

LIGHTING+SOUND

International



Trillite in motion—part of Optikinetics' stunning light show at SIB Rimini.
(see Contents page 5)

PLASA

published in association with the Professional Lighting and Sound Association

May/June 1986
Volume 1 No.7

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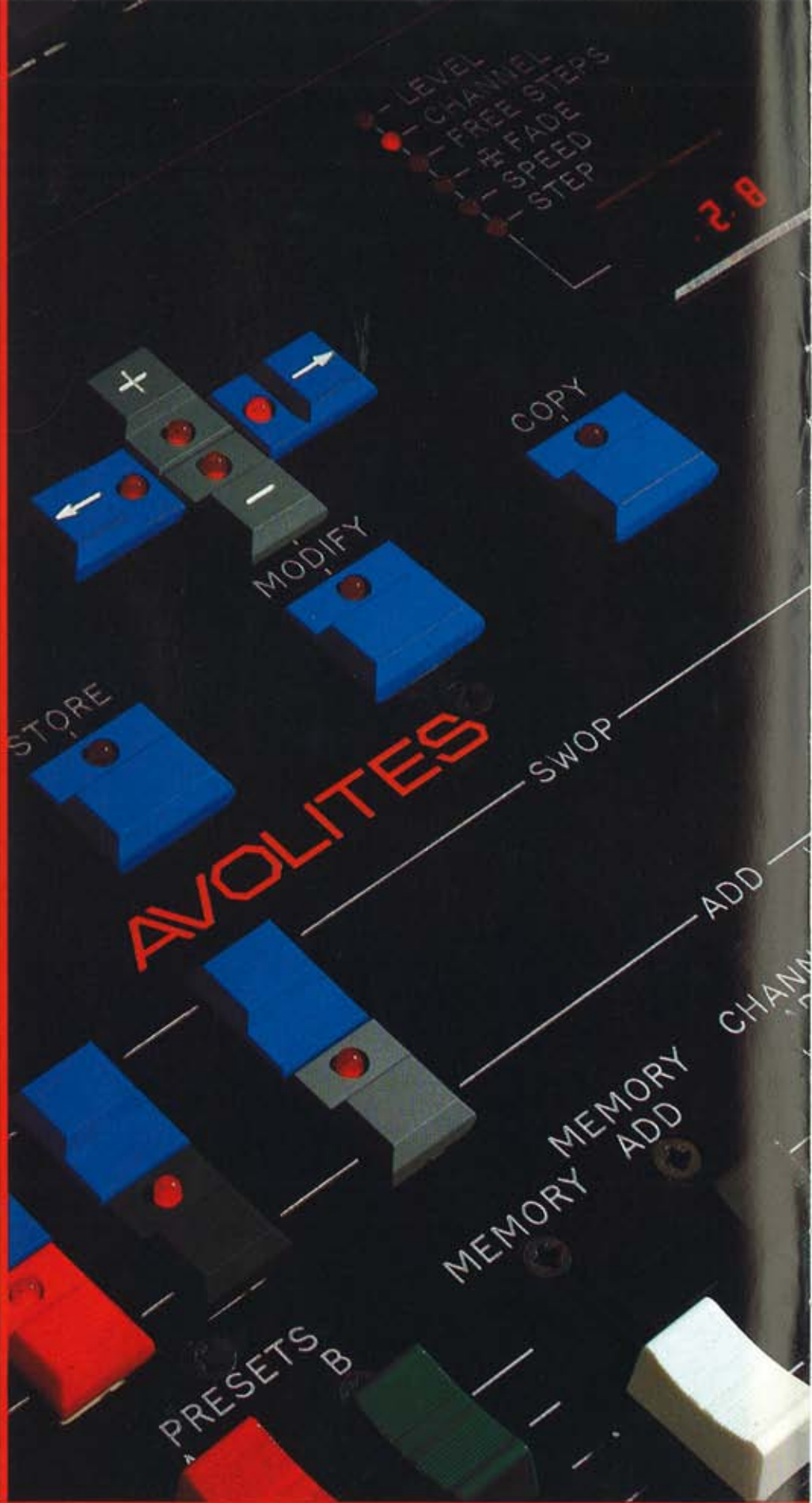
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Optikinetics' enormous Trilite stand at SIB Rimini in May with inset picture showing managing director Colin Freeman at the controls during one of their regular light shows.

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International

PLASA

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Professional Lighting and Sound Association

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Editor John Offord

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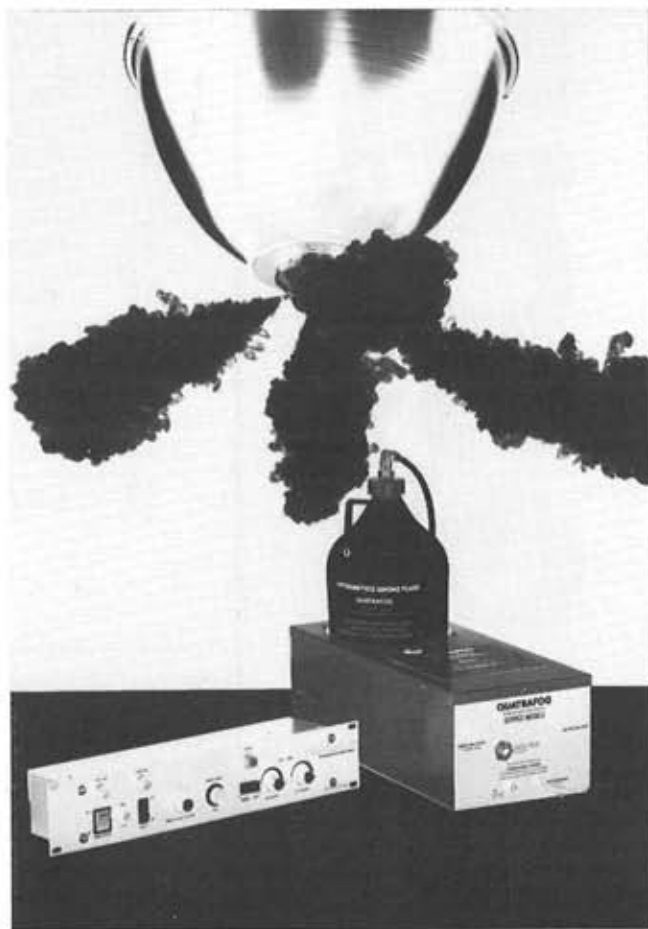
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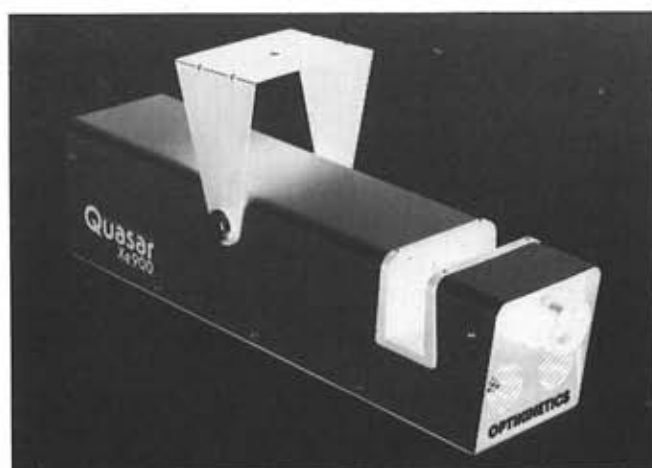
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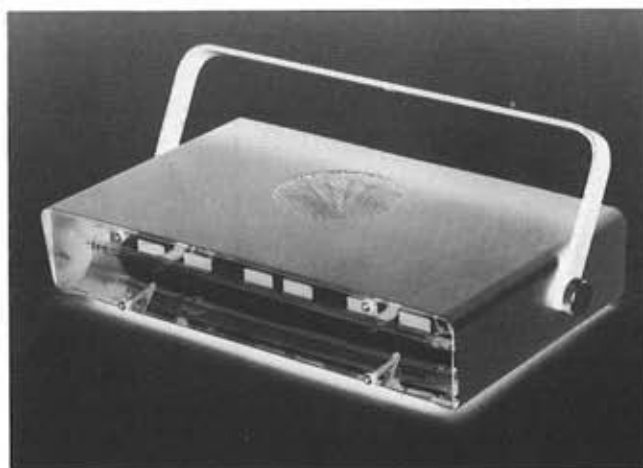
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Samuelson Expands into United States

Samuelson Group plc, the film and presentation equipment rental group has announced its acquisition of Dallas-based Victor Duncan Inc.—the Central U.S. market leader of film and video production equipment, for a cash sum of US\$2,500,000. The purchase was made by subsidiary company Samuelson Group Inc. of Los Angeles and represents a first step in the development of the Group's international interests into the important North American market.

Victor Duncan is a U.S. corporation, headquartered in Dallas and with offices in Chicago and Detroit. The Company holds the exclusive franchise for the rental of Panavision equipment in these territories, complementing Samuelson's existing exclusive Panavision franchises in the UK, France, Australia and New Zealand. The vendors, Lee and Victor Duncan, who will remain on three-year service agreements, built up the Company to its present size of 114 staff over a period of 28 years.

The acquisition of Victor Duncan is a logical extension of Samuelson's business and, in addition to expanding the film and video production activities of the Company, Samuelson plans to use Victor Duncan's presence in three major U.S. cities as a base for entry into the U.S. market for audiovisual equipment rental and touring concert lighting and sound services. This will enhance the service that the Group's Presentation Division—Samuelson Communications—currently provides in Europe and Australasia.

As part of the U.S. expansion, Mr Dominick Saccacio has been appointed as President and Chief Operating Officer of Samuelson Group Inc. Mr Saccacio has 30 years' experience in the manage-



Celco Inc. and Klark-Teknik Electronics Inc.'s new US base at Farmingdale, New York.

New US Headquarters for Celco

Celco and Klark-Teknik Electronics have recently moved to a new purpose-built industrial unit adjacent to Republic Airport on Long Island, in New York State. "The new premises allow for a substantial increase in inventory space, which in turn should enable both companies to offer even faster deliveries from stock on all major product lines," John Lethbridge told L+SI.

The new address is 30 B Banfi Plaza North, Farmingdale, New York 11735, USA with Celco's telephone (516) 249 3662 and Klark-Teknik's (516) 249 3660. The ITT Dialcom for Celco is IMC 1286, and the Facsimile number for Klark-Teknik (516) 420 1863.

ment of North American and European technology concerns. He will work closely with Peter Samuelson, Chairman and Chief Executive Officer of Samuelson Group Inc. as well as the existing management of Victor Duncan.

Service for Thorn Dimmers and Stage Lighting

D.E.W. of South Woodford have announced an improved repair maintenance and technical information service for Thorn EMI older dimmers and lighting control systems.

A basic service has been available since the closure of Thorn Theatre Lighting Division, but an increasing demand for assistance has led to a rationalisation of the spares and service departments to improve efficiency and cost effectiveness.

D.E.W. are also expanding the manufacture of lighting control systems for all applications including theatre, television and architectural installations.

Beamed In

Latest in the regular line of new recruits to the ranks of PLASA are Beam Electronics of Huntingdon. Their application for membership was accepted at the recent committee meeting at Novotel.

AKG Buys Ursa Major

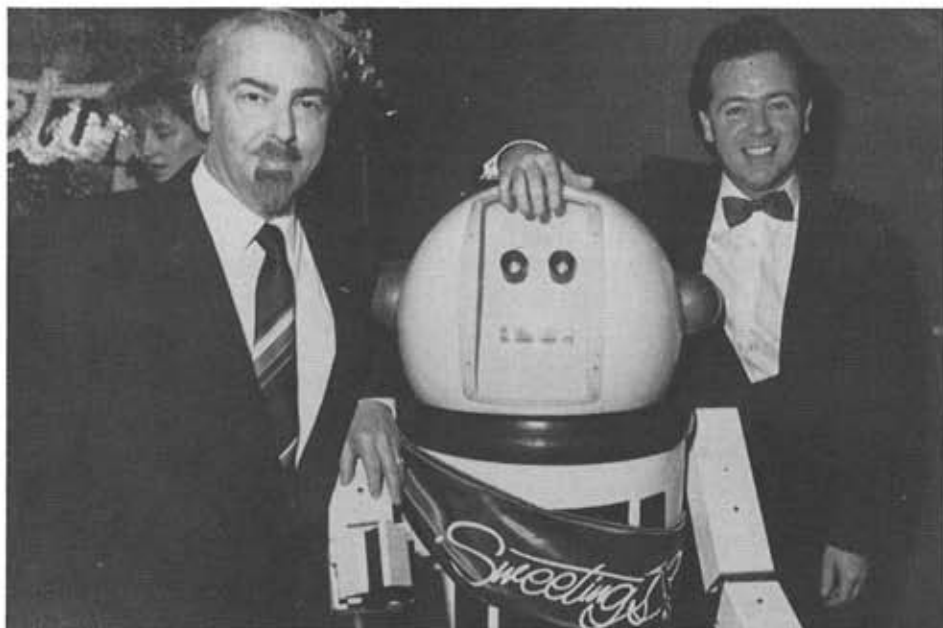
Ursa Major of Boston, U.S.A. internationally known manufacturers of professional audio equipment, has been totally acquired by AKG Acoustics as part of AKG's plans to expand its R & D and increase its product range in the increasingly sophisticated area of digital audio.

With immediate effect, the Ursa Major name ceases to be active, and all future products and services will be known as AKG Digital Products. The new division will act as AKG's U.S. based centre for digital products development working in close liaison with the extensive research facility at AKG's Vienna, Austria headquarters.



Porsche UK Stage Lighting System

A Strand Lighting M24 theatre lighting memory control system runs programmed lighting effects in the atrium of Porsche UK's new headquarters at Theale, near Reading. The control console, shown in the insert picture, is located in one of the first floor offices overlooking the car display area. Over 500 M24 systems are now in use around the world.



Magical Opening for Sweetings

The highlight of the opening night celebrations at Bedford's new Sweetings Night Club came when man of mystery David Berglas waved his magic wand over a £25,000 cheque donated by Chris Sweeting and co-director Terry Ramsden to the Royal Variety Club of Great Britain. Chris Sweeting is pictured above (right) with David Berglas and one of the evening's guests during the night-long VIP celebrations that included everything from laser displays to fire eaters.

DDA Installations

The latest AMR24 console from DDA has been supplied to Paul Samuelson's Sam Therapy Studio via UK dealers Turnkey. Amongst other things, he will be using the console in conjunction with his Fairlight Series III.

DDA have also recently supplied D Series desks through Merseyside Audio Visual Consultants in

Altrincham to a number of musical shows as well as to the Coliseum, home of the English National Opera in London.

Two desks which can be linked to form a 56 input console have been installed in the Palladium for "La Cage Aux Folles" and a further desk has been transferred with "HMS Pinafore" into the Old Vic.

Clear-Com at TSL

London entertainment services specialists Theatre Sound & Lighting Limited have taken over the UK distributorship for industry leaders Clear-Com Intercom Systems Inc., of San Francisco. Heading up the TSL sales team for the product line are directors Matthew Griffiths and Peter Macuik. A new addition to the TSL team is ex-TBA sales administrator Zounie Fallil, who handled Clear-Com business for TBA, prior to its receivership.

TSL are presenting Clear-Com in a brand-new showroom in Drury Lane, Covent Garden, where a big selection of products are set up on permanent display. Clear-Com has the largest range of high quality wired intercom product in the world, designed and proven over fifteen years and in over thirty countries for any high-noise environment in which high quality voice communication is required.

Sales director Matthew Griffiths told L+S: "Whether your application is in industry, theatre production, for permanent installation or for touring, we can show you a system that will do the job, with no ifs and buts, and with legendary reliability."

TSL's showroom, at 67 Drury Lane, backs onto the company's sound workshops, where engineers are able to discuss technical requirements, 'specials' and installations, and to provide service support.

Turn Over for Checking

Scandinavia is generally accepted as demanding the world's highest standards of quality and safety, and to pass the rigorous testing by the official safety board of Norway (NEMKO) takes some doing. So the fact that Zero 88's club controller, Mercury, sailed through the test and can now have the appropriate "N" symbol stamped on its bottom got them more than a bit excited when they heard about it at the company's St. Albans headquarters recently.

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Audix at the World Cup

The installation of 24 Audix MXT1200 desks has taken place in Mexico for this summer's World Cup football. The order came via Pye TVT who had the contract to supply all broadcast equipment to the Mexican broadcasting organisation, Televisa. The Audix contract, worth £¼ million,

was for the supply of complete sound broadcast consoles, including jackfields.

Ten of the MXT1200's will be used in O.B. vehicles, while the rest of the desks will be used in permanent Televisa studios. Delivery of all systems was completed last year and Audix staff will shortly be travelling to Mexico for final commissioning and training of Televisa engineers.

Soundcraft Sales Team Expands

Following two years as Senior Engineer in Soundcraft Technical Services, Adrian Curtis has now been appointed as Senior Sales Engineer to Soundcraft Electronics Ltd.

During his three years at Soundcraft Technical Services, he accumulated a wealth of product knowledge and in his new position the main area of responsibility will be to provide technical sales support to both International and direct UK customers, particularly in the areas of specialist applications and complex systems.

Strand Dimmers at Cliveden

Cliveden House, Buckinghamshire, linked for many years with the Astor family, has recently been leased by the National Trust, its present owners, to Blakeney Hotels. The house has been extensively redecorated and refurbished to provide the highest level of accommodation for guests from all over the world.



As part of this work, fluorescent lighting has been installed behind the cornice of the dining room to supplement the decorative wall sconces with reflected light from the ceiling. To allow the light level to be adjusted to suit the mood and the hour, Strand Lighting's Environ fluorescent dimming has been selected. To ensure a perfect performance match between dimmers and the fluorescent gear, Strand Environ Dimmable Ballasts were specified for the six foot warm white T12 tubes.

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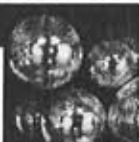


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Ask for Jon, Mark or Roy
Tel: 061-831 7676

GLASGOW
1 Queen Margaret Road Kelvinside
G20 (off Queen Margaret Drive -
Nr Botanical Gardens)
Ask for George, Kevin or Collin
Tel: 041-946 3303

64 PAGE CATALOGUE ON REQUEST - OPEN MON - FRI 10AM - 6PM - SATS 10AM - 2PM

Rank Acquire Electro Controls

The Rank Organisation has announced that Strand Lighting has acquired Electro Controls Inc. of Salt Lake City, Utah, USA, and its Canadian subsidiary, Control Lighting Limited, for a total consideration of US\$ 9 million.

Electro Controls, with a turnover of US\$ 10 million in 1985, manufactures and markets a range of architectural, theatre, conference centre, schools and other commercial display lighting and control systems in America and Canada.

Strand Lighting, headquartered in Los Angeles, is the world's leading supplier of theatre and studio lighting systems selling into most international markets, with operating locations in the USA, UK and Hong Kong. This acquisition enables Strand Lighting to offer an even wider range of quality lighting products and further strengthens its market leadership, say the company.

Cardiff—a centre for Performing Arts

Carr and Angier, theatre consultants operating out of Bath in Avon, have announced that they have been appointed as consultants to provide the feasibility study for a new Centre for the Performing Arts for the City of Cardiff.

Missed Out on the Action

A line was missed out of Jim Laws' report on the recent ABTT Trade Show which appeared in our last issue, and as a result Action Lighting failed to appear at the Show! In fact it was Action who showed a wide range of spare parts, flickering candles and micro festoons—and their 20K B.T.H. Mazda lamp was certainly the largest single bulb!

Hi-Tec Entry

PLASA general secretary Roger Saunders and Show organiser David Street are hard at work on a state-of-the-art admission and registration for this year's Show. For those visitors taking the trouble to register in advance, a plastic card will be posted to them and admission will be nice and easy, with visitors 'computerised' on the way in.

If you're lazy, then you'll have to fill in a card at the door, and wait for the computer to produce your personalised piece of plastic.

Letters

Wakefield Sound

Dear Editor,

In Your article on the Wakefield Opera House (The Two Matcham's April 86 issue) reference was made to "some strange installations", and that "the stge managers Show Strand desk has been wired in a way that he (the technical manager) will certainly wish to alter".

I wish to point out that where as the entire stage lighting installation was carried out by Show Strand, the sound and communication system wiring was installed to the consultants specification and all the equipment including the stage managers desk was supplied by others and not by Show Strand.

We are, however supplying a full sound and communication system including a stage management desk to the Quadrant, Redhill as reported elsewhere in the same edition and would be most willing to offer a similar system to Wakefield.

C.L. Irvine

Managing Director
Show Strand Electrical Contracts.

London's Safe Fog

Donmar Sales is now stocking the new Safe Fog Fluid especially developed by Le Maitre. The fluid is non-toxic Diethylene Glycol free and is compatible with all water based smoke machines. It is available in 10 "exciting" fragrances, ready mixed or as a D.I.Y. concentrate. Also available is Flame Proof Confetti.

These new products are part of Donmar's continuing commitment to bring the best and safest products to the Theatre, T.V. and Entertainment industries, say the company.

G-Mex use Strand M24

Strand Lighting's M24 memory system has been installed to provide control for the show and television lighting which will be brought in as needed for special events in the new G-Mex exhibition centre created within Manchester's old Central Station.

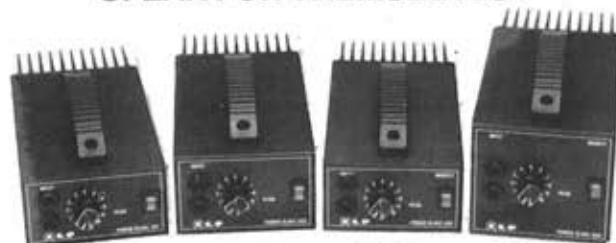
The system is normally used from the technical control room overlooking the main hall, but because M24 has multiplexed control to its Permus dimmers, the desk can operate from any point in the building which gives the operator the best available view of events.

Strand's M24 allows control of up to 120 circuits and has up to 199 memories. The V.D.U. allows the operators to preview lighting uses as well as to check the memory content. Overriding manual control is always immediately available. The optional effects desk allows control of the lighting by groups of circuits which can be made up as required. Chase, flash and sound to light are part of the package.

M24 has increasingly found uses outside its original roles as a theatre system and is now in use in many conference centres and even hotels—in fact wherever sophisticated programmable lighting is required. At G-Mex the system was specified by Ove Arup & Partners, Consultant Engineers for the whole project, and was supplied through L.T. Switchgear of Manchester.



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Frequency Response (-3dB)	15Hz — 50kHz	15Hz — 50kHz	15Hz — 100kHz	15Hz — 100kHz
Signal to Noise Ratio (DIN AUDIO)	100dB	100dB	100dB	100dB
Input Sensitivity	500mV rms	500mV rms	500mV rms	500mV rms
Input Impedance	100KΩ	100KΩ	100KΩ	100KΩ
Weight in grammes	410	520	420	850
Size in mm	120x78x40	120x78x50	120x78x40	120x78x100
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The Strand Lighting M24 memory system at G-Mex.



G-Mex, Manchester—on the site of the old Central Station.

60 Years of Tannoy

A potted history of a Company whose name is synonymous with 'Sound'.

The Tannoy organisation was founded in 1926 by Guy R Fountain, a young Yorkshireman who was fascinated by the enormous potential he could see in the electronics field of electrical engineering. In the mid-twenties, when everyone was excited about the prospect of "talking pictures", news of which was filtering through from the USA, domestic radio was firmly established as a form of home entertainment.

These early radio sets needed low voltage DC to heat valve filaments and high voltage DC to provide the prime power source. This had to be supplied by batteries, either lead acid "wet" batteries, expensive and frequently in need of recharging, or by dry batteries, also expensive and with a relatively short life.

Guy Fountain was intrigued by the possibility of obtaining DC current from the AC house mains. To do this a rectifier was necessary. In 1926 he perfected an electrolytic rectifier which was simple and reliable enough for home use. The trade mark 'Tannoy' was derived from the Tantalum alloy used in its construction. Guy Fountain set up a tiny factory in Tulsemere Road, West Norwood, London, to manufacture these rectifiers and Tannoy was born.

Soon after the establishment of the factory in Tulsemere Road experiments had started with moving coil loudspeakers with DC energised magnets. This growth in the loudspeaker division of the business led to a move to larger premises in 1930.

The need for precise evaluation of the performance of amplifiers, receivers and loudspeakers had become a vital necessity, so the now well established Tannoy research laboratory undertook the development of a complete range of test and measuring equipment. In 1933, Guy Fountain produced his first discrete 2-way loudspeaker system.

By 1934, the company had developed a complete range of high quality microphones and loudspeakers, together with amplifiers with power ratings between 10 and 200 watts. They had also developed measuring equipment for the precise evaluation of their performance. In a decade, when every step forward was a step into the unknown, they had established themselves as one of the leading audio engineering specialists in Europe.

Between 1934 and 1939, the arrival of high power, high quality sound reinforcement and relay equipment had a big impact on almost every facet of social and economic activity. Vocal and

instrumental music could be created and, in public life, vast crowds could be addressed by politicians and national leaders. People could follow more closely and participate more completely in all outdoor sporting events and communication in the rapidly growing industrial complexes of the time became simple and reliable. Tannoy was always at the forefront of this communications revolution, developing its own equipment and production technology and building up a fund of knowledge and experience which was to prove invaluable in the days to come.

When war came in 1939, all the Tannoy facilities were concentrated on the nation's defence programme. Communication systems for airfields, crew communication for submarines and tanks, command systems for gun batteries and systems for the defence industries were developed and put into production.

With the return of peace in 1946 the need for sound reinforcement in legislative assemblies and for translation in international assemblies became of paramount importance. Sound reinforcement systems were installed in the House of Commons and translation equipment for the United Nations was supplied for their temporary HQ in Paris, their permanent European HQ in Geneva and for the UN building in New York. Tannoy has become one of the world's largest suppliers of translation and sound reinforcement equipment for international conferences and there is scarcely a country in the world where Tannoy has not formed a vital link in international debate.

Between the late 1940's and early 1950's Tannoy developed very high-powered electronic fog signals and a unique range of flame-proof transducers for the petro-chemical industry. Also at this time they produced their first Dual Concentric loudspeaker. A horn-loaded compression driver was built concentrically with a direct radiator bass unit using a single magnet assembly with two gaps mounted on a heavy cast frame. At this time, Decca expressed interest in the new loudspeaker for use as a studio monitor and bought their first six.

By the early 1950's, LP records and FM broadcasting had arrived and the first rumbles of the High Fidelity explosion were heard. During this period Tannoy Dual Concentrics were adopted by a number of major recording studios; and today, many of the world's leading broadcast, TV and music studios also rely on Tannoy loudspeakers for monitoring the quality of their sound output.

In 1974, Guy Fountain, now an old man and not

in the best of health, gave up control of his firm. Tannoy became part of Harman International, later to be bought by the Beatrice Foods Corporation of Chicago, and a large modern factory was opened at Coatbridge in Scotland.

Tannoy severed all links with Harman International in 1980, and on 12 December, 1981 the Company was purchased from Beatrice Foods by the working directors of the company. By 1983, growth in the domestic hi-fi loudspeaker market had increased dramatically, and new range introductions ensured this continued expansion.

1984 saw the introduction of a new modular "building block" range of music PA loudspeakers. This was a new market and now, 2 years later, the product range is immensely successful and has grown since introduction.

Not content with the success achieved in the existing markets, and keen to keep as up to date as possible within the Public Address sector, they moved into the Close Circuit Television field in 1985. This entailed setting up a complete department with a team of highly skilled engineers who provide a friendly, but thoroughly professional and efficient service. The integration of Public Address and CCTV systems is a major advantage for crowd control, property surveillance, incident and fire alert as well as general monitoring purposes.

Today Tannoy Ltd. is once again a wholly owned British company and is rapidly increasing its presence in traditional markets of loudspeakers for domestic hi-fi, professional recording and broadcast use. The excellence of their loudspeakers has even been recognised in Japan where the Tannoy GRF Memory won the prestigious Stereo Sound "State-of-the-Art" Award. In fact Tannoy loudspeakers have a devoted following in Japan where they are the largest European hi-fi loudspeaker import.

The current range of loudspeakers includes the famous Dual Concentric models and also discrete models using compression driver or soft dome tweeters and separate bass units. Some of these models feature our patented SyncSource time delay system to reduce distortion and provide accurate stereo imagery.

1986, the 60th anniversary year, promises to be yet another record breaking year in all market sectors. With the introduction of a new Dual Concentric range of loudspeakers into the domestic hi-fi market and new studio monitors into the professional sector, they feel confident that the upward trend will continue.

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Strand Lighting at the new Swan Theatre

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Like the Royal Shakespeare Theatre, Stratford-upon-Avon, and the RSC Barbican Theatre, London, the new Swan Theatre at Stratford-upon-Avon is also equipped with Galaxy. This 200th installation of Galaxy is a 288-channel Galaxy 2 Arena system, fully customised by utilising modular units from a wide range of available facilities. Also supplied for the Swan by Strand Lighting were 166 spotlights, 12 compact Permuss dimmer racks and associated equipment.

Strand Lighting wish all success to the RSC's new venture at the Swan Theatre - to be a centre for the production of works by Shakespeare's contemporaries.



Strand Lighting

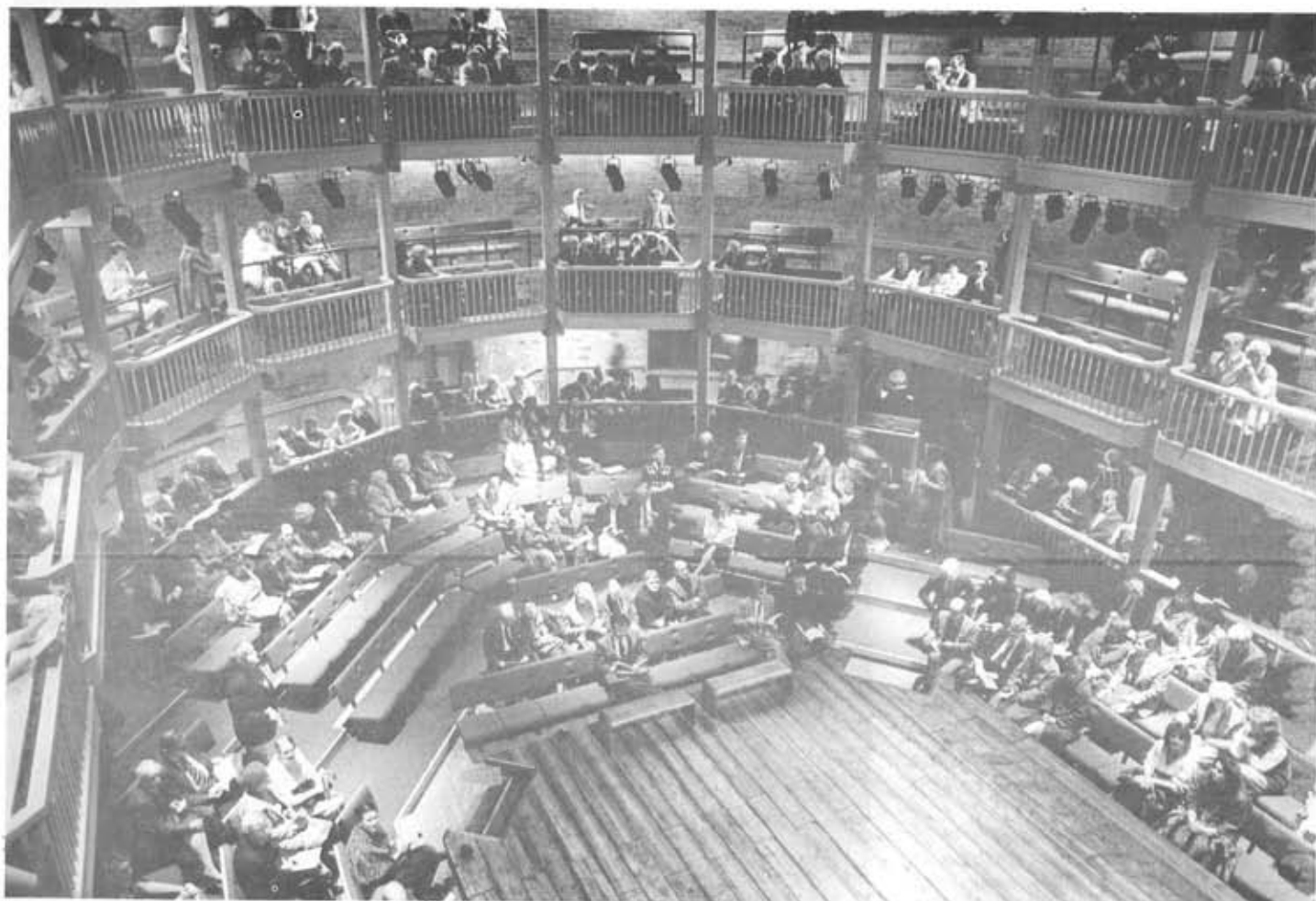
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The Swan in the Shell

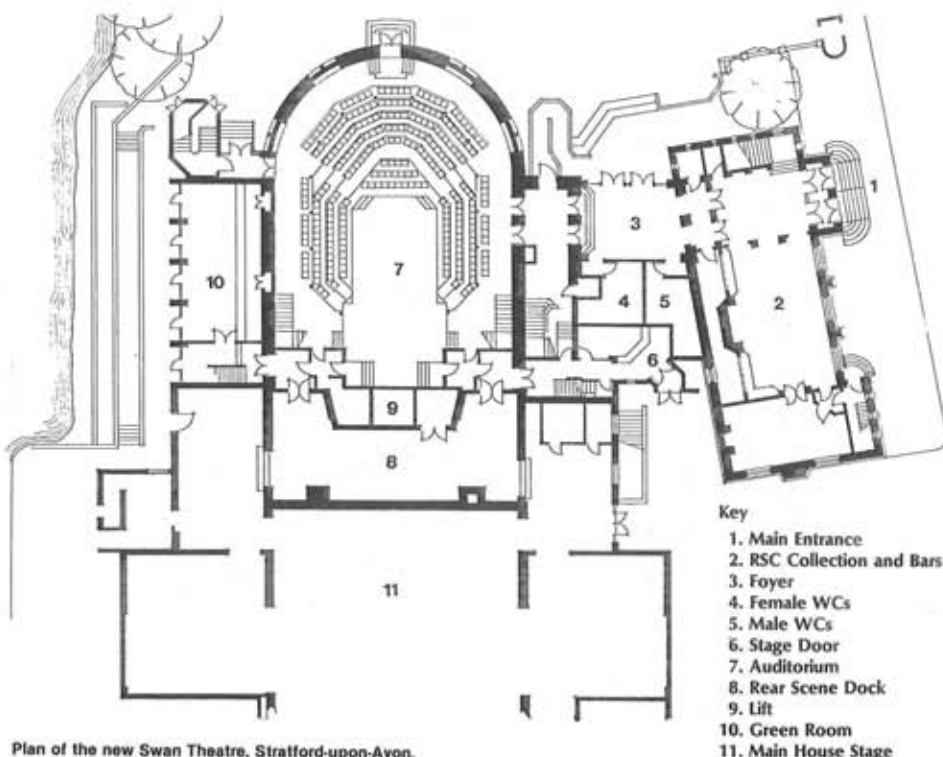
The Royal Shakespeare Company opened its third Stratford-upon-Avon venue in May.



Sixteen large Douglas Fir tree trunks were employed to provide columns 8.5 metre high for the Swan Theatre auditorium.

Constructed within the shell of the original 'Wagnerian' folly that was the original Memorial Theatre, destroyed by fire in 1926, the Royal Shakespeare Company's new Swan Theatre will be the only 'new' theatre to open in Great Britain during 1986. It will enable the RSC to perform a large repertoire of neglected plays by Shakespeare's contemporaries and those dramatists he influenced in the period between 1570 and 1750. And with its 430 seats, it will also bridge the gap in size between the 1500-seat Royal Shakespeare Theatre and the 150-seat Other Place.

The design was originally commissioned in 1978 but abandoned because of lack of funds and its revival in 1983 was due to the generosity of an anonymous benefactor who had seen the architect's model on display in the Theatre gallery. Construction commenced in 1984, and the capital sum made available covered all building work, technical fees, and provision for both temporary rehearsal space (to replace, during the building work, the rehearsal facility provided by the Conference Hall itself) and permanent rehearsal space within the new structure. It will also have covered the costs of installa-



Plan of the new Swan Theatre, Stratford-upon-Avon.

tion of the basic lighting and sound rig within the auditorium.

The architect appointed for the work was Michael Reardon, who is well known for his specialist skills in restoration projects, and his brief was to design a space that would recapture the spirit of a small Jacobean Theatre—but not to attempt a 'historic' reconstruction.

In the theatres of the 16th and 17th centuries, where performances took place in daylight and without elaborate scenery, the theatre building itself formed the permanent framework of the play—and the world created by the carpenter contained both the actor and the spectator. It is no surprise therefore that the new Swan Theatre too is entirely carpenters' work, albeit within the original brick shell of the old theatre. There are three tiers of galleries surrounding a raised thrust stage, and none of the seats are more than 30 feet from the stage—most of them much closer.

The accent is vertical, and the proportions are reminiscent of a small opera house or a court theatre, and Michael Reardon admits to having been influenced by some of the theatres and galleried space of the Renaissance. It will certainly give Trevor Nunn, joint artistic director of the RSC, the right context for Shakespearian work and the opportunity to present more of the countless plays of the Elizabethan, Jacobean and Caroline periods—much of which is either neglected or unknown. "At last we can do that we have yearned to do for many years; we can explore Shakespeare's context by presenting the rarely or never-seen work of his contemporaries, the plays that influenced him, the plays he influenced, and the plays he was rumoured to have had a hand in writing," he stated.

The auditorium and rehearsal studio of the Swan Theatre are both fully air conditioned, and the Library and Art Gallery, which formed part of the original Memorial Theatre, provide the foyers and bars of the new venue. They also continue to house the Royal Shakespeare Theatre collection to which the audience will have access in the interval periods.



Spectator galleries with lighting bars suspended underneath.



Mid-February 1986, during the final stages of construction.



A rehearsal in progress prior to the opening of the Theatre.



The new roof over the Swan Theatre recalls the outline of the first memorial Theatre destroyed by fire in 1926.

Two lighting bridges span between high level technical galleries around the sides of the auditorium, and lighting bars are also provided below some of the spectators galleries. The stage is trapped, but there is no flytower or flying grid. Suspension points and winches provide for descents and a limited flying capacity. Sound and lighting control boxes are at technical gallery level with a follow spot position between them. Actors can make entrances at the gallery levels, and the space can be adapted for use 'in-the-round'.

The new building continues a pattern of development begun by Elizabeth Scott in 1932 as the extensions of the thirties and fifties have grown around the remains of the old building. The brickwork of the new theatre, with detail derived from the main house, has been grafted on to the earlier Gothic revival work, with the roof recalling the outline of the first Memorial Theatre, as well as providing the rehearsal studio as well as work rooms and offices.

Appropriately, the opening production was 'The Two Noble Kinsmen', generally reckoned to be a collaboration between Shakespeare and Fletcher.

Technical Information

Stage dimensions: 10.5 x 6m

Height to inside of lighting galleries: 8.5m

Flying or winds system: manually operated variable height lighting bars. Provision for suspension of individual scenic items.

Lighting Control: Strand Galaxy 276 ways

House Lighting: Strand Tempus 12 way

Lanterns: 40 Prelude 16/30
30 Relude F with barn doors
36 Harmony 15/28
20 Harmony PC's
10 Cadenza PC's
30 Parblazers

Sound Control: DDA D Series 16/8 Theatre/Matrix

Speakers: 4 Tannoy Pumas, 6 units Tannoy Lynx

Amplifiers: 12 HIT 300's

Avitel Video Distribution Amplifier

RTS 3 channel communications

Induction loop system

Design Team: Michael Reardon, Reg Ellis, Tim Furby, John Berrington

Theatre Consultants: The Royal Shakespeare Theatre

Mechanical and Electrical Consultants: Peter Hay and Partners

Acoustic Consultant: Dr David Walters

General Contractor: William Weaver Limited

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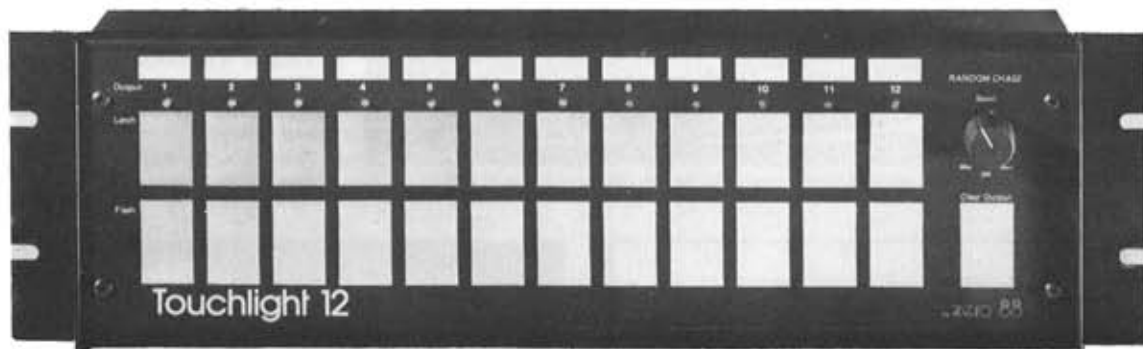
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Presentation 2010

Pilbrow, Koltai and Hersey at Riverside

'Presentation 2010' was the title given to the Association of British Theatre Technicians' Silver Jubilee Conference—"Technical Development for the Entertainment Industry for the next twenty-five years" held at the Riverside Studios in late March. Chaired by Richard Pilbrow, several major speakers covered all aspects of the industry, giving their own view of the developments they thought might take place over the period under discussion.

In addition to chairing the event, Richard Pilbrow opened the Conference with a resumé of the past 25 years, from the very beginnings of the ABTT and its formative meetings in Berlin and London. It was a 'Tab's' story through and through, with editor Fred Bentham keeping a watchful ear on the proceedings. For the future he saw the world of the ABTT significantly different 25 years ahead. "The theatre, with its live, face-to-face stuff, is going to have to be pretty damn good. It's obviously going to have to use every modern device, but it's also going to have to be extremely cosy, because what theatre is about is about meeting people. It will also be about unexpected reactions, unanticipated pleasure, irresponsible wrath and the readjustment of values."

As he concluded his address, he emphasised that the ABTT was founded to assist communication between workers and lovers of the theatre, and the importance of its link between the past and an exciting future.

The title of the symposium worried **Ralph Koltai**. "It implies a certain complacency and some presumptuousness that we are constantly making progress and moving ahead in theatre terms. Frankly, I don't see it like that," he said. One must distinguish between technical developments and artistic developments, and as I see it, the thing that one has to strive for is the artistic development making use of whatever technology has been developed.

"As designer artists we cannot wait for the next technical development in order to exploit it because the next technical development takes too long to develop, and the theatre is constantly with us. So therefore it is on a creative artistic

level that one needs to strive to go forward, and not to rely on the technology. If one looks ahead to the year 2010, I am sure David Hersey will be able to envisage a light that stops when it hits the actor, or a follow spot that can be electronically controlled and does not require an operator. And if Peter Kemp envisages floating platforms that apparently are not supported, moving about the volume of the stage space, I dare say we will all go bananas and use them, until kingdom come. But we are always basically using bi-products from other industries. Very little, almost nothing, is produced specifically except relatively simple aids, for the theatre."

Ralph Koltai's view was that the profession often lagged behind in development compared to other fields of art. "Television graphics these days are frequently much more exciting than the programme that follows, and that saddens me because working theatre ought to be in the forefront of creative development," he said.

He showed a collection of slides to illustrate his point that opera productions in particular are very much the same as those done sixty, seventy, or even eighty years ago. Apart from the quality of the photographs themselves, he claimed that very few people, unless they happened to know the particular production, would be able to correctly date the shows.

He accepted that in terms of projection techniques great advances had been made, but came back to his original opening premise that in artistic terms we have been going round in circles. "What I find regrettable is that the management do not encourage, or would appear not to, looking ahead and actually being at the present time in key with other developments in the arts.

"The sad thing is that our competence is so great, and professionalism, and one very rarely sees anything very bad because designers are excellent—but the competence is such that they are virtually all interchangeable. What I would like to see and hope will happen in the years ahead is that there is greater endeavour, greater spirit of adventure, and finally greater individuality, and that more designers will emerge and do not treat the profession as a profession to turn out one show after another and earn a living, but actually push forward as individuals in order to create a theatre of greater individuality and excitement in order to compete with the developments in the other media as they will doubtless occur.

Lighting designer **David Hersey** was the second main speaker on the first day of the Conference. "A lot of things may have happened by 2010—the Americans may have learnt how to make a fresnel, for example, and a company in this country may have produced a new long-range profile which is not seven feet long and does not weigh fifty pounds, he said. "Maybe there will even be a replacement for colour 17, which I understand is no longer going to be available to us, and I mourn its passing because none of the other colour companies around seem to have anything that is close to it. Perhaps we will even have carpenters that use silent rotors and silent grinders so that when we do sit down to the business of lighting a show on the stage we actually have an environment to work in which it is possible.

"Perhaps we will be sitting down to work with a new switchboard by Strand, no larger than a computer case, and it will be called 'Infinity'—why not? You will be able to control 1000 lamps, and any one of those lamps can go to 1000 different colours, and maybe even move to 1000 different



Ralph Koltai

positions, and you'll almost certainly have a choice of 1000 different gobos! A lot of things will probably happen—even to be a lighting designer will probably not become such an odd event.

"The kind of moving light which exists today has invariably been developed for the rock and roll market and has certain characteristics which have not a lot of use to the theatre, and require doubling up on if you want to do anything that is remotely subtle. Colour changing these units is



Richard Pilbrow opens 'Presentation 2010'.

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achieved in 'sort of' quarter second steps, and if you want them to dissolve from one colour to another you've actually got to have two sets of these expensive lights so that you can cross-fade slowly from one to another.

"However, that will all change because as control gets more clever there are bound to be a number of breakthroughs that will take for granted not only the ability to have light, but to actually be able to position that light anywhere we want on the stage and be reasonably confident that we will be able to repeat that position night after night.

"What this is really all leading to, and I think is the really major issue for lighting design in the next few years, is that we are continually being liberated in the sense that the equipment we are offered will do more and more things. When I first began working, my first shows were faced with a maximum of 40 or 45 lanterns. We had one piano



David Hersey

board which had 14 3k dimmers in it, two of which were used to drive a little special board, and there were tremendous physical limitations to what we could do, given the equipment set-up, and in the amount of time we had to prepare our work. The equipment limitations are in a way very comforting. When you move on to the bigger shows there are whole areas of speculation which you simply eliminate because it is impossible to put light there. There is no possibility of being able to be in control of that many lights: there is no possibility of being able to do that many colour changes. All these limitations really put you into a sort of corner, and the nice thing about that corner is that there is a whole lot of area that you can forget about, and you can just work within your corner and just develop your ideas along those lines.

"And that really makes the job, in some respects, quite easy, because you are forced to react to physical limitations imposed upon you by the equipment.

"Of course, all of that is breaking down now. Today you can have almost any switchboard that will do almost anything that you want them to do. When you sit down to work you can actually start with a blank piece of paper—you are no longer in the corner. The equipment develops at both ends. Not only from the switchboard end, but with the bigger choice of types of lamp, the more open the possibilities become. It is fascinating on one level—it makes one's job much easier because you haven't got to worry about things that were restraining you in the past. But at the same time it makes the job much more difficult because you haven't got anything to hide behind."

"Along with our increasing awareness of light, I think that in the theatre light has begun to become part of the architecture of design. It is now possible with certain types of light to

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physically inhabit the space of a production, and to actually influence the perception of that space in ways that go beyond simply light and dark. A few years ago one was quite satisfied with simply being able to make things visible. We are now much more concerned with how we make things visible. We are now much more concerned with light that can be shaped, moulded, and can influence space in ways we've yet to begin to discover. I am sure that many things that will happen in the next few years will make it possible to use light as a physical object to define space, to define areas, to define moods—in ways that are much more architectural than we have begun to do so far."

David Hersey then went on to discuss the great amount of time-saving that has been achieved as a result of the influx of memory boards, but was concerned that with so many limits to be set, so many choices to be made, that to be able to put that all together and have absolute control and instant control over it, without getting bogged down in the sheer act of trying to achieve control "is going to require a very special breed of person."

He outlined an interesting comparison of costs

and techniques between the way things were done on Broadway and on the London stage, and the ability to be flexible he considered was one of our greatest assets. "In England we have a little more 'luxury' — a different way of working. You are able to construct something with a broad stroke and then work on it and refine it. And the ability to do that sort of refinement is what makes it much more of a pleasure to work on this side of the 'pond' than on the other side."

For the future, he felt the lighting designer and lighting design will become an even more integral part of a production. "Even more, I think that the possibilities will become absolutely limitless. In the end it is ultimately about ideas, it is ultimately about understanding what a production is about.

"The more the lighting designer gets involved with the production, the more involved he gets with the people doing it, the more he is able to speak to a director in his own language and to actually understand what is going on in the director's terms—the more exciting and more interesting the profession will become."

Report and Pictures
John Offord

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Our best-ever trade show – Adrian Brookes, Astralloy Group.

Our best show - better than Frankfurt – Rodney Clarke, Le Maitre.

A better show than the PLASA Show – they don't let the public in – Geoff Jones, Laser Systems.

Still an infant in age terms, SIB at Rimini on Italy's Adriatic coast is already established as the Industry's major annual show – according to the majority of the British contingent who exhibited this year. And the figures released by the organisers support this view with a near 20% increase in visitor attendance, from 10,171 in 1985 to 12,063 in 1986. Foreign visitors showed an even bigger increase in percentage terms, rising from 1400 to 1700.

So why has this particular Show moved so quickly to the forefront in the trade show league? A strong home-based lighting effects industry obviously helps, with major manufacturers there to support such a Show from the start, and to provide the essential nucleus of activity. And it is not expensive as an operation, particularly if sites are rented on a space-only basis. The halls at Rimini are spacious, and high ceilinged, and the whole event happens at a very pleasant time of the year, when the resort is just beginning to prepare itself for the heat of summer and its massive influx of holiday visitors. So the ambience seems to have been created - and the only mistake the organisers could make is to change the date!

No British Overseas Trade Board support was forthcoming this year, but the commercial attaché from the British Consulate in Milan was witnessed by your reporter heavily into lunchtime conversation with the chairman of PLASA Peter Brooks, and representatives from the fair organisers.

New at Rimini this year was the 'Magis' show for theatre and cinema equipment, situated in an adjacent hall in the complex. Adding further to the expanding appeal of the Show was the second Congrex event, with an exhibition of service and equipment, and an associated conference.

Back to the main exhibition itself, one of the highlights was the joint operation from **Optikinetics** and **Mode Electronics**. The subject of our cover picture for this issue, the



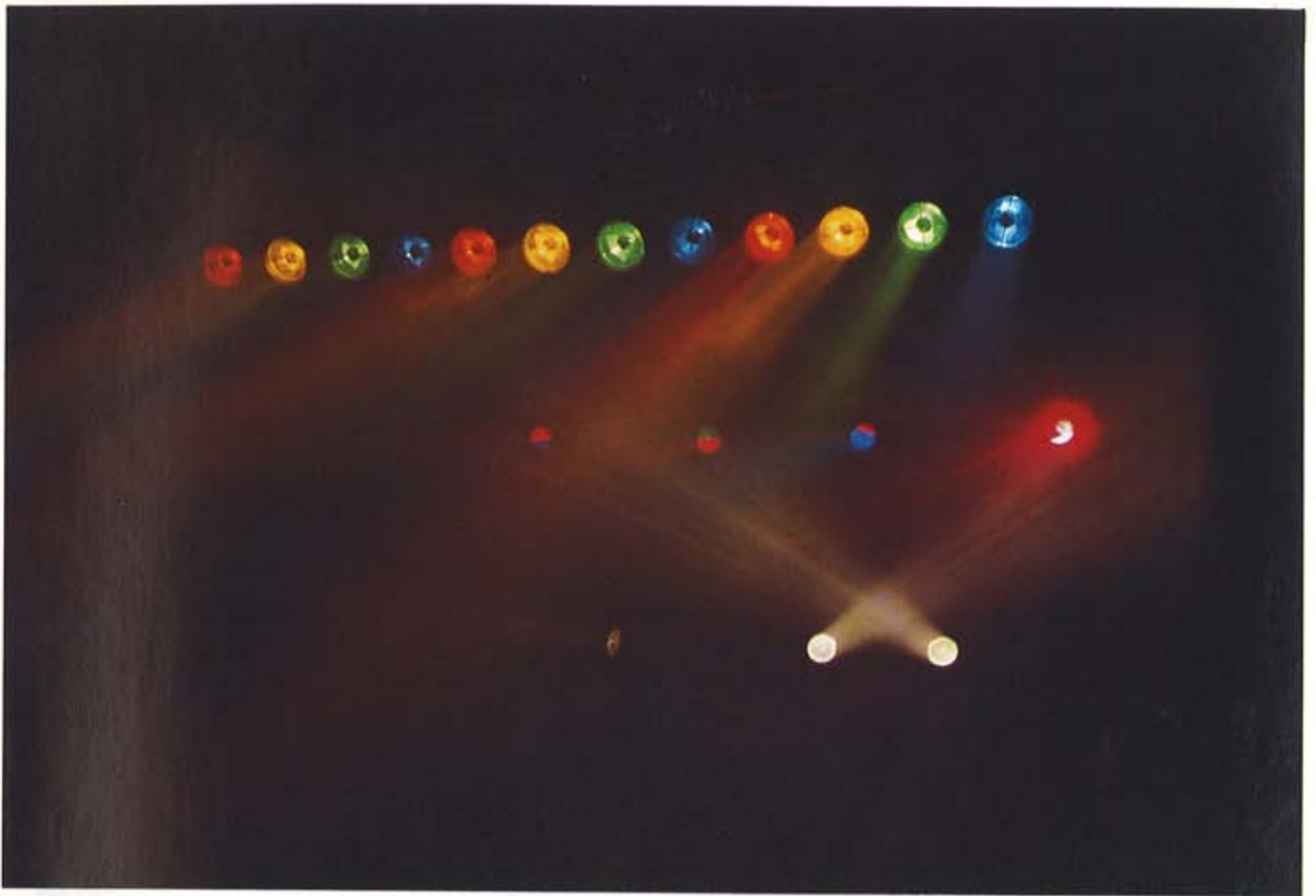
Peter Brooks (right) welcomes Peter Kemp of Getlit, the Australian disco supply group based in Melbourne.



Mauro Malfatti, a director of the Rimini Trade Fair, with Mike Clark, Rimini resident, and ablest of contacts for the British contingent.



John Adams and Mike Hannaford went to push their Light Processor image to the hilt, and ended up winning the SILB award for the most innovative technology on show with the new Commander four-zone lighting control system.

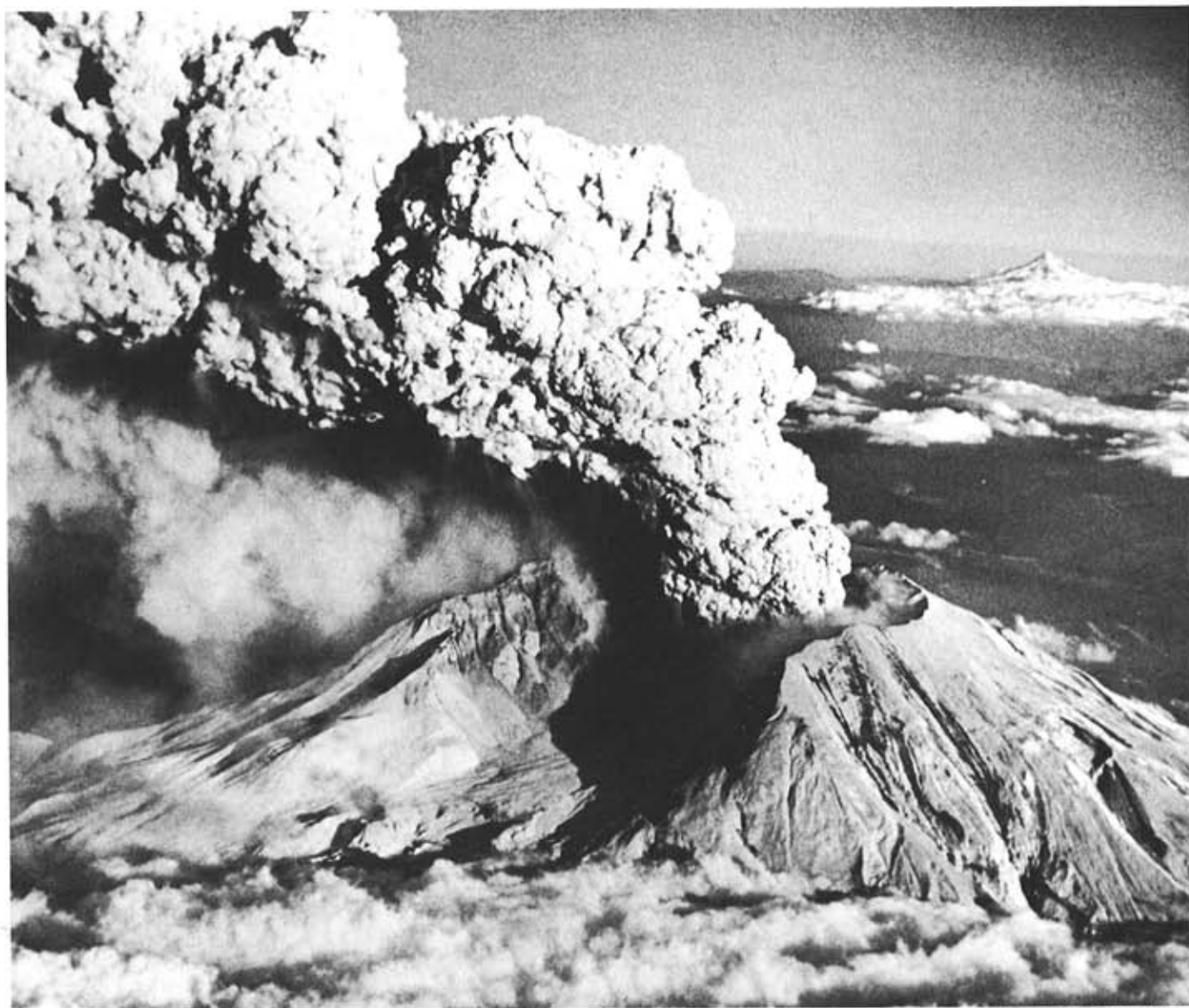


White light and added colour—part of the Clay Paky stand. A stage lighting launch later this year will put this leading Italian manufacturer in the foreground of lighting worldwide.



Coemar's exterior, with a small glimpse of the inner sanctum just in shot middle left.

MT. ST. HELENS: MAY 18, 1980



UPI/BETTMANN ARCHIVE

It's a little known fact that on May 17 of 1980, a Cerwin-Vega professional speaker system was installed in a local cafe at the base of Mt. St. Helens. With the excitement of owning a Cerwin-Vega system, club owners immediately lost all restraint and turned up the volume on the new P.A.—there was simply no resisting the thunderous bass, astounding dynamic range and ultra-low distortion put out by Cerwin-Vega's professional systems. Fact or fiction? Can a speaker system cause a formerly dormant volcano to wildly erupt?

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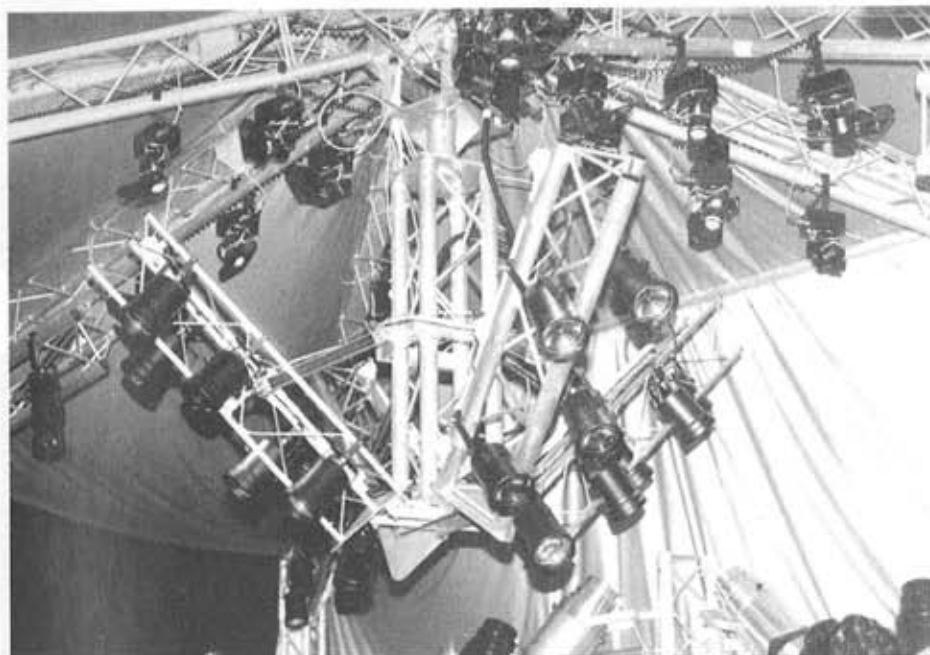


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Geoff Jones of Laser Systems (left) discusses the company's new Line Scanner, just in picture to the left, which was launched at the Show.



The motorised centrepiece on the Lightning/Astraloy stand.



Anytronics Bob Hall shows his new SD4 Fader Panel and one of his latest series of switching power packs.

regular light show from within the huge Trilite structure was a "showstopper", and based around the use of motorised Trilite units and the creative possibilities of Mode's Arcline. A trio of new products from Opti launched at Rimini were the Terrastrobe with a 400w long life linear xenon flash tube and with "devastating power", the Quasar Xe900 strobe projector than can handle all the company's associated effects and also cope with motorised attachments, and the Quatrafog smoke system for overhead mounting.

ICElectrics' Rob Peck reckoned he "could meet the worthwhile people in the trade" by making a third Rimini appearance. He considered the event provided an excellent chance to gauge what was happening in the world of disco equipment, and to make contact with companies from new countries and increase export sales. He had been "highly encouraged" for the future, and the launch of the Jaguar deck and his new 8080 club mixer had gone down well.

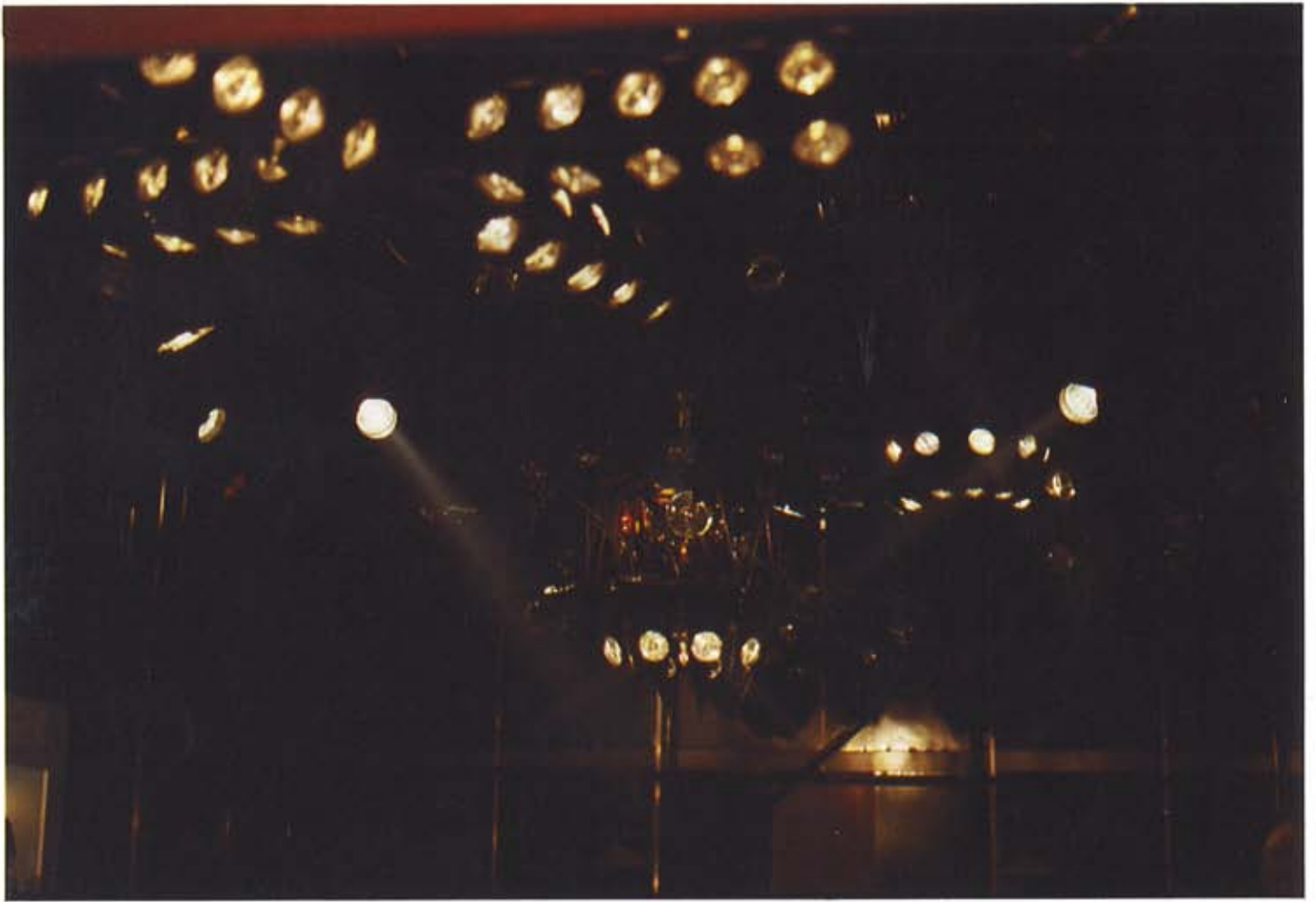
Laser Systems' Geoff Jones was showing the Magnum controller, and the new Line Scanner for disco laser effects got its first outing at the Show. He considered the event highly successful and had managed to strike a deal for an Australian agency, amongst many other new contacts. "Most of our customers from South East Asia were here," he told me.

"We set our hearts on selling to Europe and we ended up selling to the World," was the reaction of John Adams of **Lightfactor**, whose stand was designed around the total presentation of Light Processor. It was their first time at Rimini, and both John and co-director Mike Hannaford were full of praises for the Show and jubilant that they'd also managed to scoop one of the SILB Show awards for Light Processor. "Rather special that a British company won the award" was Adams' comment. Launched at the event was the new Commander four zone control system.

For **RED Acoustics** a second showing at SIB rewarded them with an established Italian distributor, and also new links with Finland. The R500 speaker was again the centre-piece after its launch at Frankfurt earlier this year. "All in all it is a good Show," said Ken Reed, but he was very critical of the security arrangements at the event, particularly during the set-up period—a point also exposed at the recent PLASA committee meeting.

Two of the latest in control boards were to be seen on the **Pancan** stand, the Tigers Eye and Touchstone (for details, see our Memory Lighting Control feature in this issue). Servo System 3 was providing the light mix for a stand that in Peter Roberts' view provided a major opportunity to meet up with distributors, and give the the latest product information at first hand, quite happy to remind them that Pancans had been used to good effect in the Eurovision Song Contest in Bergen in early May.

Anytronics' Bob Hall told me that he'd managed to set up dealers in Germany, Canada, Israel and Greece during the period of the Show. He was launching the PP 410 DAP dimming and switching power pack, the PP405 and 605 AP switching power packs, and the SD4 fader panel. With the override switch on, the SD4 will act as a four channel manual dimming control on all channels, thus allowing dimming and switching on all four channels.



Sharp contrast from Spain—the Kremesa stand.



Subtle colours from the Avitec emporium.

On a joint stand were **Slick Systems** and **Mushroom Lighting**. It was a first time for both companies, and according to Paul Butler of Mushroom, "a whole new ball-game". Slick were demonstrating their ABTT award-winning truss system, and Mushroom launched the latest with the Starmodule 8P.

The **Lighting/Astralloy Group** under Adrian Brooks and Alan Genders also had a motorised lighting centrepiece built from its own structure, Astralite. A new structural system on Show was Minilite, the baby in the range trio that includes the popular Structuralite. A new range of Par Cans from Hanson of Sweden was on show, and a new lighting system from Swedes Abstract. From the British exhibitors viewpoint, Adrian Brooks felt that "UK manufacturers have now come to recognise the need to co-operate—to keep to specialist areas, but to co-operate to be able to compete in world-wide markets."

Zero 88 were in all-white, right down to Freddy Lloyd himself, and the company display centred around the Mercury controller. Touchlight 12 and the Sigma and Delta power packs had plenty for Peter Brooks to discuss, in addition to the long tasks of British PLASA exhibitor contact, and the necessity of continual liaison with Fair officials and the British commercial attaché down from Milan.

Many other British companies were in evidence - a total of 46 according to the post event publicity from SIB. Many of these, such as **Pulsar** were backing up their European distributors rather than exhibiting on their own.

Of the total 350 exhibitors at Rimini, 231 were Italian, according to the post-Show report from the organisers. **Coemar's** highlight, apart from its usual fantastic effects line-up, was the launch of an exclusive new lamp produced for them by Philips. Using the Forte in their Venus range, for example, has practically doubled the light output.

The other big names in Italian effects manufacture such as **Clay Paky** (via Avitec), **Lampo** (via Squires) and **Satel** were all using the Show to launch new equipment and upgrades, many of which we will expect to see at the PLASA Light and Sound Show later in the summer.

John Offord



Le Maître's Rodney Clarke with the latest line-up of special effects equipment including Opti-Mist.



Pancan's ever-present Peter Roberts (right) gets in line for another demonstration with the new Tigers Eye 60 channel control.



Rob Peck of ICElectrics (left) launched the new 8080 Club Mixer at Rimini.



Coemar's Roman Walenta (centre) with Greek agents Mr. and Mrs. Vassiliu.



Excellent image-creation for ICElectrics, with their new Jaguar deck nearest camera, and the Concorde just beyond.



A mass of equipment on the TAS stand included effects projectors, lighting trusses, luminaires, special effects, pyrotechnic and motorised effects.

Theatre Technology in the Hong Kong Academy for Performing Arts

By Martin Carr of Carr & Angier, Theatre Consultants for development of the Design Brief, technical planning of the complex and the design of all technical systems and installations.

From its initial concept the application of three principles has given the Academy its unique character. Firstly, the teaching programme includes both Chinese and Western performing arts. Secondly, the Academy comprises four different schools within one complex: Schools of Music, Drama, Dance and Technical Arts. Thirdly, the performance and production facilities were designed from the outset for the highest standard of professional attainment, allowing the development of an "entrepreneurial" programme of public performances by visiting companies from which students will gain direct benefit.

The combination should be extremely powerful, and particularly valuable to technical students who so often elsewhere are enrolled largely to service the productions of their performing colleagues. In Hong Kong the intention is to produce skilled "technicians" rather than "stage managers", but technicians who in the course of their studies have acquired knowledge not only of carpentry and scene shifting, but also of mechanics, electronics, production, administration, front-of-house management, design, costume, lighting, sound and video. Under experienced professionals the students will run the stages for visiting companies so that their horizons should not be bounded by the constraints inherent in conventional student productions. These students will then be properly equipped to man the theatres and halls now under development in the Far East for which skilled labour does not exist.

Credit for this visionary approach must go

"We were pleasantly surprised at the determination of British Companies to gain a slice of the action, and the efficiency with which they completed the installations at a distance of 8,000 miles from home."

largely to the then Government Music Adviser, though initially his technical horizons were limited to more traditional methods, he did not favour the "entrepreneurial" approach, and had been mistakenly advised that all types and scales of performance could be housed in a single "adaptable" theatre through elaborate mechanics.

During the Brief development we were able to argue successfully the value of close association with professional companies and resultant need for reasonable public facilities; also that three purpose-designed theatres of complimentary size and form would be more effective than a single adaptable one, but should be supported by a small recital/lecture hall and a large orchestra rehearsal hall.

The value of a production department that could service not only the Academy's own somewhat limited requirements, but could also undertake some contract work for outside companies—of benefit to technical students—was also recognised, and the facilities now provided would grace any professional theatre in the outside world. They include as well as generous scenery and production wardrobe facilities, a forge, machine

stop, GRP, electrical and property shops, photographic dark room and sound studio; the paint shop can handle both vertical frame and flat floor painting, and rooms for production management, designers, and technical instruction, are fully integrated. The department is acoustically isolated from performance spaces so it can function without interruption.

Technical standards everywhere were devised to give students practical experience of real value in their later lives where sophisticated machinery may be the exception; thus whilst there is sufficient "high-tech" to give them reasonable understanding of mechanical systems, they should develop a healthy respect for manual operation and the effects that can be achieved by simple means. There are hydraulic elevators, some electric flying sets, sophisticated memory lighting controls and sound systems, but the installations generally are those which should be found in any well-planned "touring" house with emphasis on space, ease of access, and capacity to accommodate future developments as technology changes.

Single purchase counterweights are installed in both towers at 200mm centres, but the design allows for the addition of powered sets as required. The original intention to provide experience of stage elevators and wagon systems was not pursued on grounds of cost and their inherent inflexibility in a mixed-use theatre.

The most obvious feature of the Lyric Theatre is its size stemming from the need to accommodate Chinese Theatre with its ac-



The Lyric Theatre Auditorium—1200 seats.



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cent on width; the proscenium extends up to 18m at which it is ideal for orchestral concerts, but for Western Opera and Ballet can reduce to 12m with the transition from the auditorium effected smoothly through a series of adjustable side towers and overhead ceiling units. The grid is at 25m above the stage behind the traditionally located safety curtain, whilst over the forestage/pit is another grid at lower level. The pit holds up to 90 musicians.

The auditorium design concept came from the same stable as the Theatre Royal, Plymouth, and there is similar capacity to reduce the auditorium size (from 1200 to 880 seats) but by less sophisticated means not involving movement of lighting and ventilation.

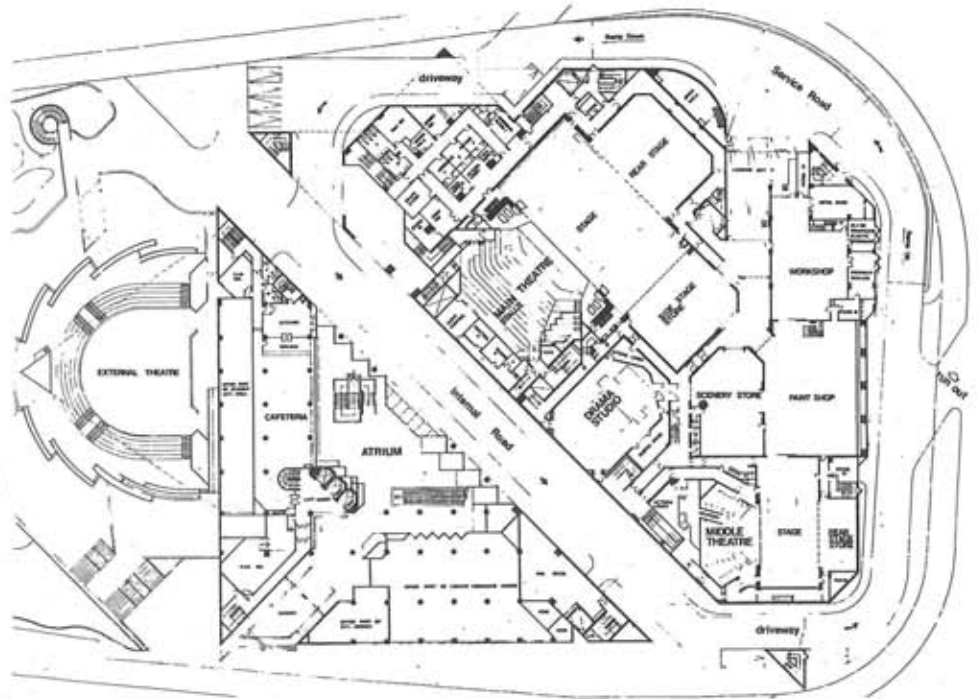
Control and projection rooms are available at stalls and circle levels, with options to place consoles/mixers on open galleries. There are three lighting bridges, corresponding side wall perches, and a follow spot box, all interconnected through the roof void. The acoustic favours Lyric performances, but is a compromise between the extreme requirements of the spoken word and symphonic music. On the advice of the Acoustician, the proposed installation of an electronically variable acoustic to extend the range of uses was not pursued.

The Middle Theatre is predominantly for Drama but will be ideal for small scale opera and dance. The auditorium derives from the Wolsey Theatre, Ipswich, but the stage is proscenium with full fly tower. Elevators form an orchestra pit or extended forestage which then connects with an actor's entrance vomitory beneath the seating. Control rooms are at the back of the single steeply-raked tier, with direct access onto the lighting bridges and side galleries.

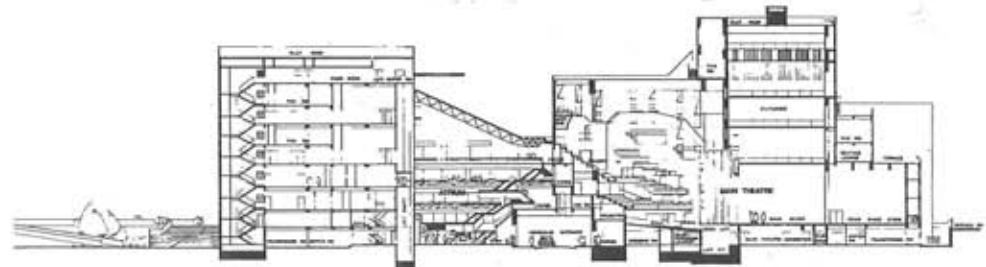
The Studio is a development of the Plymouth "Drum". It has a flat floor with trapped area, flexible seating, a single public gallery level and a higher technical level with catwalks. As originally intended for Plymouth, the control room is open to the auditorium—particularly appropriate for student work—though more traditionally minded staff are now muttering about the need to enclose the operators behind glass. A retrograde step?

A feature of the Orchestra Hall is the variable acoustic achieved by mechanically-rotated wall panels. This is not a "concert hall" though it can hold 175 spectators in its balcony and more on the floor, but provides a purpose-designed rehearsal and recording hall for commercial use as well as by the Academy's own musical ensembles. It has lighting catwalks, control rooms, power supplies and cable ducts for TV recording on an O.B. basis, and structurally comprises a totally suspended floating "box within a box" to achieve acoustic isolation from the Underground railway below. It has a 41-stop tracker action pipe organ and can accommodate a complete symphony orchestra plus choir and soloists.

A facility thought to be unique in an Academy is the TV studio, which though of only medium scale (270 sq. m. floor area) is professionally equipped and staffed. This provides facilities both for training performers and technicians in video techniques,



The Upper Ground Floor plan shows the relative position of the various auditoria.



A Section through the newly opened Academy for Performing Arts.

and for preparing taped teaching material for external use. The studio has a full complement of motorised lighting bars and cyclorama, and a comprehensive control suite which includes post-production and editing facilities. In an associated installation the building is comprehensively wired for CATV distribution, and the largest rehearsal studios are also equipped for simple TV recording work.

Though equipment tenders were sought on the basis of international competition against our detailed specifications, they were all eventually let to British companies. Given the natural orientation of the client and the specialists in the Design Team, and the high profile in the U.K. in the field of Performance Arts, this was perhaps somewhat inevitable, though we did make strenuous efforts to ensure that natural patriotism did not hold sway at the expense of the Academy, and were pleasantly surprised at the determination of British companies to gain a slice of the action, and the efficiency with which they completed the installations at a distance of 8,000 miles from home.

The total cost of the complex was around £39 million, of which about £7.5 million was spent on furniture and client's fittings. The technical equipment installations under control of Carr & Angier amounted to around £5 million excluding their associated electrical services, which were installed by the general electrical sub-contractor to our specification.

The initial briefing meetings were held in London during the last week in September 1981. The Brief was handed over in draft in

Hong Kong on 19th October 1981, and issued to the Architectural competitors on 5th November. Entries were judged during the first week in March. Piling (worth £5 million) took place over the period of August 1982 - March 1983 and the Main Contract for the superstructure commenced in April 1983. The Academic block was handed over in June 1985 and the Theatres block officially opened by Glyndebourne Opera on 3rd February 1986. The project was completed within the established timetable and at below budgeted cost.

Client: The Royal Hong Kong Jockey Club
Design Team Specialists:

Architects Simon Kwan Associates—Hong Kong
Theatre Architect Consultant Peter Moro
Partnership—London

Theatre Technical Consultant Carr & Angier—Bath

Acoustic Consultant Bickerdike Allen
Partners—London

Specialist Contractors:

Theatre Machinery, Moving Ceiling, Orchestra Hall Variable Acoustics TV Studio hoists
Telestage Associates

Stage & TV Lighting Controls Rank Strand
Luminaires CCT & Rank Strand

Theatre Sound & Communications Systems, TV Studio, Recording Studio & CATV Systems;
Facilities boxes Electrosonic

Studio Theatre seating rostra, Acoustic orchestra shell A.S. Green & Co.

Drapes Mick Tomlin

Colour slides courtesy Electrosonic Ltd.



Lyric Theatre Sound Control—32 into 8 PEP Mixer & Revox tape decks.



The Drama Theatre Auditorium (415 seats) with S.M. desk.

Lighting the "Avo" Way

John Offord visits Avolites "Productions" at Park Royal

The word 'production' has two quite different meanings for Ian Walley, managing director of Avolites. With Murray Thomas, he had founded a company in 1976 to set up lighting rigs—Avolites Production Company Limited. Just ten years later the term has a different connotation. The memory lighting consoles produced from their factory at Park Royal in West London are industry standards, most particularly on the touring front where the expertise can be traced all the way back to the beginnings in a cramped railway arch at Hammersmith.

Ian Walley had previously worked on lighting design and production with major tours such as The Osmonds, and Murray Thomas was an electrician. Together they'd learned what the industry had needed. "We came about as an entity to set up more sensible lighting rigs," explained Ian Walley. In fact they pioneered the multi-pin lighting rig.

The first equipment they made was for their own use. "We had the ability to make equipment that worked and held up on the road. Up to that point equipment hadn't been designed for touring. It had to be

robust in fashion and keep working under all circumstances," said Walley.

Within a couple of years they were being asked by touring companies to build equipment for them, and that very rapidly took over as the major part of the business. "The only aim at the start was to build desks of the best possible quality," said Kevin Eyres, the company's sales manager. "Because the founders were doing it for themselves there was no point in cutting corners. And we've carried on like that."

The lighting board that hit the industry in the late seventies was simply known in the trade as the "Avo" or the eighty-one hundred. It became the centre-piece for the company's prosperity, and there are well over 100 in regular use around the industry today. The 8100 is still available, and like every board made by Avolites is assembled only after consultation with the client in order that all of their requirements are fulfilled. There are many function and size combinations available, the most usual being an 84 channel version.

The new flagship is the QM 500 series of

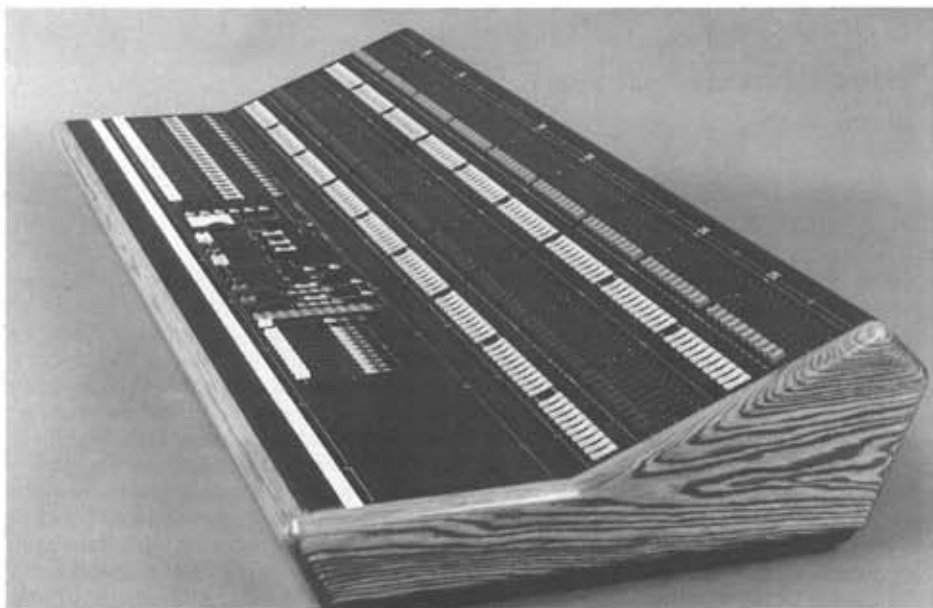
memory consoles, first used for a Michael Jackson US tour in 1984, and the design philosophy is that the hardware should be sufficiently flexible to adapt to the inevitable developments in software and operating procedures. Among features of the range are 400 real level memories available on 20 faders, an integral keyboard for programming alpha-numeric displays, and 20 memory chase programmes (over 1500 steps) accessible on 2 chase controls simultaneously. There is simple memory and chase programming and editing with alpha-numeric prompting available in a number of languages.

The latest in the series is a 180 channel version. It is switchable from a two preset 90 channel to a single preset 180 channel console, and offers in relatively compact form comprehensive instant control for the largest applications. The first UK use for this model was with the recent May tour of 'Queen'.

Introduced in late 1984 the Rolacue consoles offer the power of micro-processors with the parameters of size and economy given special design attention. The Rolacue 30 has 105 real level memories and a total of



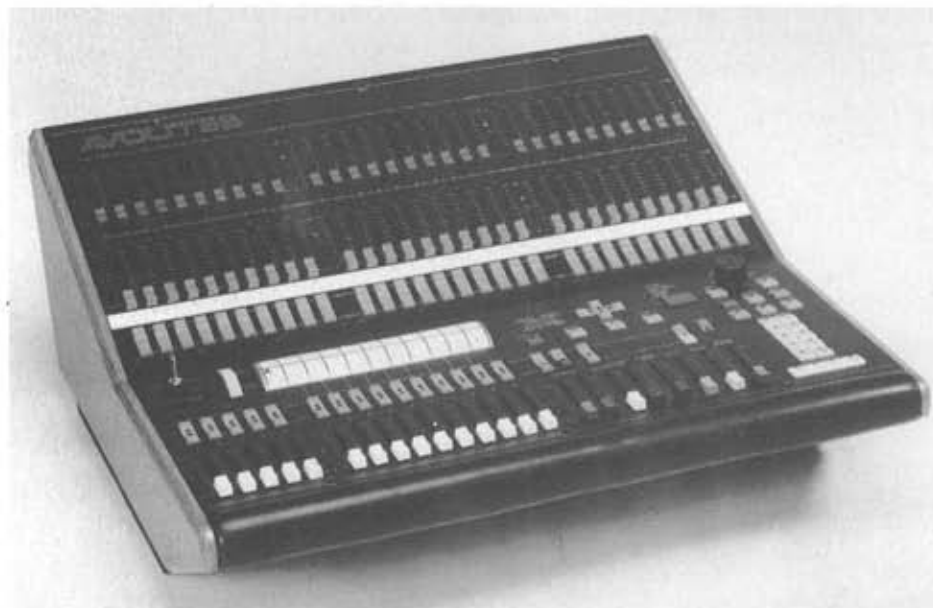
Avolites' 1986 award-winning ABTT Trade Show stand at the Riverside Studios.



The new QM 500 series 180 channel control console.



The popular Avolites' Ultra Chase II.



The 30 channel Rolacue—retaining the traditional Avolites' standard in a smaller application.

350 real level steps programmable over 10 chases. The '60' version has expanded memory capacity. All are linkable, and have the facility to save and load information via an outboard disk drive unit.

The more basic C Series controls were first introduced in 1985 and offer an "economic introduction to Avolites control equipment". They are available in 30 or 60 channel form with two presets.

Final "standard" on the control scene is the popular Ultra-Chase, which offers an efficient and compact method of controlling complex multi-channel effects. There are 20 patterns, each of up to 100 steps, with cross-fade time being programmable. Six of these units ran the lighting at Peter Stringfellow's Hippodrome in London before the main Avolites desk was installed.

Apart from specialist pieces of equipment, the main production floor at Avolites' factory



Ian Walley, managing director of Avolites Production Company Limited.

also looks after the manufacture of dimming systems, and these are divided into three categories. The modular systems are built around rack mounted multi-channel dimming modules, and all systems can incorporate mains patching, control patching, and mains distribution. The 40 amp dimming system is designed for use in the film industry—and built in the first place for Pinewood Studios. It is one of the most compact of studio dimming systems where loads of up to 10kW per channel are usual. The system contains 3 modules each of 6 channels protected by individual M.C.B.'s.

The 30 x 10 amp system was first announced at the recent Frankfurt Music Fair, and was designed specifically to complement the 'C' and Rolacue control consoles. It incorporates three 10 channel versions of the 10 amp dimming modules, and each module has its own integral patch outlets. The com-

patch facility allows a total of 72 lamp channels to be patched into the 30 dimming channels.

The latest piece of gadgetry to come out of Avolites will also see the light during the current tour of 'Queen'. It is a processor-driven motorised controller: "a box of tricks with a keyboard and a terminal," said Ian Walley. And he wouldn't say more—a glint in his eye really showing he was waiting to see how it would catch the industry's imagination first.

And keeping in touch with the industry's every move is of prime importance to a company like Avolites. With most of the equipment sold direct to hire companies, the needs of the industry are soon felt, and development carries on apace.

The company employs five people in research and development alone, and Ian Walley calls them "a potent team of people". They work under the guidance of Paul Ollett (director of research and development and



James Henderson, desk supervisor, with a Rolacue in production.



Isabel Polar, Hire Manager.



Mark Thompson, service engineer, pictured alongside a QM chassis and matrix panel.



Enzo Fiondella—dimmer supervisor.



Derek Halliday backs up Kevin Eyres in the sales office.



Dave Saunders, Avolites' drawing office manager.



Ian Walley with Paul Ollett, director of research and development.



Kevin Eyres, Avolites' sales and marketing manager.

special projects), and also have the ever-present back up of Murray Thomas (director-technical) and Ian Walley himself. To keep their own hands "in touch" both Walley and Thomas continue their annual association with the group Barclay James Harvest.

It is now almost a hobby, but as Ian Walley explained: "We've always built the most fantastic lights for them. They've grown with Avolites, and we've grown with them". It is a creative link that is important now that the principal directors are more desk-bound. "It may be less creative nowadays," said Walley, "but is is more a question of concepts. In fact it is in some ways more interesting, because the scope is so much wider."

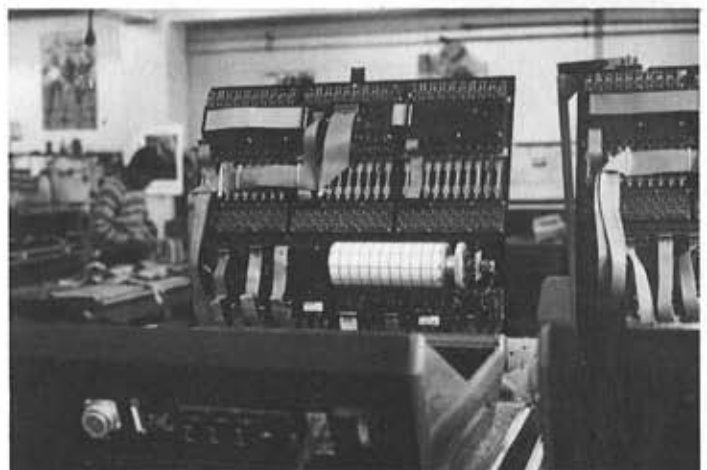
"A lot of research and development evolves naturally from the introduction of new equipment itself," said Kevin Eyres. "We bring our agents in from overseas, with their own technical people, and they stay with us for up to three weeks at a time."

The need for service personnel is minimal. The company employs only one full-time person in this area because, very simply, not much service is required. "If a problem comes up anywhere in the world we can always find somebody to cope with it," explained Kevin Eyres. And often it's more a problem of sorting out problems caused by misuse of equipment. "Like the time we had to go to France to put right equipment that had had champagne spilt all over it," he said.

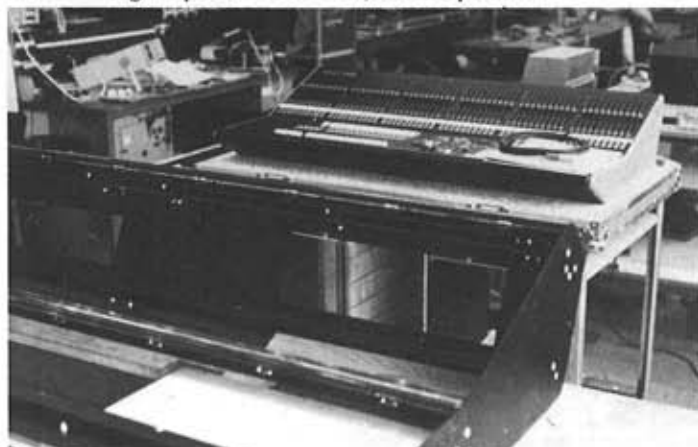
Avolites maintain a permanent and strong presence in the United States through its base at Chatsworth just outside Los Angeles in the



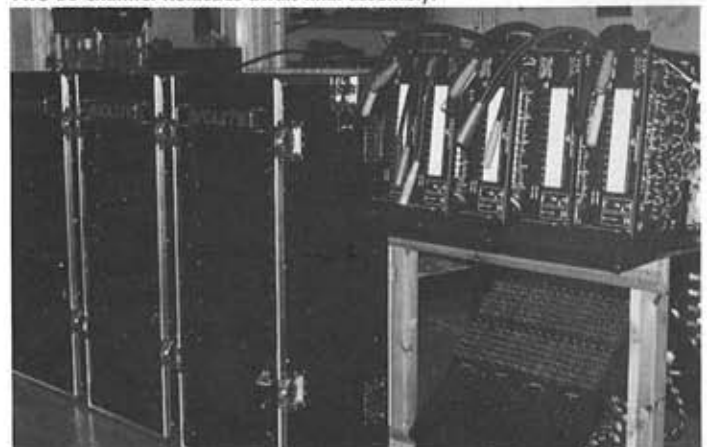
Hidden among the pieces—Mux Murrell, stores supervisor.



Two 30 channel Rolacues await final assembly.



Production line—in the foreground a QM chassis, and behind a Rolacue.



Modules, patch legs and main frames awaiting assembly.



Kevin Eyres ponders the mysteries of the Rolacue.



Production manager Mark Honebon.

San Fernando Valley. "We felt it essential to provide a service there," said Ian Walley, "and all our staff are 'true Brits' exported from the UK." The main team revolves around Clive Standley who is sales and marketing director, Dick Ollett (brother of Paul in UK R and D) who looks after the technical side, and Rob Steele who copes with any servicing requirements.

All equipment is manufactured in the UK, and the Park Royal premises has five basic departments employing the skills of over 40 people. The administration floor comes complete with a roof garden and a view over the impressive roof tops of suburban Wembley, right across to the Stadium itself. In addition to the main production floor, there is a stores and hire section, an engineering shop, and research and development hidden away in a corner you don't get to visit.

And this is an area where the talking also starts to dry up. I asked Ian Walley about the future. "A very sensitive subject," he said. "It can be dangerous if you don't live up to expectations. But we know where the lighting industry is going—and we've every intention of being there!"

As far as the Industry in general is concerned, his view is that it is learning how to make the most of new components as they become available. "It's all got to fit together, and we've got to get all the up-grades right," he said.

For the man who named the company after his own nick-name (he was affectionately known as 'Avo' in the trade—after the Avometer), things have travelled a long way. And as salesman Kevin Eyres interspersed: "We assume that everything big has our equipment in it."

One of the most satisfying things for Ian Walley is that people selling Avolites equipment after five years of use are still getting more money for it now than they paid for it at the time. "I've yet to meet a man who has lost money on buying some of our equipment," he told me.

"Avolites are here to stay, and they are going to take care of their clients with the best in integrated lighting control," he concluded.

For details of forthcoming features in

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MEMORY LIGHTING CONTROLS

including Guide to Technical Comparison

ADB Theatre and TV Lighting

Leuvensesteenweg 585,
B 1930 Zaventem, Belgium.
Telephone: (2) 722.17.11
Telex: 22154.

F20

A totally new memory control launched in March 1986 and first shown at Siel Paris in April. It is a 120 channel board with multi-use application.

F28

The ADB F28 was first introduced in 1984, and is adaptable from 120 to 168 channels. A large modular board, it contains seven main control modules, that can be linked together to suit clients' use requirements. Ideal for the large theatre/opera house situation, it can also be adapted for the lighting control requirements of major television studios. Its production and design came about as the result of a user-survey instigated by ADB at the research and development stage.

Note: due to postal strikes in Belgium we were unable to obtain full information and pictures of the ADB controls, and the above boards are therefore not included in our survey chart in this supplement.

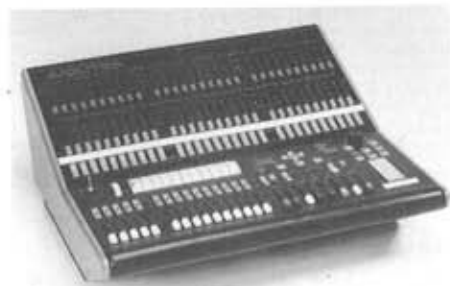
Avolites Production Co. Ltd.

184 Park Avenue, London NW10 7XL.
Telephone: 01-965 8522.
Telex: 24652 SPOTON G.

Rolacue Series

The Rolacue series of memory consoles represents an important part of the new generation of Avolites control consoles. It has been designed specifically to offer powerful and flexible programming facilities in smaller applications, where budgets can often be limited.

Although Rolacues offer comprehensive facilities including rapid Memory and Chase Modification and Preview, they are extremely simple to operate even for someone approaching memory consoles for the first time. All Rolacues are linkable and have the facility to save and load information via 3.5 inch Disk Drive. This allows access to large numbers of channels without the commitment to an extremely large console.

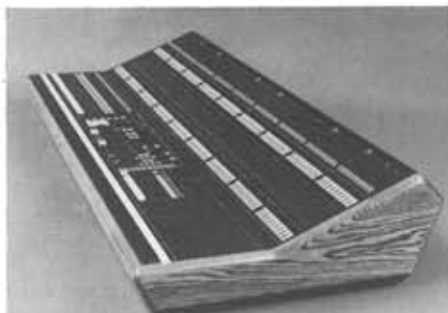


For all but the largest applications the Rolacue series provides very powerful and flexible control of light in an easy to use extremely cost effective format.

QM 500 Series

Designed as the successor to the extremely successful 8100 series, the QM 500 series was launched in early 1984 with the three preset 90 channel version. Within the two years of its production the QM 500 series has become an accepted standard throughout the world where powerful, versatile control of large numbers of channels is required.

The design philosophy behind the QM 500 is that the hardware should be sufficiently flexible to adapt to the inevitable developments in software and operating procedures. This has meant that although there has been a process of continual improvement in specification brought about in close consultation with designers and operators who have used QM consoles, many upgrades have been retrofittable to all consoles.



With the introduction of the 180 channel QM 500 has come a revised operating procedure which makes the QM series even more flexible and straight forward to programme and operate.

Built to satisfy the most demanding control requirements of today's leading lighting designers, the QM series offers a unique combination of extremely powerful memory capacity and instant 'hands on' access, providing the operator with almost limitless means to create the perfect combination of technology and art.

Ultra-Chase

The Ultra-Chase offers an efficient and compact method of controlling complex, multi-channel special effects. This desk's central processor unit provides multi-functional facilities and is programmed in a "user friendly" method with prompting instructions through each stage from the Alpha-Numeric display. There are 20 patterns, each of up to 100 steps, with step cross-fade time being programmable. Step cross-fade time may be adjusted whilst unit is running by means of a manual over-ride control.



Incorporated in the unit are full editing facilities, pattern linking, direction reversing and "bounce" keys and L.E.D. output mimic. The desk panels are standard 19" rack mounted and the unit is finished in an oak cabinet.

CCT Theatre Lighting Limited

Windsor House, 26 Willow Lane,
Mitcham, Surrey CR4 4NA.
Telephone: 01-640 3366.

Telex: 946648.

(AVAB Elektronik AB - Sweden).

AVAB 201

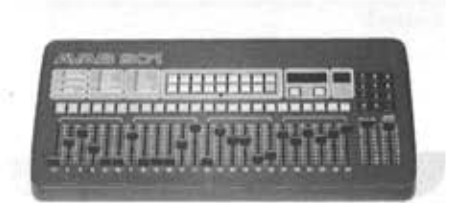
The AVAB 201 is a powerful micro computer controlled lightboard at a lower price than many manual systems with little more than elementary facilities. The broad range of facilities and flexibility of its mode selection controls includes special features for many areas of use.

Bands and Clubs: individual or mixed presets; hand cross-fades or foot pedal; programmable chase and light organ systems.

Audio Visual Presentations: speakers infrared remote control of pre-programmable sequences.

Video and TV Broadcast Studios: pre-programmable lighting groups plus stored or 'hands on' preset and sequence control.

Schools and Meeting Halls: can be used as straight forward manual preset for individual circuits or programmed groups. For the more ambitious lighting designer, all the other functions are readily available.



Theatres: The most demanding professional lighting designers will find the AVAB 201 to be remarkably powerful system. The programmable fade times, automatic times and multiple pre-setting are unique in such a small system. The soft patch option for up to R8 dimmer channels and the extensive special effects functions make the AVAB 201 an effective micro computer system.

Full specification details are on the system analysis.

AVAB 202

For those who want to go beyond the scope of the 201 system the AVAB 202 is ready to meet the most demanding of technician/designer needs. Never before has so much lighting control flexibility been squeezed into such a small package, and never before has such an attractive package had an equally attractive price—a combination that is exceedingly hard to beat, say CCT.

The 202 uniquely combines the reassuring "hands-on" feeling of a manual lightboard with all

Memory Control Technical Comparison

- denotes facility available
- denotes optional extra or add-on
- information not supplied

	Date first introduced	Number Manufactured	Major Users	Theatre	TV	Disco	Rock/Touring	A.V.	Amateur	Educational	Installation	Portable	Installed	Number of Channels	Number of Dimmers	Number of Memories	Proportional Patch	Modular Control Panels	Number of Playbacks	Number of Simultaneous Fades	Manual Presets	Programmable Special Effects	Number of Sequences	
ADB F20	-	-																						
ADB F28	-	-																						
Rolacue 30 Channel	1984		●	●	●	●	●	●	●	●	●	●	30	Inf.	105		15	21	2	10	350	1		
Rolacue 60 Channel	1985		●	●	●	●	●	●	●	●	●	●	60	Inf.	155		20	26	2	10	350	1		
Q.M. 500 90 Channel	1984		●	●	●	●	●	●	●	●	●	●	90	Inf.	500	●	●	20	32	3	20	1360	2	
Q.M. 500 180 Channel	1986		●	●	●	●	●	●	●	●	●	●	180	Inf.	500	●	●	20	32	1/2	20	1360	2	
Ultra Chase	1982		●	●	●	●	●	●	●	●	●	●	90/120	Inf.	20	●	20				20/36	100/70	1/2	
AVAB 201	1982	250+	●	●	●	●	●	●	●	●	●	●	12/24	128	100	●	26	200	24		10	20	10	
AVAB 202	1985	120+	●	●	●	●	●	●	●	●	●	●	240	240	unlimited		26	26	24		10	20	10	
AVAB Viking	1982	60+	●	●	●	●	●	●	●	●	●	●	1000	1000	999	●	●	2	4	12		10	20	
Series 2 Thirty	1984		●	●	●	●	●	●	●	●	●	●	30		40	○	●	10	10	10	2	4	160	1
Series 2 Thirty with soft options	1986		●	●	●	●	●	●	●	●	●	●	30		150	○	●	10	10	10	2	8	792	8
Series 2 Sixty	1984		●	●	●	●	●	●	●	●	●	●	60		300	○	●	20	20	20	2	8	792	1
Series 2 Sixty with soft options	1986		●	●	●	●	●	●	●	●	●	●	60		300	○	●	20	20	20	2	8	792	8
Series 2 Ninety	1984		●	●	●	●	●	●	●	●	●	●	90		450	○	●	30	30	30	2	8	792	1
Series 2 Ninety with soft options	1986		●	●	●	●	●	●	●	●	●	●	90		450	○	●	30	30	30	2	8	792	8
Series 2 Gold	1986		●	●	●	●	●	●	●	●	●	●	90		450	○	●	30	30	30	2	24	2376	24
MicroFILE	1983	150	●		●	●	●	●	●	●	●	●	40		550		4	5		1	200	550	4	
Concept	1982	20	●	●					●	●	●	●	120	120	200		3	3						
Microlite 200	1984	21	●	●	●				●	●	●	●	960	1800	1500	●	●	24	24	12	24			
Microlite 2	1985	86	●	●	●	●	●	●	●	●	●	●	240	480	1500	●	8	8	4	10	1500	1500	8	
Micron X	1985	24	●	●	●	●	●	●	●	●	●	●	120	144	1500	●	6	6	2	●	999	999	6	
Micron	1983	60	●	●	●	●	●	●	●	●	●	●	120	144	999	●	6	6	4	●	999	999	6	
Spirit	1986	10	●	●		●	●	●	●	●	●	●	120	144	999	●	5	5	2	●	999	999	5	
System II	1984		●	●	●		●	●	●	●	●	●	150	512	300	●	2	2	10	1	300	300	2	
Prestige 1000	1985		●	●	●	●	●	●	●	●	●	●	100	200	200	●	4	4	24	1	200	200	4	
Prestige 2000	1985		●	●	●		●	●	●	●	●	●	200	400	300	●	4	4	24	1	300	300	4	
Prestige 3000	1985		●	●	●		●	●	●	●	●	●	400	800	400	●	4	4	24	1	400	400	4	
Touchstone	1986	50	●	●	●	●			●	●	●	●	96	96	350		1	1		1	99	99	1	
Pulsar BBC Micro	1985	100	●	●	●	●	●	●	●	●	●	●	36	36	1000	●		2	3		var.	100	1	
Sitalux K40	1984	11	●	●					●	●	●	●	768	768	400	●	1	10	10	10+2	200	400	10	
Sitalux B40	1981	21	●						●	●	●	●	768	768	400	●	1	500	10	2	100	400	1	
Tempus M24	1983	600+	●	●	●	●	●	●	●	●	●	●	120	120	199		1	6			1	199	1	
Tempus M24 FX	1983	200+	●	●	●	●	●	●	●	●	●	●	120	120	8		8				1	8	1	
Gemini	1985	100+	●	●	●		●	●	●	●	●	●	180	384	200+	●	2	24	8		99	255	10	
Galaxy 2 Studio	1984	50+	●						●	●	●	●	768	768	200 average	●	●	4	24	34		99	255	10
Galaxy 2 Premier	1984	25+	●						●	●	●	●	768	768	200 average	●	●	4	24	34		99	255	10
Galaxy 2 Arena	1981	125	●						●	●	●	●	768	768	200 average	●	●	4	24	34				
Mini Light Palette		120	●	●			●	●	●	●	●	●	200	384	var. on channels moving each cue	●		3	3	10		100	80	3
Lightboard M	1986		●	●	●	●			●	●	●	●	96	384	224	●	●	4	48	●	224	96	2	
Light Palette 2	1984	40	●	●			●	●	●	●	●	●	800	1536	var. on channels moving each cue	●		6	6	9		100	80	15
Lightboard XP	1986		●	●			●	●	●	●	●	●	4000	4000	var. on channels moving each cue	●	●	8	256	48				still at design s
Tigers Eye	1986	4	●	●	●	●			●	●	●	●	60	240	350	●		2	17	15	17	999	99	2
Eclipse	1983	300	●	●	●	●	●	●	●	●	●	●	24-120		multiples of 48 or 200	●		2	x8	2	x8	x200	x200	
Lightmaster 1200 MkII	1982	1300	●	●	●	●	●	●	●	●	●	●	12	2	16					2	16	16	1	

Use Patterns	Varl No. Sequence Steps	Number Simultaneous Sequences	Proportional Level Sequences	VDU Display	No.	Colour	Mono	Tape	Disc	Other	Printout	Output to Dimmers	If multiplexed	Analogue (+10v)	Analogue (+10v)	Max No of Patches	Max No of Dimmers	Response Curves	Memory	Manual	Auxiliary Desk	Handheld Control	Wireless Control	External Pulse Control	Dimmer Fault Diagnostics	Computer Interface	Special Features	
																												Extreme ease of programming and operation. Memory lock facility. Disk driven saving and loading of information. Fully linkable with other Rolacues.
																												Total flexibility. "Hands on" access to complete contents of console at all times.
																												Switchable between single pre-set 180 channels or 2 pre-set 90 channels to suit application.
																												Speed of steps and cross fade rate variable within individual chase patterns.
	1																											May use domestic TV as alternative to monitor.
	1																											
	2																											Designer facility. Able to set screen layout to match theatre's. Colour change and remote control of lantern positions.
	1																											
	1																											
	1																											
	1																											
	1																											
	1																											Output limits on all channels.
	1																											
	1																											Output limits on all channels. Built-in tape machine. Leather Armrest.
	1																											Chase pattern as one memory. Cue allocation by operator. Portable. Manual Preset. Non-volatile.
	1																											Separate keypads for memory and channel selection. No dual function keys.
	2																											Includes 2 computers. Automatic assignment and learn cue profile.
	1																											Has back-up memory, two-way transfer and group facilities.
	1																											
	1																											Low cost system. VDU, patch facility and floppy disk.
	1																											Alpha numeric teaching system. Low cost system for schools, amateur and rental use.
																												Flash buttons on sub-masters. Track sheet display.
																												As above plus Magic Sheet - Graphic Pad Show Entry. Special Printer.
																												As above plus Cue Notes facility, full tracking, back-up system and twin VDU display.
	1																											Special design features for Driven Lighting. Easy to program.
																												Uses standard BBC Micro. Suitable for schools. Low cost.
	2																											Output system is normally multiplexed, + or - 10v possible. Back-up system with Sitralux K10 (integrated in Sitralux K40).
	2																											As above. Patching up to all dimmers coupled to one channel. Split fade time for each channel. Chase mode uses common cues.
	1																											Can be integrated into any existing manual fader control system.
																												A self-contained patch/effects desk with automatic back-up facilities for M24.
	1																											Operates with any manual fader desk and records the fader settings.
	4																											Special TV program with emphasis on fast, spontaneous manual override control.
	4																											Unique real-time 'learn' facility to copy profile of manually performed fade.
	4																											Simultaneous use of all controls in the system.
	2																											
	1																											Microprocessor-based memory system with 96 channels of 2-scene preset control.
	2																											Two program versions available - Theatre and Television.
tage	2-8																											A lighting control network, which can accommodate up to eight users simultaneously.
	1																											Touch sensitive control of channels and patch. Fast submix access. Very comprehensive live facilities.
																												Modularity its strongest point whereby the user can specify number of memories (cues) he requires.

AVAB 201 & 202 from CCT.

extremely powerful, micro-computer controlled lightboards at a price which is below that of many manual systems



Facilities on the AVAB 202 include

- 26 group masters
- 48,96,120,192,240 control channels
- Memory expansion
- Disc dump standard or option
- I.R. Remote control
- Printer option
- Controls Digital Dimmers or analogue via Supermux
- R.G.B. monitor
- Chase effect 10 programmable patterns
- Sound to Light input, 10 programmable patterns

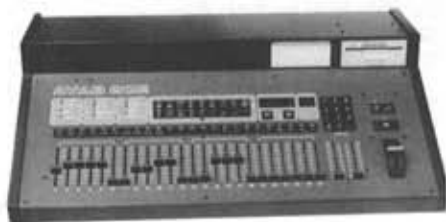
Full details of these and "VIKING" – the ultimate control from

CCT

theatre lighting

WINDSOR HOUSE, 26 WILLOW LANE, MITCHAM, SURREY, CR4 4NA. TEL. 01-640 3366 TELEX 946648

the refinements only a computer lightboard can offer. The faders can be used to set individual channel levels or to master entire presets. With the split crossfader crossfades can be executed manually. Fade times can be modified with "joystick". There is fingertip access to every aspect of the lighting program.



The 202 seriously challenges much larger and more expensive lightboards by offering well thought-out features in compact form at an affordable price. Virtually all programming functions can be combined with no practical limitations. Flash a light organ effect, for instance, or set up a conditional loop in the sequence of presets which in themselves contain chase programmes. Override the sequence of presets, master critical channels or make last-minute corrections during playback. In short, however intricate the production, whatever the challenge, the 202 ensures trouble free lighting control.

AVAB has designed the 202 as an extremely versatile control system with enough software capability to handle any lighting situation. The special effects so important to stage performances complement the submastering functions which are indispensable to television lighting. Even though one type of production, more than the other, may utilize certain portions of the software, the 202 makes them all accessible in one interactive package. Even that 'once-a-year' effect that used to mean extra peripheral devices is no problem for the 202.

AVAB Viking

Viking is the "ultimate" control board for theatre and TV. The over-riding conceptual idea was to collect as many control functions as possible and monitor them from a single source equipped to handle multiple uses and tasks. The operator can build Presets, while a member of the lighting crew focuses instruments with the remote controller. At the same time the lighting designer revises his plot. The multi-task capability of Viking extends the possibilities even further. Fades within fades, special effects, remote controlled lighting instruments, color changers, stage rigging and verbal cues to the followspot operators—all simultaneously!

AVAB has solved the critical problem of speed by using the main computer to relegate a wide range of different functions to several microprocessors and monitor the results. Yet Viking is a truly modular system, which can easily expand to meet increasing demands.



Even without remote control of lighting instruments or rigging control, Viking is a superior lightboard. Multiple sequences of presets, automatic submaster assignments during playback, programmable special effects and dimmer curves, manual override or timed fades and textual labelling of groups and presets are all part of Viking's standard software.

Celco Ltd.

distributed by Cerebrum Lighting (Sales and Hire) Ltd.

The Stage and Lighting Effects Centre, 168 Chiltern Drive, Surbiton, Surrey KT5 8LS.

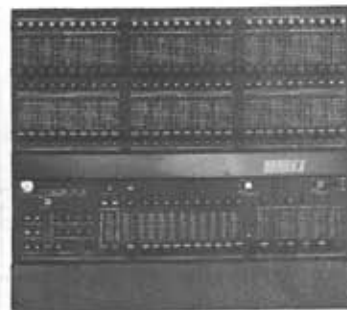
Telephone: 01-390 0051.

Telex: 892337 Celco G.

and for U.S. Sales by Celco Inc., 30B Banfi Plaza North, Farmingdale, NY 11735 USA.

Series 2 Thirty

The Series 2 Thirty may be the smallest in the Celco range but, in common with the larger Series

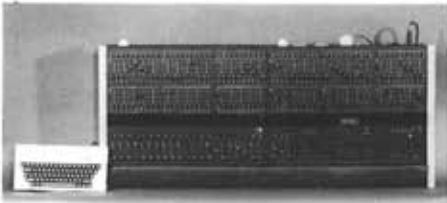


2 boards, it shares the same design philosophy and attention to detail—thereby making it the ideal choice for the smaller production. Many Series 2 Thirtys are in use every day of the year either on their own, or joined to another Series 2 board by the flexible linking facility.

For those requiring additional memory capacity and multi-sequence capability, Celco have developed an easily installed softoptions Package. It is probably the most powerful lighting boards for its size in the world.

Series 2 Ninety and Sixty

Sharing a common operating procedure, the Series 2 Ninety and Sixty have become the standard lighting boards for many designers, directors and operators the world over. Both boards feature instant access to programming and modification routines as well as alpha numeric displays, automatic time fades and cassette/computer interfaces. They will also accept a more powerful softoptions package.



Like all the Series 2 Range, they have proved themselves extremely robust in operation, even under the most arduous tour conditions. Building reliable state of the art electronics into an indestructible chassis can be a designer's nightmare, but Celco have dedicated themselves to the principle that the product should be exceptional, both in its reliability and in its visual aesthetics.

Series 2 Gold

The flagship of the Celco range, including a host of innovative features combined with traditional craftsmanship, Series 2 Gold will appeal to the exclusive few who command the best in lighting control boards available.



With a cabinet which is hand built to each client's specification from a selection of the finest natural woods and genuine English leather hides, Series 2 Gold sets the standard to which other manufacturers aspire, say Celco. In operation, they allow the designer to execute lighting plots that, until today, would have been pure fantasy—thereby ensuring the designer remains at the forefront of his field.

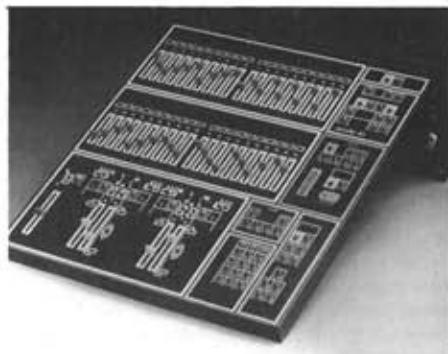
Concord Controls Limited

Unit 3, Dawson Road, Mount Farm,
Milton Keynes MK1 1LH.
Telephone: (0908) 644366.

MicroFILE 40

The MicroFILE 40 is a stand alone, 9 show, 550 state, 40 channel memory lighting control desk. Although simple to operate, it includes sophisticated features for the more experienced user. Ideally suited for the larger installation, its small size and light weight also make it ideal for portable use. The desk has 550 in-built memories, 4 play-backs with dipless cross fade, 40 way manual preset with channel mimics and many other features.

The MicroFILE 40 uses the static principle of lighting where a balance of lighting is memorised. Thus, when a balance of lighting is set up, it is stored and a state can be altered or played back without affecting other states. These states are



then held as memories which can contain a single state or a sequence of states (a chase). Each state is unique and is identified by its show number and memory number.

Controls for each type of operation are grouped together for ease of operation and functional areas are identified by different colours. The desk contains a low voltage dual power supply, two 20mm anti-surge fuses and two green indicators which are normally lit when the desk is in operation and which are visible without removing any covers.

D.E.W.

Maybank Road, South Woodford,
London E18 1ET.
Telephone: 01-504 5832.
Telex: 8951031 DEWLEC G.

Concept

Concept is unique in its range, say D.E.W. and is the "lighting operator's friend", offering basic facilities that are both simple to understand and simple to use, and reliable. There are two manual and one dipless auto playbacks, separate key pads for channel and memory control, and positively no dual function buttons. It can control up to 120 dimmer channels, with 200 full capacity memories, plus the separate option of library storage on standard 3½ inch mini disks.

Additional facilities include individual preview of memory, playbacks and combined output, memory modification, blind plotting, memorised fade times, playback and channel flash, and sequence and cue insertion. An optional companion unit incorporates a 10 group control system for



use as preset or back-up facilities, in conjunction with a miniature plug matrix panel. Six of the ten groups can be selectively switched to a plug-in cartridge special effects unit offering a wide range of chase, sound to light and timed fading patterns.

Concept is for the amateur and professional alike, say D.E.W. for venues involving peripatetic operators.

**FOR DETAILS OF
ADVERTISING RATES
ring (0323) 642639
or write to L+S, PO Box 628
Eastbourne, East Sussex BN21 2PZ**

Eurolight Limited

10/16 Mercer Street,
London WC2H 9QE.
Telephone: 01-836 7877.
Telex: 888941 LCCI Eurolight.

Microlite 200

This is the most sophisticated of all Eurolight control systems and is usually built to customer specification. Software capabilities are available which allow the client to 'design' his own version of Microlite 200. So far, 5 systems have been supplied to major venues in the UK, and each unit has been built to meet the requirements of the chief electrician at the venue concerned, for example John Reason at Birmingham Hippodrome, Paul Saunders at Half Moon and John Holding at Manchester Opera House.

Microlite 200 is actually 2 completely separate control systems usually housed in one wooden console. The systems can be slaved together for very large productions or used independently at touring venues to run one show on the main system whilst pre-plotting the next show on the second system. The unit features all the standard Eurolight software facilities of groups, effects, soft patching, disk loading, multiple playbacks, recordable times etc., with the option of curve profile, dimmer profile, automatic assignment, dimmer output display, alpha numeric keyboard, CPM operating facilities and many more. With all the complexity and sophistication that Microlite 200 can offer, it is very simple to operate and is very low in cost.

Microlite 2

This is the latest version of the popular Microlite range of memory control systems. Microlite 2 can now control up to 240 channels or 480 dimmers and has the added advantage of full channel to channel patching, channel to dimmer patching, and proportional intensity patching.



The major advance over earlier systems is the addition of a new auxiliary computer with its own power supply and demultiplexer. This auxiliary computer can act as a stand-alone system for back-up purposes or can be linked to the main system to provide 10 extra playbacks or group masters. Memories recorded in either system can be transferred to the other and the integral visual display unit can be used to display either system. A new group function that allows the main crossfade playback to run effects in or out of sequence enhances the operator facilities.

Microlite 2 is now equipped with a 3 inch micro floppy disk drive as standard with capability to store 10,000 different memories per disk and also the capability to load selected information from each disk, i.e. just patch, just channel or just memory information or everything contained on a disc. It is supplied complete with 2 demultiplexers, interfaces for a printer, riggers control and external display as standard equipment. Cost for the system has changed very little since its launch in 1983.

Micron X

This is a special version of the popular Micron lighting control that features a demultiplexer drive to feed the dimmers. The manual console input is

also demultiplexed along the same cable. Micron X was developed for use in bigger venues and also for rental companies where demultiplexer systems save large amounts of control cabling. It has all the standard facilities of the standard Micron, but has extra software to enable Micron X to offer better patching facilities, easy connection to audio visual equipment and will allow it to control motors and effects very simply by use of external control low voltage control gear.

Micron X is also particularly suitable for television studios and outside broadcast use when connected up to a small manual console because the console can be programmed to operate as a sub-master panel with its own soft patching, which allows fast control of individual lanterns or groups of lanterns within each play-back memory. Micron X is available in modules of 48 channels up to a maximum capacity of 144 channels.

Micron

Micron was developed for use in smaller venues that need sophisticated and easy to use memory



control that is easily connectable to existing equipment and is at relatively low cost. With this in mind, Micron, in its standard form, provides analogue input and output, and will connect to all makes of voltage drive dimmers.

Micron includes as standard a micro floppy disk drive built into the rear panel, high resolution visual display, and effects playbacks with chase and full soft patching. Full facilities are provided for up to 6 simultaneous playbacks, each memory containing its own recordable fade in, fade out, delay-in and wait-out-time. Micron can record the output from most makes of manual console that may exist in the venue, and therefore will allow operators used to operating manual systems to easily adapt to the memory control system. Micron has been installed in over 40 theatres in the UK and over 140 worldwide since its original launch. It is available in modules of 24 channels (input and output) up to a maximum size of 120 channels.

Spirit

Spirit is the latest product to emerge from Eurolight. It has been designed primarily for education users, rental companies and venues that have no permanent staff. It provides identical operating facilities to the Micron, but features a graphic display that tells the operator how to use each function. This ensures even the most experienced operator, or children interested in lighting control, can use the sophisticated facilities to achieve the lighting picture required without having to be concerned about how and why it has been produced. Once they are used to operating the system, the graphic display can be disregarded and the spirit used like a normal control system.

Spirit has already been sold to 5 major drama



colleges in addition to several education authorities for use in polytechnics and schools. It is completely portable, so it can be used in the classroom for teaching purposes as well as in the venue. Software is capable of easy modification for specific customer requirements. Spirit is available in modules of 24 channels up to 72 channel maximum system size.

Lee Colortran

Manchester Road, Kearsley,
Bolton BL4 8RL.

Telephone: (0204) 73373.

Telex: 63433.

System Two

The System Two memory desk from Lee Colortran was designed to update and replace the very popular Colortrack desk, and was launched in Spring 1984. More than 50 units have been sold worldwide, and 25-30 of these are in use in Europe.

Microlite 2

the new
all purpose
system.



We are still selling well—but now live in Covent Garden.
Send for full details of our new extended range of systems.

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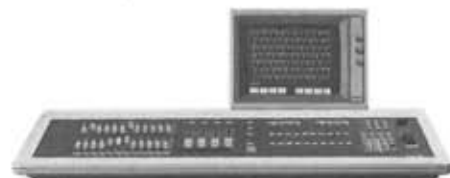
10-16 Mercer Street, London WC2 9QE.
Tel: 01-836 7877 Contact Nick Mobsby or Derek Coe.



A feature of System Two is its small footprint and integral Green Screen VDU, enabling it to be packed into a flight case for portable use. System Two can soft-patch up to 512 dimmers to 150 control channels and a handheld remote is provided to access all dimmers, channels and cues.

Prestige 1000

Lee Colortran's Prestige series of microprocessor-based lighting control systems are the world's most flexible and technically-advanced desks, say the company. Launched last summer, over a hundred were sold in the first few months.



Prestige 1000 controls up to 200 dimmers on at least 100 channels, with the facility to record and recall up to 200 cues and groups. Special 'soft' screen keys enable simple recording and editing of cues, groups, submasters, effects, patch and set-up by calling up pre-designated functions. Position keys allow the user to view any part of a large spreadsheet display through the 'window' of the high-resolution amber VDU.

Prestige 1000 also features 24 pile-on overlapping submasters for manual control of complete stage looks. Bump buttons instantly activate any of 12 submasters on demand.

Prestige 2000

Prestige 2000 from Lee Colortran advances microprocessor-based lighting control systems for the theatre and television industries to a new level. The Series 2000, with high resolution colour VDU, controls up to 400 dimmers on up to 200 channels, and records up to 390 cues or groups.



In addition, a powerful Special Effects program and bump buttons on 12 of 24 submasters provide one of the most flexible consoles on the market. Together with these features, Prestige's easy record and edit capability—assisted by 'soft' screen keys which focus the user's attention to commands which are useful in a particular display—make the console one of the easiest to use for complex and sophisticated lighting control duties. Optional hand-held remote, hard copy printer and designer's remotes are available.

Prestige 3000

Completing the Prestige range from Lee Colortran is the Prestige 3000, which controls up to 800 dim-



mers through 400 channels. It will be the most technically-advanced and versatile microprocessor-based console on the market when it is launched in the UK in early Summer, say Lee Colortran.

Available as an option on both Prestige 2000 and Prestige 3000 is the remarkable Magic Sheet, which is a unique designer's remote. The Magic Sheet, which is activated by an electronic touch pen, enables lighting directors and designers to build complex lighting sequences away from the console room and using graphic representations rather than screen-based numeric codes.

As well as giving greater freedom to concentrate upon creative rather than technical considerations when building sequences to be recorded, the Prestige Magic Sheet also proves invaluable during live TV shows when the touch pen's active and simple control instantly enables lighting control to match on-stage requirements.

Pancan

25 Powis Terrace, London W11 1JJ.

Telephone: 01-221 1455.

Telex: 268141 METMAC G.

Pancan Touchstone

A very straightforward memory controller with excellent programmable facilities. Chase, follow-on and timed presets are able to be played back in any order and at any time. Complex effects can be built up from basic presets and edited easily.



As a lighting controller the unit's low cost and simplicity make it ideal for all small theatres, schools and disco/cabaret venues; it is easy to learn and provides built in effects.

As a driven lighting controller, for which it is specifically designed, it is fast and straightforward to programme. Pan, Tilt, Colour and Level or Iris are grouped for each head and Patch may be utilised to combine movements of several heads for that cue. The ability to run long groups of presets or a repeating sequence makes innovative moving lighting effects very easy to set up. The external sync. allows rock lighting to be timed to sound events.

Pulsar Light of Cambridge Limited

Henley Road, Cambridge CB1 3EA.

Telephone: (0223) 66798.

Telex: 81697.

Lighting Control for BBC Micro

The Pulsar Stage Lighting Control Package enables a standard BBC Micro with a minimum disc system to control dimmer packs old and new which use 0-10 volt control signals. (A Voltage Translator to



convert 0 to +10 volts into 0 to -10 volts can be supplied.) In practice this covers most dimmers currently installed.

There are 36 channels per interface, and interfaces may be chained to cover up to 546 channels by setting the start address of each one with the DIL switches on its back panel. The Transmission Protocol allows 128 pages of 120 channels each—for future expansion!

This popular, and highly cost-effective package is already proving very popular for use within educational establishments, and customers will be able to trade in their master discs for the latest up-dated version at realistic prices say Pulsar.

Siemens Limited

Siemens House, Windmill Road, Sunbury-on-Thames, Middlesex TW16 7HS.

Telephone: (09327) 85691.

Telex: 8951091 SIELON G.

Sitalux K40

The Siemens Sitalux K40 is designed for use in theatres, television studios, and multi-purpose halls. Micro-processor hardware extension



enables the unit to be expanded from the usual 120-240 circuits usually provided. Peripherals like a printer, second master panel, or conventional or wireless remote control can be provided.

Sitalux B40

The B40 is designed for service in professional theatres, opera houses, and large installations in multi-purpose halls. It offers an enormous and hitherto unknown variety of lighting possibilities. Despite its wide scope, the B40 is surprisingly quick and easy to operate, whilst clear layout of the equipment enables the operator to take in any situation at a glance. The heart of the system is a standard Siemens mini-computer with peripherals such as floppy disc unit, printer etc. as well as conventional or wireless remote control. A B40 is due to be installed at the Royal Opera House in London in late summer.

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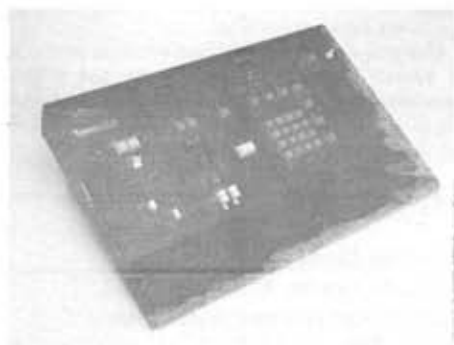
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Telephone: 01-568 9222.

Telex: 27976.

Tempus M24

M24 is a small, lightweight, self-contained memory lighting control for small stages and temporary lighting rigs. The console is available in two versions, both with multiplex control, for up to 72 or 120 dimmers. The control has been specifically designed to incorporate the latest operational requirements of individual and group channel control, recorded fade times and fade types (3 are available), and multiple fades whilst retaining a fast and simple method of operating. The system can be used proficiently within an hour, and a User's Guide is supplied, which complements the Operator's Handbook, to clearly explain the fundamentals of memory lighting control to the inexperienced user.



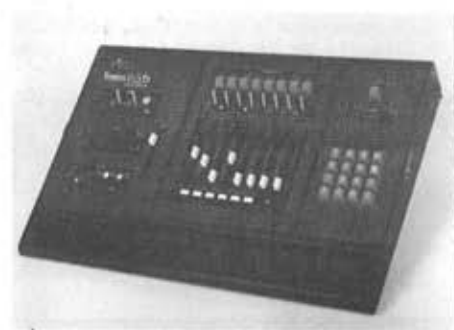
The M24 system, including dimmer demultiplex electronics, is very flexible and can operate with a wide range of dimmer types and makes. A special feature is the ability of M24 to integrate into an existing manual fader desk installation. The manual and memory desks operate in tandem, with the M24 having master control of all outputs and the ability to record from the preset desk.

For AV presentations, M24 is equipped with a selection of power-up options; which include a choice of automatic start configurations, and the ability to receive remote instructions to perform lighting changes in synchronisation with other equipment.

M24 is an inexpensive, professional lighting control and the cost of a complete installation is not burdened by expensive peripherals: a basic M24 is equipped as standard to use domestic monochrome TV as a video monitor, and portable cassette recorder becomes the M24's library storage unit.

Tempus M24 FX

M24 FX is an inexpensive memory control offering basic group control and special effects for up to 120 dimmers. Although it was designed as an optional part of the M24 system, M24 FX is a stand-alone control which has been installed in many small clubs, discos and can be found in many hire stocks for basic control of large temporary lighting rigs.



Any of the 120 dimmers may be patched onto one or more of the eight master faders. An easy-to-use keypad selects the dimmer number and switches the dimmer on or off in the preselected fader store. A LED mimic indicates which dimmers are active in any of the eight stores, and a special feature provides a sequential display of only those dimmers which are on in any store, jumping over all the channels that are not under control.

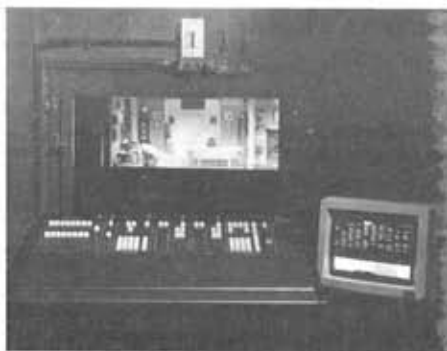
In addition to the dimmer-to-fader function of the M24 FX, a special effects package is included which offers automatic control of the dimmers selected on the eight faders. Panel controls adjust the intensity of an effect, the type, speed and length of a chase, the speed and mark-space ratio of a flash effect, as well as a fire flicker effect and a 3 channel sound to light generator, and six faders are fitted with individual bump buttons for manual effects.

When an M24 FX is linked to a host M24, the faders may be 'downloaded' with dimmer numbers from the stage output, and in the unlikely event of a failure of the M24, the FX desk will automatically take control of the dimmers and provide sufficient lighting to continue a performance.

Gemini

Gemini is a compact, transportable or fixed memory lighting control which is particularly suited to the requirements of touring and concert lighting where direct operation, fast set-up and sophisticated effects are of primary importance.

Incorporated within the Gemini console are the main control panel, 80 group memory back-up, floppy disc and special effects system. A separate colour VDU completes the package which controls up to 384 dimmers soft patched to Gemini's 180 channels which may in turn be assigned to use any number in the range 1-999. Two numerical keyboards are used to separate the channel access and memory address functions enabling instructions to several parts of the system to be instigated at the same time.



Each memory may be recorded on any memory number in the range 0.1 to 999.9, and in addition to channel intensity, the memory stores split fade times, wait time (for automatic follow-ons) and fade type: either crossfade, movefade or dimfade.

Twin playbacks can process up to 24 simultaneous fades, and panel indicators show the active memory numbers, whilst LED bargraphs display the progress of the fade. In addition to the comprehensive playbacks, Gemini is equipped with eight submasters which can hold any combination of memories or individual channels for manual lighting changes or effects. The outputs of eight submasters add together, and they may be reloaded simultaneously during the show.

Gemini's programmable effects system is fully integrated with the main operation of the board, and effects may be started automatically from the main playback memory sequence, or manually at will. Up to 99 separate effects may be recorded. Six categories of effect are available, and each parameter of the effect may be programmed with the help of a prompting VDU screen. Separate times may be entered for each step of a 255 step

chase, or the step timing may be programmed to operate from a control panel knob, or to follow the beat of music as the operator taps a 'step' button. Once programmed, the effects panel will control up to ten effects at once, without degrading the Gemini's ability to control channels, record, transfer information to disc, print, process multipart fades and most importantly, to edit any effect in progress. And, in line with the basic operating philosophy of the system, which gives the operator total control all the time, all running effects may be overridden, faded out or stopped manually at any time.

Galaxy 2 Arena

Galaxy is a modular memory control which is ideally suited to controlling any lighting installation of between 120 and 768 channels. The output can interface with a wide variety of positive and negative analogue dimmers or, alternatively, any of Strand's range of multiplexed dimmers.

The three versions of Galaxy 2 (the Arena, Studio and Premier) cover the wide span of lighting needs from theatre to TV to clubs and concert halls, and the modular style of the system enables each desk to be accurately 'tailored' to individual needs.



Galaxy 2 Arena is specifically intended for theatres and public halls where a comprehensive yet uncomplicated lighting control is required. The system comprises a control 'pod' with a selection of control panels, a processor crate, and peripheral equipment such as VDU monitors, floppy disc library storage, alpha keyboard, back-up system and remote controls. Galaxy 2 Arena can accommodate many simultaneous control actions which enables two separate 'pods' to be in use at the same time—one in a control room and the other in the stalls for example—whilst several hand-held control units are in use.

A direct, simple-to-use, approach to the control is easy to learn, and an abundance of panel displays and illuminated push buttons keeps the operator informed of the status of the control at all times. Special features include geographic numbering of channels, decimal point memory numbers, memory renumbering, programmable dimmer profiles, temporary and permanent memory updating (to replace or alter the levels of channels), and text recorded with memories.

Galaxy 2 Studio

This TV system grew from the original Galaxy control, and with the addition of a new playback panel and a specific TV program, Galaxy 2 Studio



provides the type of spontaneous control required by TV studios around the world. Whilst offering control of up to 768 channels and all the benefits of a sophisticated, user-configured system, Galaxy 2 Studio expands the concept of fast, direct action and manual control present with the other Galaxy 2 systems.

In comparison with a theatre version of Galaxy, the TV variant typically has only one playback with faders replacing the wheels for easier control of manual fades. The two playback output stores (Live and Preset) are equipped with controls to directly set memories into the stores at will. Additional displays on the control panel provide information about the contents of individual submasters.

Another feature of TV lighting control is the need for constant adjustment, updating and replanning of the lighting states prior to the recording of the program. Galaxy 2 Studio specifically addresses these problems with a host of updating functions which may correct lighting balances either individually or through a range of memories.

The modular concept of Galaxy has an added bonus for TV studios. The system may be operationally subdivided to provide separate control of two areas of a studio. As the Galaxy may have up to four channel controls, any of these can be used to control selected channels in one area without affecting the lighting in the second area. Colour-coded icons beside each channel number indicate the channel control panel to which the channel is routed.

Galaxy 2 Premier

The Premier version of Galaxy 2 continues the powerful mixture of modularity and comprehensive control of up to 768 dimmers, but this system's versatility lies in the range of facilities which have been added for the larger theatres and opera stages in particular.



In addition to Premier's extended channel control facilities, a special 'Theatre Playback' panel provides access to each part of a six-part fade, and recorded fade types, wait and split delay times can be used to create a sophisticated 'processional' multipart fade with ease. A unique feature is the Premier Galaxy 'Learn Profile' system which copies a manually performed fade exactly, with any discrete changes of direction, speed, delays etc. During performance, the Galaxy Premier repeats the 'manual' cue exactly as it was originally played, and the system is equipped to change the speed of the fade or re-record parts of the profile immediately.

The success of Gemini's programmable effects system has enabled us to expand Galaxy 2 Premier to include this new feature. The 99 effect, 255 step programmable system now operates with Galaxy's 768 channels and ten submasters, and includes a new 'pause' facility which temporarily halts any or all of the ten possible simultaneous effects.

For customers who prefer a graphical type of channel entry, Galaxy 2 Premier is also equipped with a Geographic Button Mimic option, where all channels are represented by illuminated switches to display the state of the stage lighting and to

provide direct access to individual, or groups of channels.

The alpha-numeric keyboard is included in the Premier system to provide access to more complex disc and print facilities and to edit patch information, cue times and fade profiles.

North American Strand Products:

Light Palette 2

The unrivalled success of Strand North America's Light Palette was founded on its advanced control facilities and compact design. Committed, as ever, to a policy of continued development, Strand improved the Palette design by incorporating many additional features suggested by users in theatre, hire companies and TV studios throughout the U.S.

Light Palette 2 is the natural complement, and successor, to the original Light Palette. Set into a stylish solid wooden console, Palette 2 incorporates an ultra-fast version of the proven DEC minicomputer to control an even higher number of channels and dimmers: 1536 dimmers may be soft-patched to the 800 possible control channels. Twin, colour VDUs display a running cue sheet as well as a simultaneous display of channel levels, or any one of a number of 'interrogation' screens.

The new operating program not only offers improvements and additions to the original system, but it also offers a choice of operational style: theatrical or T.V. orientated. The T.V. program version develops the ideals of spontaneous control whilst offering greater use of playback controls as overloading (pile-on) submasters.

Mini Light Palette

The size of this table-top console belies its impressive power. For within the compact and portable package exists the major elements of a full Light Palette system.

The control panel includes the command keys, display and set-up controls, playback and submasters found on all the Light Palette systems. Two monochrome monitors are incorporated within the console and a floppy disc drive unit is fitted into the front edge of the Mini Light Palette.

The Mini Light Palette is extremely popular in medium-sized theatres, schools and universities throughout the USA and Canada, and the Strand CD80 multiplex standard output of the system makes it ideal for the stocks of hire companies enabling them to offer a flexible, powerful and very compact lighting control system.

Lightboard XP

Lightboard XP has recently been launched in North America, and will be making its European debut later this year. Designed as Strand Lighting's 'flagship' memory lighting control, Lightboard XP combines all the advantages of a modular control format with a computing concept borne of this decade in preparation for the next: namely a distributed processor system using high level programming language. Strand has invested heavily in creating the first computer language specifically tailored to the needs of the entertainment industry. This produces a wealth of benefits including a fast and flexible operating system, an infinitely expandable catalogue of facilities, and a simple means for the operator to programme the control to meet the specific requirements of the installation or show.

The XP will top the range of controls on both sides of the Atlantic and offers a compact, attractive console with integral alpha-numeric displays, twin colour monitors, and multiple playback panels and submasters. Inherent in the design of the system is a multitasking procedure which accommodates the simultaneous control from up to eight separate control positions; an important factor when the system may be installed in an environment where up to 4000 dimmers are distributed throughout several stages or studios.

In addition to its huge capacity for controlling

the intensity of light, the Lightboard XP will address the colour and position of any remotely controlled spotlights, and in preparation for the preferences and demands of lighting designers now and in the future, XP is ready to accept all the latest designer aids, including an interface to a personal computer for plotting in advance, graphic design tablets, and even spoken commands.

Lightboard M

Lightboard M is a new memory control desk from Strand Lighting North America which follows in the famous footsteps of the Mantrix 25 with Memory: the new system, which was chosen to control the lighting for one of the pavilions at EXPO 86 in Vancouver, combines the spontaneity of a manual desk with the advanced features of memory system.

The modular two-preset manual control can be expanded to a maximum of 96 channels which will control an impressive 384 dimmers through an internal soft-patch network, or a massive 768 dimmers with the help of an expansion module.

The smart, functional and compact custom control surface may be constructed to include any selection of channel and submaster modules for direct manual control of groups of channels and prerecorded memories.

But the power of this new system lies in its programmable special effects system which integrates totally with the manual and memory-assisted effects to produce a fully functional theatrical and rock lighting desk in a single compact package.

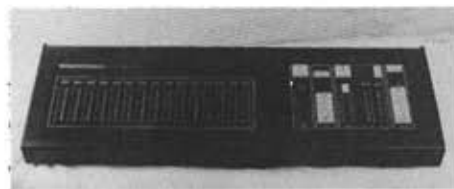
Touchstone Technology

85/87 Norwood High Street,
London SE27 9JS.

Telephone 01-761 7798.

Tigers Eye

Tigers Eye is a sophisticated and comprehensively designed control unit aimed at modern multi-purpose venues requiring fast set-up and complex effects. The unit provides 15 submixes which may be used simultaneously with the dipless memory fader. Flash, Timed and Cue'd submix presets and channels and separate Chase, Sequence and Memory facilities are provided. The Touch Sensitive fader control provides set-up and editing facilities which are easier to use and faster in use than any other system available. There is no practical limit to the number of effects cues and a typical show may consist of 50 chase/sequences and 200 other cues.



The desk is light and very portable and may be carried easily by one person. The proportional patch and immediate manual preset control enables complex and predictable, live and effects lighting to be quickly preset, tested and altered during performance—dramatically reducing technical periods and making good modern lighting design possible even for rushed one-nighters.

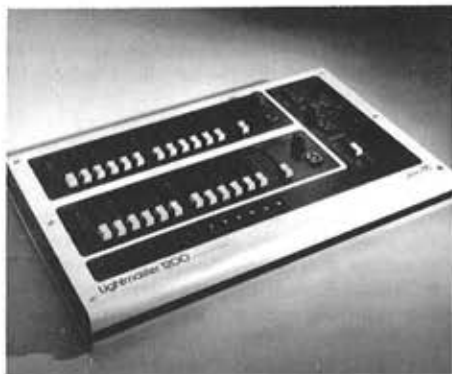
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Lightmaster 1200

The Lightmaster 1200 is a 2-preset lighting desk with all the features expected of a modern design, the brief for which was to produce a desk with an easy-to-learn matrix memory system, avoiding the confusing and expensive pin patch matrix, and with the ability to use the memory also as a comprehensive chaser.



Each preset master group has an overall level fader, a flash to full button, and an autofade control (1 to 10 seconds and 'off'). Each channel has a flash to full button which may be disabled by the flasher on/off switch. A dead black out (DBO) switch is provided which turns off all the desk outputs but does not destroy the memory or prevent programming.

Several 1200s may be connected together with one acting as master and the others as 'slaves' with the preset master group controls on the 'master' desk operated for all the desks and the 'slave' master controls being disabled.

In addition to these features, the 1200 has a fifteen step programmable on/off memory, a feature that is unique for a desk in this class, with the ability to be programmed 'blind' (i.e. without affecting lighting being controlled by the presets). The memory contents may be saved over long periods by fitting a battery in the compartment provided.

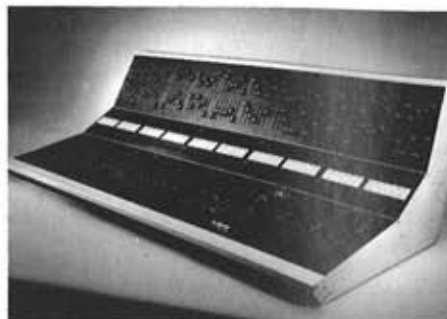
Eclipse

The Eclipse system took hold of new ideas, added proven methods and a radical re-think that has produced a remarkable package of lighting control for use where speed and simplicity of operation are the main criteria.

Zero 88 developed the system to offer the best of the manual fader board but at the same time have all the advantages of memory whilst retaining "hands-on" operation, combining the simplicity of the fader with the sophistication of the microprocessor. It is completely modular in the true sense of the word, where not only can the number of channels be extended, but the memory control is divided into self-contained panels.

This combined system has the advantage over the memory board of 'instant access' and fast plotting, thereby making it the ideal tool for multi-purpose use. It is extremely fast and simple to operate—and a desk that not only the beginner can use, but which the expert also finds quick and extremely rewarding.

As techniques and technology has developed, Zero 88 produce up-dated information to users,



giving full information on new advances that can be incorporated into the system. The Eclipse is now available from 24 channels in increments of 12 up to a maximum of 96 channels in a touring frame, or 120 channels in a sloping frame.



For full details of membership of
**Professional Lighting
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 contact

Roger Saunders,
 1 West Ruislip Station,
 Ruislip, Middlesex
 WA4 7DW
 Tel: (0895) 630718

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EQUIPMENT *News*

Strand Lightrig Suspension System

Strand Lighting have announced the introduction of LightRig—which they claim is the ideal low-cost rig for video, small T.V. and similar studios, especially where floor space and ceiling height are restricted. Overhead installation with no stands or cables on the floor means a clear, uncluttered area for production. Luminaires can be moved in both directions and each articulated cross-beam can pivot about one carriage, adopting a diagonal position anywhere in the studio without the cross-beam becoming jammed and, with the use of pantographs, lights can be set to any height.

With this system, lighting can also be left rigged and connected, ready for quick positioning for the next job, so improving studio turn-round time.

For fully illustrated Lightrig and Lightrig Pantograph suspension systems contact Bill Crisp at Strand Lighting, PO Box 51, Great West Road, Brentford, Middlesex TW8 9HR telephone 01-568 9222.

New KY from Toa

Designed for a variety of on-stage and studio applications the new KY is a major new addition to the comprehensive range of high quality microphones now available from Toa Electronics Limited.

Modular in design, the system is attached to a highly flexible arm, which makes it ideal for use in tight or cramped locations. A main feature of the KY is a newly developed condenser with a thin, gold vaporised diaphragm.

A YMM musical instrument mic capsule is standard, but optional YMV and YFV capsules for male and female/male tenor vocals are available. The system features the 9V - 52V usable external power range with built-in voltage regulator circuit to ensure stable performance at any level. Other



features include red LED to indicate 'live' status, removeable windscreen, lockable ON/OFF switch and a grey matt finish to eliminate glare under stage conditions.

For full details contact Toa Electronics Limited, Tallon Road, Hutton Industrial Estate, Brentford, Essex CM13 1TG telephone (0277) 233882.



Strand Lighting's new Lightrig Suspension System in a studio set-up.

Spaceframe Hire

Starlight Design, in association with Isoframe Ltd, have designed and developed two standard spaceframes for fast installation into night clubs and pubs. The two companies' expertise in their separate fields have been successfully combined to produce a package which will appeal to club and pub owners alike. The pre-wired frameworks can be installed in one day around the venues opening times—with no loss of trade during installation.

The Isoframe rig can be supplied in any B.S. colour or with the new brass or chrome finish. Com-

bined with clear Polycarbonate cords containing Design line tube light, the rig itself has a very decorative appearance. The lighting effects that can be hung from the installed rig include pinspots, scanners, strobes, helicopters and mirror balls.

The two available rigs are priced at £3950.00 + VAT for the deluxe version. These prices include all control equipment and installation. Customised spaceframes for other special applications are also available to special order.

For more information contact Starlight Design at 9 Alms Hill, Bourn, Cambridgeshire CB3 7SH or by telephoning 09544 8841.

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New Compacts in Signature Series

Stephen Court has been designing speakers for twenty years, ranging from massive 30,000 watt touring PA systems, to highly accurate £4000 studio monitors. His new 'Hyflex' speaker system is therefore likely to represent the most complex design criteria yet—having been the result of two year's work following countless requests from professional sources for a compact and lightweight speaker system capable of hi-fi quality.

The Hyflex 200 uses no horns or compression drivers and replaces the efficient but hard-sounding boxiness of other compact speakers. Using roll surround bass drivers and soft dome radiators, the Hyflex has a very smooth and wide frequency response over the entire audio range.

With an extremely wide dispersion covering almost 180 degrees, the unit gives even distribution over a wide area, and at the same time offers extended projection of voice frequencies by long throw coupling of the mid-range drivers. Measuring only 22" wide x 12" high and 10" deep, yet handling 200 watts of power, the Hyflex offers very clean sound where quality is more important than deafening sound levels.

It is available in any colour, in a rugged flight case with carrying handle, or with a built-in 100 watt power amplification driven from line level sources. A pair of Hyflex 200s can be carried easily and transported in a small saloon car, providing a very compact sound reinforcement system that if placed on stands can provide a very high quality system covering a wide area.

The system is said to be ideal for high quality discotheques where by using four or more 200s around the dance floor, with two or four Lowflex 300 bass bins for added bass energy it provides a high quality sound system that resembles a home hi-fi system rather than a rock group's PA system.

Similar in style, but even more compact, the 'Miniflex' system has half the components of the Hyflex and is designed for surround sound applications. Also available in various colours, this



The Court Signature Series Hyflex, Miniflex, and Loflex speaker systems.

unit is a high fidelity speaker designed for the professional user and comes in a "bookshelf" size enclosure.

The previously mentioned 'Lowflex' is a high power bass reflex system covering the range of frequencies from 25Hz to 500Hz. Measuring only

35" high x 22" wide, and styled to match the Hyflex system, the Lowflex bass bin is a powerful system in a compact enclosure.

For full details contact Court Acoustic Systems, 3 Primrose Hill Studios, Oppidans Road, London NW3 telephone 01-586 5139/5130.

Ramsa's Miniature Mics



A series of four miniaturised microphones is launched this month by Ramsa. They will provide a new freedom for musicians in particular as they can be clipped straight on to drums, saxes and other instruments allowing drummers to be seen, and other instrumentalists to move about freely. The series numbers are WMS1, WM-S2, WM-S5 and WM-S10, and they will be available through Ramsa and selected Technics' dealers.

New Jivelight Trio

Jivelight's new JL70 high power pinspot uses the H3 lamp which has a life expectancy of around 2000 hours, and includes a specially designed 5½" parabolic reflector. It utilises a toroidal transformer and is equipped with external fuse-holder and strap bracket. The unit is available in black or chrome, and comes individually wrapped or in outers of twelve.

The G90/2 Scan Pan is a single Par 36 Scanner with a separate scan and pan head, with two motors. Scan and pan speeds are both 7.5 rpm. The G360/2 Rotor Twist is a twin headed Par 36. It has a 360° rpm rotator and the twist motor speed is 7.5 rpm.

For full details contact Jivelight Limited at 16/18 Greyhound Road, London W6 8NX telephone 01-381 0868.



The Dynamix 2000.

New 'Stage' in Audio Mixing

The new Dynamix Series 2000 solves many of the problems associated with mixing theatre sound, say Audio Music Marketing. 8/2, 12/2 and 16/2 formats are available, and the 8/2 can be mounted in a standard 19 inch rack. All formats feature two additional stereo channels, which may be used for record decks, sound effects tapes or returning auxiliary signal processors. On-board deck starts are available.

Mic/line channels have three band equalisation

with a sweep frequency mid control for accurate sound shaping and feedback suppression, and Pre-Fade Listen switches allow instant headphone monitoring of every channel and metering is provided by high illumination bargraphs. Two auxiliary mixes may be used to provide dressing room cues or signal to external effects units.

For full details contact Audio Music Marketing, Hogg's Drove, Marham, King's Lynn, Norfolk PE33 9JW telephone (0760) 338264.

LuMenu gets the Message Across

Croydon-based Light and Sound Distribution have secured exclusive distribution for LuMenu illuminated signboards, ideal for use in clubs, pubs, and restaurants, as well as shops and wine bars, for menus, messages, prices, special offers etc., it is a highly effective alternative to a blackboard and gets your message seen when it cannot be heard.



The British made LuMenu has a 36" x 24" area made from wipe clean acrylic and any message is edge lit by an integral highly efficient fluorescent tube light. It is competitively priced at £68.00 including VAT and comes complete with a pack of five assorted colour wax crayons. Extra wax crayons are available at £2.88 per pack of five including VAT.

For details contact Light and Sound Distribution at 316 Purley Way, Croydon CR0 4XJ telephone 01-681 3266.



Two new Mixing Consoles from Hill Audio

Hill Audio Limited have recently introduced two new mixing consoles, the Soundmix and the

Rakmix, to augment their 'mix' range of non-modular consoles.

These consoles feature 4 auxiliary sends with 4 returns, 12-way LED and VU metering, 100mm Alps faders (carbon track option), insert points and direct outs throughout, 48v phantom powering, both balanced and unbalanced outputs and inputs, 4-band Eq and a fully regulated, remote, rack-mounting power supply.

The Soundmix is available in 24/4/2 and 16/4/2 formats and the Rakmix is available in 8/4/2 rack-mounting format.

For full information contact Hill Audio Limited, Hollingbourne House, Hollingbourne, Kent ME17 1QJ telephone (062 780) 555.

New Dual Concentric Models from Tannoy

For long renowned for their Dual Concentric loudspeaker design, Tannoy have encompassed the characteristics and benefits of the principle in the form of their new DC100 and DC200 units. Housed in domestic sized cabinets, the 8" and 10" drive units have excellent frequency response, power handling and dynamic sound quality, making them ideal for use with the latest CD systems.

For full details contact Tannoy Limited at The Bilton Centre, Coronation Road, Cressex Industrial Estate, High Wycombe, Bucks HP12 3SB telephone (0494) 450606.



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New from ICE

Latest releases from ICElectrics Limited include the re-styled Mix 2020, designed for the operator who requires the basic functions of a discotheque mixer, coupled with low noise high quality sound. Also pictured above is ICE's new Concorde discotheque console, derived from the popular Harrier.

For full details contact ICElectrics Limited at 131/132 Blackdown Rural Industries, Haste Hill, Haslemere, Surrey GU27 3AY telephone (0428) 2015.

SHOW PAGE *with* **PLASA** News

PLASA—Looking Forward

The three words Annual, General, and Meeting usually drum up in the British mind the worst of all evils. But at PLASA's AGM you get a lunch thrown in for free, and that is something worth talking about. So it's a pity that only 19 members turned up for the good news from the Association at the Novotel on 25th April, and to join in the general conversation that is important on two fronts—for the Association, and for the good of business in general.

In the case of the Professional Lighting and Sound Association it is a plus point that the Treasurer reports first, because here is the very best news. At the end of 1985 the Association had a very positive surplus of over £60,000 invested in a money market account "available to finance future projects on behalf of the Association" according to Ken Sewell. The accounts were obviously unanimously accepted by members present.

Chairman Peter Brooks reported that membership had grown from 49 at the time of the last AGM to 64 full members and one affiliate—an increase of nearly 30 per cent. And as a further reflection of the interest in the work of the Association, he said that for the first time committee members had been elected by secret postal ballot. "Six candidates stood for election and two were duly elected. The person who was voted in to third place, Walter Mirauer, was co-opted onto the committee as it was clear that a substantial number of members wished his views to be heard, and the representation of the sound industry on the committee was thus strengthened," he said.

Peter Brooks then outlined the work undertaken to assist members at various exhibitions and trade missions, and the launch of **Lighting and Sound International** in November 1986.

His final point was on the question of professional standards in the industry, in large part to improve the reputation of the UK industry at home and abroad. "We propose to look for an independent consultant engineer, preferably from outside the industry, to advise members upon

safety and standards," he said. "It is most likely that matters of electrical safety will be covered first."

Roman Walanta of Coemar expressed some doubts about the viability and effectiveness of employing a technical consultant to inspect and approve equipment manufactured by PLASA members and prospective members, and felt that as an Association "we should be telling the British Standards Institute what we thought the guidelines should be". Peter Brooks commented that in his experience the B.S.I. led him to believe that this would take years, and that we needed first to lay down some guidelines, starting with electrical safety standards, so that PLASA could award its own equivalent of a B.S.I. 'Kite-Mark'.

Needless to say, we'll be hearing a lot more on this subject in committee, but determination to persist in the establishment of agreed standards could well be a future hallmark of PLASA.

There was discussion on the forthcoming PLASA Light and Sound Show, ranging from dates to the provision of sound-proof booths. Organiser David Street then explained to members the principles that had been agreed in committee earlier in the

On camera at the PLASA AGM Luncheon



Light and Sound Show organiser David Street, with PLASA general secretary Roger Saunders, and Dennis Eynons of Malham Limited.



Disco and Club Trade International's editor Jerry Gilbert with Tony Akers of Citronic and PLASA chairman Peter Brooks of Zero 88.



Jake Jackson of ILP with Pulsar's Derrick Saunders and Ken Sewell.



Mike Wood and Roman Walanta of Coemar do their best to persuade John Lethbridge of Cerebrum to keep a straight face.



John Ogden of Wharfedale Limited with Freddy Lloyd of Zero 88 and Panca's Peter Roberts.



Cloud's Roy Millington with Marion Smith of Starlight Design.

day with regard to sound levels. "If any exhibitor makes a noise that causes any three other exhibitors to complain to the organisers, the offending exhibitor will have the power cut off to their stand for 30 minutes." He promised that action would actually be taken this year, and hoped that all exhibitors would behave responsibly.

At the suggestion of Ian Price-Smith of Multiform, it was agreed to organise an annual dinner for the Association during one night of the Show, and it was felt that the opening Sunday would be the best night.

So the biggest social event of PLASA's year may well turn out to be "the night out at the Show", on Sunday August 31st. We'll keep you informed.

The Big China Show

China Film, Sound & Stage '86, a major stage, motion picture and television exhibition, will take place December 1-6, 1986 at the Beijing Exhibition

Centre, People's Republic of China. Designed to meet the growing needs of China's entertainment industry, the exhibition will feature state-of-the-art equipment and technology from world-wide industry leaders. Representatives of exhibiting companies will have the unique opportunity to meet with key officials from China's most influential cultural organisations, in addition to the purchasing agents and end-users of their products.

The China Council for the Promotion of International Trade (CCPIT), Beijing Sub-Council, will host this international event. As an active promoter of foreign commercial exchanges between China and its business partners worldwide, CCPIT's support will ensure exhibitors of a quality Chinese audience, say the organisers.

The Ministry of Culture and The Ministry of Television, Radio and Film have both officially endorsed China Film, Sound & Stage '86. These Ministries are committed to enhancing cultural life in China through the upgrading of the technology

for the 3,000 theatres and theatrical groups, 40 television stations, and 80 radio stations that presently exist.

The show is being organised by China Expo Management Corporation, an international company specialising in industrial trade exhibitions in the People's Republic of China. For further information, contact Ms. Joann Coviello, China Expo Management Corporation, 6 East 39th Street, New York, NY, 10016. Tel: 212-689-9580, Telex: 279919 FOUNG UR.

Showtech 88

The date for the next Showtech event in Berlin has been announced as May 18-20, 1988. This follows the stated success of the recent event, with the organisers claiming 2273 trade visitors from 26 countries over the three days of the Show. Delegates who attended the concurrent Congress numbered 620, an increase of 80 over the 1984 figure.

Exhibition Diary

Scottish Pub, Club and Leisure Show

June 3-5, 1986.
The Scottish Conference and Exhibition Centre, Glasgow.

NAMM Exposition

June 14-17, 1986.
California, USA.
John Vincent, Director ExPo's & Markets.
5140 Avenida Encinas, Carlsbad,
California CA92 008. Telephone: 619 438 8001.

1986 Music and Sound Expo

June 14-17, 1986. Chicago.
Director: John Vincent.
National Association of Music Merchants,
5140 Avenida Encinas, Carlsbad,
California, 92008.
Telephone: (619) 438/8001.

PLASA Light and Sound Show

August 31 - September 3, 1986.
Novotel, London.
Enquiries: (exhibition bookings) David Street.
Telephone: 01-994 6477.
Enquiries: (general) PLASA secretariat, c/o Roger Saunders, 1 West Ruislip Station, Ruislip, Middlesex.
Telephone: (0895) 630718.

Sonimag 86

September 15-21, 1986.
Barcelona, Spain.
Feria De Barcelona, Avda. Reina M.^a Cristina,
08004 Barcelona.
Telephone: (93) 223 31 01.

Photokina

September 3-9, 1986.
Cologne, West Germany.
UK Representative: Tony Pittman.
12/13 Suffolk Street, London SW1Y 4HG.
Telephone: 01-930 7251.
All UK BPEG and PLASA enquiries to:
Roger Saunders, 1 West Ruislip Station,
Ruislip, Middlesex.
Telephone: (0895) 630718.

National Club, Pub, Hotel + Catering Show

October 7-9, 1986.
G-Mex, Manchester.
Ian Macfarlane Exhibitions Ltd., 15 Elm Grove,
Didsbury, Manchester M20 0RL.
Telephone: 061-434 5300/0050.

Disotec/Hogatec

November 24-28, 1986.
Dusseldorf Messe, West Germany.
Dusseldorf Trade Fairs, 6 Albemarle Street,
London W1X 3HF.
Telephone: 01-493 3893.

Light and Sound Show

With all the original stand space sold, organiser David Street has persuaded management at Novotel to find extra corners for extra exhibitors. So a few lucky ones next in the queue will find themselves at the PLASA Show after all.

But this doesn't help the situation of PLASA officers, who have the very awkward task of deciding what to do about future Light and Sound Shows. On one hand it is good to have a waiting list every year, and know you can sell out the Show and make a profit. On the other hand, do you look for a larger venue and expand the Show so that all aspiring exhibitors can be satisfied? And if you do that, it requires a quantum leap, with all the attendant financial risks because the walls at Novotel aren't flexible, and a new, and much larger venue would have to be booked - the "in-between" sizes of venue are just not available within the London area.

In addition PLASA chairman Peter Brooks is anxious to establish the Show internationally, and he will certainly have to up the size and scale of things if he is to achieve his aims.

So the PLASA committee has some detailed talking to do, and difficult decisions to make, and their task will be made somewhat easier if early constructive ideas could be forwarded to the Association.

Overseas Welcome

A special scheme for the welcome and hosting of major overseas visitors has been instigated by the PLASA committee in a concerted effort to send them all away happy, and anxious to return for the next event.

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