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Disotheque Round-Up



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ADB Double S28 MkII at La Scala Milan



Jean Michel Jarre at Ludwig Pani, Vienna

PLASA

Published by the Professional Lighting and Sound Association

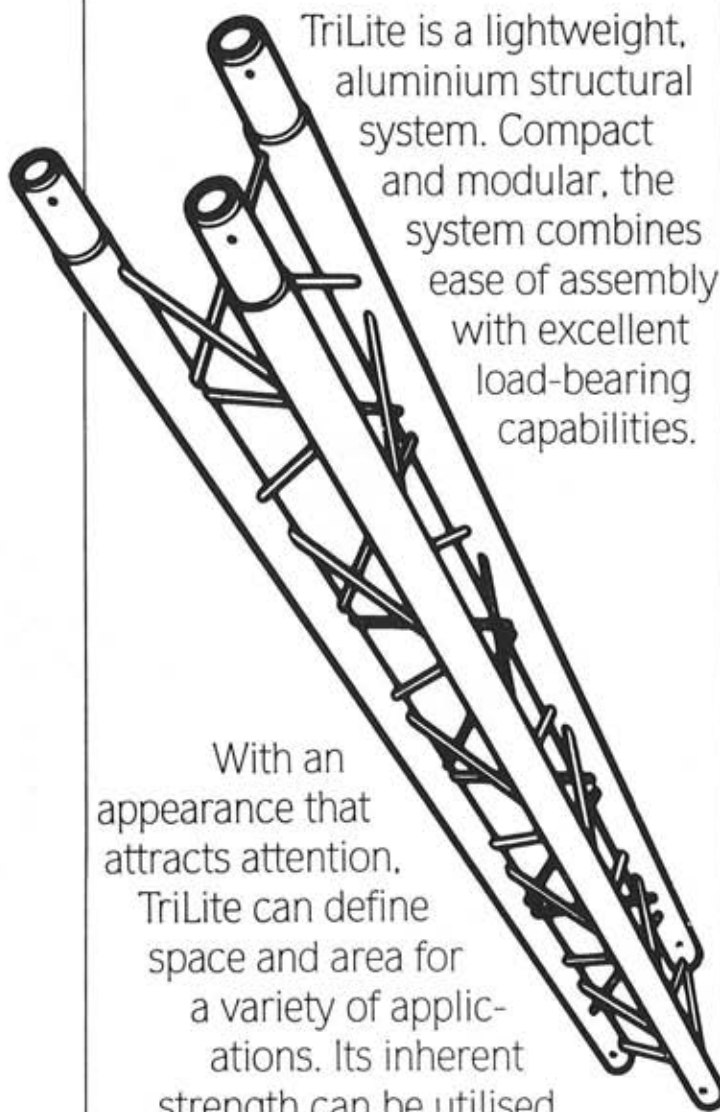
March 1988

Volume 3 No.3

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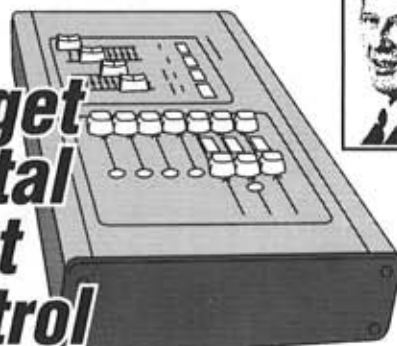
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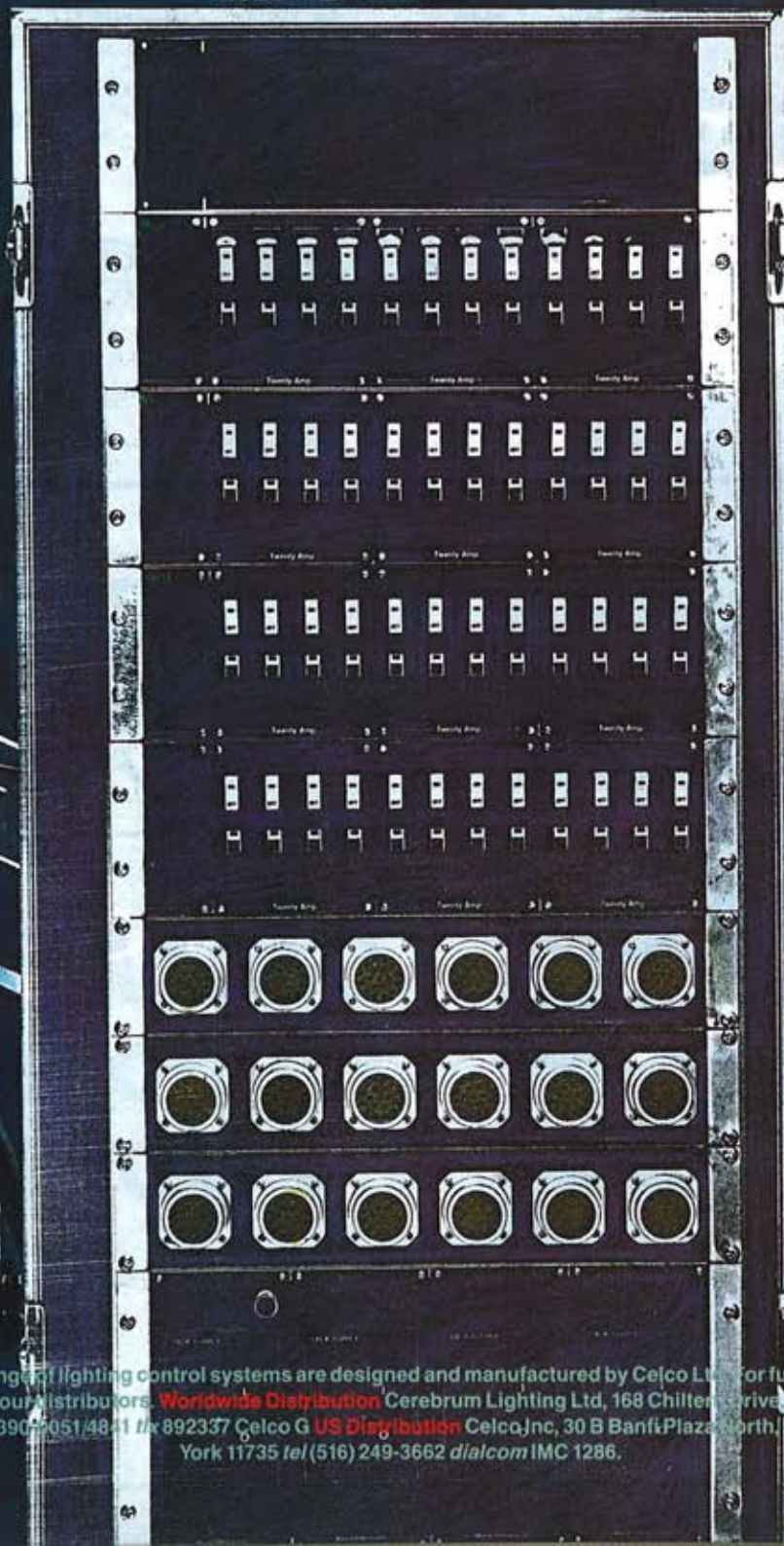
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LIGHTING+SOUND *International*

MARCH 1988

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Carnaby Street Lighting Cascade

Classic Electrical of Farnborough in Hampshire and Maureen Jordan of M. J. Designs were asked by their client Cascade Shops to draw up ideas for a lighting display scheme for the latest addition to their retail chain in London's West End. It opened in early February, and has what must be the most advanced programmable low voltage schemes in a British retail shop today.

Classic's Tony Timms package includes an array of effects from Lynx and Coemar amongst others, and control is by a Zero 88 Orion and a Multiform Lighting Light J. Power and dimmer packs are Anytronic. Sound includes Quad, Sony, Inkell, TOA and Bose equipment.

LIGHTING+SOUND *International*

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Training Initiative Reports

After regional meetings in Oldham, Harrogate, Stoke and London the national meeting of the Arts and Entertainment Technician Training Initiative, chaired by Graham Walne and held at the National Theatre on 26th February, has made considerable progress towards the setting up of a body to lead industry initiatives in this area of training.

That the meeting was able to go ahead was something of a miracle after problems with mailing left many organisations unaware of the details of the meeting. A second mailing and a series of frantic telephone calls did eventually ensure a significant turnout. In the event it was decided to postpone efforts to constitute a formal body and the meeting concentrated on further debate.

Few people in the industry can be unaware of the debate so far - it has been well documented. According to the Technician Training Initiative Press Release, what does need to be stressed, however, is that the issue of technician training, and indeed training throughout the industry, is no longer a domestic issue, and the government's intention to have the National Vocational Qualification (NVQ) in place by 1991 has broadened discussion and added urgency.

The meeting benefitted considerably from the presence of a number of representatives from organisations with similar interests. Duncan

Enoch, representing the Howard Steele Foundation which is the lead industry body in the area of broadcast media, gave an outline of the Foundation's origins, terms of reference and organisation; Ken Walker from the Sound and Communication Industries Federation talked of effective co-operation across sectors; Geoff Whitlow of the EETPU told the meeting of the comprehensive training facilities offered to members of that union including those working in television and with theatre lighting contractors; and Richard Masters of the Local Government Training Board stressed the importance of NVQ to those working in the public sector.

But perhaps the most important contribution came from Rick Welton of the National Association of Arts Centres, who's organisation is having separate consultations with the MSC and NCVQ. His suggestion was that the two initiatives should join together in order to form a lead industry body to cover all categories of staff throughout the arts and entertainment industries.

Whilst the meeting approved the suggestion in principle, it was felt that the issue of technician training was sufficiently important to have it's own body at least initially, whilst maintaining representation on a larger umbrella organisation.

Prior to the main meeting Graham Walne and Alan Stevenson had discussions with the Stage

Management sub-committee of the Conference of Drama Schools, and other special interest groups are to be invited for individual consultations on the 25th and 27th of March prior to a national meeting and seminar on the 28th April - at which it is hoped to have representatives of the MSC, NCVQ and Arts Council to help formulate a constitution and strategy.

Further information is available from Graham Walne on 01-638 9940, or Alan Stevenson on 061-624 5214 ext 2010, or 061-626 0632.

NJD at Alton Towers

Through their retail branch - The Nottingham Light and Sound Centre - NJD have been awarded a contract to supply and install specialist lighting in 20 shop windows at the prestigious Alton Towers Complex. Lighting effects will be combined with animated displays and special back-drops to add impact to the windows.

Support for the project has been provided from such well known names as Kodak, Wedgewood, and Guchi etc., whose products will be displayed in the windows. Completion of the project will coincide with the re-opening of Alton Towers at the end of March.

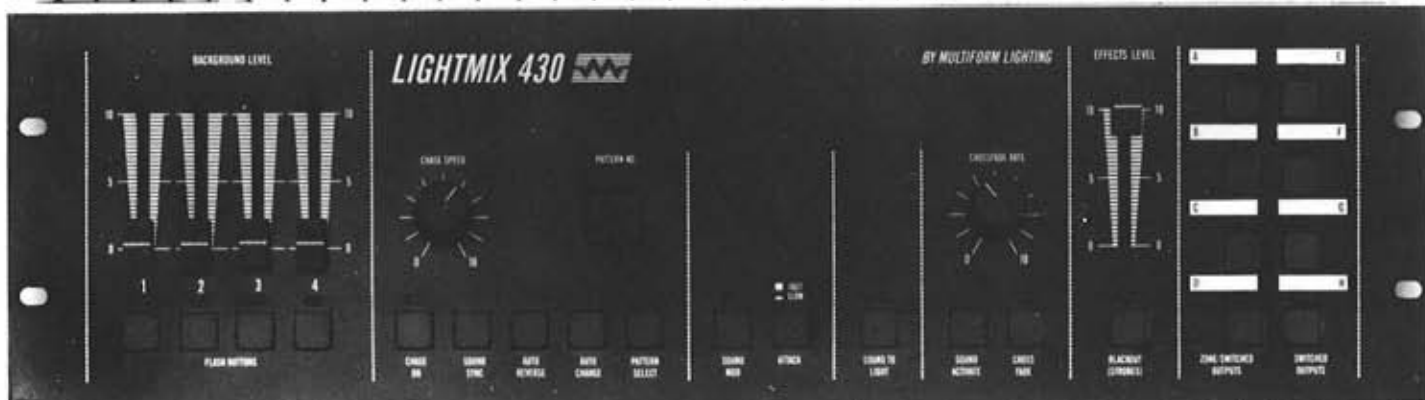
Pancan Brighton Move

Pancan recently moved to new freehold premises in the 'North Lanes' area of Brighton. The address is: 83 Gloucester Road, Brighton BN1 4AP tel: (0273) 670243.

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Electro-Voice for Brighton Centre

The Brighton Centre, home to many party political conferences and one of the best equipped conference centres in this country, is about to up-grade facilities yet again.

After fierce competition between audio engineering companies, a contract to re-equip the 5,000 seat auditorium with a central cluster has been awarded to Electro-Voice.

The 2.5 tonnes of audio hardware is to be housed in a motorised canopy (see drawing, right), the first of its kind in this country. Likewise, it is probably the first large scale implementation of the Micro Audio eeprom-based 27 band multi programmed graphic equaliser - an interesting departure from conventional equalisation.

The project is due for completion in early May, and will be featured in a future edition of L&S.

Klark-Teknik Acquire Midas

Klark-Teknik Plc has acquired the assets, stocks and 'intellectual property' of the specialist live sound console manufacturer, Midas Audio Systems Limited. The nucleus of Midas management has been totally integrated into Klark-Teknik's organisation, and all manufacturing of Midas products is now taking place at the Kidderminster factory.

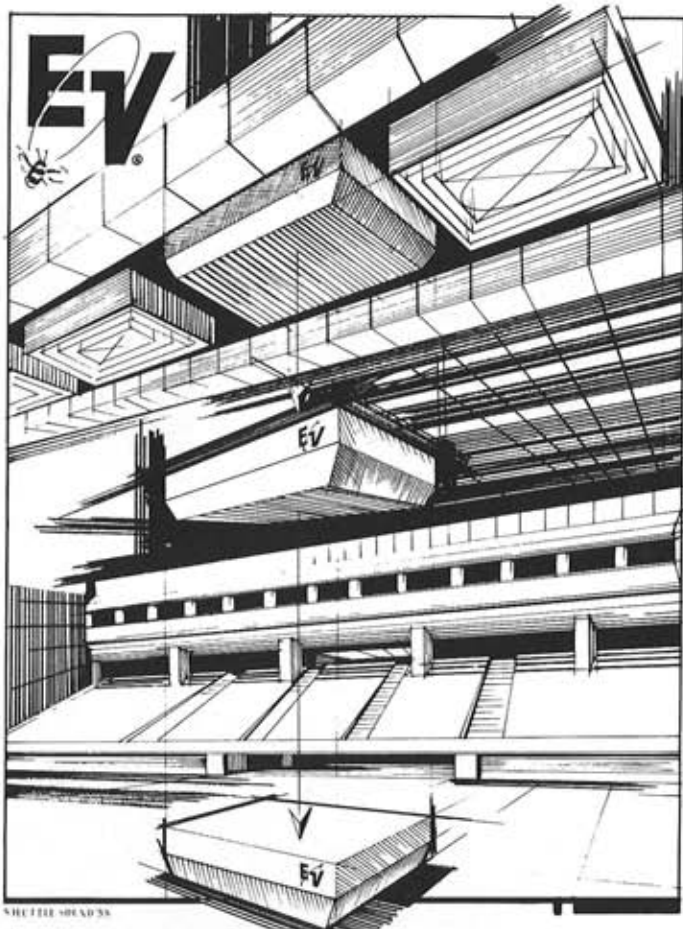
"This means that Klark-Teknik is now marketing auditorium consoles under the Midas brand name, and has resumed full responsibility for the distribution and after-sales service for all Midas products manufactured in the future," Gaston Goossens of Klark-Teknik told L&S.

"Although the new Midas is now fully integrated within Klark-Teknik, it is the company's sincere intention to maintain the Midas philosophy of design and production engineering which has made the brand name synonymous with the finest live sound production consoles available in the industry," he said.

ColorWiz Around Europe

The Great American Market ColorWiz is taking off around Europe and fast becoming an industry standard, due to its highly competitive price and simple control requirements. Most level memory desks with positive 10v output are suitable, and the Zero 88 Orion, for instance, makes an excellent controller.

ColorWiz has recently toured with Echo and the Bunnymen, Alison Moyet, Carmel, and Cock Robin and is currently being used in several television productions and on the trade show circuit. The system will fit most luminaires, and accommodates up to 11 colours.



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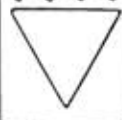
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A clean driving licence is essential.

Installations and Maintenance Division:

Engineers required who have proven experience or qualifications to install permanent sound systems including the associated cable and power requirements.

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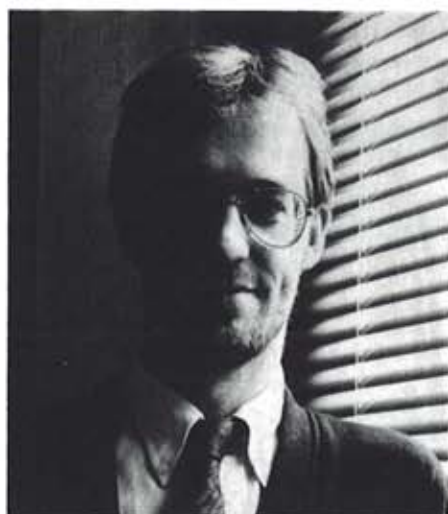
People

Richard Frankson has been appointed marketing manager for Turbosound Limited. He was formerly with Future Film Developments, and has been working within the pro-audio industry for nearly 10 years and has experience in production, sales, product management and marketing. The position of marketing manager was formerly held by **Tim Chapman**, who left to join Turbosound export dealers Expotus.

New contracts manager for Jasco Sound and Light Limited of Birmingham is **Morris Clarke**, who was previously employed by the company as a sub-contractor. He has now joined the company as an employee with a view to expanding their service, design and installation department.

Lee Panavision recently re-recruited the services of **Bernie Pearson** to head a department specifically aimed at the interests of the commercials business. He was with the Lee Group for seven years before joining James Garrett and Partners four years ago as production manager.

To back up its continued expansion in world markets, BSS Audio Limited has appointed **David Haydon** as their international sales manager. David integrated his study for an electronics degree with work assignments for Theatre Pro-



David Haydon.

jects R & D department before spending a period freelancing as an audio technician/commissioning engineer for Rank Strand at the Barbican Theatre. He then joined Midas Audio Systems in 1982 as QA engineer and on leaving held the position of

sales manager. Prior to joining BSS he was with Solid State Logic in Oxford for three years.

Two new sales engineers have joined Cameron Video Systems at the company's new London offices in West Drayton. **Colin Mitchell** has joined the CVS Videowall Division, and **Malcolm Smith** the FOR.A Division. They join a growing team at West Drayton, the third of Cameron Video Systems' showroom/sales centres. The recently opened London base has permanent display facilities for their MultiEffect Videowall and the vast range of FOR.A broadcast and video products.

Carlsbro Expansion

Due to continuing expansion, Carlsbro Electronics Limited have added a further 8,000 sq.ft. to their factory in Kirkby in Ashfield, Nottinghamshire. The additional space has increased the production and warehouse facilities by 50%, allowing greater flexibility and a more rapid response to customer requirements.

Carlsbro have also announced the appointment of **Lesley Pashley** as marketing manager. Previously with a subsidiary of BP Chemicals, she will be based at the company's head office.

Laser Association?

Lasergrafix of Royston recently sent three of its principals to San Francisco to attend a meeting of the International Laser Display Association. The objectives of ILDA are to maintain standards of safety and to foster developments in the industry, and Mark Brown of Lasergrafix is on the committee to promote the association worldwide.

Those feeling a more localised association is required that could be affiliated to ILDA should ring Steve Johnson on 0763 48846.

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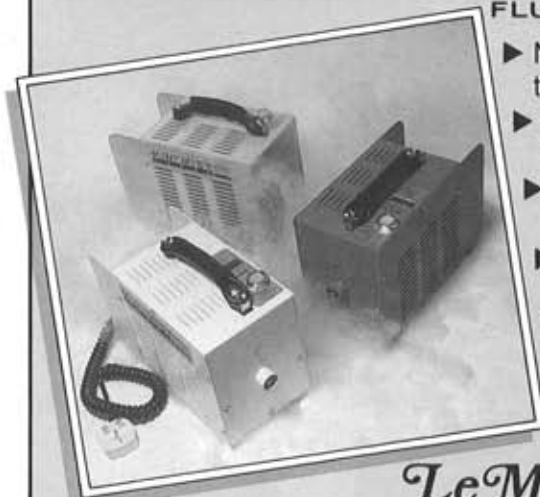
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Business

RK Lighting have just exported a £30,000 order for Ropelight and Tubelight for the Government National Day Celebrations in Saudi Arabia.

Dave Seamer Entertainments have opened a new shop selling lighting and sound equipment to bands, clubs, and discotheques. Equipment stocked includes Adda, Cloud, Mystical, NJD, Scott and Shure. The premises is located at 46 Magdalen Road, Oxford.

PA Installations of Llanelli have formed a new company called 'Amistar Satellite Communications Ltd.' to install and service commercial and

domestic satellite television systems, particularly within the leisure industry. Over the past 18 months PA Installations have completed numerous installations for pubs and clubs, and felt that a new professional company was needed to service the industry.

HHB has appointed Steve Angel to help the company achieve ambitious growth objectives in the pro-audio field in 1988, including major expansion of the company's hire business and a further impetus behind the CD edit suite at HHB's Scrubs Lane premises in London. Steve hails from Utopia, where he was both a manager and an engineer at Phil Wainman's large studio complex. Steve's official title will be hire and digital services manager,



The Avolites QMOB console controlling the moving light rig for the RSC's Stratford production of 'Carrie' with Philip Ash (right), board operator for the RSC and Dr. David Morrell, system engineer for Andromeda Lighting of Belfast.

First for Avolites' QMOB

No less than 28 moving luminaires, with two used as followspots, were involved in the lighting design for the production of 'Carrie' by Wynne Willson Gottelier Ltd. with control and system operation sub-contracted to Andromeda Lighting of Belfast.

The Avolites QMOB console was selected to act as the controller due to its ability to enable fast settings to be achieved using the advanced key-pad editor and easy re-use of states in context via cross-fade stacks. The production, lit by RSC director Terry Hands, is believed to be the first theatre scheme centred around a moving light rig which provides both regular lighting states and special effects.

and he will not only be responsible for most aspects of HHB's hire business, but he will become increasingly involved in studio package sales activities.

R.C.F. International of Italy have appointed **Audilec Distribution** as their exclusive UK distributor of sound systems and public address products.

The R.C.F. range includes microphones, loudspeakers, horns, amplifier range, and various rack systems. The distribution of R.C.F. products will be through a new division of Audilec, with a firmly stated distribution policy. Audilec will offer contractors assistance with system design, configuration and specification, and will not sell to wholesalers or distributors in competition, direct or otherwise, with its trade customers, they told L+SI. Through its professional sound division, Audilec will continue to market TOA MI and professional sound equipment plus Audio Technica microphones and pro-audio products.

Anniversary ABTT Show Spreads to the Terraces

The 10th Anniversary Trade Show organised by the ABTT, and scheduled for April 16-18 at the Riverside Studios at Hammersmith, London has been so heavily booked for space that tented structures will be erected on the river-side to cater for the overflow.

Organiser Roger Fox told L+SI that there has been a "very heavy development into sound" for the 88 Show. First-time sound exhibitors will include Shuttlesound, Paul Farrah Sound, Elliott Bros. and BSS (with Turbosound). Other sound regulars will include MAC of Manchester and Haydn Laboratories (Sennheiser).

"There has been a more phenomenal demand than ever for space this year," said Roger Fox. Biggest stand at the Show will be Lee Colortran's, and this will be located in Riverside Studio's scene dock.

Despite the problems of finding space, L+SI/PLASA will be at the ABTT Show - we just squeezed in. See you there.

Sound Expansion for Playlight

Playlight of Manchester and London are in the middle of a major investment programme. Their already extensive sound hire stock is being augmented with the aim of bringing an even better service to both the professional entertainment and broadcast markets. A large proportion of the funds have been applied to considerably enlarge the hire stock of Sennheiser Diversity radio mics.

On the lighting side Playlight are working closely with Zero 88 to develop a VDU for the highly versatile Eclipse modular lighting control system - a stalwart in the hire market.

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10.00am - 3.00pm

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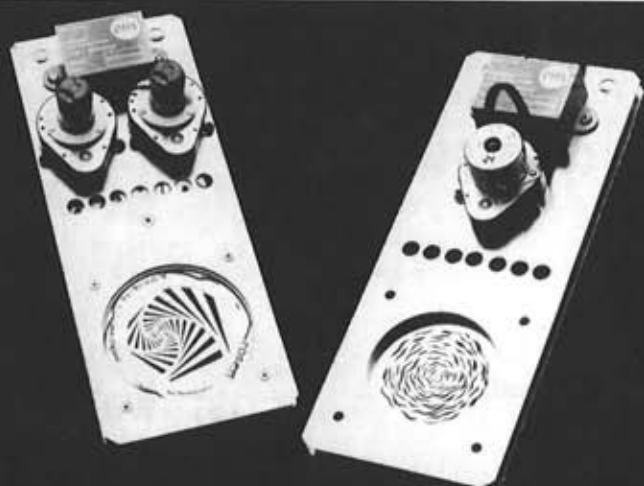
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The ALS Enigma fully integrated programmable lighting control system.

Enigma launched by Advanced Lighting Systems

The new 'Enigma' integrated programmable lighting control system has been officially launched by Advanced Lighting Systems of Glasgow. Originally installed in December last year at the 'Blue Monkey' in Sunderland, it was demonstrated to the trade at a special viewing in late February. It controls all the club lighting including eight Coemar Robots, a laser, and ALS's own 4-colour moving message/animated graphics system, and has been happily running without the slightest hitch since its installation, John McPhail of ALS told L+S.

Enigma offers fully programmable control for lasers, moving light systems, multi-colour animated graphics and moving messages, and up to 2000 channels of discotheque lighting, switched and dimmed. It has been designed to allow pre-programming of lighting designer's preferred options, easily accessible in real time even by inexperienced operators, say ALS.

64 keys are assigned to 640 presets, and Enigma interfaces with all analogue power packs. There is a 16-way assignable touch panel and 24-way zone enable. Back up storage of lighting programmes is on disc, and it also has a fail-safe hardware back-up facility. Other features include operator and programmer access codes, customised interfaces, and a spill-proof fascia.

A second Enigma will be installed in the near future at the 'Night Magic', Dunfermline.

Rosco Cinecolor Re-Launch

Rosco have re-launched their Cinecolor range with the addition of even more colours, to make a total of 56, designed to meet present day needs for a variety of applications. Cinecolor is a unique, deep-dyed range of polyester filters, with the dye being impregnated and sealed in the surface, unlike most other polyester filters, giving high optical clarity and much greater heat stability under hot lights.

For more Rosco news see Equipment News in this issue.

Loudspeaker & Headphone Handbook

About to be published is Butterworth's Loudspeaker and Headphone Handbook, a book that brings together in a single volume every aspect of loudspeaker (and headphone) theory and practice in sufficient depth to equip students and practitioners alike with a solid working knowledge of the subject, say the publishers.

It has been written by an international team of experts to provide a comprehensive technical reference book on the theoretical and practical aspects of loudspeaker and headphone performance, design and operation in domestic, public and professional applications. Data in the form of tables, graphs and diagrams will provide convenient reference material for students and design, manufacturing and applications engineers.

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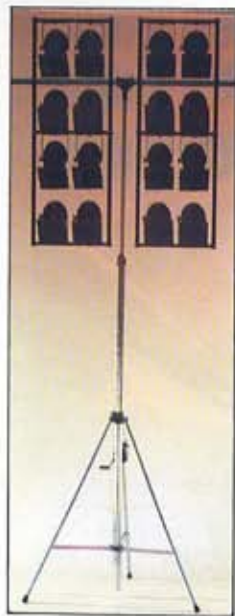
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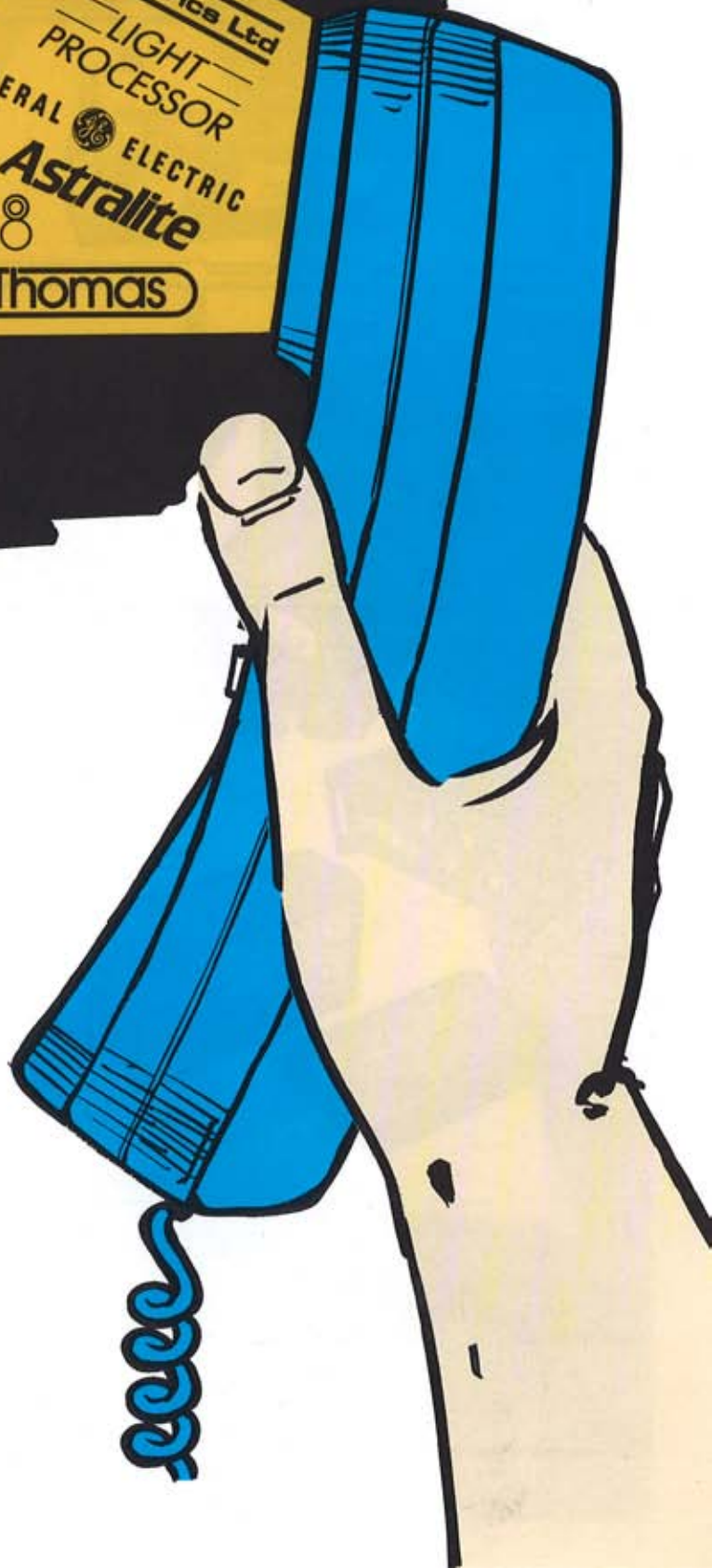


▲ **Celco 88 Range** Part of a completely new range of lighting control boards, software and accessories from entertainment lighting specialists Celco Ltd. The 'Celco 88' range features three different types of lighting control board – the Celco Major, Celco Plus and Celco Baby. Also in the range are digital storage and recording systems, control board monitors and the 'SoftOptions 88' package.

◀ **The Powerdrive 'Telehoist' 0' – 15' in 30 seconds!** The Powerdrive 'Telehoist' is a new self contained telescopic winch stand, designed for single or multiple lighting and PA applications. Solidly constructed from steel tube with aluminium alloy castings, it can lift 65kgs (143lbs) up to 4.6m (15'), yet it is easily transported by one person. There is no assembly needed – you just wind it up. Full details on request from Cerebrum Lighting.



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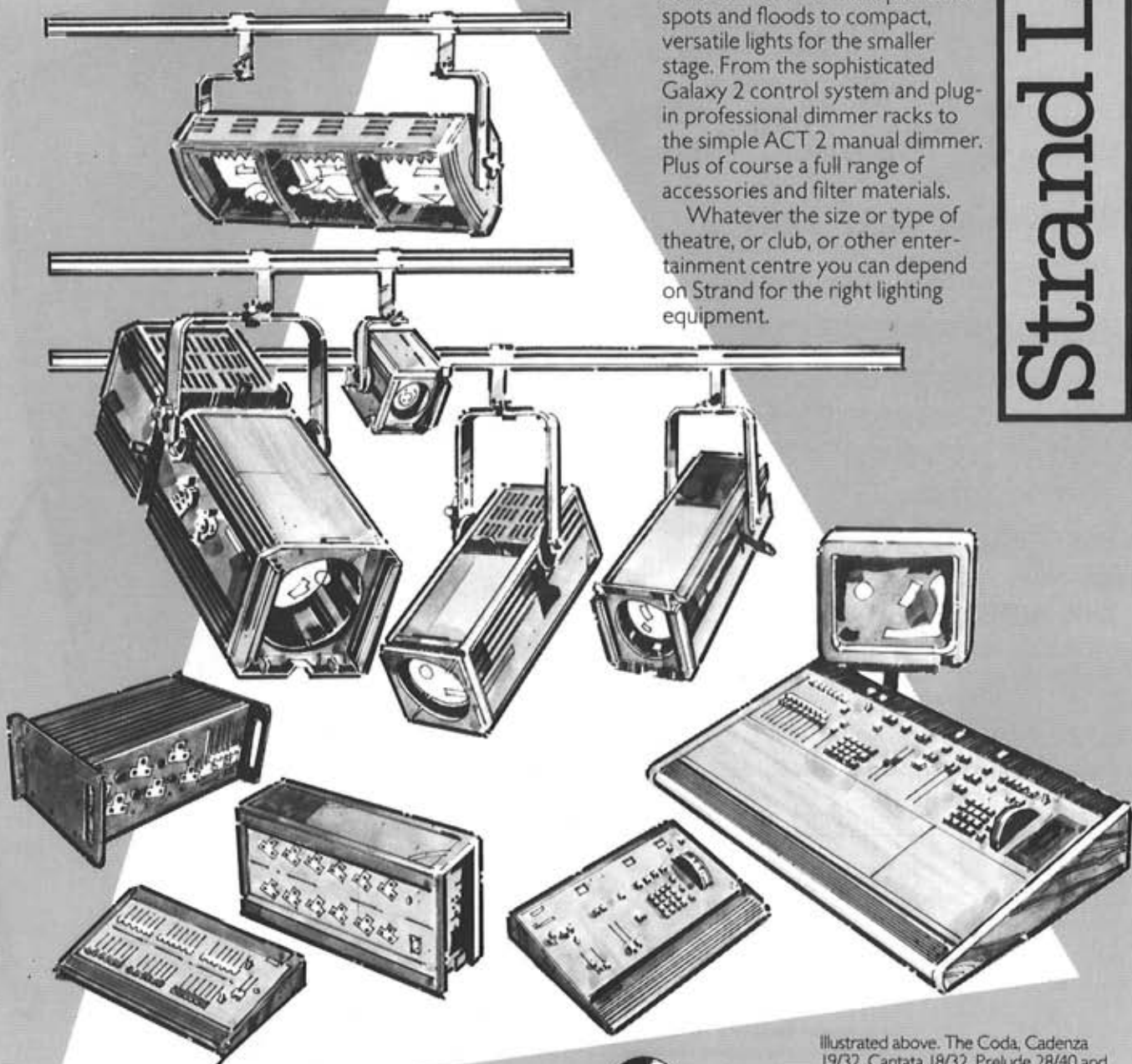
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For Projection Read Pani

After leading the way in scenic projection, Ludwig Pani of Austria are now moving strongly into the area of outdoor projection, with improved techniques and enhanced projector power offering amazing creative opportunities in both commercial and cultural fields. John Offord talked to Hermann Sorger in Vienna.

An intellectual cross-roads, like an eastern Paris, Vienna has attracted, assimilated and nourished many great minds in Eastern Europe - Haydn, Mozart, Beethoven, Freud, Bruckner, Schönberg and Kafka to name but a few. In the thirties, where our story has its roots, Max Reinhardt was directing in the theatre, Alban Berg was composing, and Richard Strauss was conducting at the Opera.

After the trauma of the Second World War and its legacy, with Vienna one of the poorest city's of Europe, the re-establishment of the Opera - one of the most democratically organised in the world, and residing temporarily in the Theater an der Wien while American money rebuilt the devastated State Opera House - was one of the principal elements in the revival of the City.

Of particular interest to us, and a part of the great fifties and sixties revival, is the name and company of Ludwig Pani - words synonymous in the world of technical theatre with 'Opera' and 'Vienna'. There can be few opera houses that haven't some Pani projection equipment in their inventory.

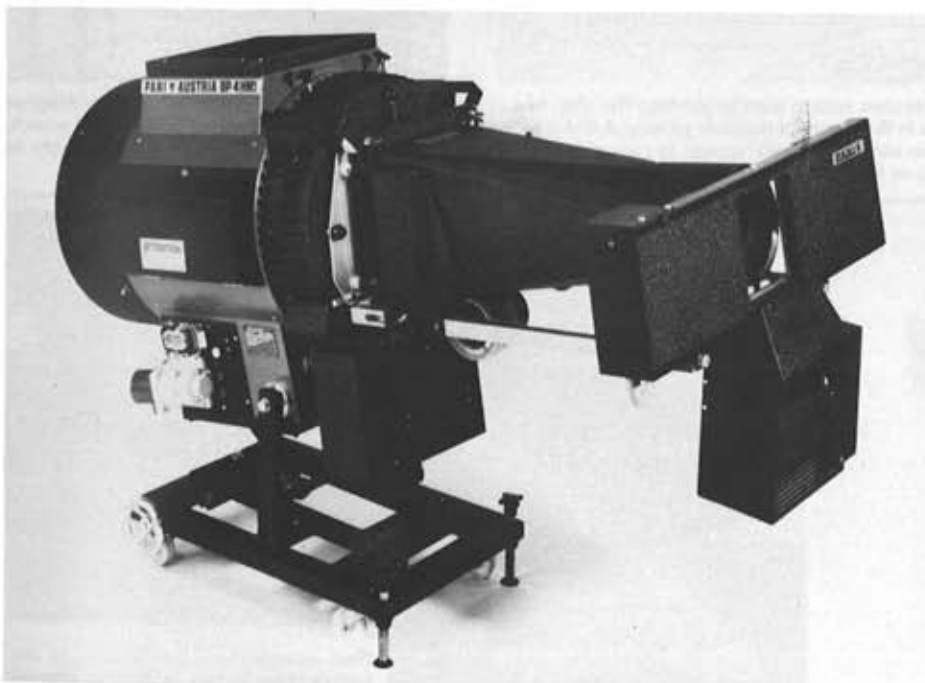
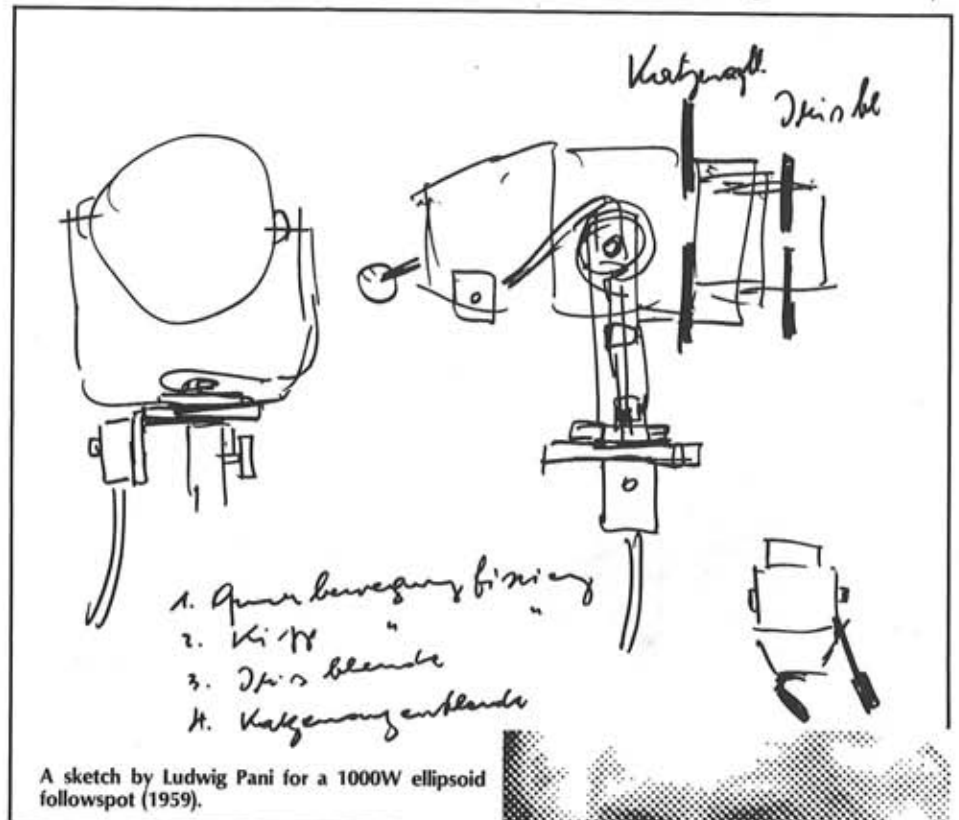
More recently, of course, the name is ever more closely linked to major outdoor projection effects where city skylines become traffic-stopping street shows, and buildings of all sorts are backdrops for artistically-devised advertising sequences.

For the real start of the story we need to travel back to Vienna before the War. Ludwig Pani had set up in business in 1930 to begin the production of optical scientific instruments, projectors and reading devices. Soon after, research work in the field of stage projection started, and right from the outset promising results were achieved.

However, the War intervened, and development only re-commenced during the re-birth

of the State Opera House and the Burgtheater. The first stage projectors were developed in close co-operation with the artistic directors, designers and technicians of the re-emerging producing houses, and this activity signalled the way forward for Ludwig Pani, with priority given for the use of wide angled lenses.

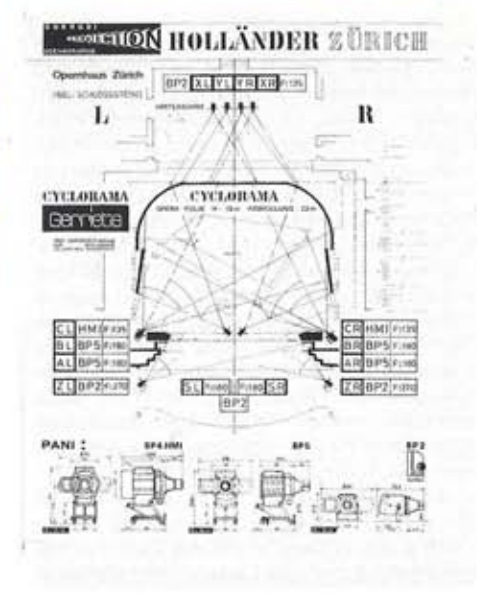
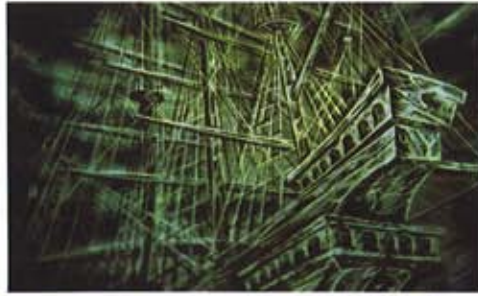
My personal Berlitz Guide to Ludwig Pani and Vienna was Hermann Sorger - 'Prokurist' - who looks after sales and production for the owner of the company, Sieglinde Staub. Hermann Sorger started working for Ludwig Pani in 1955. "He was my professor; my teacher. I often worked late into the night with him! We worked long hours on develop-



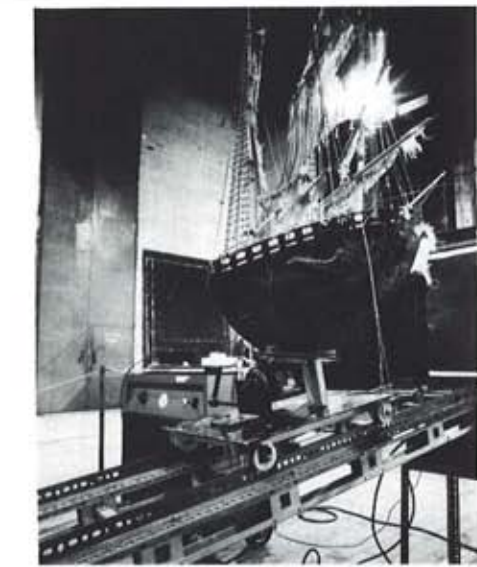
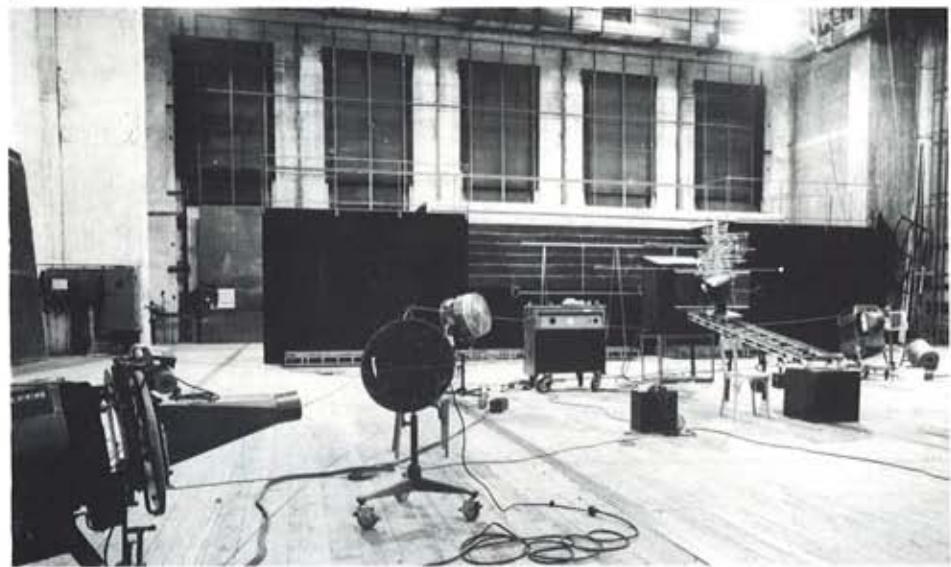
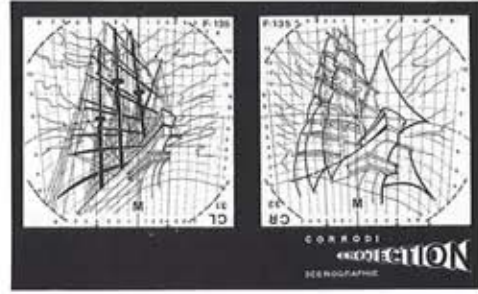
The first BP4 HMI Turbo, with 60cm lens and dimming shutter, was introduced in September 1986.



The first BP5 projector - 1954.



A projection sequence from a recent production of *The Flying Dutchman* at the Zurich State Opera - designer Annelies Corrodi. In the first frame the skull is introduced, and by repeated superimposition, the ship becomes a negative skeletal hulk (frame 2). In frame 3 red clouds are added, and in frame 4 an additional projector sets red sails. In frame 5 the Dutchman's ship has disappeared, leaving a brooding and cloudy atmosphere. In the drawing far right the paths of the individual projector beams are shown, and it can be seen how difficult it was to produce the correction grids, two of which are shown right.



Backstage at the Staatsoper, Vienna, and the shadow projection system used to produce the 'ship' in a seventies production of *The Flying Dutchman* - designer Günther Schneider-Siemssen. The ballast unit is on wheels in the centre of the main picture. A 6½k Xenon unit had specially built shutters to fade the light source, and an old Pani 5k (left) with a double drive effect unit was used to produce 'waves'. In case of emergency an old Pani 10k tungsten halogen projector awaits its call (extreme right). The smaller picture shows a close-up of the track system for the model ship.



Final assembly and test of BP4's at the Ludwig Pani factory in Vienna (above) and (left) Pani's latest, the BP6 Gold.



Sieglinde Staub, the owner of Ludwig Pani.

ment. In the beginning we manufactured small projectors for home use, and step by step we went into the production of stage projectors," he enthusiastically recalled.

"Mr Pani was always at rehearsals at the Staatsoper with Herbert von Karajan, who was always asking for more light! Then it would be back to the drawing board working from his sketches and ideas. In those days all products were made by hand.

"The designer Günther Schneider-Siemssen was very closely involved, and he was very valuable to us for development on projection techniques - his work was very important. I remember the sixties in particular as very exciting times - in some ways almost crazy!"

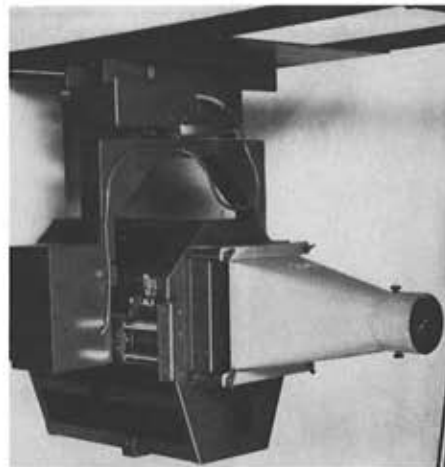
Sieglinde Staub had invested money into the company in 1954 to aid development work, and she looked after the financial side of the business while Pani devoted his energy to the design of projectors. "He spent a lot of time at the Opera House," commented Hermann Sorger. "He was a very popular man, and quite a character."

The Ludwig Pani range of equipment grew alongside the expertise of designers - particularly those working in the major opera houses in Europe - who were thoroughly exploring the use of projectors for scenery and images. In due course various different lantern ranges were added, and the Pani catalogue now offers an extensive amount of stage lighting equipment including beam lights, PC spotlights, halogen followspots, daylight HMI followspots, CID followspots, cyc lights, HMI fresnels, dimmers, and of course the world renowned complement of stage projectors coupled with many accessories to expand their use.

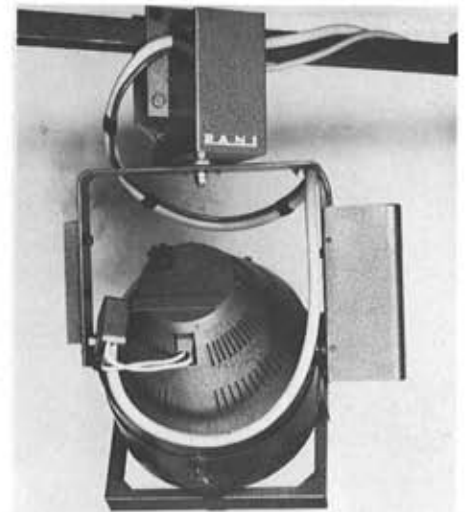
The latest developments on projectors will be highlighted later, but there is another area where Pani have come into their own



Hermann Sorger pictured with a BP10 10k scenic projector in for service from the Vienna Staatsoper. This unit was specially designed for bridge work, with a special front end mirror system.



First remote control motorised units: above, a BP5 (1965) and right, a parabolic 1000W (1963).



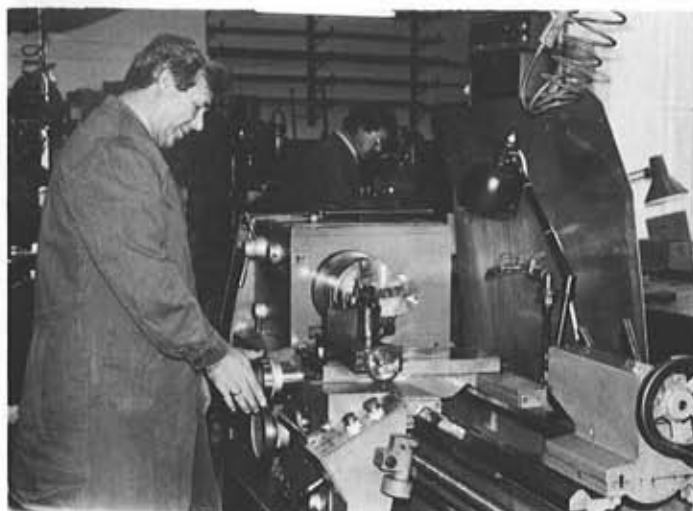
- remote control spotlights. And they've been at it since the early sixties.

Remote Control Spotlights

One of Pani's first remote control units - circa 1963 - is pictured with this article, and since 1980 their PEF-M electronically controlled spotlight system has been installed in theatres and opera houses in Vienna (3 installations), Prague (2), Moscow (2), Finland (3), Kiev (1) and Singapore (2). A total of over

1200 units with precision drive pan and tilt have now been delivered world-wide. (The system can be either manually controlled or supplied with an electronically controlled memory system.)

Fine engineering has to play its role in all Pani products, bearing in mind their eventual usage. "Everything we make, from colour changers to slide mechanisms and remote controlled units, has to be very quiet in operation," explained Hermann Sorger.



Engineering skills are in abundance in the Pani workshops.



Herta Wasserburger is in charge of Ludwig Pani's finance and administration.



Strand Lighting in Vienna - installed by Ludwig Pani. Above: the Galaxy system at the Vienna State Opera (also in view, extreme left, is the Pani PEF-M remote control for motorised spotlights). Right (top): A Galaxy at the Theater in der Josefstadt. Right (lower): A Light Palette at the Volkstheater.



12 PEF-M motorised lighting units were installed at the Volkstheater, Vienna by Ludwig Pani in 1980.



The majestic Schönbrunner Schlosstheater at the Schönbrunn Palace, Vienna. Ludwig Pani installed motorised shutters for the front of house lighting so that the units are hidden when the theatre is not used for a performance.



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A parabolic 1001 low voltage beamlight in a motorised PEF-M unit and with a colour change mechanism - Theater an der Wien. Below: control unit for the PEF-M system.



Introduction of the BP4 HMI

A major landmark for Ludwig Pani, and for the entertainment industry in general when they introduced in 1974 the now famous BP4 HMI projector, just three years before the death of Pani in 1977. It had been developed with the aid of Kurt Winter, former lighting director of the Bayreuth Festival Opera, when a 4000W HMI lamp was tested in the



Lighting Vienna at dusk: demonstrating projectors from the workshops of Ludwig Pani has the effect of changing the City's skyline - and all for the visit of L+SI.

Pani 5kW scenic projector. The HMI lamp is the German equivalent of the CSI (compact source iodide) and it emits something like four to five times the halogen equivalent. The result was that scenery could now be projected at a strong enough level that would also enable the acting to be lit without any practical problems.

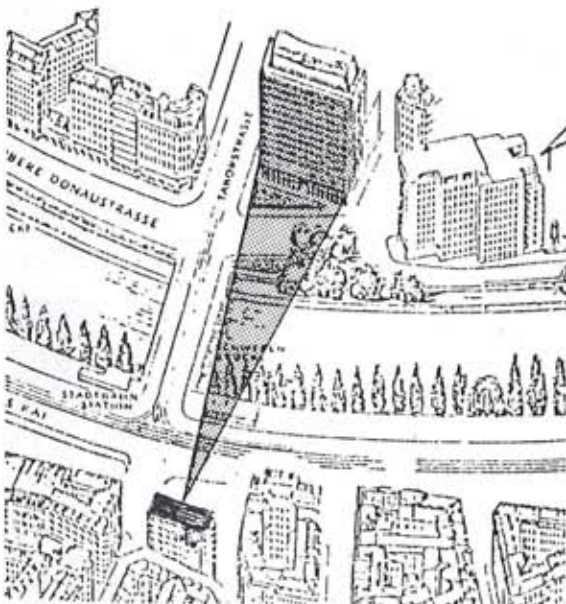
The BP4 is a massive piece of engineering, weighing in at 72kg, and is mounted on a four-wheel platform for easy movement. It can then be set in position for accurate and steady projection. The double slide carrier takes 18 x 18cm slides, it has built-in fans for both the housing and slide gate cooling, and an interchangeable front lens system. It has a separate ballast, and can be dimmed by an opti-mechanical device for either local or remote control of the shutters.

Three electrical supply points enable the BP4 and its derivatives to be either 110V (Japan), 120V (USA) or standard 220V. The ballast unit is provided with a voltage selector switch for remote or manual ignition, and economy switching allows the power to be reduced from 24A to 20A, saving on both projection slide and lamp life (average lamp life is 500 hours).

In 1983 Pani introduced the most powerful stage projector in the world - the BP6 HMI, with a 24 x 24cm slide carrier. "By enlarging the slide area we were able to get the temperature under control," explained Hermann Sorger, "and both hand-painted and film slides can be used on BP6. Using the 13.5cm wide-angle lens, with a projection of almost 80°, backstage projection is also possible on smaller back-stages."

For Advertising and Entertainment

In Vienna last year, a sequence of six slides, designed by Gloria Berg, was used to create an advertising sequence for the weekly magazine 'Wochenpresse'. Three Pani BP4 HMI Specials were sited across the Donau Kanal in a room on the second floor of a hotel, and projections were beamed across to the Bundesländer-Versicherung building on the opposite bank - a distance of 205 metres. Each projector carried two slides, each being shown for five seconds. The sequence was rotated for a 3 hour period every evening for a week in March and November 1987. The projection area was 60 metres wide, and the result dramatic.



Now used with great expertise for scenic projection and effects, creative lighting designers, most particularly in France, Italy and Holland, began to use both the BP4 and BP6's for outdoor projection projects. The Fiat Uno was launched with the aid of three HMI projectors and laser guns. In Paris the Eiffel Tower has been projected on, and the Statue of Liberty in New York has also had the beams of Pani projectors on its surface.

A highlight in 1986 was the lighting up of Houston, Texas by 14 Pani BP4 and BP6 projectors amongst other equipment for the sound and light concert by Jean Michel Jarre, when an estimated 1.3 million people stopped the City to see the show.

BP4 HMI Special

In September 1986 Ludwig Pani were closely involved in a project in their home City that saw the launch of the BP4 HMI 'Special'. They were approached to provide a series of advertising projections with a size of 50m x 60m on the facade of the Bundeslander-Versicherung building for the weekly magazine 'Wochenpresse'.

For this project Pani developed a special version of the BP4, which delivers twice the light intensity of the standard stage projector. The temperature at the gate increased by 50% to 120°, and for this a special type of slide was required. Heat-resisting glass plates were printed by a screen process and coloured with heat-resisting Reprolux slide colours.

Three projectors were installed to run the sequence across the Danube Kanal in the Hotel Capricorno and the projection distance with a 60cm objective lens was 200 metres. (Maximum projection distance across the range of lenses is 260 metres.)

BP6 Gold

The latest unit from Pani is the BP6 'Gold' - a specially-developed version with compressed air cooling. After the huge success of his show at Houston, Texas, Jean Michel Jarre has plans for even bigger shows in various world capitals using up to 40 of the new projectors.

I'm sworn to secrecy, and can only say that for most readers of this magazine they may well be working on a 'show' much closer than you might suspect. For a major event on the Continent in 1989 there is even talk of well over 40 BP6 Gold's being assembled for a massive celebration.



Stefan Ettmayer, manager of Pani's design office, pictured with an automatic slide changer unit.

By finding a successful formula and staying with it, Ludwig Pani have now made themselves a name in the world of major promotional and concert events. And they are very alive to the possibilities it opens up for them. Their projectors are hard at work at Disneyland and numerous other venues that you wouldn't even guess at. "Auto-projection can turn a city into scenery," said Gert Raffelsberger, the company's sales manager. "It makes theatre on the street and gets people closer together both for pleasure and human communication."

A total of 55 people are employed by Ludwig Pani at their various locations in Vienna, and we shouldn't forget that they are also Strand Lighting agents for Austria. Many of Vienna's theatres have a Strand memory lighting control system installed by Pani, and together with Quartzcolor it makes up around 20% of the annual turnover of just over £4 million.

Vienna had had a snowless winter when I visited it late January, and the thought that I might make some comment on the fact hadn't lost itself on the staff of Ludwig Pani. During demonstrations of equipment I suddenly found myself within a typical Tyrolean scene - complete with falling snow. Courtesy Pani projectors, of course!

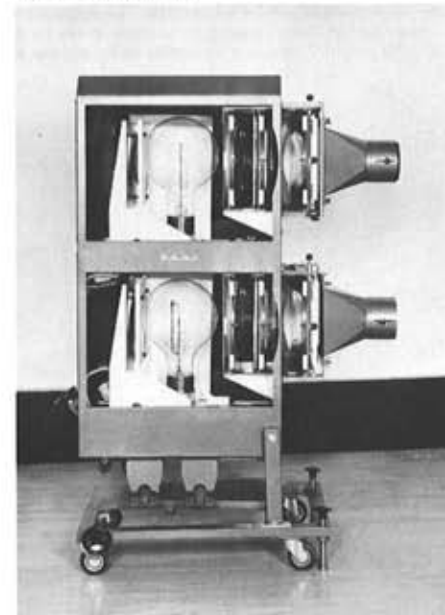
Ludwig Pani at USITT

Ludwig Pani will be launching the latest addition to their projector accessory range at the USITT Exhibition at Anaheim, California in March.

The PMD 2x30 slide changer has been developed to satisfy the ever growing demands for increased choice and flexibility with projection. It will give free access for up to 60 slides in a universal slide holder for either the 18 x 18cm (BP4) or 24 x 24cm (BP6) projectors, and will be able to handle single glass slides, double glass slides, or slide film.

The electronic system necessary for the control is positioned in the 19" housing. The control unit is placed near the magazine slide changer, and with the assistance of a small hand terminal a programme can be determined. Control is also possible from a lighting control desk, and it will also be possible to start projection fully automatically, either with the help of a radio signal or a dimming switch, which can also light the projector. Duration of slide change from slide 1 to 2 is 4 seconds, and from slide 1 to 30, 8 seconds. Terminal functions include programming, synchronising, automatic operation, manually controlled operation, stop, external - control, delete, confirmation of data feed, and signalisation of errors.

Tail Piece



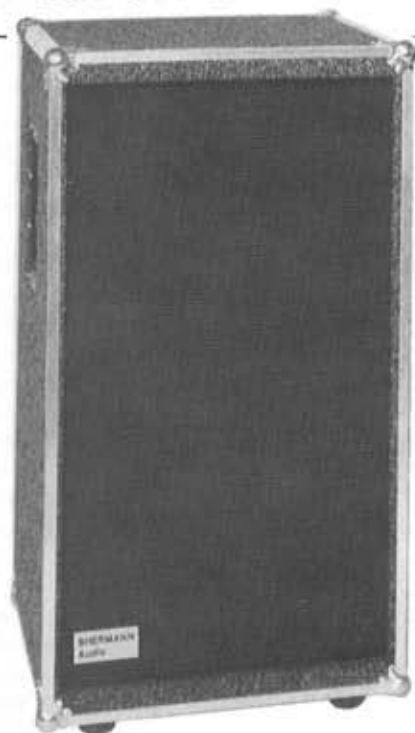
Specially designed to save space - a double 10kW projector ready for shipment to Dusseldorf (1965).



Asking for more light power: Jean Michel Jarre (in background) in discussion with Hermann Sorger during a visit to Ludwig Pani's offices in October last year to look at the new BP4 Turbo and discuss the BP6 Gold.

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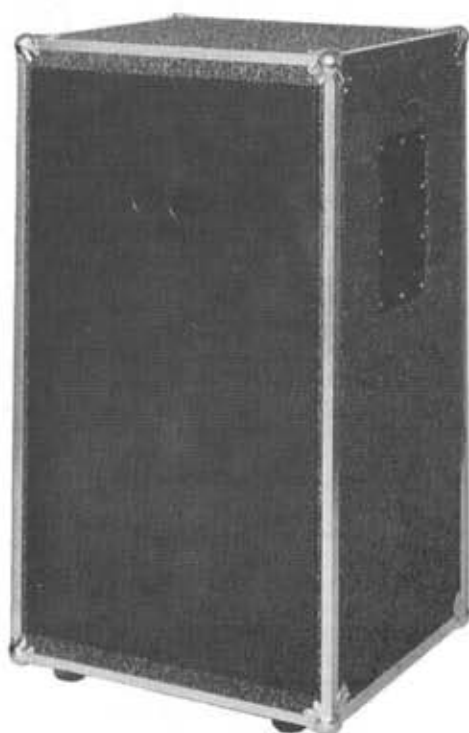
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Graham Waile reviews the new

Donmar Reference Manual

In my most recent article for L&S ('Classical Gas') I welcomed the stimulus that the Royal Opera House had given to my tired mind. Perhaps I am not as bored by equipment as I had thought - for again this month I must thank L&S and Donmar for providing me with yet more interest. Thirty years ago I eagerly anticipated the arrival of the latest 'Tabs' and devoured each page, savouring the information provided through Strand's soft sell.

Sadly 'Tabs' is no more and few British manufacturers have realised the impact that publishing free advice has on sales - only Electrosonic springs to mind with their excellent publication 'What is Audio Visual?', and Strand with their 'Lighting the Amateur Stage'. By contrast, in the United States, sound companies especially vie with each other to produce regular updates on the use of their products, and many make no assumptions about their customer's knowledge but also publish valuable introductions to basic theory - Crown and ElectroVoice in particular.

Donmar have therefore once again contributed to a respected family of publications. This particular Reference Manual is their third edition, the first of which won the ABTT's Product of the Year award in 1984. It also celebrates Donmar's Silver Jubilee and a brief history of the company is given on the flyleaf by the managing director, Ian Albery. The keynote to the Manual is set by Ian's own phrase 'our experienced staff are primarily theatre people rather than salesmen'.

The work's 80 pages are edited by Ian Albery and James Bishop but it also lists an impressive collection of contributors including Francis Reid, 'White Light' and Ian McDougall. Furthermore, the Manual is now listed in the British Library and is available from Theatre Bookshops (at £3.00).

For those who have not seen the first two editions let me try to explain what the Manual is. This edition covers products in 56 categories ranging from mechanical and electrical hardware and accessories to soft goods, scenery and publications. It wisely avoids sound equipment (although communications headsets are listed) but I am sure that Donmar would not turn such an enquiry away. Perhaps the backbone of the Manual is the inclusion of either a photograph or drawing of each item listed so that there can be no confusion in the reader's mind. (It also possesses one of the world's few drawings of the Covent Garden one-way-traffic-system - well worth the £3.00).

But this is no mere equipment photo album. A valuable feature is a 'Trade Names Directory' where if all you know is that someone has asked you to get some 'Heavy Fog', the directory will then tell you that this is manufactured by JEM, that the item itself is a smoke machine, and that it can be found on page 45. There are over 120 other such listings in alphabetical order. At a later date it might be interesting to include a translation of some technical slang. 'Gaffer' tape, for example, is universal - but not listed in the directory itself, although it is included under the adhesive tapes page.



At first glance there would appear to be little point in including a section on lighting design, and perhaps the word 'design' is a little dangerous. However, many schools and small theatre companies, who would order from Donmar because of their safety record, will rely heavily on Francis Reid's basic rig plans and equipment. Nearby John Foley has contributed a section called 'Performance Arts in Education'. This turns out to be an excellent explanation of the actual connections and power supplies needed from the mains right through to the spotlights; many people in education are confused about this aspect of stage lighting and the drawings here will help. The colour cross reference guide is useful, but oddly although it includes Cinemoid, it excludes Cinelux and Chromoid, linking Supergel, Rocolene, Lee and Cinecolor. Other useful data in the lighting section includes drawings of lamp caps. There is a wide range of lighting manufacturers listed for luminaires, rigging and control but of course Strand is not one of them - a sad omission from what is otherwise a strong and comprehensive range of equipment.

In reviewing this work at first I was conscious of being diverted to the products themselves and away from the Manual - so that at times my original draft became too equipment orientated. Indeed, there are some interesting items listed which I wouldn't instantly know where else to obtain without some research, such as Niethammer Beamlights. And as Ian Albery says in his introduction 'even if we cannot help, we can probably point you in the right direction!'

The Reference Manual obviously exists primarily to bring sales to Donmar, but it aims to do so by 'selling' information first, and in this respect it has an existence in its own right even though one need not then buy from it. Pirelli achieved similar status with their Calendars (which no one consulted for the date) but I trust and hope Donmar will enjoy some sales from their 'Calendar!'

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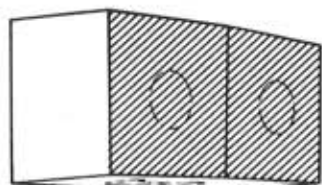
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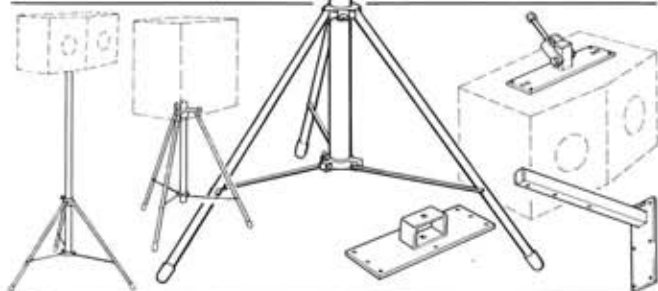
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Croydon's Concert Sound

Paul Trew describes the installation of a Meyer sound system at the Fairfield Hall, Croydon.

Based in Lancashire, Wigwam Acoustics Limited was established 15 years ago by co-directors Mike Spratt and Mick Huck and is probably better known for its activities in providing the sound equipment for live tours than for fixed installations.

Due to the expansion of business in recent years two new directors have been appointed: Chris Hill and Ian Beeston. Chris Hill has the unenviable task of being responsible for tours, equipment hire and installations, and he squeezed in a lunch hour to discuss the Croydon Fairfield Hall installation.

The Fairfield Hall auditorium at Croydon was designed to seat just under 2000 people, and the acoustics were arranged with the use of an above-stage canopy and wood panel diffusers to provide an excellent environment for classical music. Unfortunately, the modern day concert hall cannot survive on classics alone, and the hall is used for anything from heavy rock to conferences and lectures.

Wigwam were one of five companies invited to demonstrate proposed systems to meet the requirements of a specification which had been prepared by Sandy Brown Associates.

The main problem, which would have been the case for any contractor, was that the hall is considered to be of great architectural value and also to be well suited to the sound of the symphony orchestra. The complex is operated by the London Borough of Croydon and, as a civic theatre, has a very high profile. No feature of the auditorium could be changed - which ruled out fixed acoustic treatment. Also, any installation would have to be visually unobtrusive. In particular, there is a canopy above the stage which reflects sound from an orchestra into the auditorium. Any speaker system installed would either have to remain totally above the level of the canopy, or made so that it could be removed out of view during orchestral concerts. The clearance is very small, and although the place is an obvious candidate for a central cluster, some other contenders for the contract had a size problem.

As the result of lengthy discussions with the client, a very tight specification was prepared with the various uses of the hall being taken into account. Richard Galbraith of Sandy Brown explained the ethos of the specification: "Clarity was placed very high on the list of priorities with the visual effect coming a very close second. The demonstrations which followed involved the consultants in a very lengthy deliberation. In the end it was decided that the Meyer system which had been demoed by Wigwam was the 'best of a very good bunch'."

The Meyer system was well known to Wigwam in their alter ego of hire company, but unfortunately the choice of Meyer along with the many design changes led to the tender bid being considerably over budget. The problem was duly placed before the Finance Committee who were impressed enough by the tender to find the additional wherewithal to finish the job.



System installed - the Croydon Fairfield concert hall.

The system finally agreed upon consists of a central cluster containing 8 UPA - 1A's, 2 UM - 1A's for stage left and right, 2 UPA - 1A's for the choir fill, and 1 UM 1A for the 'royal fill'.

The central cluster array is flown from a motorised winch system designed and installed by Theatre Tech. The cluster is arranged to cover the balcony, upper and lower stalls. The entire cluster can be winched to a store position when not in use, or alternatively with the use of an interlock to a maintenance position - although Chris Hill didn't see this position being in use very much.

The stage left and right fills were necessary due to the canopy above the stage restric-

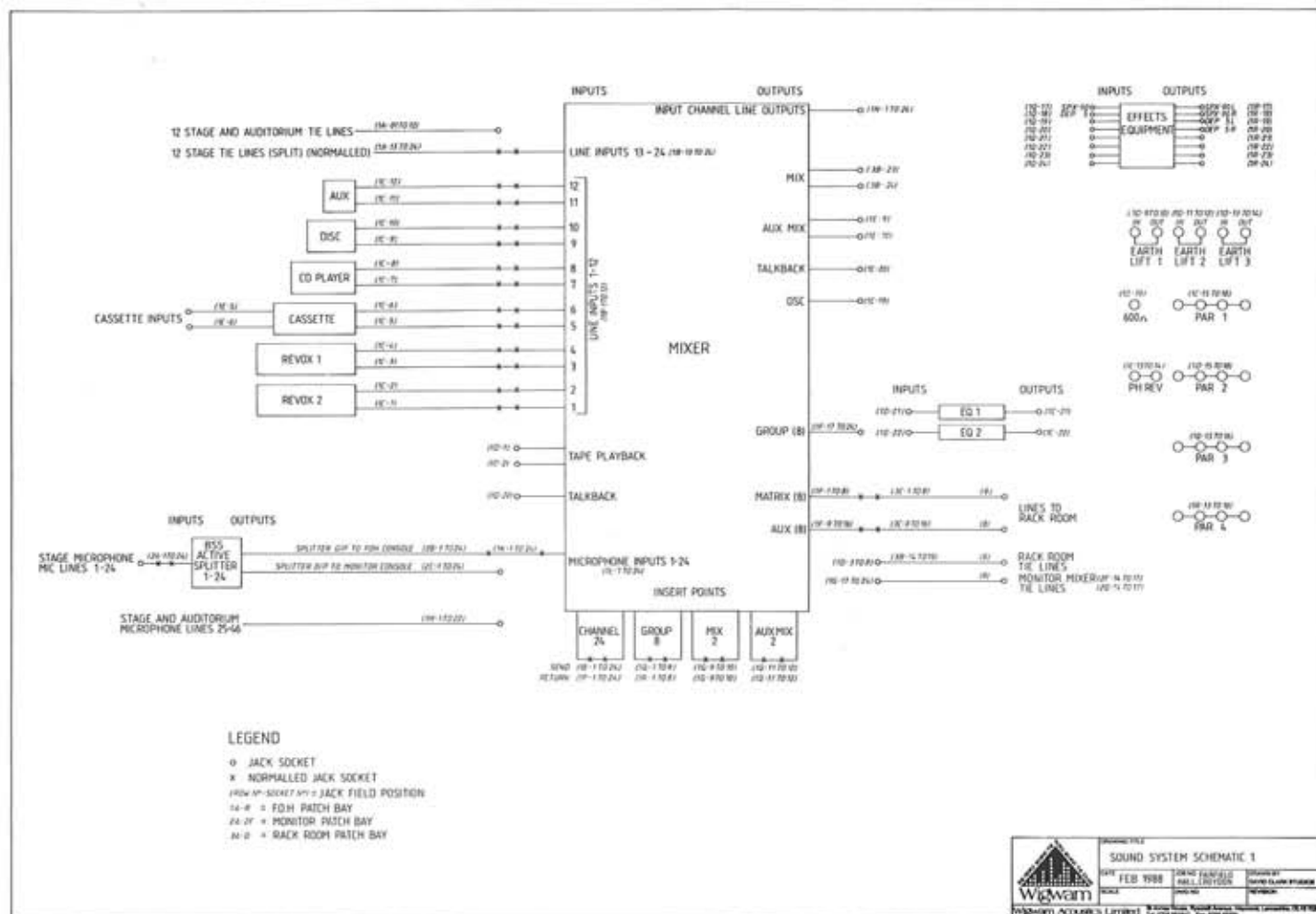
ting the position that the central cluster could be flown from. This restriction meant that the first ten rows needed the additional coverage provided by the stage fills. The 'royal' fill ensures that any visitors with important ears are looked after.

The sub-bass is taken care of by 2 U.S.W. 2 x 15's mounted on each side of the auditorium - below the Royal Box on stage left, and the organ loft on stage right.

The mixing consoles specified by Sandy Brown were Soundcraft Series 8000 24-8-2 for front of house, and a Soundcraft Series 600 24-12 for monitors. As the system is not designed for rock PA, the front of house console has to be able to make way for a touring desk. Having lost ten seats permanently to



The FOH Soundcraft Series 8000 24-8-2 mixing console.



the new sound installation, the last thing the Fairfield Halls wanted to do was to lose more when touring shows come in with their own sound. To avoid this, the console has been flight cased, along with the effects rack, and mounted on a foot-operated hydraulic lift. In this way, a new console can be placed directly on top of the existing one and adjusted to a convenient height. The front of the house desk is fed from the stage through a 24 channel B.S.S. active splitter.

Chris Hill spent a considerable part of his lunch hour explaining the patch bay facilities which would require a separate article to describe in detail who can be connected to who, and through what! This flexibility is essential to a venue with such a varied programme. Surprisingly the same detail has been applied to the loop induction system which consists of loops in the hall into which a wide range of inputs can be routed. At the mixing position the engineer has at

his disposal Denon cassette and compact disc players, stereo graphic, e.g. Yamaha SP90 MKII, and a Roland DEP-5.

The amplifiers and signal processing are mounted in a separate rack room close to the stage, and a modified EMO switching unit allows the soft start of the entire system. The amplifiers for the system are 9 x HH M900 with electronic balancing modifications, chosen in Chris's words for their "proven reliability". The stage monitors are the "industry standard" Martin Audio LE 400 wedges.

In common with many buildings of this type, there is no temperature control in the hall. This leads to quite large swings in ambient temperature, which in turn lead to problems with the equalisation of the sound. The services of Jim Cousins of Autograph Sales with a Hewlett Packard FFT analyser were utilised to bring the latest technology to bear upon this problem.

Many hours were spent on the system alignment. Each area has a Meyer CP10 parametric equaliser which were set to even out the basic resonances of the room. Richard Galbraith of Sandy Brown supplemented this work with good old fashioned 1/3rd octave analysis. The whole process was carried out over a number of weeks with measurements taken of humidity and temperature and a mean average EQ arrived at. When finalised the EQ will be sealed off behind perspex panels.

John Webb, technical manager of Fairfield pointed out that there is no in-house sound department. This is quite reasonable when you realise that the system is used for maybe two or three shows a week and on a number of occasions the system is used only to "top up" a touring rig.

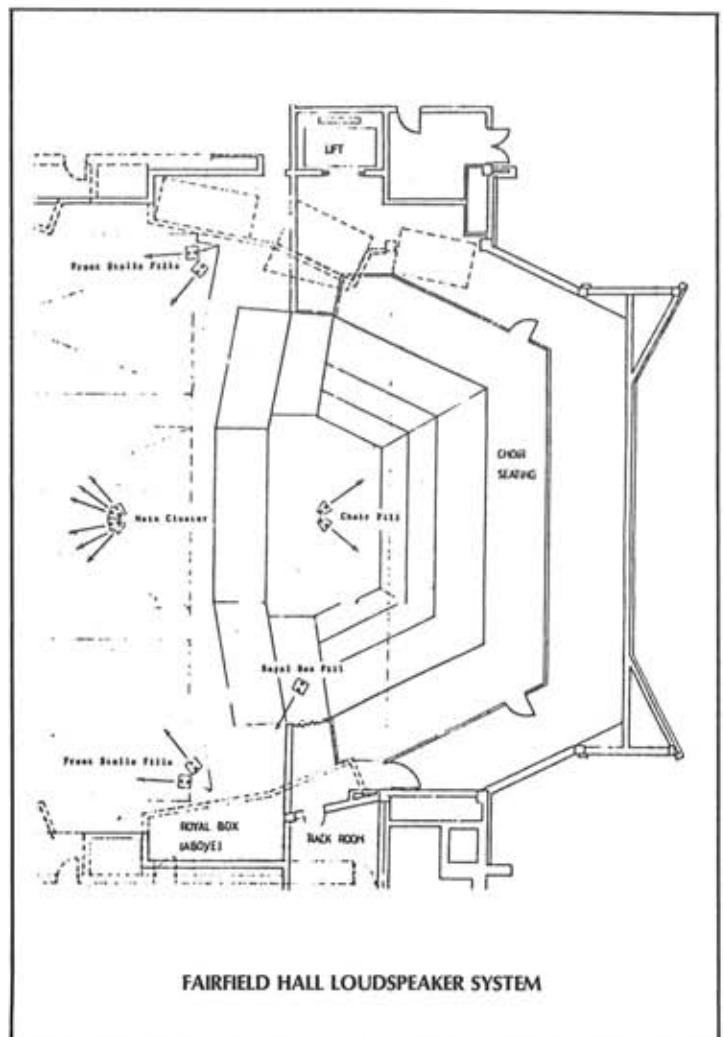
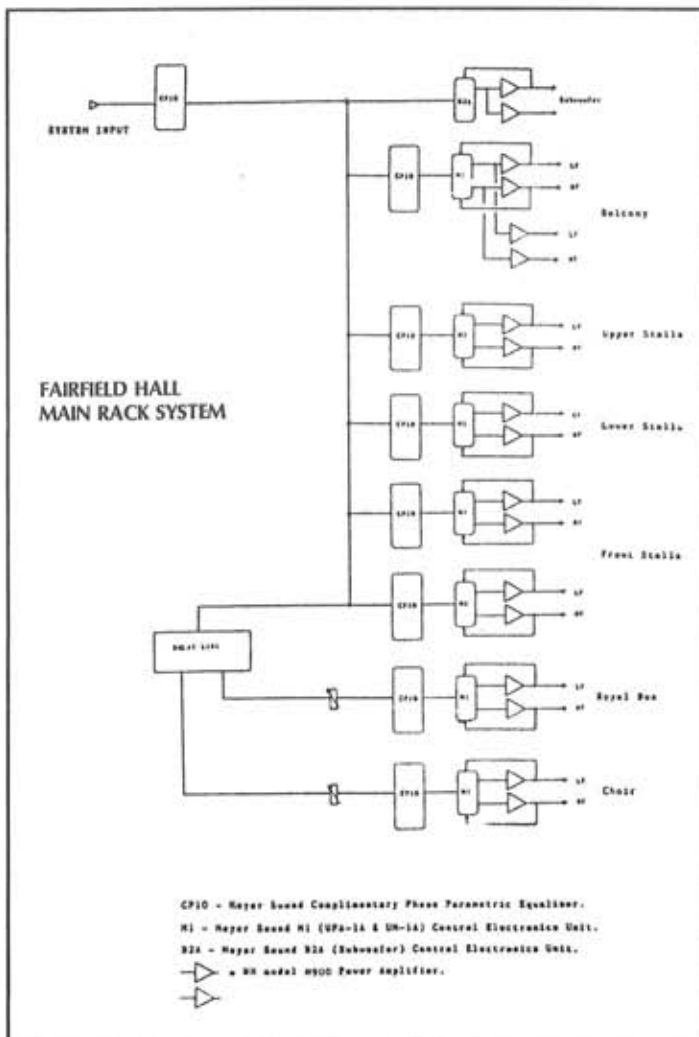
It falls to the stage electrician to operate the sound, in addition to the lighting and the

Meyer Sound

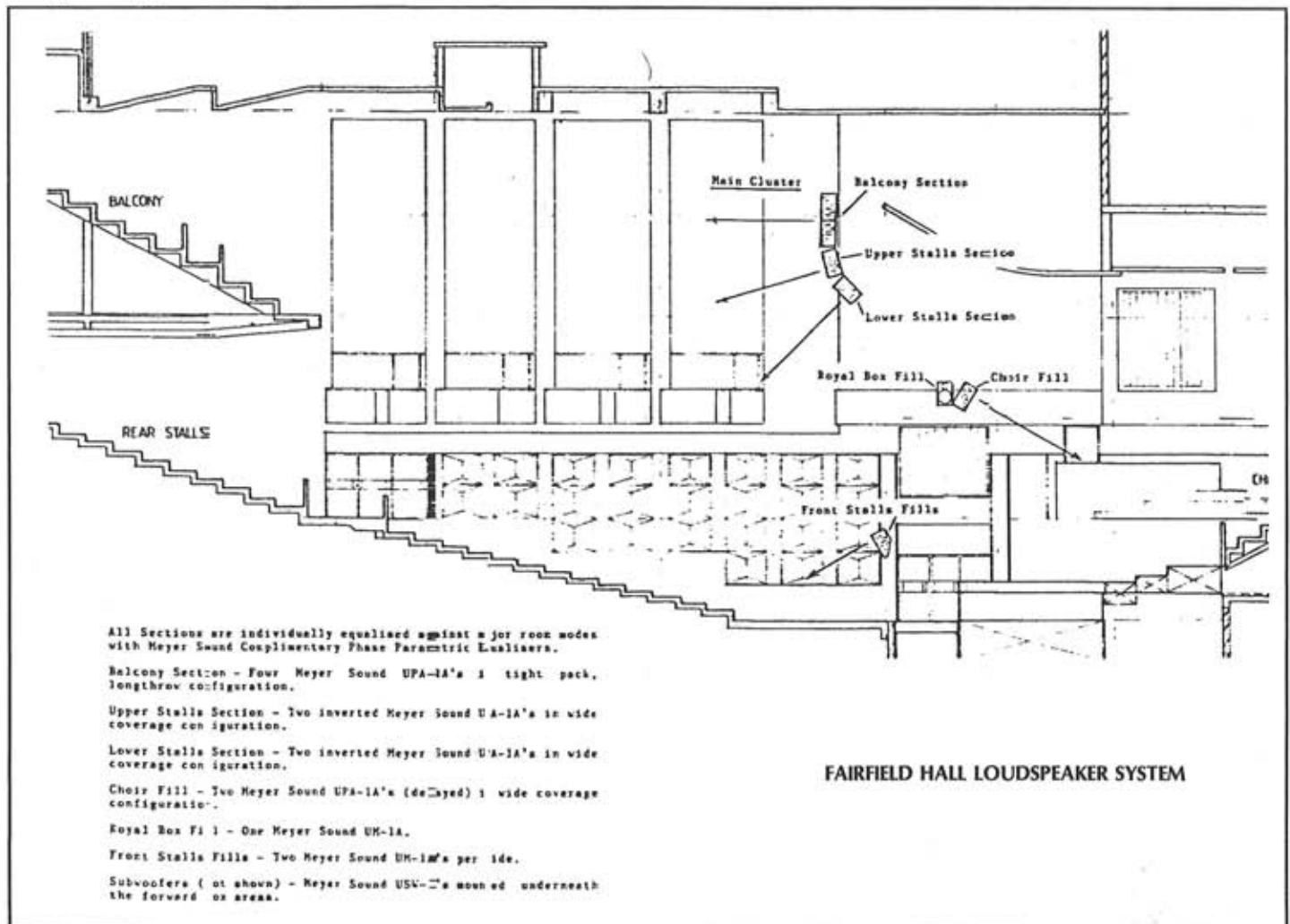
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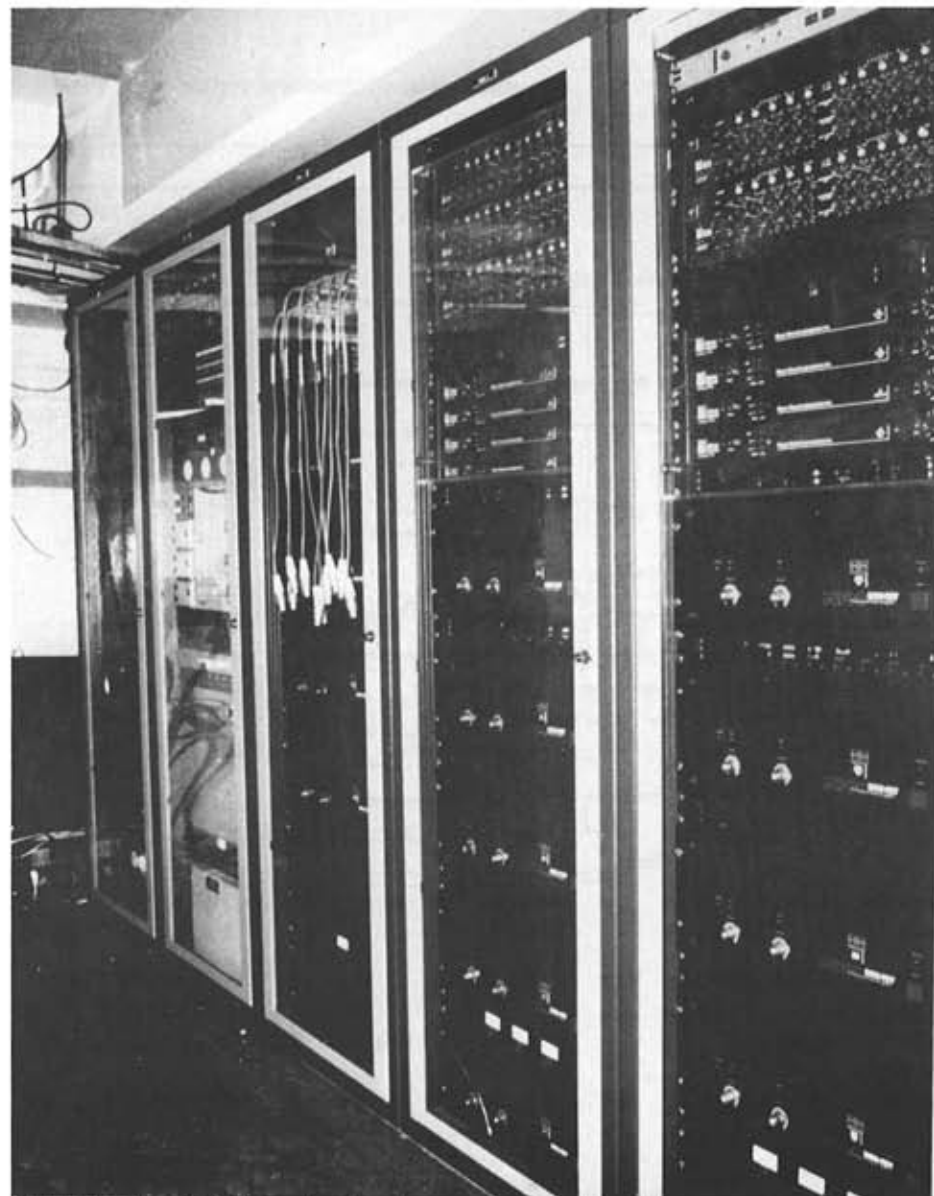
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AV equipment, and obviously it is difficult to gain "hands on" experience under the circumstances. (The staff at Fairfield are used to a far less complicated system than the one now installed.)

As part of the contract, technical training

was included and Chris Hill was the first to applaud the improvements in the staff following the initial seven days of seminars, etc. A programme of further training is envisaged now that the staff have mastered the complexities of finding their way around the



Fairfield sound - part of the equipment racks.

desks, signal routing, and patch bays, etc. But it will take a while for the skills of EQ and live mixing to be mastered.

Despite the problems during the job: the strange working hours, working around a building which never closed, the aesthetic constraints and equalisation difficulties, everyone involved went to great lengths to stress the co-operation between all concerned.

It has resulted in a system which hopefully is the optimum achievable with the proof of the pudding resting with the BBC who not only use the live sound but also the split feeds for broadcasting.

In the words of Chris Hill: "It was pleasant to work for an intelligent client who understood the problems."

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Sub Bass: 2 x Meyer Sound USW

In-Fills Stage L: 2 x Meyer Sound UM1A

Royal Fill: 1 x Meyer Sound UM1A

Choir Fill: 1 x Meyer Sound UM1A

Choir Fill: 2 x Meyer Sound UP1A

Equipment Racks

F.O.H. Racks

5 x Meyer Sound CP10, Phase complimentary parametric equaliser

1 x Klark Teknik DN716 Digital delay line

9 x HH M900 with BP01 electronic balancing modifications

1 x Meyer Sound B2A processor

7 x Meyer Sound M1 processor

Stage Monitor Amplification

1 x HH VX450 (bridged) with transformer balancing

4 x HH M900 with transformer balancing

(Rack pre-wired for a further two M900)

1 x Amplifier output/stage outlet patch system

Induction Loop System Equipment

1 x Rane SM26 Live level splitter/mixer

1 x Drawmer DD221L Compressor limiter

1 x EDC Mixer loop amplifier

3 x EDC Slave loop amplifiers

Intercom

1 x ASL 2 channel Master Station

Mains Distribution

1 x EMO Master sequential switch on unit

3 x EMO Slave

1 x 60A Mains distribution board complete with MCB

120 ways of GPO 316 patch bay

Stage Monitor

8 x Martin Audio LE400

Stage Monitor Console

1 x Soundcraft 500 Series 24/12

Monitor Console with Buffalo flight cases

(Transformer balanced outputs)

Multiway System

24 channels or Brook Siren System MSR 604 active microphone splitter units

168 ways of GPO 316 Jacks

F.O.H.

1 x Soundcraft Series 8000 24/8/2

(8 matrix, 8 aux) All outputs transformer balanced, with Buffalo flight case

Ancillary Equipment

360 ways of GPO 316 patch bay and associated multiway system

Effects Rack

1 x EMO Rack light

1 x Denon DCD 1500 compact disc player

1 x Denon DRM 44HX cassette player

1 x Roland DF85 Multi effects processor

1 x Yamaha SPX90II Multi effects processor

2 x Peavey 31 band graphic equaliser

1 x EMO Disc. pre-amp (RA11 equalisers)

1 x Soundcraft 8000 Series PSU

Mic and Tie Line Logistics

24 x Stage tie lines

46 x Mic lines

24 x Tie lines (FOH to equipment rack)

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10 x Auditorium Mic lines (to projector room)

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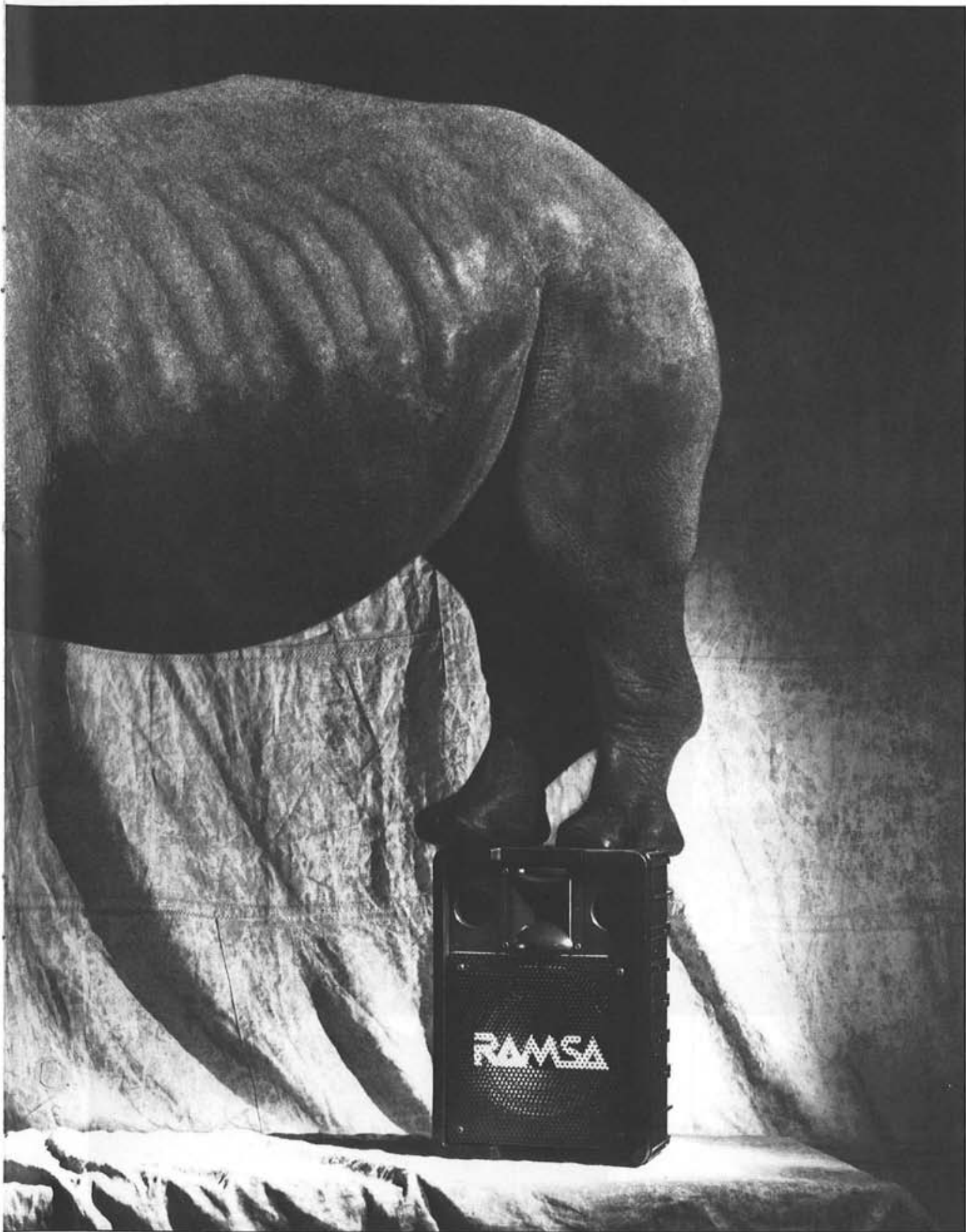
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La Scala Goes ADB

ADB's Italian distributors Spotlight of Milan have just installed a double S28 memory lighting control system at La Scala. John Offord talked to Augusto Andraghetti of Spotlight and Dirk van Nieuwenhuysen of ADB Belgium.

Despite numerous previous installations in a country it's always a very special event when you net the big one - and even more so if it's of international significance.

Having recently scooped the Paris Opera contract, ADB of Belgium have just announced the installation of a double S28 MkII memory lighting control system for La Scala in Milan by their local distributors, Spotlight srl, as part of a major technical up-grading programme that also includes other ADB and Spotlight equipment.

A total of approximately 500 lanterns are rigged at La Scala: in the auditorium along the top gallery, on external side ladders and on proscenium booms. Over stage there are two fixed bridges, one mobile light bridge, and several mobile spot bars. For sidelights there are two stage galleries and several mobile towers. To complete the rig three followspots are hidden within the central chandelier high above the auditorium!

All fundamental equipment, including the main power supplies, has been doubled up as part of the improvement programme, and

the most essential area - that of control - now boasts the internationally respected ADB S28 MkII memory lighting control system in tandem.

Highly user-friendly, the two 512 channel S28's at La Scala can work in both series and parallel, so that although one system can always be a back-up it can also extend the facility as required. The system also includes a mimic panel enabling call-up of channels for adjustment purposes, a special effects panel and an infra red remote control, which allows complete creation of cues, channel level and time, storage and read-out of memories, and execution of cross-fades.

Since the early autumn of 1987 ADB has been contracted to install a total of 21 S28 MkII systems across six European countries, with 7 systems in Belgium, their home territory, 3 in France, 1 in Germany, 6 in Italy, 2 in the Netherlands and 2 in Switzerland. It is a remarkable success rate at any level.

In Italy they have been ably backed up by Spotlight of Milan who have installed numerous ADB systems across the length

and breadth of the country. "It is extremely reliable equipment with one hundred per cent back-up," director Augusto Andraghetti told me. "The latest S28 system is one of the most sophisticated memory lighting controls of its type and yet it is still very easy to operate."

Spotlight have now been established for 20 years and commenced operations with the manufacture of simple spotlights for discotheques and theatres. The product range and turnover has grown steadily ever since, and the company now has a commercial network covering every region of Italy backed up by a qualified technical staff for installations and after sales service.

Other recent major installations of luminaires and ADB control systems have included RAI-TV, Genoa Opera Theatre, Piccolo Theatre Milan, Theatre Regio Turin, Theatre Sistina Rome and Canale 5. Spotlight have also installed numerous ADB S25 and S20 systems in smaller theatres throughout the country, and also sold the S20 to many hire companies.



Giancarlo Canali, chief operator at Teatro alla Scala Milano pictured with the new double S28 512 channel memory lighting control system from ADB, Belgium.



Spotlight with ADB: (left to right) director Augusto Andraghetti, Danilo Pengo (technical manager) and Massimo Cammi (sales manager) check out an ADB S20.

"In Italy we have around 80% of the middle to top range of the lighting control market with ADB equipment," explained Augusto Andraghetti.

S28 MkII Update

The S28 memory lighting control system was launched by ADB in 1984, and over 100 systems have been installed world-wide, primarily in opera, theatre and television situations.

The MkII version of the S28 was introduced in September 1987, and special features include:

- No separate CPU rack
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- Possibility of integrating user's own individual function sequences by means of programmable keys (soft keys) or key memories
- User programmable curves
- Each channel in cue can have its own individual fade times
- Direct access to cross-fade or memories for correction
- Easy to operate with complete instruction manual on screen, with several different languages available
- Programming of special effects, sequences of memories, loops, chases, etc.
- Highly advanced back-up facilities from manual desk to a synchronised back-up module with its own memory, or as at La Scala Milan and the Paris Opera where two synchronised S28 MkII's can be used as one main system during building or plotting of light cues, working completely synchronised during performance as 100% back-up (one master, one slave)
- Numerous options including special effects panel with its own memory, designer remote, infra-red remote, motorised spotlights remote control panel, mimic panel, printer.

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Teatro Espresso

John Offord flew to Milan, flagged down a free Fiat, and headed off eastwards in the direction of Mantova to speak English with Mike Lowe, managing director of Teatro.

Teatro began life just one year ago - it was officially registered in February 1987 (see L+SI April, 1987). And I'm willing to take a few bets that by the time it has completed its third year of operation, if not even before, the name and its products will be as familiar as any in the international stage lighting league.

Unlike most companies, Teatro started life half way up the ladder, being the brain-child of two solidly established figures in entertainment lighting: Bruno Dedoro of Coemar and Mike Lowe, former managing director of Strand Lighting. And its start-up was as quick as its first dramatic year of planning and establishment.

Alongside its huge success in discotheque lighting, Coemar had developed small theatre-type fresnels and PC spotlights over the years to service the industry, with a few sales finding their way into theatre. Insufficient penetration into the theatre market was due to the limited range of products, and also because sales outlets were disco orientated.

With its experience in optics, mechanics and automation for effects lighting, it was natural for Coemar to look at developing a new range of products specifically for theatre, and they began an expansion into stage lighting with investment in advanced die-cast tooling for a new professional range of 1k and 2k profile spotlights. Another strong plus in its favour was the close relationship with Philips, who make several types of projector lamps solely for the use of Coemar.

Two new ranges of profile theatre spotlights were shown for the first time at Photokina in September 1986 - the 1k Tratto and the 2k Acuto. Both ranges were initially available in profile versions only, and included new features. A buzz went round the industry that Coemar were making moves in the direction of the theatre market-place, but Dedoro recognised that to become successful in this market specialist knowledge was needed, and that theatres required detailed technical support, close personal contact, a fast service, and comprehensive

service and product advice.

Whilst all this activity was taking place, Mike Lowe resigned from Strand Lighting after Photokina the same year, and had the opportunity to fulfil his ambition of living in Italy. His plans were to leave the UK and run a small hotel in Umbria.

Events then sped up considerably, and on hearing about Mike Lowe's resignation, Bruno Dedoro tracked him down in Rome within a week of leaving Strand. An offer of partnership in a new company was soon agreed, and Mike Lowe immediately set about the preliminary ground-work and a feasibility study - October 1986 to January 1987 - and that's where we came in at the start of this story.

Right now this highly privileged baby has to cut its teeth like any normal child, prove it has done its homework, and can pass the industry examinations.

The original idea of the Teatro team, by now including the technical talents of Andy Collier, also ex-Strand Lighting, was to develop a complete range of professional



An early morning discussion: Mike Lowe (left) with Bruno Dedoro.



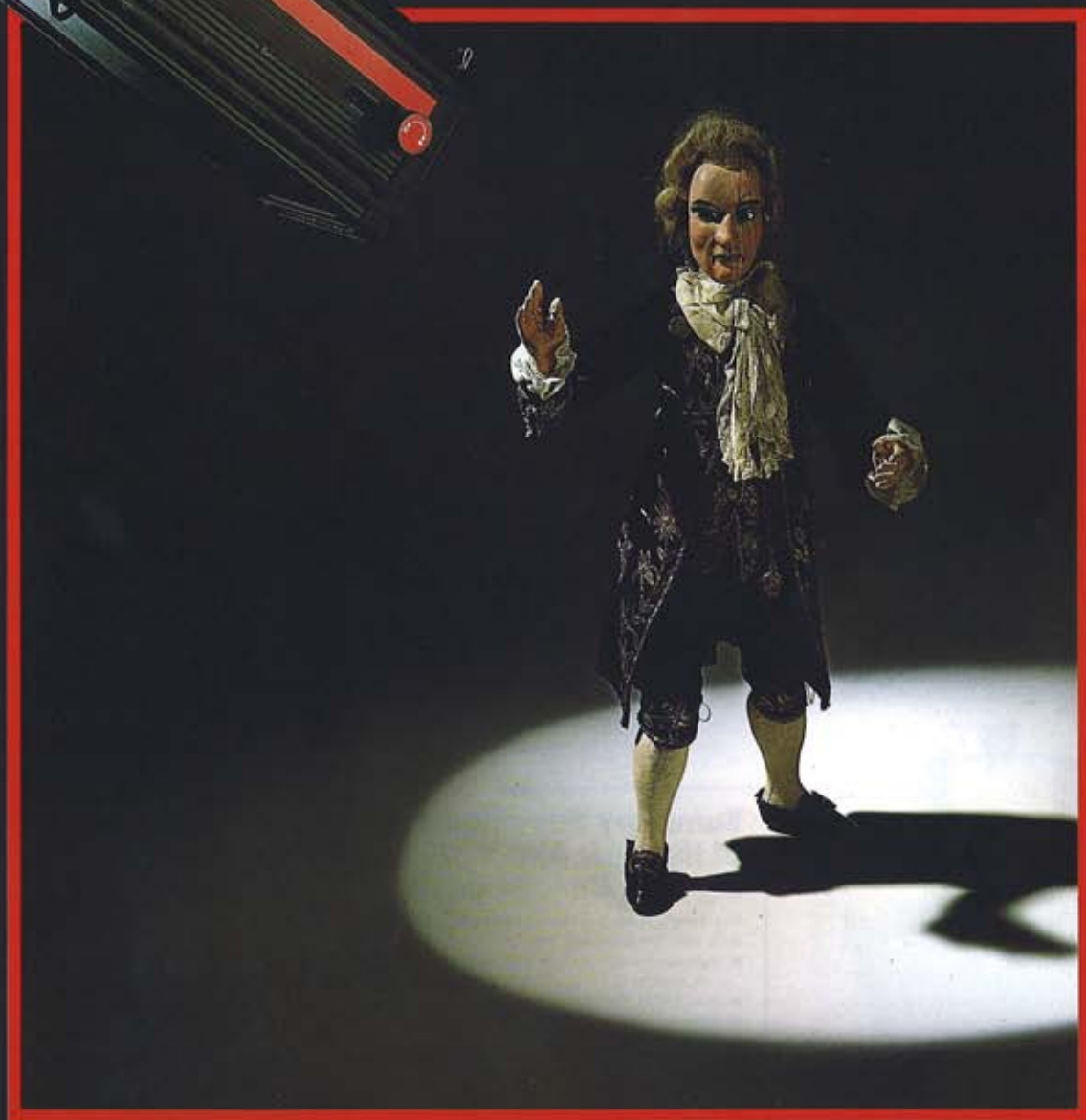
Selling point: Mike Lowe with customers from Spain.



The compact Talento 575 CID (above) has ballast incorporated, and Diluvio S500 floods (right) can be locked together in any number and format.



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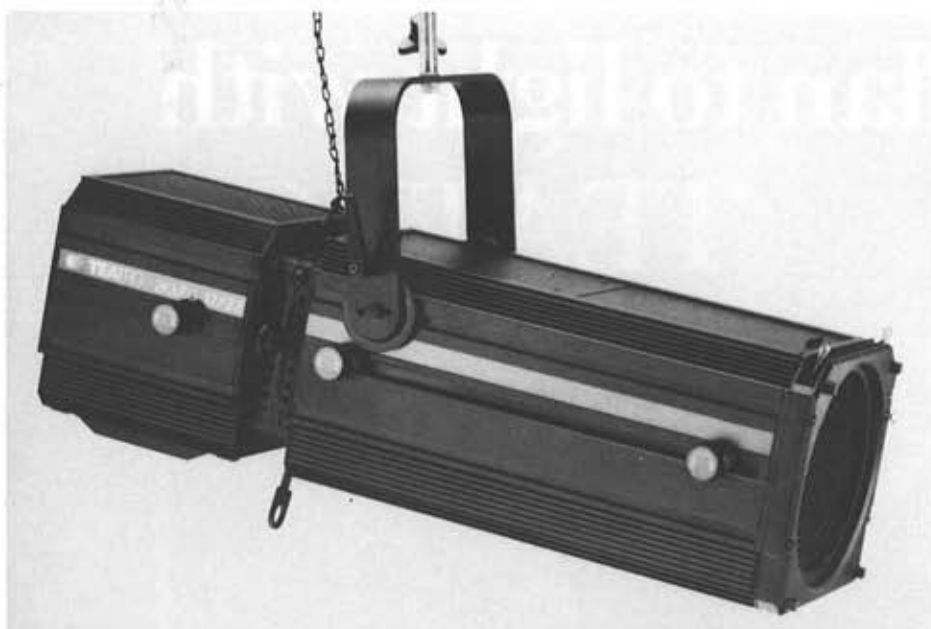
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Teatro design: The Acuto 12/22 profile (above) with (below) the Beam Light 2000, the Punto 650 fresnel, and a Diluvio A500 cyc unit.



theatre lighting, initially integrating the original Coemar spotlights with the new ranges. Mike Lowe specified requirements for missing products in the range: Tratto and Acuto fresnels and PC's, 650 watt Punto fresnels and PC's, and the modular Diluvio floodlights. From there they would gradually develop into controls and dimmers when the time was right.

The Teatro Range

Already there are 38 luminaires in the Teatro catalogue, and new light sources from Philips will see the range increase to 48 in the near future. One advantage of integrating the original Coemar spotlights within the Teatro range is that two standards of performance can be offered, with the Comma and Spazio offering basic spotlights at economy prices while Punto, Tratto, Acuto and Diluvio are professional theatre spotlights with addi-

tional operational and safety features.

The full line-up is as follows:

- Punto, Comma** ranges at 650W: F, PC, profiles
- Spazio, Tratto** ranges at 1000W: F, PC, profiles
- Acuto, Spazio** ranges at 2000W: F, PC, profiles
- Diluvio** floodlights from 400 to 1250W
- Talento** followspots from 250W to 2500W: discharge and tungsten halogen
- Special purpose lighting:** Beamlights, Parlights, Worklights, etc.

Special features include the use of a double pole automatic safety disconnection system on all professional models, and all spotlights are equipped with wire lens guards. Expensive new fireproof cable is used on all spotlights - a spin-off from discotheque requirements following fires where the sheathing of the electrical cables maintained the conflagration and toxic fumes added to the fatalities. A double clamp-on stirrup is provided to prevent sudden movement when refocusing, and the design emphasis is on one-hand operation for safe rigging.

Teatro in Operation

Coemar manufactures all products, which are badged 'Teatro' with a red line theme (as against the famous Coemar green), and transfers them to Teatro for distribution through its own dealers. The office is linked by computer to Coemar for accounts, administrative tasks, stock processing etc., whilst Teatro is responsible for the marketing of the products including pricing, the dealer network, publicity, packaging, technical information, and so on.

Mike Lowe has executive management of the running of the company; Andy Collier is product manager electronics, and Lisa Papi is assistant to Mike Lowe and interpreter for them both - a fast decreasing role if Mike Lowe's new arm-waving routines are anything to go by!

This team of three is Teatro, and eventually it is only expected to number a maximum of seven people. There has been a major investment in a computerised system that allows for almost any task to be aided from the information bank that is steadily being built up. And because the Teatro office's prime concern is marketing and distribution computers are seen as essential tools. What impressed me most was Andy Collier's ability to produce price lists and technical data in any of the dealer's languages and have them printed and bound up ready for faxing in a matter of minutes rather than hours. (Teatro insist all their dealers are on fax.)

Exploded parts diagrams are also stored in this way, and this is backed up by a flexible but comprehensive ordering procedure. Controlling all this information carefully at source also ensures the corporate image is maintained, and it links the name Teatro closely to the dealers involved.

The Italian Connection

Teatro's office and display area is within the newly opened 27,000 sq.ft. Coemar factory at Castel Goffredo, in the Italian countryside 35km from Mantova in the north of the country. The town itself has a population of around 8,000, but that in itself gives no clue as to the bustling nature of the local economy. In modern factories built directly alongside highly productive farming areas, 70% of Europe's stockings and socks are produced here!

There are other skills in abundance. "I am amazed at the range of small company skills around," explained Mike Lowe. "There are at least three brilliant manufacturers of moulds for die-casting within a close area of the company."

And the differences in running a small



Summary Specification of the new Alfa manual Lighting Control Desk

The Teatro ALFA is a three-preset lighting control desk with the following features:

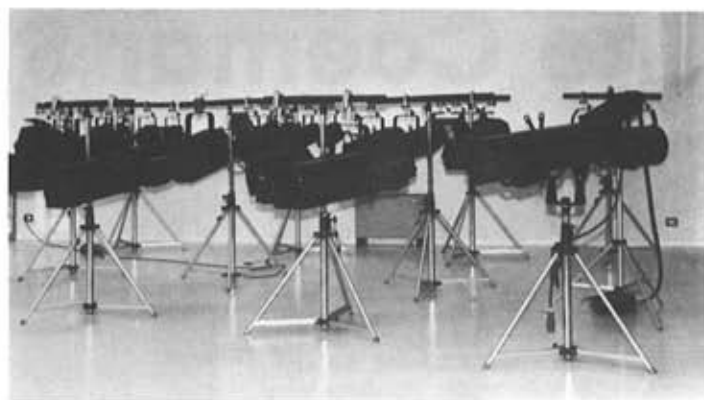
- 3-preset manual control with electronic mastering
- available in 12, 18, 24, 36, 48, or 60 channels
- modular construction in blocks of 6 channels
- +10V output via XLR connectors
- manual or timed master fade control of each preset
- digital time control from 1s to 9min 59s
- channel bump buttons with variable bump level
- preset master 'solo' feature
- preset master flash buttons
- individual preset blackout and master blackout
- grand master fader control
- clear illuminated panel displays
- IEC mains connector with integral switch and fuse

Operational Features

- Each preset is controlled by a separate sub-master, and a single grand master fader has executive control.
- The three preset master faders have manual or timed control, and a digital readout of the level of the sub-master is constantly displayed by 2 digit LED number.
- The automatic fade timer produces a smooth 'manual' fade using a pre-selected time set by two up/down momentary buttons and 3-digit display.
- An auto-repeat facility is included for fast pre-setting of fade times, and this includes an automatic acceleration feature.
- A reset facility is available to force all master time settings to zero seconds.



Andy Collier: "The key to Teatro is the way it's being marketed."



Part of the 38-strong range in Teatro's showroom area.

business, and in Italy at that, has produced a continual range of contrasts from what Mike Lowe was used to coming directly from a major company in the UK. "I've written just two memos since I've been here - and both were a great surprise to the recipients!" he told me. "You won't see memos about anywhere. In a big organisation your life is beset by memos."

"In a relatively small organisation the response can be so fast you have to be careful what you say. I can suggest an idea and in the next few minutes somebody's walked in with a prototype!

"You can set immediate witch hunts in motion if you ask for a new requirement, and you can change components literally overnight. Things are of a totally different order. I've never had to write a capital justification for a new project.

"Everybody here seems to be a natural designer - there is no such thing as an 'industrial designer'," said Mike Lowe. "And they have enough confidence in what they are designing that they can go straight from the drawing to production tooling," echoed Andy Collier.

"Because the Italians are very volatile people, everything happens so fast, and they expect an immediate response on design. And it happens. Private business in Italy is astonishingly fast to react, but you must keep away from officialdom," explained Mike Lowe. "It is contrary to the usual expectations as to how Italians run their

businesses, and they are not bound by the accountant's mentality - they are intrinsically a cash economy."

"There is a lot of shouting and hand-waving," said Andy Collier, "but ten minutes later it's all sorted out. Problems are dealt with at source."

Mike Lowe certainly seemed highly confident for the future. "I feel that each move we make is with confidence," he said. "The response has been in the form of congratulations, and the key is in how we market Teatro. We've all had the best possible education in theatre lighting, and the response is 'we like you'. Coupled with this, Bruno Dedoro is a totally committed enthusiast."

Teatro will be launching a manual control system at Magis (Rimini) in March and later at SIEL (Paris) and at the ABTT Trade Show in London in April, but with Andy Collier around, much of the industry assumes the new company will start pitching into this area at an early stage.

I asked him the obvious question. "Every man and his dog is producing control systems," he said, "but we are not going to rush in. I'm keeping my hand in, and when the time is right, and the idea is right, no doubt we will move in. But there will be no 'me too'."

"Obviously we have some bright ideas," interjected Mike Lowe, "but the controlling and levelling factor is one of time.

"For the future I know exactly what we are

going to do and how we are going to do it, but it's not going to happen overnight. We have to manage growth, but grow we will. And I'm sure Bruno Dedoro is as excited about Teatro as the discotheque side.

"We are in the new Coemar building right next to the design studio, and it's a prime growth and base broadening opportunity for both companies. The techniques and technologies of the entertainment world are inter-twining, and we have absolutely the right combination of skills here to take full advantage of the opportunities," Mike Lowe concluded.

Teatro at MAGIS, SIEL and ABTT

New 1000/1200 Watt and 2000/2250 Watt Ranges

Seen for the first time at MAGIS, Rimini and thereafter at SIEL, Paris and ABTT in London, will be the new Teatro 1200 Watt Tratto G, and the 2250 Watt Acuto G spotlights. Teatro has been working closely with Philips in Eindhoven in the development of the two new lamps for the past year.

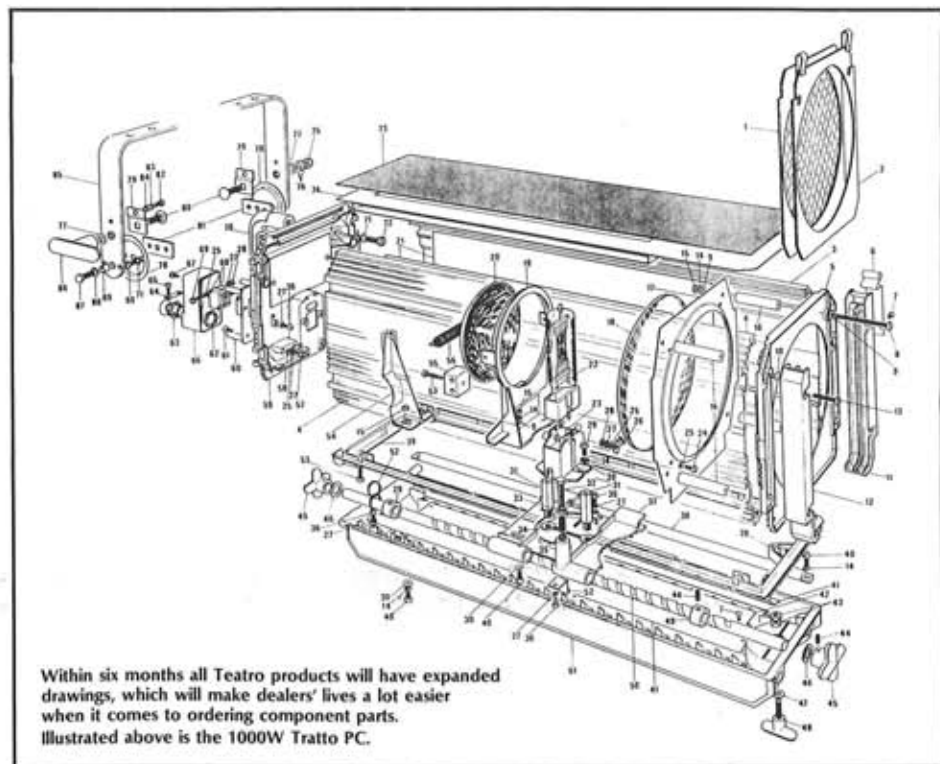
Resulting from market research in theatres around Europe, Teatro will be showing prototypes of their new spotlights to gain further market reaction.

The 1200 Watt Philips lamp uses the G22 lamp base in contrast to the GX9.5, which is the current theatre standard for 1000 Watt lamps. The G22 lamp base is well known to TV studios because of its high power rating combined with a rugged and positive fitting. The lamp has a substantial ceramic base which protects the delicate pinch seal from mechanical damage and excessive heat. This protection against the adverse conditions found in a theatre environment has enabled the Philips 1200W lamp to have exactly the same dimensions as the existing 1000 Watt version.

Although the G22 base is larger, and fractionally more expensive than the GX9.5, Teatro has adopted it in the trial Tratto G range because of the added benefits to theatre and hire company customers. It has a strong ceramic base, heavy-duty contact sockets, rugged lamp construction, positive lamp location, and it will suit all voltages. One major advantage of the G22 is that the 1200W lamp has the same light centre length as the 1000W version, and this means that the Tratto G can be fitted with either lamp without modification to the spotlight.

The new Acuto G 2250 Watt range has adopted another TV/Film standard lamp base, the G38, to ensure durability and long-term reliability expected from a quality product.

Both new ranges of Teatro spotlights are available in profile, fresnel and prism-convex variants.



Within six months all Teatro products will have expanded drawings, which will make dealers' lives a lot easier when it comes to ordering component parts. Illustrated above is the 1000W Tratto PC.

The Coemar Story

John Offord visited the giant Coemar complex at Castel Goffredo in Italy and talked to the master of effects, Bruno Dedoro.

Designer engineering is the real forté of Bruno Dedoro and his company Coemar. And when you marry that to the most subtle and colourful of effects lighting, the combination is a world beater. It's about using Italian flair to its fullest, and coupling it with a high standard of organisation and professionalism.

And when Bruno Dedoro talked to me about the founder of the company, Simone Marcucci, it was in glowing technological terminology. "He was a fantastic optical and mechanical engineer," he said.

Marcucci and his wife Laura founded Coemar in Milan in 1933, and it was the nearest you could get to a Strand Electric equivalent in Italy. Early production of optical lenses and mirrors led the way to the production of domestic and stage projectors, and many other products such as military signalling equipment, overhead projectors, studio lighting, and so on. And the company had two factories: the Milan plant produced large optical parts, whilst a smaller operation near Castel Goffredo specialised in precision optics.

The company continued to develop in the same areas after the war, but in the later sixties Marcucci's health began to fail and the business began to suffer, and the decline was sharpened drastically when the Japanese entered the optics market in a big way.

Bruno Dedoro began working for Coemar when he was 14, doing evening work, and he soon joined the company full time. He stayed in the technical department and by the time he was 20 he had been given overall responsibility for this part of the business. "The Marcucci family knew me from when I was very young, and they let me do what I wanted," he explained.



Bruno Dedoro

Coemar were one of the first companies to use aluminium alloy extrusions, and Bruno Dedoro was busy designing and drawing products at the age of 17. "I've always had a great passion for mechanics," he said. "I was lucky because I was taught by many good engineers at College. They made us think carefully about how things should be put together for the production line, and about all the practicalities of design."

He went to college in the evenings for seven years, and was able to put what he learned to practical use during the day in Coemar's workshops.

"His skill in designing die-cast components is the best I've even seen," said Teatro's Mike Lowe.

In the mid-sixties discotheques had begun to interest the young Dedoro. "I saw people using slide projectors and then we developed disk wheels, colour fluids, and so on, so we came up with a projector specially designed for discotheque. And that's how we started."

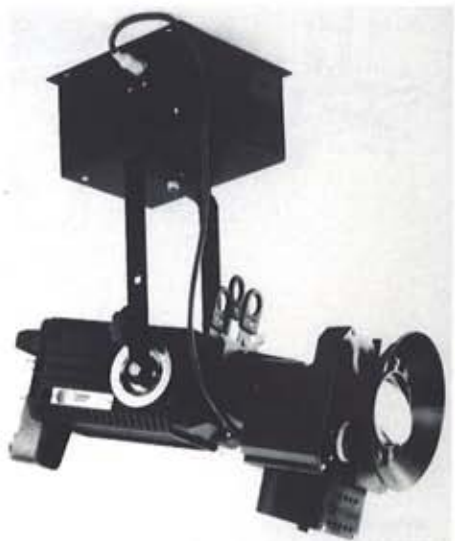
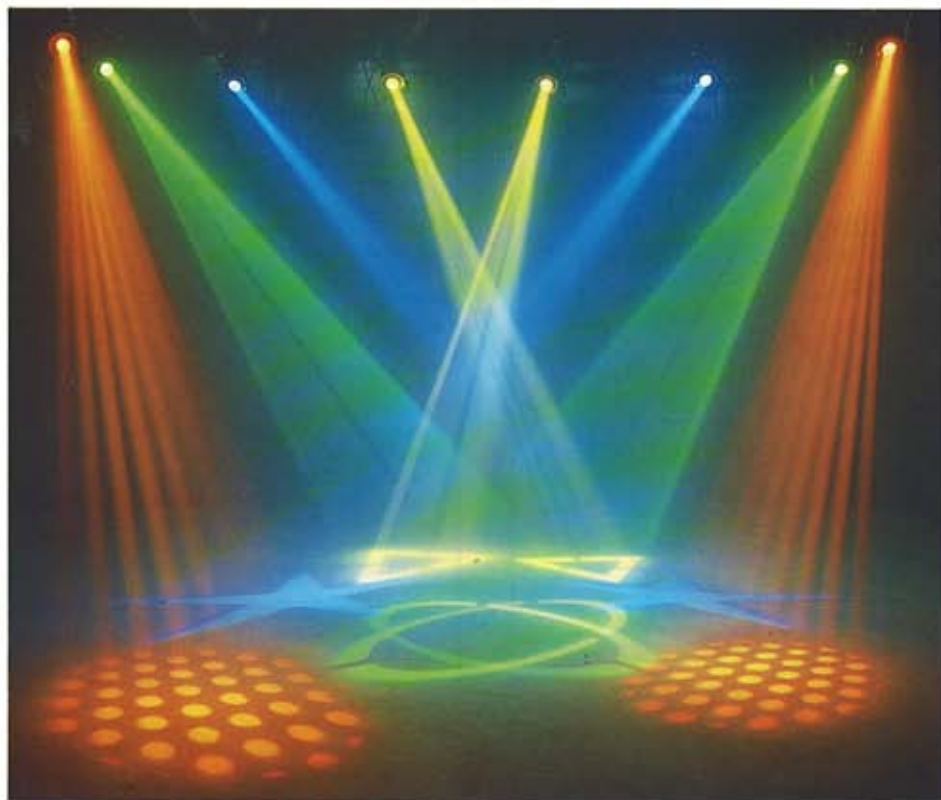
In 1972 Coemar concentrated all its activities in Castel Goffredo. "I wanted to come back to my home town, so we moved all the machinery from Milan," said Bruno Dedoro. Employee numbers were now down to just seven people, and products were a few spotlights and the Explorer and Siluro projectors.

Management problems continued and in 1974 Dedoro became the owner. "The company was not in good shape, and the point came where I said I would either buy it or leave it," he explained.

From that point on there was no holding Dedoro and Coemar. Every year between 1974 and 1980 the turnover doubled, and there have been significant increases over recent years. From 1986 to 1987, for instance, a jump of 30% saw turnover hit its present £10m level.

Dedoro had cleverly guided Coemar along the crest of the disco boom and he remembers the excitement of the earlier period. "People would see our drawings and order on the spot. There was an immediate response from the market. We had a good name and we sold goods as fast as we could produce them."

The strength behind product development came from a very big home market. "There is a much bigger disco audience in Italy," said Dedoro. About half of all products were exported, mainly to French and German markets. "The British were not so easy to convince until we formed Coemar UK," he said. "Optikinetics and Pulsar were very strong competitors - and they still are in the field of electronics. The best electronics are from the UK, but the British didn't invest in equipment and that's why we went ahead in this area."



One of the latest: a Coemar Forte projector with effects unit (above) together with some examples of its output (in colour, left and facing page).



Coemar at Castel Goffredo. The new building can be seen in the background.



Pre-war Coemar - the Milan factory.



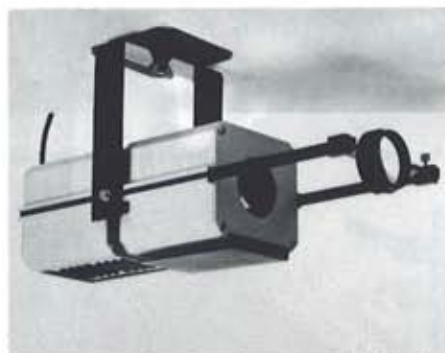
Five Super 5000W scenic projectors were installed by Coemar in La Scala Milan in the mid-sixties.



Circa 1957: a studio in Milan fully equipped by Coemar.



Setting up lighting at St. Peter's in Rome with a 5000W fresnel in centre of picture.

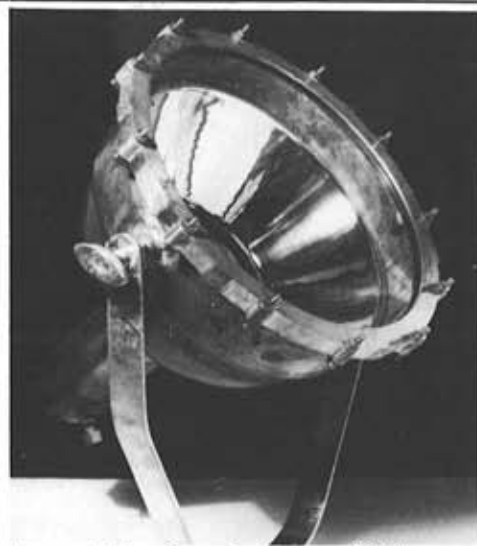


The first Coemar projector specifically for discotheque - 'Explorer' - was introduced in 1961.



An Explorer with a fluid disk wheel and drive unit.

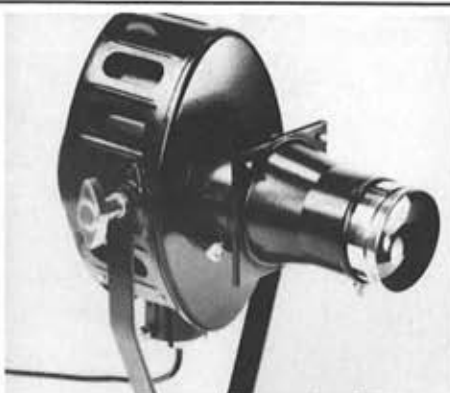




A copper lantern for underwater use (1961).



A complete range of outdoor lanterns.



The Coemar 'Giant' 500W profile (1957).



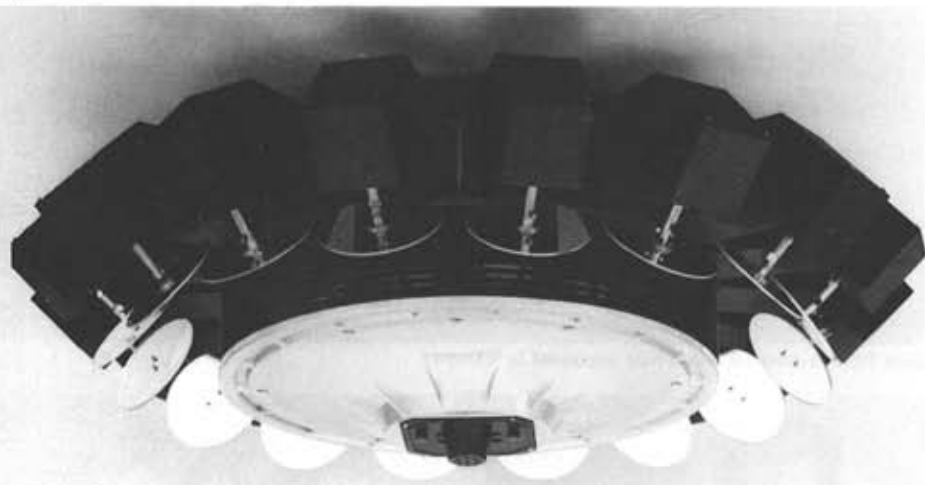
The 'Jodolux' lantern for outdoor work.

Coemar Specials Past



A lantern for long distance outdoor work (1946).

Special Effects Present . . .



Two of Coemar's latest effects - the 'Piovra' (above) and the 'Astuto' sound-to-light beam scanner (below).



With world markets at Coemar's feet, Bruno Dedoro's attitude to products is unselfish and confident. "Our products are exclusive to our own design, whereas theatre products are the same the world over. Discotheque products are individual items from different companies."

The strength behind this self-belief in a product's 'designer' label is in the company's expertise in using die-cast components. "I have always believed in die-castings, and people recognise our products by their style. We have our own design and systems for products and in this way the company has become specialised in this field. Other companies may be better than us in sheet metal work, for instance, but die-cast products are our trade mark."

Die-casting also helps keep the number of component parts in a product down, but it is also expensive in terms of investment. It needs an investment of around £175,000 to tool-up for a major product at today's rates. And playing the numbers game with the firm's computers produced some interesting results. In 1987 Coemar had 101 regularly used main die-castings, and used a total of 228,420 die-cast components in the same year to make up a catalogue of 180 different products and accessories, not including worldwide variants.

The total staff number 74, with another 40 or so on sub-contracting work. And it turns out that the sub-contractors, now busily establishing their own little enterprises, are all former workers from Coemar. Why? I asked. "To gain space, and because it's every Italian man's dream to be his own boss," said Bruno Dedoro. "The most important thing for a product is the tooling - not the factory building. A woman of 20 in jeans is better than a woman of 60 in very expensive furs. You have to keep your priorities right."

Point taken, but Coemar do have very expensive and smart-looking premises, recently expanded with the addition of a newly-built 27,000 sq.ft. production, design and test complex that also houses the offices of Teatro, the new Coemar/Mike Lowe partnership discussed earlier in this issue.

New products have to keep coming on stream for the entertainment market, and it



The design office is now situated in the new 27,000 sq.ft. industrial unit.



A Piovra effects unit in production.



The highly successful Coemar Robot, and below a bank installed at 'The Escape' in Amsterdam (see L+SI December 1986).



Bruno Dedoro with designer Angelo Boffelli.

is Dedoro again who usually conceives them. "It comes from an understanding of the market. I listen to customers' suggestions and know immediately whether such a product can be achieved or not," he explained.

There will be new things at SIB in Rimini this month, including the launch of a new projector range - as yet un-named - with a new 700 or 1200 watt high output discharge lamp source. "A new lamp and a new lantern," said Dedoro. In the near future there will be a new effect for TV and concert use, and further new products will be launched at Photokina later this year.

But possibly the main development for the future of Coemar is its return to the field of stage lighting and the founding of Teatro.

"We started Teatro because we wanted to make something different, but it was also something in our blood.

"After such a long time we'd lost track of theatre, so in order to satisfy the need it was not enough just to have products. We needed someone who knew the market very well, and that's why we persuaded Mike Lowe to join us after he left Strand Lighting."

Bruno Dedoro's philosophy is simple. "I have a simple life, and the factory is our life. Everything goes into the factory. We live by the success of the company and we owe everything to Coemar. In addition, our designs have to be right.

"If you want to have progress, that's what you have to do."



Into the future: Bruno Dedoro and Mike Lowe pictured at Magis, Rimini in May 1987 - for the official launch of Teatro.



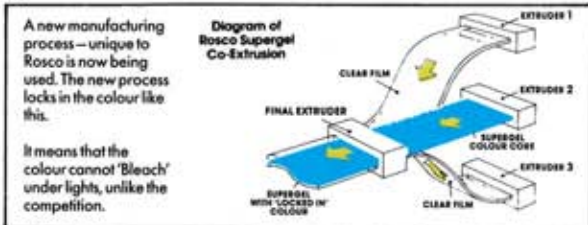
The Teatro stand at Magis, Rimini in May 1987.



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Sound Eighty-Eight

Graham Walne took a look at the newly established exhibition of the Sound and Communications Industries Federation held in February at the Heathrow Penta Hotel.

To my colleagues with grey hair, let me say that all is not lost. Some things in this world **do** return to the standards of yester-year. In the L&SI issue of June last year, I gave a less than favourable review to 'SoundComm', the exhibition which had previously been held under the banner of the Association of Sound and Communications Engineers. This year all is well with the world, since the exhibition is back once more in the capable hands of Ken Walker, chief executive of the newly formed Sound and Communication Industries Federation, and who has recently been awarded the MBE in recognition of his work in the industry.

This year the exhibition was held in February at the Penta Hotel near Heathrow, a more convivial venue to visit than last year's. The 49 stands were housed in two small adjacent halls and I can't help thinking that in an industry like ours, where everybody knows everybody else, the intimacy of small venues is an advantage. My introduction to the Penta was initially frustrated by the absence of the hotel's courtesy bus and so the fact that my review of necessity concentrates on a few stands in no way suggests that the others had nothing interesting to say.

The first face I saw was that of Martin Prescott of Celestion, a name that we see more and more of now in the night club and professional audio market. This is very much due to the success of the SR series. Celestion have always had a name for quality loudspeakers but the SR is rapidly being talked about for the way in which the power and quality are provided from a very compact source. L&SI will be taking a closer look at Celestion later this year.



Sound Eighty-Eight opening line-up (left to right): David Hopkins, chairman of the Association; Norman Crocker, immediate past chairman; Gisela Burg, managing director of Expotus Limited, who opened the exhibition; and Ken Walker MBE, chief executive of the Sound and Communications Industries Federation.

Visitors to sound exhibitions can become dazed by the similarity of either loudspeakers or mixing desks or both, but Sound 88 had an excellent variety, and my eye was caught by the new Remix desk from Hill Audio. My interest is particularly

limited to theatre where value for money is crucial and the Remix 24:8:16:2 is excellent at a list price of £3499 plus VAT. There are many theatres which require excellent recording and remixing facilities for effects, coupled with increasing



Celestion's SR Series - a continuing success story.



Soundcraft displayed a variety of sound reinforcement consoles.



Audilec are now exclusive UK distributors for R.C.F. of Italy.



Studio 1 Electronics - Bryan Morris shows their discotheque equipment range.



Graeme Harrison of Hill Audio with the new 'Remix' mixing console - a first showing in Europe.

pressure to mic-up shows when actors cannot project, and these needs are often complicated by theatres with thrust or island stages. As a result the Remix's eight outputs or sixteen track monitoring facilities are invaluable. The desk has some well-designed features as Graeme Harrison explained: "We are now big enough to have items made to our design so there are a number of significant improvements, large and small."

Nearby, Shuttlesound were demonstrating a wide range of products and this reinforced Steve Smith's view that the company was now concentrating on a total service. Of course most people



Paul Farrah Sound with their exclusive Metro Audio range.

know Shuttlesound primarily through Electro-Voice, and they have recently also acquired the Altec agency, making the company's loudspeaker section particularly strong. Among other products was the TEF portable computer which is provided with a wide variety of software packages including acoustic analysis through Time Delay Spectrometry.

In similar vein the Bose computer attracted considerable attention and every time I passed the stand the floor was littered with building plans. Look out for the Acoustimass loudspeaker system which is aimed in their literature at the domestic

market but which can have many applications in entertainment. This system comprises two separate cubes which each house two 2.5" wide range drivers and which work in conjunction with a separate low frequency unit. So far I haven't seen any measurements for the system but the power and quality are impressive.

Power and quality are words often associated with Turbosound and this exhibition marks one of the few times that their familiar acoustic tent was missing (because of space). As a result a section of a Turbosound cluster was rather more visible than usual and frankly I thought this was an advantage because it is impressive: I have never understood how anyone can seriously listen to loudspeakers in an exhibition, acoustic tent or not. Among the new products was the new TSE 211 with the 215 being shown in the fast-assembly cluster for the first time.

Paul Farrah is a well-known name in sound hire and now the company are putting that expertise into sales. Chris Gilbert listed for me some of the company's agencies which include Martin, Nexo, C-Audio, Anchor, and Metro. All products offered for sale are used in the hire company, so they are proven, and there is a pool of knowledge available about their use.

The name Klark Teknik is synonymous with equalisers, and the company has recently launched two new models, the DN405 five band parametric and the DN410 dual five band parametric. What caught my eye however was the literature on a new monitor loudspeaker, the Jade one MkII, the result of a joint development programme with Munro Associates.

I am sorry I couldn't stay longer, because the mix of products and the intimacy were attractive and it made for a very interesting afternoon.

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Sola Kulturhus

John Offord goes to Norway to see an exciting new community culture centre at Sola, near Stavanger. Director Ernst Schonborg and Eurolight's Nick Mobsby described the project.



Some of the massive monies that have been taxed from oil company profits and dispersed into the Norwegian government financial systems have found their way back into local community coffers throughout the Country, and the cultural field hasn't been forgotten when the dividends have been declared.

With a population of only four million people in a country the size of Great Britain, the share-out per community comes in big numbers. At Sola, with a population of only 15,000, and situated about 10 miles from the city of Stavanger in the south west of the country, the local community has invested no less than 75 million kroner - over seven million pounds sterling in their new centre. And the building is fully paid for. There are no borrowings and no resulting interest charges to burden the ratepayers for years into the future.

Sola Kulturhus was officially opened on 21st November last year and includes a main 445-seat auditorium for all kinds of stage events, concerts and films, a small concert hall seating 124, and a television studio that can also double as a studio theatre for an audience of 120. Performances can also take place in the foyer - a large open area that will easily cope with up to 400 people.

And that's only the start. The complex has a wide range of additional facilities including meeting rooms, music teaching rooms, youth club facilities and so on, and everywhere you look it's the proliferation of equipment that catches the eye.

Director of the Kulturhus is Ernst Schönborg who conceived the project with the community's then mayor, Kåre Kvalvik. "Local communities in Norway are very keen to support culture, and Sola is a leader in this area," he explained. "There is a roaring trade in amateur activity, and Norwegians are committing money to leisure in a big way."

Sola is one of the richest communities in Norway, and certainly it reflects in the high standards achieved at the Kulturhus. "The building has technical equipment for the age we live in," said Ernst Schönberg. "It is a building for a profuse mix of activities, and hopefully for every group in our society. We are trying to meet all the cultural needs of the community, and with the technology installed here we feel we can do this much better than any other venue in Norway."

"We can also give facilities to amateurs so that they can perform under conditions which only professionals can usually expect. We are hoping it will be a great stimulus, and that there will be a wide development of artistic activity as a result."

"To help people to create, and move them away from too much television we need to inspire them. People in future ages will have

much more spare time, and you have to invest in facilities for them to invest their own time in."

Investment in equipment saw UK company Eurolight Limited win a £500,000-plus contract for stage lighting and dimmers, communications and stage management systems, and stage machinery. Managing director Nick Mobsby acted as technical adviser and consultant for the project and worked closely with the Kulturhus technical director Hans Ree from May 1986 to ensure the building contractors and project architects took account of what was needed. "We had to work hard to persuade the builders, and to modify drawings to get what we wanted," explained Nick Mobsby.

"We looked at the whole package and then decided who we would work with from the UK. We discussed the question of stage machinery with Alan Cohen of A. S. Green, and Don Hindle of CCT Theatre Lighting put together a very attractive lantern package. With both companies' assistance we won the order."

"The Norwegians are very skillful with advanced building methods for modular constructions, so they were comparatively cost-effective in that area, leaving adequate funds for technical equipment. This was very important. Another aspect of the design is that the Sola Kulturhus can go on expanding with both facilities and equipment, and the building has been designed and fitted out accordingly - for instance, a stage lift is due to be installed in the near future."

Nick Mobsby made at least ten trips to Norway in the run-up to the opening. "It took over a hundred days of activity just to get the package together," he explained. (He hopes the pay-off will come in the near future, with the Sola project now acting as a very useful 'shop window' and with half-a-dozen other communities in the country showing more than a passing interest.) "Really what they are looking for is a turnkey package, and I think we can score in this area."

I asked Nick Mobsby to highlight some of the difficult areas on the way through to completion. "After the obvious struggle to explain technical matters in a different language, we had to show good reasons why the client should deal with us. The chain of distribution is costly in Norway and a turnkey package obviously saves money. At the same time we had to make sure we went to local dealers in the country for some British equipment otherwise problems could occur in future if they think you are short-cutting them. Obviously very careful consideration has to be given to these aspects."

"As most people in the industry will be aware, NEMCO standards are very tough. They are a very efficient authority and they have immense power. But we found they were a very easy authority to approach if you had something you were unsure about. They even came to England - at their own expense - to check things out and look at other installations to see how things were done here."

"Cabling in Norway has to be either on



Serving the community: rehearsal for a 'Familiekonsert' in the main auditorium, Sola Kulturhus.



Part of the attractive and expansive foyer area, with restaurant and library in background.

'trays' or ladders. They even said in our case that only one 'level' of cable could be laid. The result of this was the 'walls' of cable backstage at the Kulturhus. However, so much cabling was required in certain areas because of all the interconnections to make the building as flexible as possible, that we had to try and persuade them to accept trunking. We showed them some typical UK installations and they accepted our suggestions.

"I believe there is now a memo doing its rounds from the authority suggesting that for future installations using high density cabling installers should take a look at the Sola Kulturhus.

"With the various contractors involved we all had to learn to work with one another in this area. It always requires a lot of diplomacy from all sides, and also very careful planning from the UK end. This is probably one of our biggest strengths from the UK side. We are used to dealing with other contractors on various installation projects,



Technical director Hans Ree (right) with deputy Jan Gronning.



The Eurolight stage management system.



Nick Mobsby (right) and Rob Hurl of Eurolight pictured on the main stage at the Sola Kulturhus shortly before the opening of the venue in November 1987.

so working with other teams is commonplace.

"I think this is also where PLASA can help in the future with co-ordination of the British effort. The market is there, and a huge area of industry can grow into it. We need to make products that will fit right across the various market-places - most particularly in Europe. People like Zero 88 for instance are very conscious of this type of approach."

Man in charge of the stage engineering work was David Collier, projects manager for A. S. Green & Company (Lancashire) Limited, and I asked him about the background to the scheme, and how they approached it.

"In 1986 we provided a detailed scheme for the design, supply and installation of the stage machinery for the main concert hall at Sola," he explained.

"With a restricted fly tower height, conventional flying facilities were impractical; therefore powered flying equipment appeared the ideal solution. Powered flying sets with the majority being operable on fixed speed and the remainder by variable speed controls was the initial brief. To increase the flexibility Eurolight specified variable speed control to all flying sets with the option of selecting any 5 sets at one time, with the remaining sets operable on fixed speed. A total of 21 sets were provided. Each flying set comprises a 5-line suspension system with aluminium ball-raced multiple sheaves - all lines terminating to a 500kg load capacity pile-winding hoist unit located on the stage left fly gallery wall. All the equipment was operated from a main control panel located on stage left or from two remote positions," said David Collier.

"Following further discussions and submission of 13 detailed drawings, work was underway and we found ourselves on site carrying out what was a prestigious and exciting project," he continued.

"To complement the stage, as part of the composite scheme, electrically operated F.O.H. tabs and two manual winch sets were provided. A 12 metre electrically operated roller projection screen, tab tracks and stage accessories were also provided, whilst in the TV Studio a twin cyclorama track and retractable seating for 100 people is being installed. All A. S. Green supplied equipment was tested by Norwegian acceptance personnel who confirmed that the installation complied with or was better than their requirements. Fortunately, we had the opportunity of seeing the project through to fruition and achieving the ultimate satisfaction of the completed scheme."

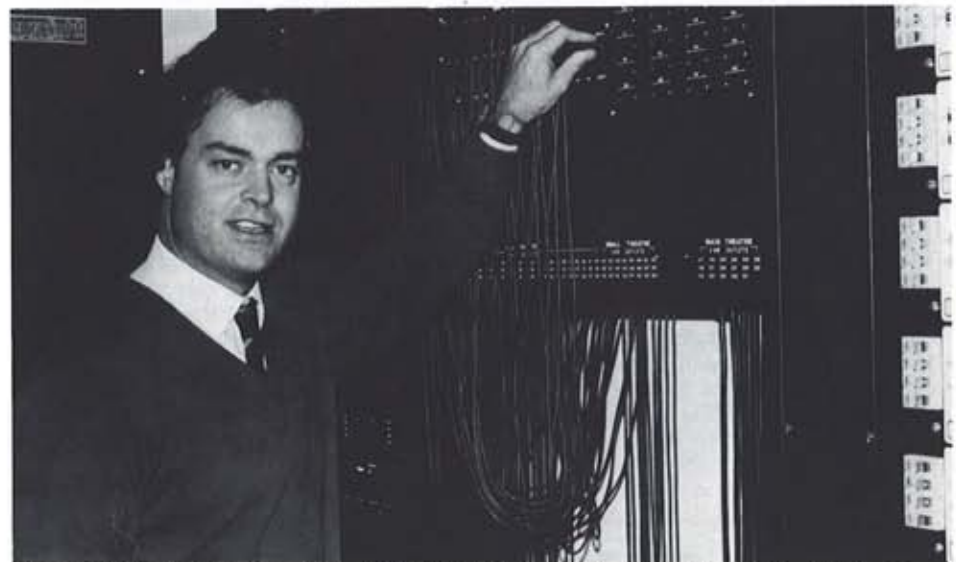
When I visited the Sola Kulturhus in early



Hinged panels on the auditorium walls can swing round and open like a book to alter the acoustic.



The small concert hall seats 124 people.



Nick Mobsby backstage. Demands for technical flexibility made for a highly detailed installation.

February everything was successfully up and running - and you had the feeling it had been like that from the word 'go' back in November last year. It was already being us-

ed extensively, and as this year and future years go by, more and more facilities will be brought on-stream and the venue will get busier and busier.

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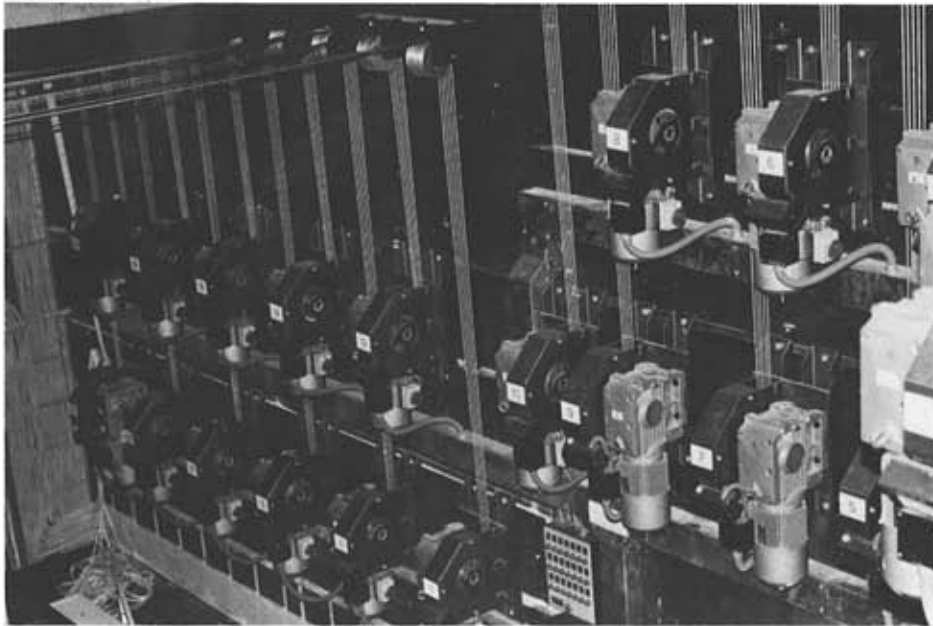
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The stage left wall includes a total of 21 x 5 line 500kg load capacity pile-winding motorised hoists mounted on channel rails.

The extensive range of equipment installed will be evident from the lists included in this feature, and the centre will obviously become a focal point for live performance and teaching. There are two other areas where the Kulturhus will also play an important role: cinema and television.

The main auditorium will be used as a cinema on frequent occasions, and the programming will be managed in conjunction with the Stavanger Kulturhus in the City centre - an eight-screen venue that also includes a library and visual arts facilities. Again, the latest equipment will play a key role at Sola. There is a completely automatic cinema system that can be put into operation by one man pushing a button in the box office, and

cinema can operate in either the main or small halls. In the main hall there are four screen formats: normal, wide, super wide, and cinemascope. Electro-Voice speakers and surround sound are driven by Altec-Lansing amplifiers.

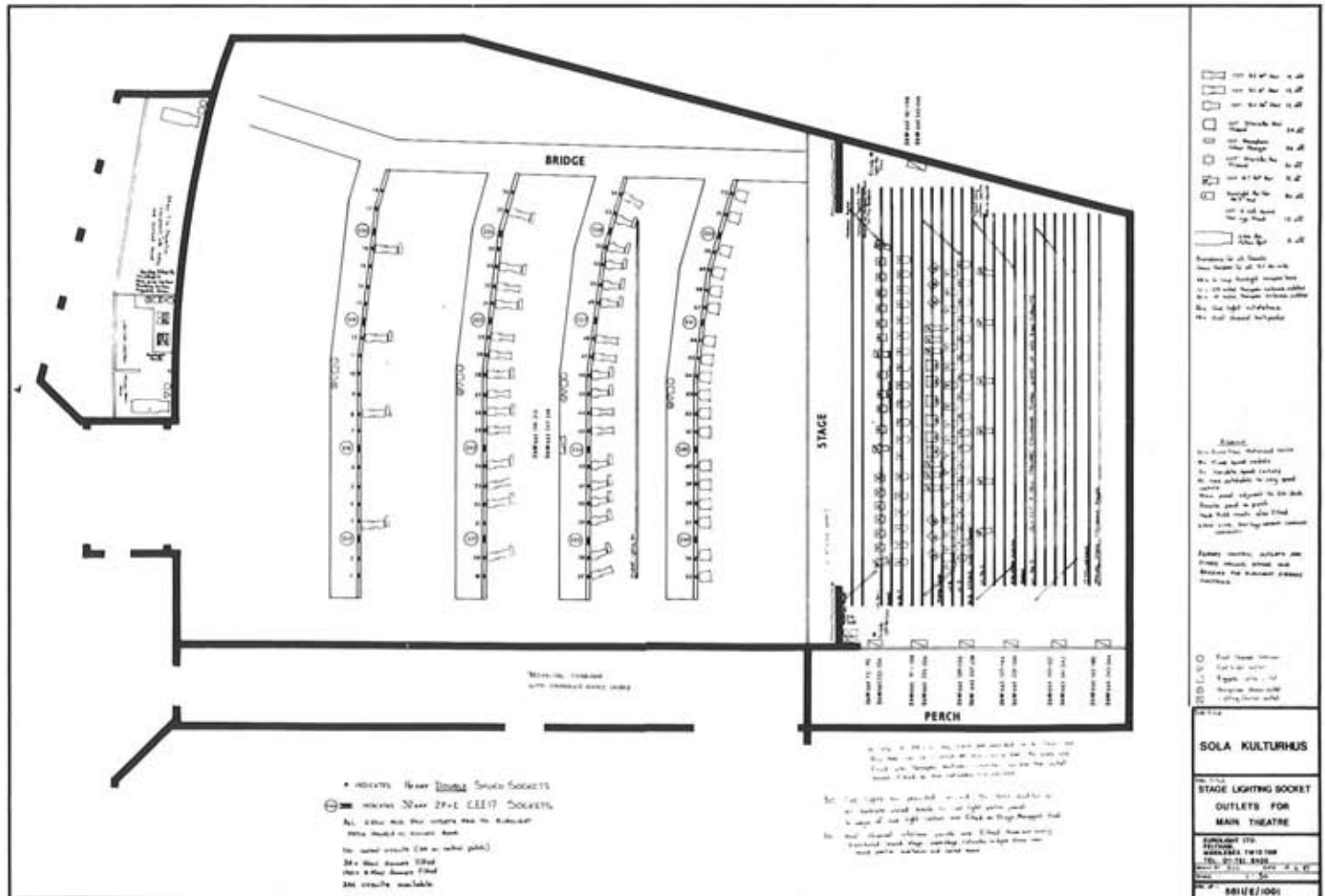
But it is in the field of television where director Ernst Schönberg sees huge potential for Sola Kulturhus. The television studio was nearing completion at the time of my visit, and it will become the station for the local area with high hopes that in the near future Norwegian National Television will be using its facilities. And to back up this confidence the video editing suite had around £250,000-worth of equipment laying about awaiting final connection.



Cable-clad walls - only one 'level' of cable was allowed, on either 'ladders' or 'trays'.

Despite being excessively well-equipped the Kulturhus retains a human dimension, and without that it wouldn't even begin to work. From the library to the youth club building its own discotheque lighting rig, and from an exhibition of French sculptural art forms in the foyer to a children's concert in the main hall and wind ensemble practice in the small hall, it was sucking in its main ingredient and the expensive equipment was there for use and exploration.

A small 15,000-town in Norway has an 'arts' centre many cities and towns in the UK of more than 10 times that size of population would give their right arm for. And I hope the local population consider themselves extremely favoured.



Equipment at Sola Kulturhus

All equipment is interchangeable and inter-connectable, and is continually being added to.

Sound (by Lyd Compagniet of Solbergelva, Norway)
Sound distribution system:

The house has a permanent sound system for the distribution of radio, music, mic signal and announcing on four individual programmes to most of the areas in the venue.

Programme 1: Foyer, Meeting Room A, Meeting Room B, reserve, Radio 1, Radio mic.

Programme 2: Cafeteria (2), Meeting Room 1, Meeting Room 2, Radio 2, Radio mic.

Programme 3: Meeting Room 1, Meeting Room 3, Concert Hall, reserve, Radio 3, Radio mic.

Programme 4: Meeting Room 2, Meeting Room 3, Meeting Room 1, Library, Cassette Player, Radio mic.

Main Auditorium:

Mixer: DDA S Series 24-4-2.

Amplifiers: 2 x Renkus-Heinz X3 processor; 4 x Hill Audio DX-2000 amplifier.

Speakers: 6 x Renkus-Heinz SR1; 2 x Renkus-Heinz LR1.

Sidefills:

Mixer: Hill Audio Multimix.

Amplifier: Renkus-Heinz Dynagard RH-2 processor; Renkus-Heinz P-1500 amplifier.

Speakers: 2 x Renkus-Heinz FRS-152.

Monitors: Hill Audio DX-2000 amplifier; Speakers 6 x Tannoy 15MT.

Additional Sound Equipment:

Numerous Sennheiser, Shure, Audio Technica, Azden and AKG mics and stands.

8 x Bel active direct injection boxes

2 x Drawmer DL221 compressors

1 x Drawmer DS201 noise gate

1 x Yamaha REV-5 reverb unit

2 x Rane GE14 graphic equaliser units

1 x TC2240 parametric equaliser

1 x Audioscope 2813 audio analyser

1 x Denon DRM44HX cassette deck with rackmounts

2 x pairs Rogers RM2 speakers

1 x HH VX900 power amplifier

1 x HH VX600 power amplifier

1 x Harrison SP7 mixer

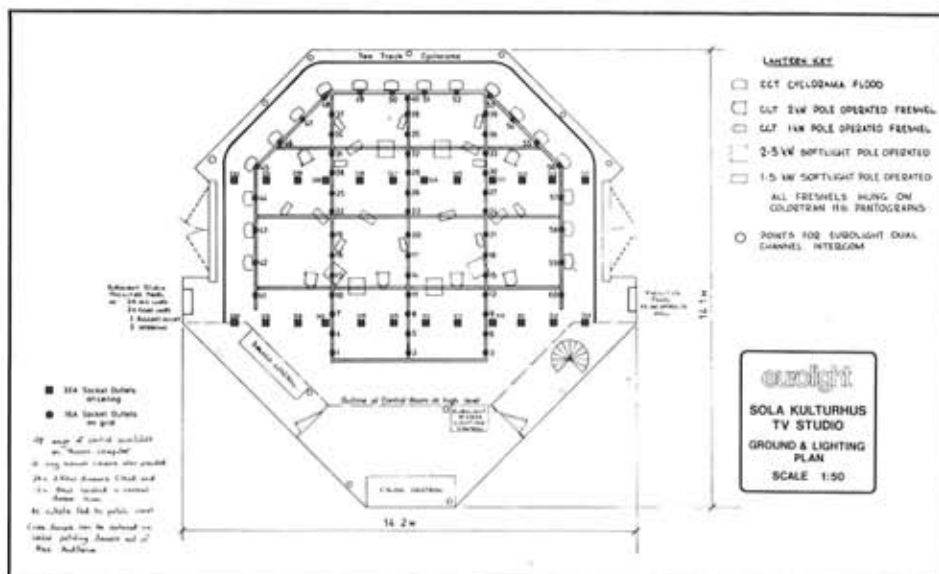
3 x Technics SL1200 turntables with Stanton 680EL cartridges

1 x Yamaha SPX90 Mk2 effects unit

2 x Drawmer M500 processors

1 x Klark Teknik DN360 equaliser

1 x Soundcraft 600 24 input mixer (for Music School)



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Green Ginger, 12 channel manual control (small concert hall)

Colourchange: computer colour change system 24 CCT

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80 x 1k LSD Par cans

2 x Ultra Arc followspots

12 x CCT cyc floods, 4 compartment

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Lanterns: (small hall)

12 x LSD 1k Par cans

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Communications: new Eurolight dual channel belt pack system.

Video Equipment: (Edit Suite)

Below is a summary of main equipment only.

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Sony BVH 2000PS 1" video tape machine

Sony Betacam Player BVW10P

Vision Mixer: Grass Valley 100

GML Merlin field frame store/effects unit

Edit controller: CMX 330XL

Sound mixer: Soundcraft 200B

Caption Generator: Quanta

Preview monitors: 5 x CCTV 909, 4 x Panasonic

BT-M1400, 2 x Phillips LDH6200

Colour monitors: 2 x National Panasonic BTD 2000

Amps and Speakers: Phillips 567

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Discotheque Round-Up

Granada complete their 'Options' at Kingston Upon Thames; First Leisure turn Eastbourne Showbar into 'The Roxy'; Olivers at Hereford is now 'Charlie Parkers'; and 'Gullivers' is back in London.

Kingston Options

The final phase of Granada's £3m 'Options' complex at Kingston Upon Thames - a nightclub - opened in early February. It is the first complex of its kind that Granada has opened, and also comprises a café bar and three cinemas.

The first phase - the café bar, which open-

ed in October, 1987 - was built alongside the original cinema where previously there had been a row of shops. Two of the three cinemas have been built downstairs in the original building, and the third is above the café bar. All three were opened on December 11, 1987.

The nightclub was designed by Tibbatts and Co of Birmingham and contractors were John Lelliott. A steel floor was built from the edge of the original circle to the former proscenium arch forming the basic shell for the nightclub. It has been decorated in soft

shades of pink and blue with highlights of silver and masses of mirror glass, and the building's glorious domed ceiling now provides a golden roof above the nightclub's geometric dance floor.

An extensive Bose sound system was designed and installed by Birmingham-based TEC Limited and the system extends right through the complex, from the continental-style piazza to the discotheque, which has capacity for 750 people. 301's feature heavily in the café bar, and in the area serving snacks and fast-food meals. In the piazza, Bose 402 column speakers have been wall-mounted, and they are also being used as in-fill around the edge of the dancefloor area.

In the nightclub, the dancefloor has the Bose 802/302 combination, with an impressive total of six 302 bass bins and eight pairs of 802 loudspeakers. With two pairs of 802s each side of the stage, one can count more than 80 Bose speakers in what must be one of the largest club installations in recent months.

TIC designed the lighting rig and supplied lighting and effects equipment, with the contract for installation going to Lightfactor who supplied the rig and fitted the equipment. The pyramid shaped blue Meroform construction is supported on three neon-clad pillars, leaving the ceiling untouched. Lighting control is based on Light Processor Commanders.

A full Equipment List for 'Options' is included on page 56.



The lighting rig at Options, Kingston is supported by three pillars, leaving the splendid ceiling untouched.



The new Gullivers in Soho. Brian Davies provided the sound, lighting, and video set-up.

Showbar into Roxy

First Leisure, owners of Eastbourne Pier in Sussex, have spent £200,000 on turning their 'Showbar' venue into 'The Roxy' - a 730 capacity up-market discotheque with two dance floors, and a diner bar - and revamped it in their own traditional style.

The lighting rig has been re-jigged and a handsome amount of Tivoli fluorescents and neon added to the scheme. The £50,000 lighting contract went to Effects Lighting of Leicester who also added 90 Par 36 spots to the peripheral areas and 16 Dichroics to bars, pay and cloak areas. Control is by Mode 5 units.

The biggest change has seen a completely new sound system installed by The Music Company of Bradford. Based on Turbosound 4 x TSE111 mid/high cabinets and 6 x TSE118 bass cabinets, other equipment taking care of dance floor sound includes: 2 x Matamp Q1000 amps, 1 x Cloud DM600 mixer, 1 x Matamp crossover, 2 x Technics SL1200 turntables, 1 x Teac V210C cassette deck and a CD player.

Peripheral sound includes 10 x JBL TLX3 speakers with a Matamp Q500 amplifier.

Official opening of 'The Roxy' was due for March 3rd.

Olivers to Charlie Parkers

Former Hereford night spot Olivers has recently changed hands and its appearance and become 'Charlie Parkers', and local company Studio 1 Electronics' installation division was given just four days to get the new-look club open for a private function. The complete sound and lighting systems were substantially revamped in a £10,000 refit.

Supplied to the venue were an eight-head Unicopter, a Kremesa Music Flash, four-head motorised and static pinspot banks, and Anytronics strobes. Control of lighting is by Mode touchpanels and an NJD Logic 8000 controller. Studio 1 also supplied a new 'Showman' discotheque console, and additional Super 10 speakers to augment the existing Clubmaster speakers.

"The additions to the sound and lighting system in Charlie Parkers has made a considerable difference to attendances and revitalised interest in the club", partner Roddy Hankins told L+SI.

Gullivers Again

One of the oldest and most popular up-market London Clubs, Gullivers Night Club, recently found themselves with an expired lease and no long term future in their Mayfair location. The choices left to the directors were to look for an existing club to take over, find new premises and start from scratch or leave the industry altogether.

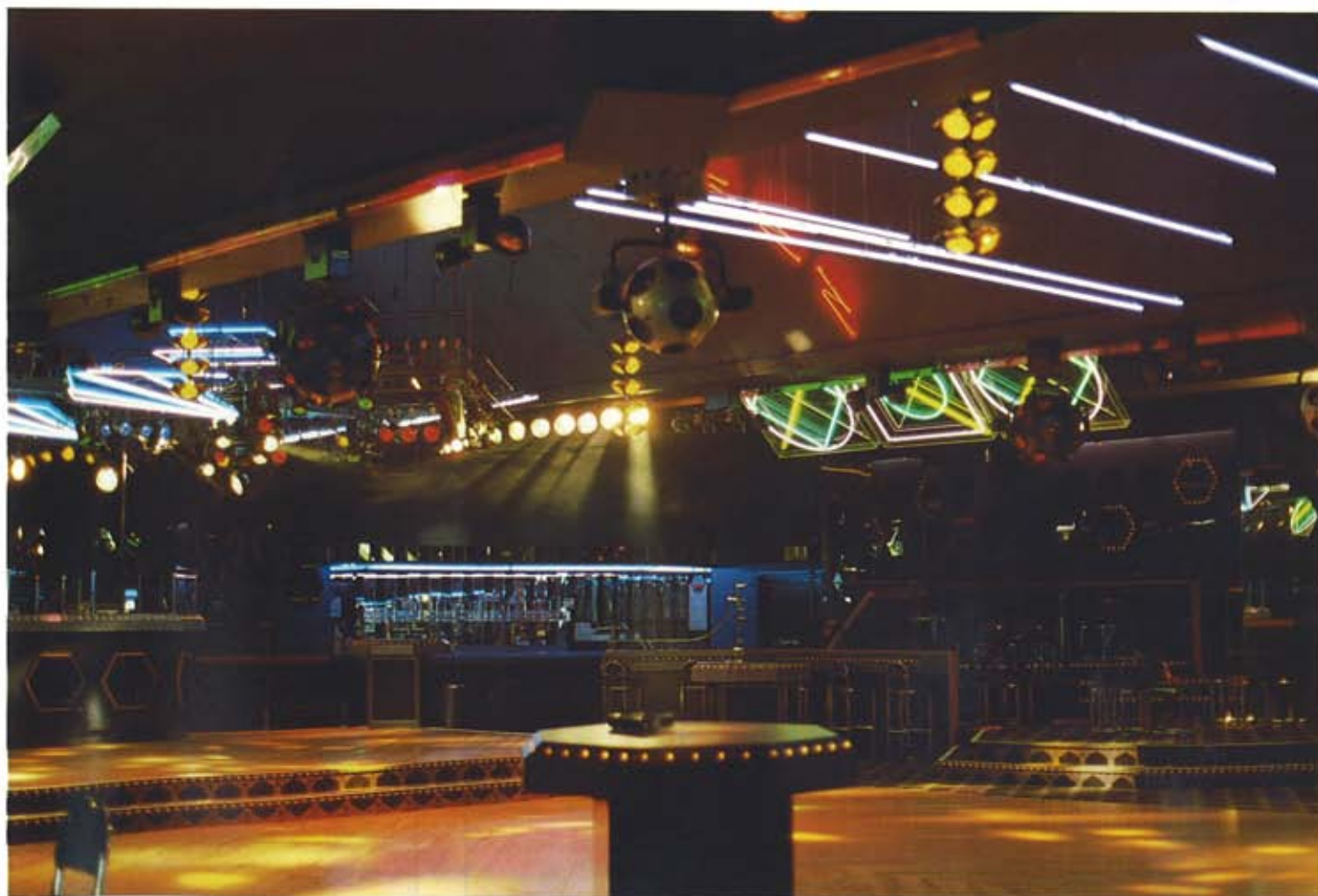
As many will already know one of the directors, Phil Tibber, had already decided to retire leaving Graham Davies to take over



Studio 1 Electronics of Hereford looked after a complete re-vamp for the new Charlie Parkers.

the reins. Davies finally decided that the advantages of starting from scratch outweighed the disadvantages - the advantages being having a new club designed and built to his own specific requirements, and that hopefully his existing clientele would follow the club to its new location. The disadvantages were the red tape involved in obtain-

ing all the necessary licences in otherwise virgin premises. Having made the decision, the hunt was then on for a suitable location, and final choice of Ganton Street in Soho was made. This location comprised the basement under six shops close to the Carnaby Street pedestrian precinct, and planning permission was eventually granted. After many



The former 'Showbar' at the end of Eastbourne Pier is now 'The Roxy' after a £200,000 refurbishment.



The completed Granada 'Options' complex at Kingston Upon Thames. Similar Granada mixed media venues are expected to follow.

sleepless nights all the other licences were finally obtained.

Brian Davies was responsible for the sound system, the lighting show, the video equipment and the security television set-up. Gullivers is a very up-market, laid back club so the sound system had to be of first class quality and contained mainly on the dance floor area. The lighting had to be sophisticated and cater for an up-market client and was based around Zero 88 Mercury, Orion and Touchlight controllers together with a Laser Systems' Minilight. The luminaires consist of many pinspots plus three items from the Clay Paky range, two 10 unit waver bars, two Galactics and two Astroraggis. In the event the lighting worked out well and is sufficiently versatile to be both very effective but not intrusive in a small-club situation.

The sound system is based around the usual Technics decks of which there are three, whilst the electronics are mainly from the Cloud stable. A combination of Fane coaxials and McKenzie bass drivers in the ceiling comprise the loudspeaker network. An

entirely separate loudspeakers and mixer system is installed for artist PA's comprising a twelve channel Roland self-powered mixer, monitor loudspeakers and audience loudspeakers. The video system is typical of a small club, utilising two twenty-six inch monitors plus a twelve inch monitor for the DJ. A low light CCD colour camera is to be installed for recording PAs. The security system consists of two remotely controlled vidicon cameras with the controller and monitor at reception, which is at street level.

Decor at Gullivers is based on black and gold with plenty of mirroring - bronze around the seating area and silver around the small dance floor.

Equipment at 'Options', Kingston Sound

- Café Bar**
 6 x pairs Bose 301 (upstairs)
 6 x pairs Bose 301 (downstairs)
 1 x pair Bose 101 (toilet)
- Piazza**
 2 x pairs of Bose 402w loudspeakers



"ere Bill - that was no hurricane - it was the first night at The Roxy!"

Night Club

- Dance floor
 3 x pairs Bose 301 bass loudspeakers
 4 x pairs Bose 802 loudspeakers (B1-amp)

Stage

- 4 x pairs Bose 802 loudspeakers (full range)
 2 x pairs each side

Disc Jockey

- 2 x pairs Bose 802 loudspeakers (full range)

Infill

- 8 x pairs Bose 402 loudspeakers

Fast food infill

- 2 x pairs Bose 301
 2 x pairs Bose 101

Foyer

- 1 x pair video monitor 301 loudspeakers

Ancillary Equipment

- Café Bar
 1 x TEC 2000 series 2 VHS Hi-Fi playback system
 1 x Formula Sound PM 80 mixer
 1 x TEC 3/zone control unit
 2 x H/H V x 600 power amplifiers
 1 x H/H V x 600 power amplifier
 1 x Sony auto-reverse cassette machine

Night Club

- 2 x Formula Sound PM 80 mixer units (1 x DJ) and (1 x Stage sound)
 3 x Technics SL 1200 Mk2 turntables
 1 x Technics SPL 1200 compact disc player
 1 x NEC VHS hi-fi music player
 2 x Shure radio microphones (SM57) with belt pack-transmitter

Night Club Amp-Room

- 3 x H/H V x 900 power amplifiers (Bass)
 5 x H/H V x 600 power amplifiers (802)
 4 x H/H V x 450 power amplifiers (402)
 2 x Bose 802c system controllers
 2 x Bose RMK 8 Rack Mount Kits
 1 x Harrison SP2-pre-amplifier
 1 x Sony auto reverse cassette machine
 1 x H/H V x 150 power amplifier
 1 x Harrison GP 230 graphic equaliser
 2 x Pulsar 20u steel equipment housing racks

Fast Food & Foyer

- 1 x H/H V x 300 power amplifier
 1 x H/H V 150 power amplifier
 1 x TEC 4SM four deck stereo cassette machine
 1 x Harrison SP2 pre-amplifier (1 x feed from DJ) and 1 x feed from 4SM)

Lighting

Effects Lighting to Main Rig

- 120 x Par 36 pinspots with Halostar lamps to form Perimeter Light Curtain (wired 4 channel + matrix)
 72 x Par 36 pinspots with Halostar lamps to vertical risers (wired 4 channel)
 36 x Par 56 x 100 watt fittings (wired 4 channel + matrix)
 72 x LF70 fittings (wired 4 channel)
 12 x Pulsar Par 56/64 cans with Raylight conversions (wired 4 channel)
 66 x Scatter egg strobes
 6 x Optikinetics Par 50 sound scanners
 3 x Clay Paky Geminis
 3 x Sunflowers
 3 x Horizontal Harvesters
 3 x Bar 110 Rota surfers
 6 x CR4VV pinspot wavers
 3 x Lync Syncro scanners
 3 x FAL Ventaglios
 1 x Sear Player
 6 x Coemar Brilliant scans
 12 x Neon Chevrons
 3 x Neon Risers

Control of Effect Lighting

- 2 x Light Processor Commanders
 1 x Light Processor System Scene Fade
 1 x Light Processor System Sensor
 1 x Gamma Controller for Sunflowers
 1 x Lync Syncro Scanner controller
 2 x Coemar Brilliant Scan controllers

Smoke Effect

- 6 x Le Maitre Turbo Mist remote smoke generators

Stage Lighting

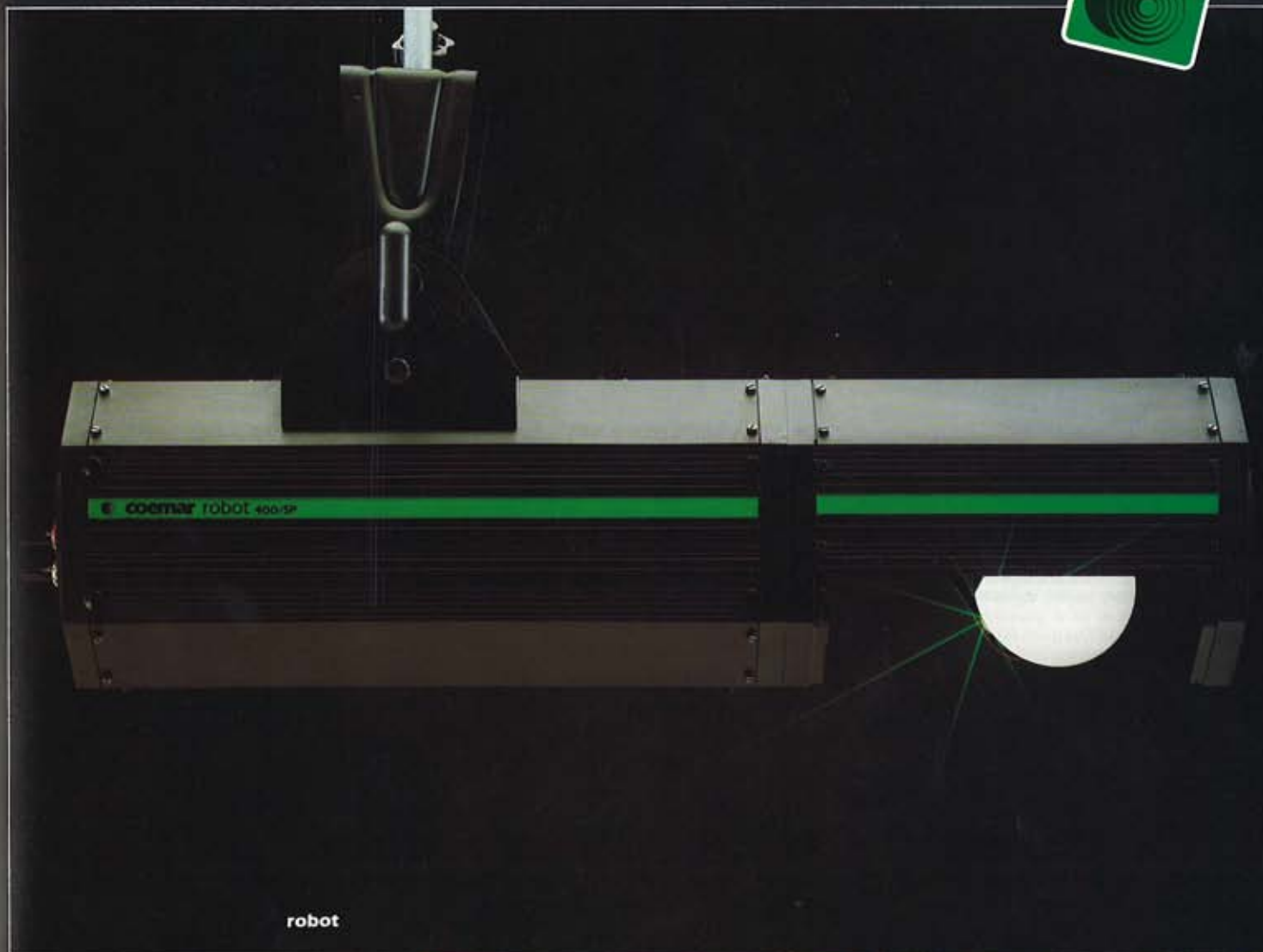
- 24 x Pulsar Par 56/65 cans
 1 x Pulsar Rock-desk

CONDITIONS FOR ADVERTISEMENT IN LIGHTING + SOUND INTERNATIONAL

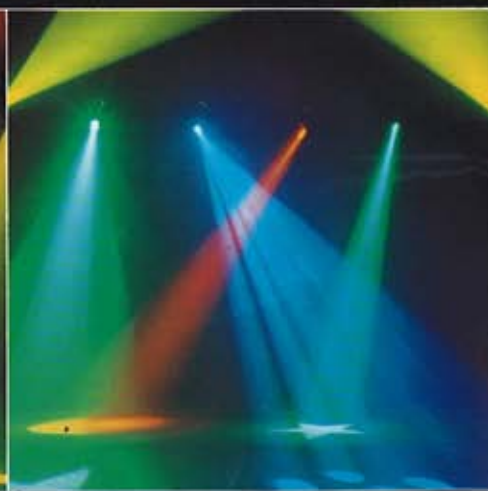
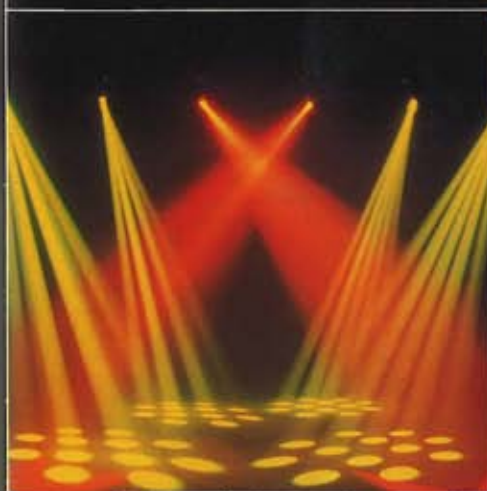
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fax (0039.376) 78.06.57

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EQUIPMENT *News*

ARRI Portable Dimmers

New from Arri (GB) Limited is a high quality portable dimmer pack, which they claim offers a full broadcast TV specification, without costing more than many traditional theatre dimmers.

Diagnostic LED's on the front panel indicate the level of control voltage, load failure and circuit breaker status. High quality circuit breakers and matched thyristor pairs are used for ultimate reliability and extended use at maximum loading.



Arri portable dimmer pack 6 x 23 amp model, with optional local control faders.

Uniquely for a portable dimmer pack, a 'closed loop regulation circuit' means that lamp brightness is unaffected by mains fluctuations.

ARRI portable dimmers are available now in three ratings: 12 x 11.5, 6 x 23 and 3 x 46 Amps. A variety of different socket styles is available, and all packs weigh in at a (reasonably) liftable 34 kilos! (ARRI are quick to point out that light weight is not necessarily a virtue in dimmers, which must contain hefty chokes in order to meet international filtering regulations.)

A permanent installation dimmer range will shortly be announced, by ARRI to complete their dimmer product family.

For full details contact ARRI (GB) Limited, 2-3 Airlinks, Spitfire Way, Heston TW5 9NR telephone 01-848 8881.

FX Lighting Control Systems

Another new product release from ARRI (GB) Lighting Control Division is a range of small manual lighting control systems, intended for use by television and theatre professionals who demand high quality tools at a very competitive price. Interestingly, these systems are available either in neat, briefcase-style flightcases, or in elegant consoles for permanent installation.

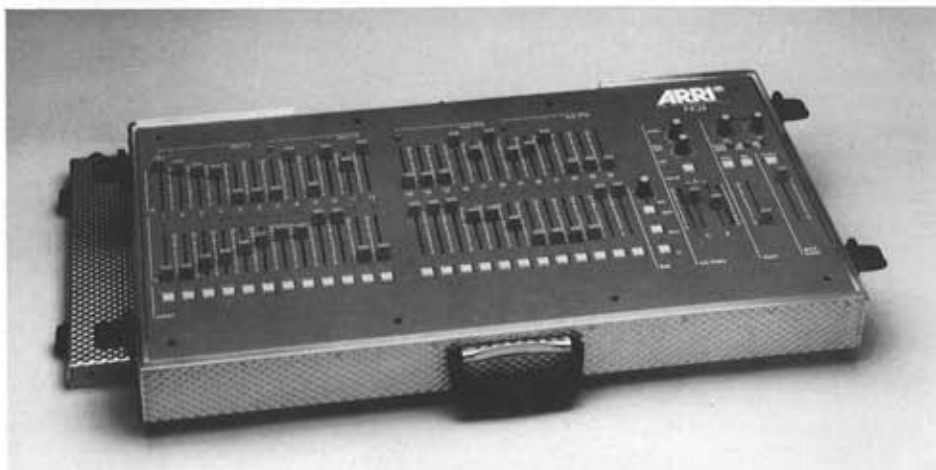
As the name suggests, the new controllers are well provided with special effects functions, in an endeavour to fill the gap in the market between very basic low-cost systems and all-singing all-dancing rockboards.

Programmable flashkeys, chase and audio functions augment a sophisticated split time auto-crossfader, which may be set to run fades between three seconds and five minutes long. Of course, manual control of fades is always available, and the output of each channel is always proportionately displayed by LED's on the operator panel.

ARRI told L+S that the first production batch of FX Control Systems was completely sold out within days of its appearance at the end of last year, but that plenty more FX systems are set to roll off the production line. Another success story for the boys in Heston?

Info Pack from Shermann Audio

February saw the release of a new, full-colour information package from Shermann Audio of Newtown, mid-Wales. It consists of photo sheets in colour, specification sheets, and a recommend-



The Arri FX lighting control system model FX24/FC (24 channel with integral flight case).

ed systems and applications guide.

Although the bulk of the package refers to the Shermann Audio G.X. Series, information is also provided on the PRO-Series of compact systems. With an emphasis on flexibility, the Shermann Audio G.X. Series is available in various types of finish and with many types of fittings and suspension hardware dependant on user's requirements.

To obtain the new package write, 'phone or fax Shermann Audio Limited at 27 Mochdre Industrial Estate, Newtown, Powys, Mid-Wales telephone (0686) 626025, fax (0686) 622018.

Cabletape from Le Mark



Yet another new product is now available from Le Mark that has been originated by their customers in the lighting and sound industry.

Cabletape is a self-adhesive printed vinyl tape over-laminated with a clear polypropylene film to seal and protect the print surface, offering a very high degree of scratch and scuff resistance. It is very easy and quick to apply. There is no need to remove plugs or spend time with shrink film or heat guns as required with other systems. Its solvent-based adhesive ensures a tough strong bond.

Cabletape is ideal for protection and to highlight lighting and sound leads. A wide choice of background colours are available for customer's own logo or colour code systems.

For further information contact Le Mark Self-Adhesives Limited at Unit 24, Stephenson Road, St. Ives, Huntingdon, Cambs PE17 4WJ telephone (0480) 494540.

Heat Off with Rosco Thermoguard

The heat produced by light sources used in theatre, photography, display and exhibitions can be oppressive to people working in close proximity to those lights, but now Rosco have introduced Thermoguard, a brand new product which takes the heat off, making working conditions much more comfortable.

Rosco Thermoguard is an optical grade polyester film, finished on one side with a proprietary vacuum-deposited multi-layer coating. When placed in the beam of a lighting instrument, it will reflect back infra-red energy, effectively reducing transmitted heat. Used together with Rosco Supergel to provide a wide range of col-

ours, it will in many cases replace the use of expensive and limited range glass dichroic colour filters. If the use of colour media is limited by a type of hot light source, a sheet of Thermoguard can be placed between the light source and the gel, with an airspace between them for heat dissipation.

Thermoguard will be of special interest to people working with heat sensitive products and models, particularly photographers and exhibition display companies, as a sheet of Thermoguard clipped in front of the light reflects heat away from the set or stand.

The new product is available in sheets of 12" x 12" and 20" x 24", from all Rosco distributors.

Further technical information is available from Roscolab Limited, 69/71 Upper Ground, London SE1 9PQ telephone 01-633 9220.

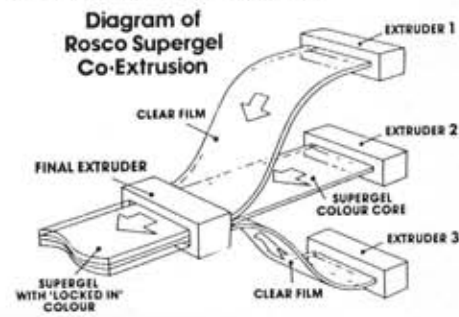
New Generation of Supergel Filters

A new generation of Supergel colour filters from Rosco are made to withstand the rigours of the heat output from today's hot lights, sustaining colour for an even longer working life on stage.

Rosco, who pioneered the extrusion technology required to produce the only self-extinguishing, high heat resistant colour filter, have now perfected a technique whereby the colour of Supergel is locked in, assuring lighting designers that the colour they see in the swatch book and visualise on stage will be maintained. The extrusion process sandwiches a core of colour between two layers of clear polycarbonate (see diagram), thus minimising the possibility of the colour bleaching or fading.

Made to conform to the highest safety standards world-wide, Supergel has won the B1 rating to the German DIN 4102 standard, M1 in France and C1 in Italy and passes the edge lighting test.

Test kits of the Supergel diffusion products are available from Rosco distributors or direct from Roscolab Limited, 69/71 Upper Ground, London SE1 9PQ telephone 01-633 9220.



New Intercom System From Eurolight

After many years of manufacturing one-off intercom systems to client's requirements, Eurolight have now produced a range of standard off-the-shelf intercom products. These have been designed to operate in noisy environments such as rock and roll shows and use a 35 volt dc power supply to maintain a high level of headphone volume. 24 volt versions with lower headphone levels are also available that are compatible with systems such as Clearcom and Techpro.



The Eurolight 700 Series intercom.

The 702 beltpack is a dual channel unit operating via a 5 pin XLR connector. The beltpack is provided with channel A and channel B latching selector switches with associated LED indicators. A latching mic on/off switch is also provided again with an LED indicator. These indicators enable the user to tell immediately the status of the beltpack. The channel indicators also serve another function in so far as they flash when a call is being made on a channel that is not selected and are switched off when a call is made on the channel that has been selected. A momentary push call button with high intensity LED indicators is provided so that other users of the system can be warned that someone is trying to contact them. LED's were selected to ensure high reliability in the field - particularly for touring shows where the life of conventional lamps can be very low.

An active volume control is provided on the front panel that allows for a 20dB variation of the output volume. The level of the user's voice is pre-set at 6dB and this level of sidetone is automatically adjusted when both channels are selected simultaneously.

The 701 beltpack is a single channel version of the 702 unit and is identical with the exception of the channel selectors which are not required. Again 35 or 24 volt systems are available.

19 inch rack mounting or free standing power supplies are available for either 35 or 24 volt systems. All power supplies include a link facility so that additional power supplies can be added anywhere in a large system ring.

Talkback type panels are also available for wall, table or flush mounting applications in either single or dual channel versions. Special versions of these panels are available for control room applications and television requirements.

For further information contact Eurolight Limited, Unit 8, Maple Industrial Estate, Maple Way, Feltham, Middlesex TW13 7AW telephone 01-751 6400.

New Profile Features

Profile of Switzerland have announced new features for their SCC 4000 and SLD 2000 lighting controllers after discussions and requests from users and dealers. The company reported to L+S that the first production of controllers sold out almost immediately, and that the updated versions will be on the market at the same cost.

New features for the SCC 4000 include 4 outputs for strobes, audio input, jack socket and fast-clamp element. A 19" adaptor is also available. For the SLD 2000 there is a 0-10 volt input, adjustable frequency of modulation, and LED has been built into the flash-key, the unit is completely enclosed with a fuseholder on the front, and blank panels for 19" sub-rack are available.

Profile's sole distributor for the UK is Jivlight Limited, 16-18 Greyhound Road, London W6 8NX telephone 01-381 0868.

New Lytemaster

Lytemode's innovative new modular architectural dimmer control products provide compact, flexible, multiple channel, multiple scene systems with electronic memory that are virtually unlimited in their ability to adapt to changing user requirements, say the company.

Through independent dimmer packs the Lytemaster units allow lighting channel intensities to be easily altered and pre-set in the memory as scenes, and these can then be re-created at the simple touch of a button. Each module has been designed and tested to interface with other system modules to provide reliable performance from the simple to the complex lighting configuration. Control panel functions are labelled to be self-explanatory, and system functions are displayed by LED read-outs of scene status and channel intensities.

Features include: multiple scene, multiple channel control with adjustable fade-rate between scenes, manual override, memory lock facility to prevent tampering with pre-set scenes, non-dim channel programming, 10-year memory retention without batteries, washable control surfaces, master channel intensity control, and full panel locking to prevent unwanted changes in the current lighting levels.



The new 'Lytemaster' from Lytemode.

Accessories include a solid state timing device that will activate scenes for one or several systems with an illuminated LCD display, describing the current status at all times, a non-volatile memory, and a wired remote for scene changes with LED indication of scene status.

Lytemaster is suitable for use in hotels, restaurants, foyers, etc and in any other situations where accent lighting may be used to enhance the environment.

For further details contact Lytemode Limited, 3 Dawson Road, Mount Farm, Milton Keynes, Bucks MK1 1LH telephone (0908) 644366.

Master Blaster

In designing the Dutch-manufactured Master Blaster system, all efforts were directed towards producing a top quality sound system with a 100% modular construction that could be constantly updated to take advantage of latest technology. In addition, for a given SPL and coverage angle the smallest possible transport density has been achieved say Master Blaster.

The results of their research lead the engineers of Master Blaster to produce a pair of enclosures, the Supercompact and Impact I that in any combination make up the system. By combining a pair



The Dutch-manufactured Master Blaster system.

of highly efficient 10" transducers with an esoteric 1" compression driver, each coupled to a constant coverage horn, the Supercompact seeks to eliminate the distortion associated with high sound pressure levels. Low end frequencies are handled by the Impact I port loaded enclosure that features a single, sturdy 18" driver. This offers the best in terms of efficiency versus linearity.

Both units house their own crossover and amplifier internally mounted on a 3u high, 19" rack. A completely new generation of shock free amplifiers had to be designed capable of delivering extreme high peak power. The Master Blaster V.C.C.S. power amp module is the size of two packs of playing cards and can deliver in excess of 1000 watts. The input signal is constantly monitored and compared with the acoustic output to guarantee faithful reproduction. In spite of the built-in amplifiers, each cabinet weighs no more than 100 pounds and comes 'roadworthy-equipped' with flying hardware, recessed handles and a one year warranty.

A Delayed Automatic Level Control built into each Master Blaster enclosure offers constant signal maintenance as opposed to limiting or compression of the dynamic range.

For further information contact Master Blaster Europe, Nijverheidsweg 13, PO Box 275, 3760 AG SOEST, The Netherlands telephone 2155 20101.

Siemens on the Ceiling

The new style of fluorescent lamps known as 'compact fluorescent lamps' has lead Siemens to develop a range of novel ceiling luminaires. Modern design layouts and low operating costs are two of the main features of these energy-efficient luminaires.

Developed specifically to utilise the compactness of the new Wotan Dulux fluorescent lamps, they supplement a standard range of luminaires: the principal differences being reflectors that include prismatic sheets, plastic or profile steel louvres and a choice of matt anodised to highly-polished aluminium parabolic louvres.



New standard ceiling luminaires from Siemens.

Cost saving is a major feature of the new range of luminaires. Considerable reductions in operating and maintenance costs are claimed. A type L 11W lamp has the equivalent output of a 75W filament lamp so the running costs are proportionately reduced. Moreover with a life expectancy of five times that of a filament lamp, fewer maintenance hours need to be allotted for lamp changing. There are also savings in capital and installation costs.

For further information contact Siemens Limited, Siemens House, Windmill Road, Sunbury-on-Thames, Middlesex TW16 7HS telephone (0932) 785691.

Tango Playback Board

New from Tango Technics is a solid state, sound playback board, which produces natural speech

OSKA

The most significant development in lighting control since the fader.

For the first time, total control by touch sensitive TV screen

OSKA is a lighting control revolution. OSKA provides lighting designers and operators with a coherent system which has been developed specifically for use as a sophisticated lighting tool using the latest digital technology. Yet it provides total fingertip control.

At its heart, a touch sensitive colour monitor coupled with OSKA's digital fader control provide virtually unlimited scope for creative orchestration of lighting and other effects.

As a lighting control system for live performance, OSKA goes further than any other advanced system available. OSKA's impressive range of features include:

- 256 Control channels with real-level memories
- 256 Chase sequences each of up to 256 steps
- 256 Scenes, complete lighting states with real levels
- 256 Autopilots or super real level sequences
- Self-programming directly from faders and touch keys
- Instantaneous touch control at your fingertips
- Continuous rotation fader wheels with illuminated LED bar graphs
- Control of intelligent spotlights
- Unlimited soft-patching

OSKA is the next generation of lighting control systems. For more information and a full colour brochure write or telephone your nearest Pulsar distributor.



OSKA is an internationally registered design and trade name of Axon Digital Design Ltd.

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14760 Bretteville sur Odon, France.
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Pulsar Light of Cambridge Ltd.,
Henley Road, Cambridge CB1 3EA.
Tel: 0223 66798 Telex 81697 PULSARG
Fax (0223) 460708

Pulsar GmbH,
AM Vorort 23,
D-4630 Bochum 7, West Germany.
Tel: 0234 28171 Telex 825593

ON TOUR

Keith Dale



U2 receive a BPI award for best international group.



Bananarama and friends in performance.

In this month's On Tour we have a mixed bag of goodies! Catriona has been rubbing shoulders with the rich and famous (her favourite pastime) at the B.P.I. awards held this year, for the first time, at the Royal Albert Hall. Peter Clarke was her host for the evening, alongside handling the lighting system provided by his company Supermick Lights. For this prestigious occasion Peter worked very closely with the BBC and the subsequent comments emanating from Broadcasting House were very favourable indeed. The photographs in this article bear witness to the effort put in by all concerned.

South of the river in Brixton, Catriona

recently caught up with the much travelled John Featherstone, while in rehearsals with Curiosity Killed the Cat. My intrepid reporter went to discover whether there is life after the Smiths - or would Curiosity Kill Catriona!

And finally, changing the subject from Cats to Fisch's, we have an article on Fischer Z's recent tour of Europe with lighting design by Andy Keighly.

John Featherstone 'Curiosity Killed The Kat'

The Academy, Brixton was recently host to

Curiosity Killed the Cat's rehearsals for their forthcoming tour and I went along to see their lighting designer John Featherstone.

After the demise of The Smiths, John spent most of last year working for Julian Cope of Teardrop Explode's fame. There were two U.S.A. tours, one opening for Siouxsie and the Banshees and visiting small clubs, and another with the band Thrashing Doves. He used a large rig with plenty of Par cans and colour changers. There were two back trusses, one trimmed straight at about 30 ft. and one coming down at an angle over the keyboard player at a height of 24 ft. one end and 4 ft. at the other. It was designed to link with the crane motif on Julian Cope's album.

Towards the end of last year John designed



Fischer Z - lighting design Andy Keighly (see page 62).

some shows for The Pretenders including four opening with U2. He has also been breaking into the trade show world working with FM Productions of San Francisco.

January this year saw John Featherstone in Brazil with The Pretenders at a very large music festival along with Simply Red, UB40, Duran Duran, Supertramp and Simple Minds. The large system was designed by Roy Bennett and John told me he would like to stress the fact that the guys from Samuelson's did a really good job working under so much pressure!

This is the first time he has worked for Curiosity Killed The Cat, and he thinks that it will be more than interesting. However, the budget is quite limited because they are only playing small venues.

"There is a two-truss system with a fair number of colour changers - LSD colourmags which, in my opinion, are the best scroll-type colour changers on the market. You can put 32 colours in Par 64 size and they have their own little board which is very reliable.

"LSD also have sizes for cyc lights and molefays which is what I've used on the backdrop. There are 14 Par 64 colourmags and 16 cyc sized ones.

"The rest of the rig is fairly conventional with Par cans and a few profiles which were also manufactured by LSD and are really bright. They have good optics, are fan-cooled, and have the same kind of look and shape as a Par can so they fit better into a rock 'n' roll touring system. And of course I have my Celco desks - a 60-way and a 30-way."

John has many plans for this year, some of which he can't talk about yet, but he will be doing a lot of work with FM Productions and Upstaging of Chicago who he has worked with before on diverse projects from a gospel show to a charity show for the Chicago Bears.

Equipment on Tour

B.E.T. Experience

MacRobert Pavilion, Igliston, Edinburgh
Lighting Design: **John Rinaldi**
Lighting Equipment: **Stage Light Design**
Telephone: 01-879 3439

Instruments: 90 Par 64's, 8 Par 36 ACL's, 60 CCT Minuette Profiles, 60 CCT Minuette Fresnels, 12 CCT Sil 30's, 12 CCT 1kW Starlettes
Trussing: 160 metres Slick Litebeam
Control Equipment: Celco Series 2 Sixty, Celco Series 2 Thirty
Dimming: Celco Series 2 2412C, Avolites 72 channel

Every Thing But The Girl

Tour dates, 8th - 29th March 1988

Lighting Design: **James Loudon**
Lighting Equipment: **Stage Light Design**
Telephone: 01-879 3439

Instruments: 8 CCT 1kW Starlette, 8 CCT Sil 15's, 1 CCT Sil 30 (1200W), 20 Par 64's, 3 Groundrows, 8 CCT Colour change heads and Celco MCS 1608 controller
Trussing: 30' Slick Litebeam, 5 Manfrotto Stands
Control: Celco Series 2 Thirty
Dimming: Celco Series 2 2412C
Followspots: Rank Strand CID Solo



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Hardware House

Fischer Z - My Lighting Design

by Andy Keighly

The basic idea behind the design was to build the show 'up' in intensity, as far as lighting was concerned, until the final quarter when the whole rig was used.

The show started with a solo by the lead singer. For this I had the 'blinds' down and used tightly focused spots to light him. Before the second number proceeded the band, who hitherto couldn't be seen, were dramatically revealed after being introduced as the new Fischer Z 88, by the blinds going 'up'. At this point I'd only be using precise light washes with narrow and wide beams to create movement. It was not until the third number that colour was introduced and even then it was confined to the floor bars - this allowed the band to make use of the shadow. Half-way through the show I'd utilise the bars of light mounted on the Manfrotto Stands, and these I interchanged with the floor bars to emphasise the increased washes available. It wasn't until the last quarter that I'd use the Molefays, Mini-Arts, etc.

Throughout the show I used Par 16's to light faces, vocal pick-ups, intro breaks, hands and parts of instruments instead of spots which were

unusable as far as I was concerned. The truss arches were not only used to box in the band, but they also acted as the perfect vehicle to suspend the Par 16's and the blinds close enough to the band to allow accuracy in the lighting 'pick-ups'.

There was considerable input from the band themselves. Not only did they provide the blinds and the backdrops, but more importantly, they had a burning desire to get away from the typical box truss and mega-wash syndrome.

The trussing used came from Chris Cronin's Star Patrol. This is an excellent system providing both the low weight and compact design associated with 'mini' trussing but with the strength and durability of a camlock coupling system. After show break-down was easy with this rig - compared with the previous tour which used more conventional fixing systems!

The wonders of Par 16's were introduced to me by Alan Wild. Unfortunately most dimmers won't cope with their inductive load - even Chameleon's Novatel Dimmers weren't interested - so Midnight Design had to burn the midnight oil (who wrote this!) and construct two ballast boxes using 240 volt ray lamps so the dimmers would react properly.

Exhibition Diary

Frankfurt Music Fair

March 9-13, 1988.
Frankfurt Fair Centre, Frankfurt, West Germany.
UK Representatives: Collins and Endres,
18 Golden Square, London W1R 3AG.
Telephone: 01-734 0543.

SIB Rimini

March 22-25, 1988.
Rimini, Italy.
EnTe Autonomo Fiera Di Rimini,
PO Box 300, 47037 Rimini, Italy.
Telephone: 0541/773553.
UK enquiries: Disco & Club Trade International.
Telephone: 01-278 3591.

USITT Conference/Stage Expo '88

March 23-26, 1988.
Disneyland Hotel, Anaheim, California.
Show manager: Richard James, 486 Fullerton Court
San Jose, CA 95111
Telephone: (408) 225 6736.
National office: 330 West 42 Street, Suite 1702,
New York NY 10036.
Telephone: (212) 563 5551.

SIEL '88

April 10-13, 1988.
Porte de Versailles, Paris, France.
Organisation: Bernard Becker Promotion,
161 Boulevard Lefebvre, 75025 Paris.
Telephone: (14) 533 74 50.

Pub, Club and Leisure Show

April 12-14, 1988.
Olympia 2, London.
Angex Ltd., Europa House, St. Matthew Street,
London SW1P 2JF.
Telephone: 01-222 9341.

ABTT Trade Show

April 14-16, 1988.
Riverside, Hammersmith, London.
Enquiries: ABTT, 4 Great Pulteney Street, London
W1R 3DF.
Telephone: 01-434 3901.

Expo Musica, Madrid

April 20-24, 1988.
Madrid, Spain.
Organised by IFEMA (Institution Ferial de Madrid),
Avda de Portugal, s/n Casa de Campo,
28011 Madrid T101.
Telephone: Madrid 470 10 14.

Audio Visual 88

April 25-28, 1988.
Wembley Conference Centre, London.
Enquiries: EMAP/MacLaren Exhibitions Limited, P.O.Box
138, Token House, 79-81 High Street, Croydon CR9 3SS.
Telephone: 01-688 7788.

Shoptech 88

May 18-20, 1988.
Trade Fair Centre, Berlin.
Enquiries: German Chamber of Commerce,
12-13 Suffolk Street, London SW1.
Telephone: 01-930 7251.

International Disco Technology Fair

June 7-9, 1988
Bally's Grand Hotel, Las Vegas.
Enquiries: Night Club & Bar Magazine,
305 West Jackson Avenue, Oxford, MS 38677.
Telephone: (601) 236 5510.

PLASA Light & Sound Show '88

September 11-14, 1988.
Olympia 2, London.
Exhibition Organiser: David Street,
Telephone: 01-994 6477.
General Enquiries: PLASA general secretary,
Tony Andrew, 7 Highlight House, St. Leonards Road,
Eastbourne, East Sussex BN21 3UH.
Telephone: (0323) 410335.

Photokina

October 5-11, 1988.
Cologne, West Germany.
UK Representative: Tony Pittman,
12/13 Suffolk Street, London SW1Y 4HG.
Telephone: 01-930 7251.

Discotec/Hogatec

November 7-11, 1988.
Düsseldorf Messe, West Germany.
Enquiries: Miss Renata Born or Mr Peter Brodie,
Düsseldorf Trade Fair, Charles House,
108-110 Finchley Road, London NW3.
Telephone: 01-794 0166.

EQUIPMENT NEWS

continued from page 59

at the touch of a button.

The SPB board can output easily-changed, digitally recorded messages 4, 8 or 16 seconds in duration, directly into a loudspeaker via its on-board amplifier. The messages can be programmed into the unit at the factory, from a script or tape supplied by the user, or alternatively, the user can program it with a portable recording/editing unit.

Unlike 'synthesised' speech chips, this board announces messages clearly and true to life with none of the reliability problems of tape machines. The input is opto-coupled and can be used with a variety of input voltages or contact closures. Various functions are link selectable and the unit has an output to feed an external amplifier.

Very modestly priced and adaptable, the SPB board could have uses in the area of sound effects.

For full details contact Tango Technics Limited, Riverside Workshops, Harbour Road, Seaton, Devon EX12 2LS telephone (0297) 23886.

McKenzie Q-Max 7000

UK loudspeaker manufacturer McKenzie Acoustics continues to add new lines to its ever expanding product range, and has just introduced the Q-Max 7000 dual ten band stereo graphic equaliser. Designed to compliment the established Q-Max 600 power amplifier, this graphic EQ provides ± 12 dB control between 32 Hz-16KHz. It is aimed at disco and club installations, and is a 3u high rack mounting unit incorporating 'appealing' graphics, say McKenzie.



McKenzie Q-Max 7000.

For further information contact McKenzie Acoustics Limited, Albion Drive, Thurnscoe, South Yorkshire telephone (0709) 898606.

Front Line for Wieland

Wieland, a leading West German electrical connector manufacturer, who produce the internationally approved ST18 range of electrical connectors and cables, has teamed up with Front Line the Guildford-based interconnection specialists, to provide UK customers with local service and technical support.

Developed specifically for the lighting industry to satisfy the demand for a safe, easy to use, high quality and versatile interconnection and wiring system, the ST18 range offers a rapid method of making safe connections at mains voltage. Manufactured in flame retardant polyamide, the connectors are rated at 380V, 16A at up to 100 degrees Centigrade. Available in two to seven way configurations, with colour options of white, black, green or brown, the connectors are fully shrouded and feature the safety aspect of 'leading earth pin' where the safety earth connection is made first and released last.

The connectors are polarised, preventing them being accidentally reversed in use. Strain relief, cable clamping (complete with an insulating hood to shroud the clamping screws) and a connector locking facility are all standard features of the range. VDE, UL and CSA approvals are offered within the range, together with a number of other European approvals.

As part of the standard system, cable assemblies are available with a variety of lengths and end connector options, and as a feature of its support function, Front Line is offering a 'customising' service, locally producing cable assemblies to any special requirement.

For further information telephone Front Line on (0483) 506433.



Swiss Foot Control

ETR of Lucerne has announced a new lighting control system for light show effects, specially designed for show and dance bands with smaller budgets. It consists of the LCD-8000 control desk and two SP-400 power packs and takes a normal 240v supply.

The control has 8 channels and can be operated by both hand or foot. It has four lamp on-off switches, four freely programmable pre-set programmes and a chaser programme controlled with a speed control knob or by an audio signal. The audio input module has an automatic input attenuator which can be set at the sound source.

The possibility of mixing pre-set programmes and the chaser gives bands an almost limitless number of effect combinations. Channel outputs can be diminished to 50% of their power, and another feature is a black-out switch which again can be controlled by hand or foot.

Power packs are mounted on the lamp stands so that lamps can be directly connected. Each channel has a capacity of 1000W and the SP400's are fitted with zero voltage switches. With two further power packs the system can be expanded to a 16 channel assembly.

For further information contact ETR, PO Box 35 CH-6000 Luzern 13, Switzerland.

Altec Programmable Equaliser System

The Altec Lansing Corporation has announced the 'Programmable Equaliser System', comprised of five new products - two equalisers and three controllers - that work together to constitute a complete programmable equaliser system. The equaliser products are: the 8551A 28 band single EQ programmable MicroAudio equaliser and the 8558A 28 band multiple EQ MicroAudio equaliser. The controllers are the 8051A MicroAudio autoprogrammer, the 8055A MicroAudio programmer, and the 8061A MicroAudio PC computer control adapter with Acousta-Graphic software.



The system is tamperproof, has multiple memory EQ with read/write capabilities, and is quiet with noise floors below -90dBm. Occupying only a single rack space and priced competitively with conventional graphic equalisers, the products offer a cost effective way for sound contractors to optimise sound system performance without fear of user tweaking, say the company.

New Colours

Rosco have added four new colours to their directional Silk group in the Supergel filter range. The Silk group, which combines Rosco Tough Silk with a colour into one filter, was first successfully launched just two years ago with four primary colours red, blue, green and amber, to give a controlled directional spread of light.

Tough Silk has the effect of spreading light either laterally or vertically, smoothing out light distribution, and the four new less-saturated colours to be combined with Tough Silk are magenta, sky blue, a blue-green and amber.

Rosco have also added a Rose Tint Hamburg Frost. The original Hamburg Frost, which has become a standard of the industry, gives a soft edge to profile spots without having to defocus and eliminates colour fringing.

A new publication from Rosco, Technote 5A, gives full details of the whole Supergel diffusion range, with contributions from Francis Reid, and is available free from Roscolab Limited, 69/71 Upper Ground, London SE1 9PQ telephone 01-633 9220.

Counting Scales

Just released by Adam Equipment Co. of Milton Keynes is their MC range of low-cost parts counting scales. With capacities from 800g to 8Kg the units offer full keyboard entry of sample count or unit weight entry, and the push button tare eliminates the weight of a container. It is designed to be a simple, basic electronic counting scale to count a range of components from electronic parts to heavier turned parts.



The low price of the MC range should mean that this machine is a viable proposition for customers involved in parts counting who could not previously justify the expense, and for larger volume users it can provide spare capacity for emergency requirements at a reasonable cost say Adam Equipment.

Further details from Adam Equipment Company, Third Avenue, Denbigh Industrial Estate, Bletchley, Milton Keynes, Bucks MK1 1EW telephone (0908) 76231.

Membrane Switches

Reliance Compra has entered the membrane switch market with a range of four models. 'Comprswitch' is a non-tactile model, and three tactile versions are also available - Compratouch, Compraklik and Compraklik-S.



Compratouch is tactile but has no click action, and tactility depends on an embossed overlay. The two Compraklik models are not only tactile but feature a positive 'click' action resulting from dome embossing underneath a flat overlay. The 'click' action in Compraklik is provided by a domed polyester spacer, and Compraklik-S makes use of stainless steel domes.

For full details contact Reliance Compra Limited, Unit 11 Bolney Way, Hampton Farm Industrial Estate, Feltham, Middlesex TW13 6DB telephone 01-755 2341.

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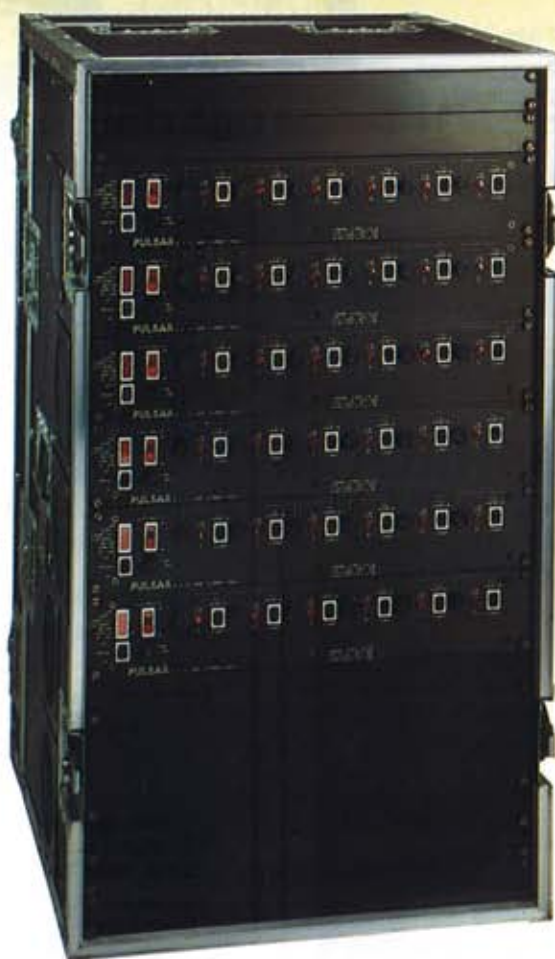
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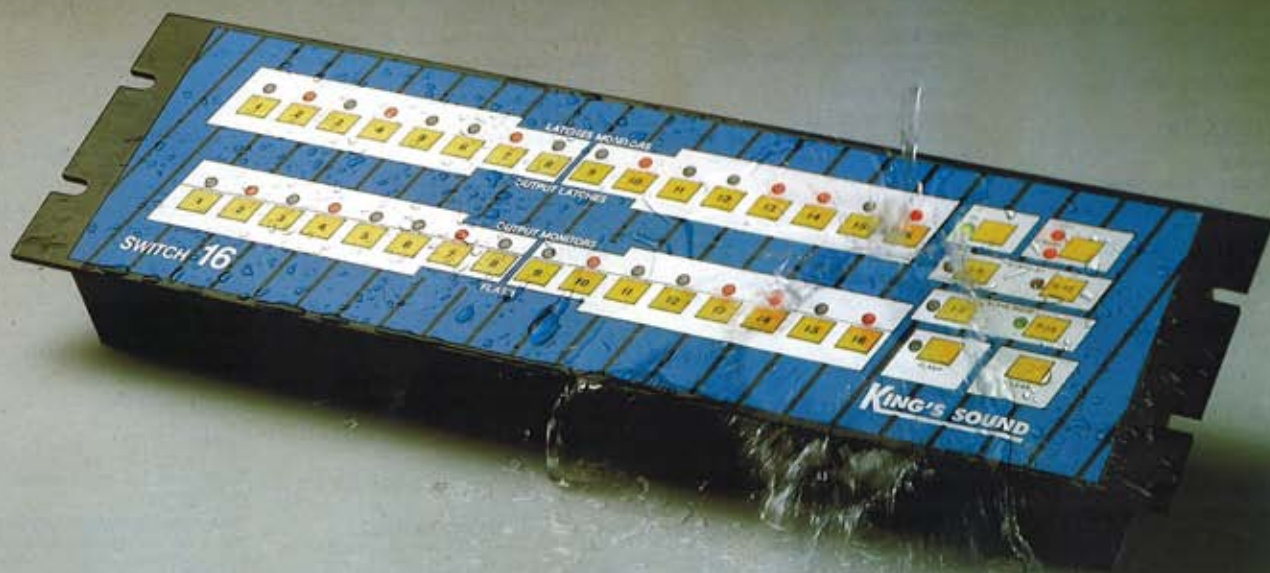
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