson. It's important to see a show in execution to be able to pass comment. The design can be great, but if the execution isn't there . . . well I've seen many great designs destroyed by poor



execution.

"I also see a lot of photos but I don't know what's happening to my taste. The guys doing the big shows have got to be good, there's no doubt

# Thomas

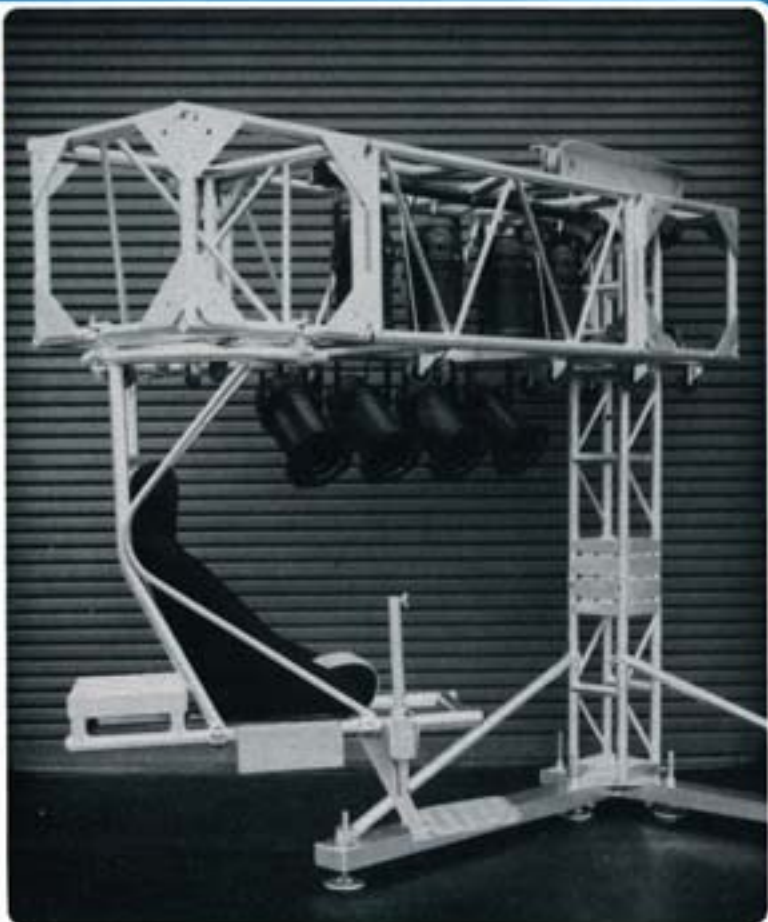
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about it. I wish I could say that I liked someone like Branton's work, but I haven't seen it. I really enjoy Peter Morse's work, and also that of John Rossi who looks after the Beach Boys. I'd like to do a huge show like Prince, but it's difficult finding the right steps to cross. I really enjoy doing the Vegas type acts however, because I don't have to work so hard!"

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## Haydn Gregson

### Womack & Womack U.E.A. Norwich

Liverpool-based Phase 5 Enterprise are a lighting company who have been trading professionally for four years. Most of their work is in the field of rock 'n' roll, much of it on the Continent, and they also handle some conference work. The company is owned by three partners, one of whom, Haydn Gregson, designed the Womack & Womack show.

"Phase 5 were recommended to Womack & Womack by the PA company," Haydn explained. "The band's manager had said that they are very happy with the lighting, although we have very little equipment. Normally, I would never try to light a band with less than 100k, because by the end of the third number you are back to square one. It's impossible to hold things back for when you want something special to happen. I think that they

need many specials and a lot of floor work - but they are happy. I would know exactly what to do on a larger scale, but on a smaller one it is hard.

"This is only a small British tour which is really a warm-up for a major one in April, for which they have already flown in half a jumbo jet full of equipment. At the Liverpool concert we will put in a 240-300 Can system, all Thomas pre-rigged truss, three or four front of house spots, smoke machines and maybe some pyrotechnics or follow spots on the front truss. Liverpool is our home town, and we don't want to appear with a band the size of Womack & Womack with only 60 lamps! It would be like you writing an article with only four words! So although the band have hired only 60 lamps, we will put in a larger system at no extra cost."

Lighting designer and operator: Haydn Gregson.  
 Follow spot operators: Craig Staples, John Kennedy, Thomas Winberg.  
 Riggers: P. D. Gregson, P. J. Robinson.

#### Equipment:

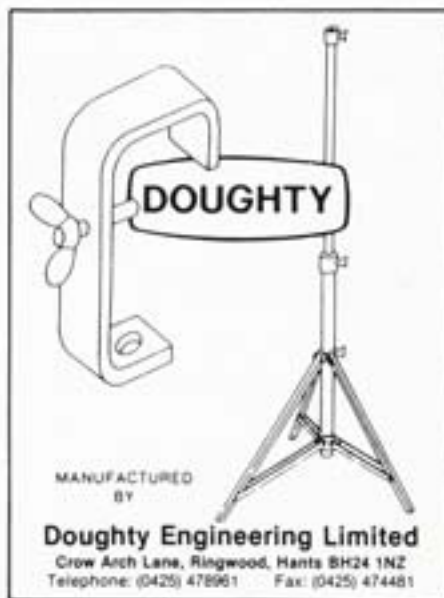
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Womack & Womack: lighting designer Haydn Gregson.



Natalie Cole (above and below): lighting designer Terry Gerard.





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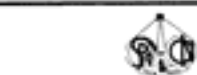
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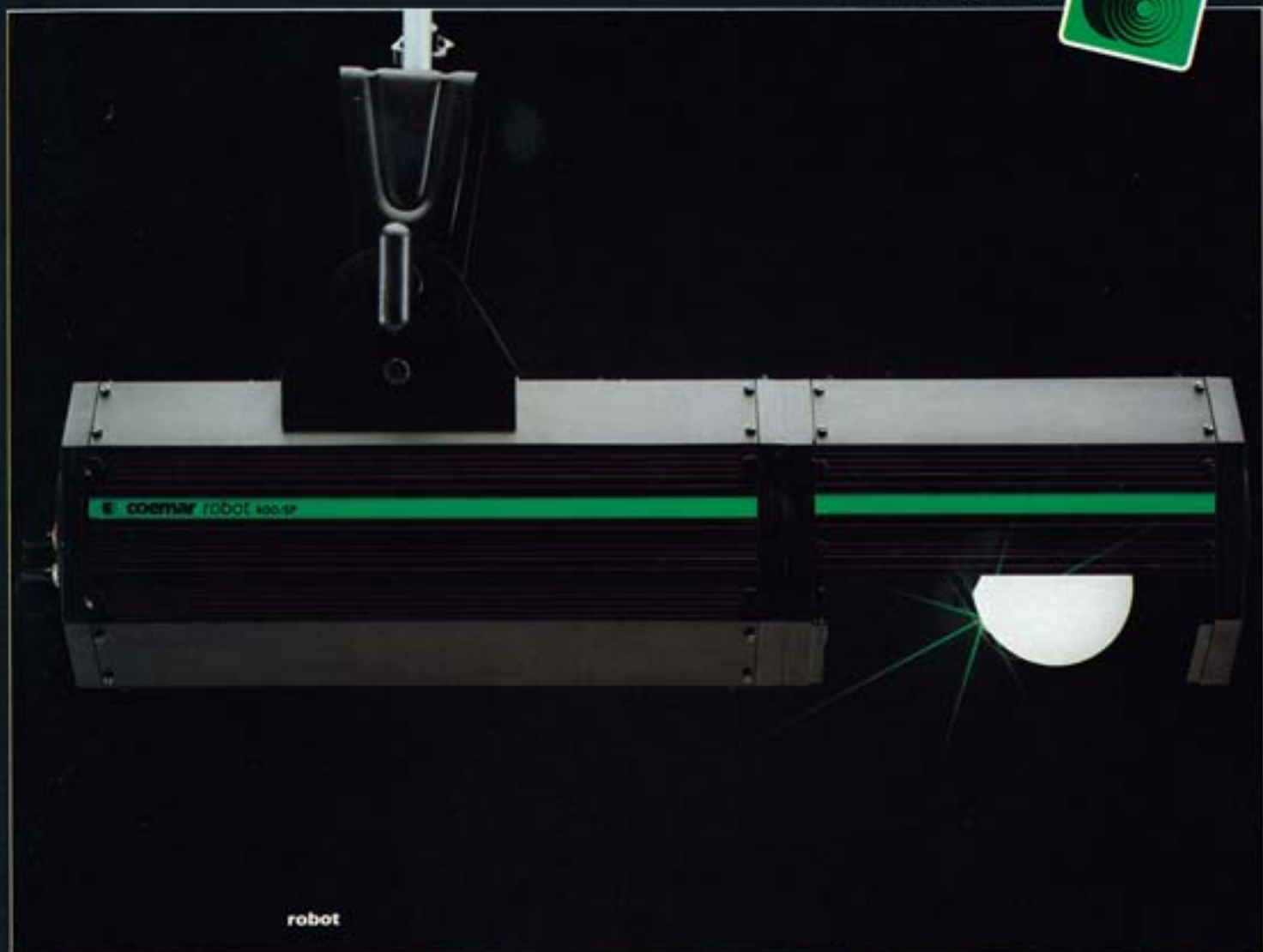
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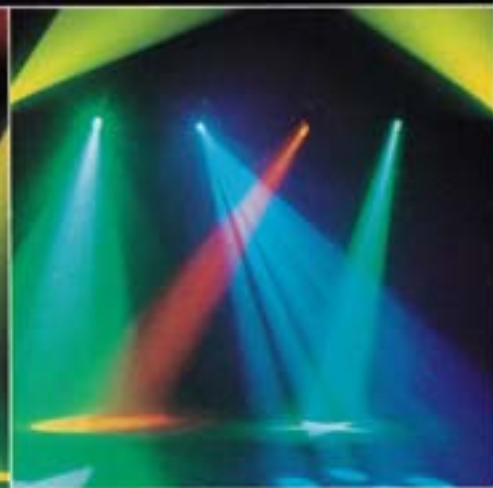
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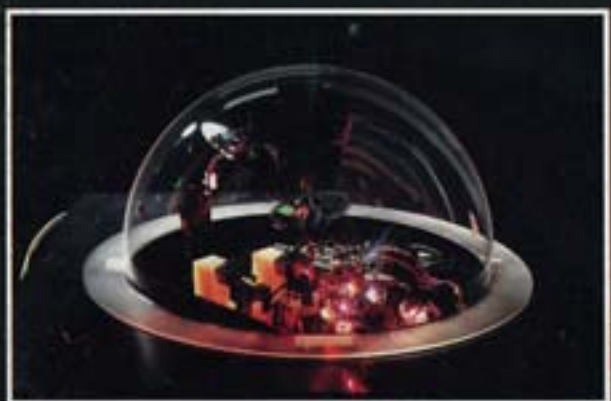
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