

LIGHTING+*Sound* International



'The Escape' - Amsterdam
(see feature this issue)

PLASA

published in association with the Professional Lighting and Sound Association

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£1.50

10/10 FOR PULSAR.

THE SCIENCE DEPARTMENT

THE SCHOOL
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Please reply to:

25 April 1986

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Yours faithfully,

Ian H. Rowse

Ian H. Rowse
Senior Science Master

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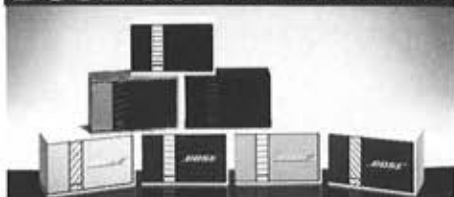
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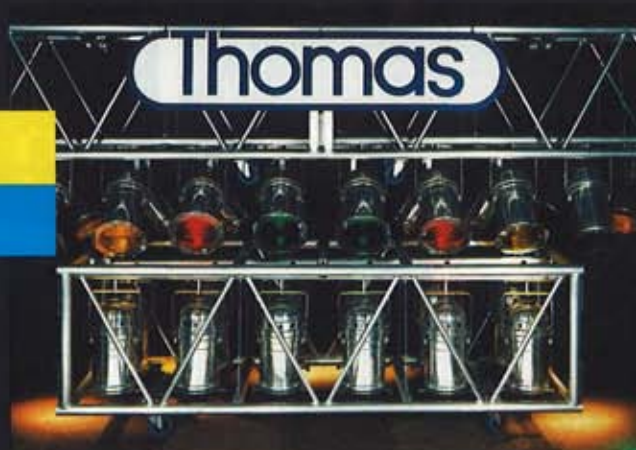
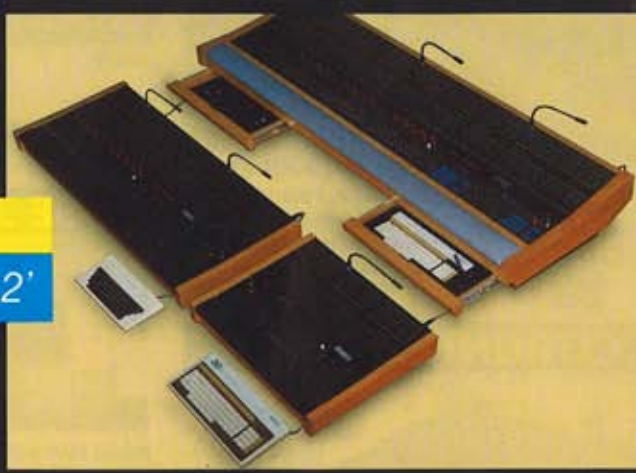
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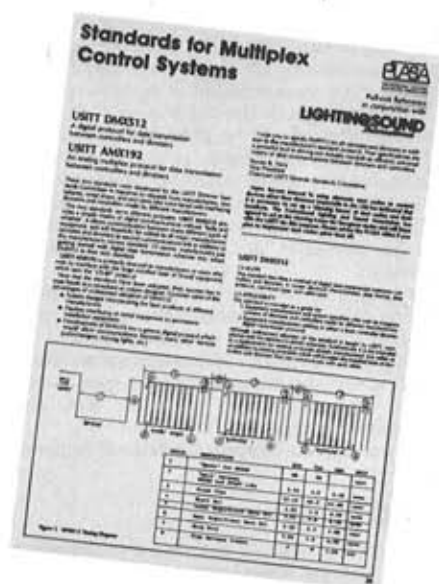


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Setting Standards

In line with the ever more urgent need for the Industry to set its own standards before governments both in the UK and worldwide start imposing their own, L+SI is delighted to include in this issue a special four-page reference on Standards for Multiplex Control Systems.

Following discussion with Steven R. Terry, vice president and chairman of the United States Institute for Theatre Technology's Dimmer Standards Committee, PLASA has agreed to act as 'clearing house' for European start codes and their functions in order that successful international co-ordination can be brought about.

The reference appears on pages 25-28 of this issue, and may be freely photo-copied as required.

Donmar 'Buy-Back'

Donmar Productions Limited, a subsidiary of Maybox Group plc, has announced that it has sold the whole of its interest in its hire and sales business to its managing director, Ian Albery. On the same date as the main changeover, December 5th, White Light Electrics acquired from Ian Albery the major part of the hire operation. Albery will remain as managing director of the Maybox Group and its theatrical subsidiaries, including the Wyndham Theatres operation.

The new company will operate as Donmar Limited, and will continue to manage sales and service from its Earlham Street and Shorts Gardens base. "Substantial capital will be injected into Donmar to enable it to expand its sales of theatrical equipment both in the UK and overseas," Ian Albery told L+SI. Donmar currently distributes equipment from many leading UK manufacturers, and negotiations are already in progress to greatly extend its range and increase its sales base.

Part of the reason for broadening the range of equipment it supplies has been the result of customers' increasingly wishing to 'mix and match' according to specific requirements rather than accept the concept of only one manufacturer, say the company. Donmar will therefore be moving away from their long standing stage lighting dealership where they were unable to sell competing product. "This way we can offer customers a wider range of facilities and options at the most favourable prices," they said. "We have been doing this successfully for many years with our full range of other theatre technical equipment."

The third edition of the highly-praised Donmar Reference Manual will be published next Spring and distributed nationally, while a series of demonstrations of the expanded product range will be arranged by the sales team in London and the South-East. Hands-on demonstration facilities will be available at their Covent Garden showroom.

The service department will be able to handle servicing of Strand and other manufacturers' controls and dimmers. The company will also be handling special FX hire, with particular emphasis on Le Maitre pyrotechnics and smoke guns as well as the hire of portable television, film, and photographic equipment.

Sales manager for Donmar Limited will be James Bishop.

Follow Up

Strand Lighting told L+SI that they will be making an early January announcement on new dealer arrangements for the London area.

Sales Manager

A well known company manufacturing lighting equipment is looking for a **Sales Manager** to cover all aspects of sales and promotion to an extensive range of existing customers. The position is mainly office based, and some technical knowledge would be an advantage.

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15-33 Gray Street, Northampton NN1 3QQ.



Bose at Blackpool

John Barnett's Stardream Limited subsidiary company S.A.V. Limited (Stardream Audio Visual) opened a permanent working exhibition of professional sound and lighting equipment for the trade on November 12th. The Blackpool-based operation are authorised distributors and service agents for many leading names in the industry including Pancan, Zero 88, Citronic, S.I.S., N.J.D., Satel, and Le Maitre to name but a few.

The company was started by John Barnett in 1979, and has quickly developed to a stage where the client list is now national, and a considerable amount of installation work is undertaken, often in conjunction with the electrical contractors J. Smith and Sons also of Blackpool. Much of their work is interestingly 'off-beat', such as the project at the Blackpool Pleasure Beach with lighting and effects for a 'disco-style' ride that is due to open next Easter.

A highlight of the opening of the new showroom was the fact that it will also become the latest 'Bose Soundshop'. It will feature a full working demonstration of the Bose loudspeaker range, from the 102 ceiling speakers and the ever-popular 301s, to the 802/302 combination stacks.

Stardream has been a Bose dealer for more than 5 years, and installed sound systems in a large proportion of the town's entertainment and leisure centres, most recently at the Village discotheque.

Pictured above on opening day are Bose's Barbara Churchill and John Barnett.

Posi-Spot for Cerebrum

Amptown Lichttechnik GmbH have announced that they have appointed Cerebrum Lighting as sole UK distributor and Celco Inc. as sole US distributor for their Posi-Spot computerised moving spotlight system.

For full details of the Posi-Spot and its accompanying control system contact Cerebrum Lighting (Sales and Hire) Limited, 169 Chiltern Drive, Surbiton, Surrey KT5 8LS telephone 01-390 0051.

Calling PLASA Members

An Extraordinary General Meeting of PLASA has been called for the purpose of discussing the future of the Association. All members are urged to attend the meeting, which will be held at Novotel, Hammersmith, on Thursday December 11th at 11 a.m.

Disco Aid by Tender

Discotheque equipment received at the September PLASA Show and donated for 'sale by tender', comes 'under the hammer' at 6 p.m. on Monday 8th December. Sealed envelopes will then be opened, and the successful applicants asked to pay up.

Chairman of Disco Aid Theo Loyla told L+SI that a healthy number of 'Disco Aid Sale' envelopes had been received. The total cash raised will be announced in the next issue of L+SI.

Letters

Museum Pieces

Dear Editor,

In your November issue there are two pictures of obsolete equipment about to be removed from Morecambe's Winter Gardens Theatre.

Your readers might like to know that the follow spots are 100 Amp AC Strand carbon arc Sunspots, which my colleague Paul Weston tells me look as if they are the motorised carbon feed

versions. These would have been manufactured in the late fifties. The other picture is of a Strand Grand Master lighting control, and this clearly shows the dog-clutch arrangement for driving the shafts in either direction from the Grand Master wheel.

No mention is made of what is happening to the equipment, which are really museum pieces, but with a bit of luck perhaps that's where they will find a home!

W. G. Crisp
Publicity Manager
Strand Lighting

Rock at the Rep?

Dear Editor,

I have been following, with interest, the interviews with lighting designers in your 'On Tour' articles, and have also been looking with envy at the vast range of equipment used - which I can only dream about!

In the November issue, the featured lighting designer was Andy Liddle, and he made a very interesting comment regarding theatre lighting design - i.e. it's difficult and lengthy to get a reputation, let alone any monetary gain, etc. How true.

Has anyone ever considered the plight of people like myself - those who are 'in the Theatre', over-drawn and frustrated, who would love to show their talents to the full in Rock Lighting, but find it even harder to break into the circuit? At 36 and with 20 years' experience in lighting most forms of presentation (drama, fringe, revue, floorshows, panto, summer seasons, musicals etc.) I am considered too old to be 'trendy' and not old enough to be 'respected'. Catch 22 . . . ?

Or am I just approaching the wrong managements?

I know it's difficult getting people to see one's work - repertory theatres don't exactly put on a lot of exciting material, and when they do there's little time to organise viewing (especially with only a 3½ week 'run').

Jim Woodley
Octagon Theatre, Bolton



Siemens at the Royal Opera House

Originally commissioned at London's Royal Opera House Covent Garden in September this year, the Siemens Sitralux B40 memory lighting control was the subject of a special ceremony on 20th November, prior to the performance of Janacek's opera 'Jenufa'.

Pictured above in the control room of the Royal Opera House are (left to right, standing) Wolfgang Bergfeld (Siemens manager - theatre and TV studio department), Tom McArthur (technical director of the Royal Opera House), and Thomas Bader (Siemens engineer), and seated (left) Paul Watson (Royal Opera House senior operator), and Ira Jackson (Siemens executive - special markets).



LIGHTING+SOUND INTERNATIONAL

wishes all its readers



a Happy Christmas and Prosperous 1987

ADB appoint Furse to handle full range line up

ADB, Europe's leading manufacturer of theatre and television lighting and control equipment has appointed Furse Theatre Products as their sole UK distributor.



The Furse UK Sales and Marketing Team. Left to right: J. R. Widdison, General Manager, L. McCall, N. J. Fethers, C. R. Smith, A. Marks, R. M. Massey, R. M. Atkins, D. J. Griffiths, E. Owen, J. McAlonan, S. L. Niblett, G. Dudley, N. Newton. Absent: R. Holmes, N. R. Kenton, I. M. Hume.

Jeff Widdison, Furse Theatre Products General Manager commented, "We are absolutely delighted that ADB has formed this partnership with Furse. Although we are the oldest manufacturer of theatre equipment in Britain, with over 50 years experience, we have been unable, until now, to compete with the market leaders in all sectors of the rapidly changing and ever more sophisticated theatre equipment market. With ADB at our elbow, we now have the resources of a company at the very forefront of technology,

of advanced lighting and computer based control systems which the competition will be hard pressed to match, in terms of performance, price and service back up".

Back to School

Every member of the Crown House Furse Theatre Products sales and development team will, over the next two weeks, be attending an initial series of intensive product familiarisation courses at ADB's head office at Zaventem in Belgium. The company's installation and service engineers will be trained by ADB's own engineers at Furse head office in Nottingham.

First Chinese Theatre Contract

Over the last few years, Furse Theatre Products of Nottingham have been particularly active in both the Middle East and Far East markets through nominated distributors. However, the People's Republic of China, whilst offering huge potential, has proved to be an extremely difficult market to enter - an experience shared by many other UK manufacturers.

It was, therefore, particularly pleasing for the Company to win a £130,000 order for the manufacture and supply of specialist lighting and control equipment for the Shenzhen Coliseum in Canton.

The order included a series of spotlight bars which can be raised or lowered from a central electronic control to provide a wide range of lighting effects over the stage area.

Long range, high performance spotlights have also been supplied and these were mounted in the roof of the structure to highlight performing groups or individual artists. The new Furse equip-

ment now enables presentations to take place in both Eastern and Western styles.

A sophisticated control system with memory facilities was also included to enable individual lighting units to be controlled independently or collectively.

As with many contracts undertaken for customers in the UK and throughout the world, Furse were responsible for the complete design and engineering services.



Specialist lighting and control equipment supplied and installed by Furse at the Shenzhen Coliseum, Canton, China.

Crown House Furse Theatre Products
Wilford Road Nottingham NG2 1EB UK
Tel: (0602) 863 471 Telex: 377065
FAX Gp.3 (0602) 860538

The Escape - Amsterdam's latest discotheque

John Offord talked to installers Flashlight Lighting at the Dutch capital's new venue in Rembrandt Square

Ten successful years on from the opening of their Cartouch discotheque in Utrecht, Dick and Ton Poppes (with assistance from father Poppes) took over the Rembrandt Theatre in Amsterdam on August 1st this year, and reopened it on October 24th as 'The Escape'.

Their base at Utrecht is one of the country's leading night spots, and over the past two years has had the back-up of Sky Channel satellite television, being used regularly as a production point, and picking up all the accompanying publicity from the TV screens. The same thing has happened in Amsterdam. The new venue in the capital will also provide regular product both for Dutch and satellite TV on a twice-weekly basis.

And I have proof that the added publicity works. Prior to going to see the venue I met a friend from Norway who'd just flown in for a business visit to London. I mentioned my forthcoming trip to Amsterdam, and 'The Escape'. It was no surprise. He'd already seen it on television in far-off Bergen.

Originally a theatre, and later a cinema, it took the Poppes brothers just under three months to convert the old shell into a plush and atmospheric disco and entertainment centre. The capital cost of the project is around £1¼m, and the lighting and sound installation took approximately £325,000 of that sum. The shape of the venue has been maintained. It still has its original stage - more than useful for live performances - and the balcony survives as a relaxing area in comfortable style from where you can look down upon proceedings. The only obvious additions are two walkways that have been built along each side of the auditorium, that culminate in hinged stair sections that lead down on to the stage. These can be raised when an act is appearing on stage, and lowered if the stage area is open for general circulation.

It's very theatrical in its appeal. There are no spinners or disco-style centrepieces. The



Fried Buttstedt of Flashlight pictured at the Celco Series 2 90 channel control desk, located on the balcony control area. To the right is the Coemar Robot controller.

lighting is arranged from a completely new grid that covers both the stage and dance floor areas, complete with catwalks in traditional theatre style.

Neon wall sculptures were made by Effect Neon of Klaswall near Rotterdam, and are high-frequency, negating the need of transformers. The vertical neons used on the balcony area for decoration, another new development, were designed by Flashlight's Fried Buttstedt and can be connected to any standard lighting track.

The lighting itself is based upon clever use of 64 (no less) Coemar Robots - five banks of 10, and one bank of 14 over the rear of the stage. Add to this 600 Major Beamlights, and 96 Raylights, and a total of 14 moveable rigs,



The hinged stairs allow access from the side walkways from the balcony directly on to the stage area when no performance is taking place.

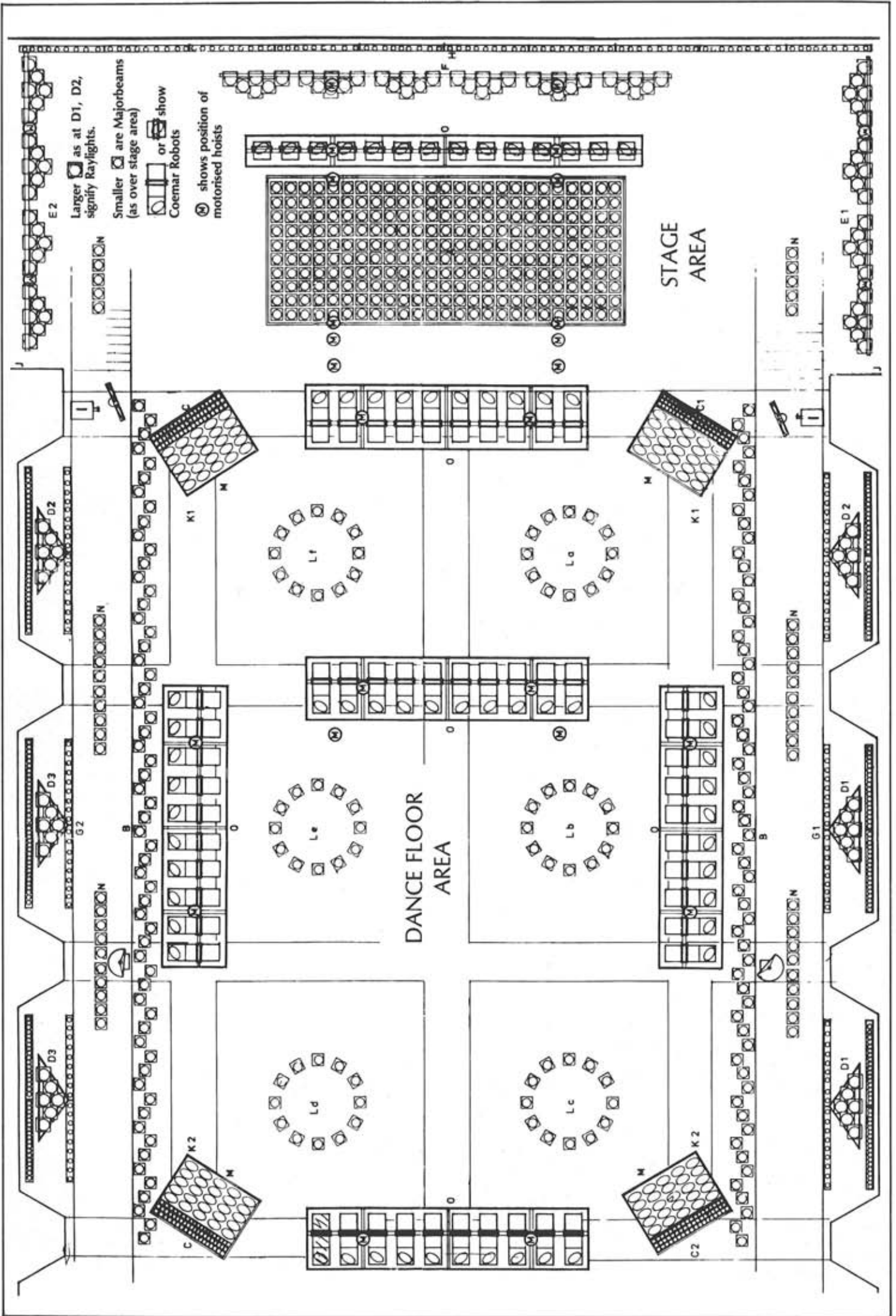
and you have quite a choice when it comes to changing the flavour.



The balcony control area.



Four of the eight Hitec speaker units, positioned at both sides of the dance floor, and beneath the walkways.

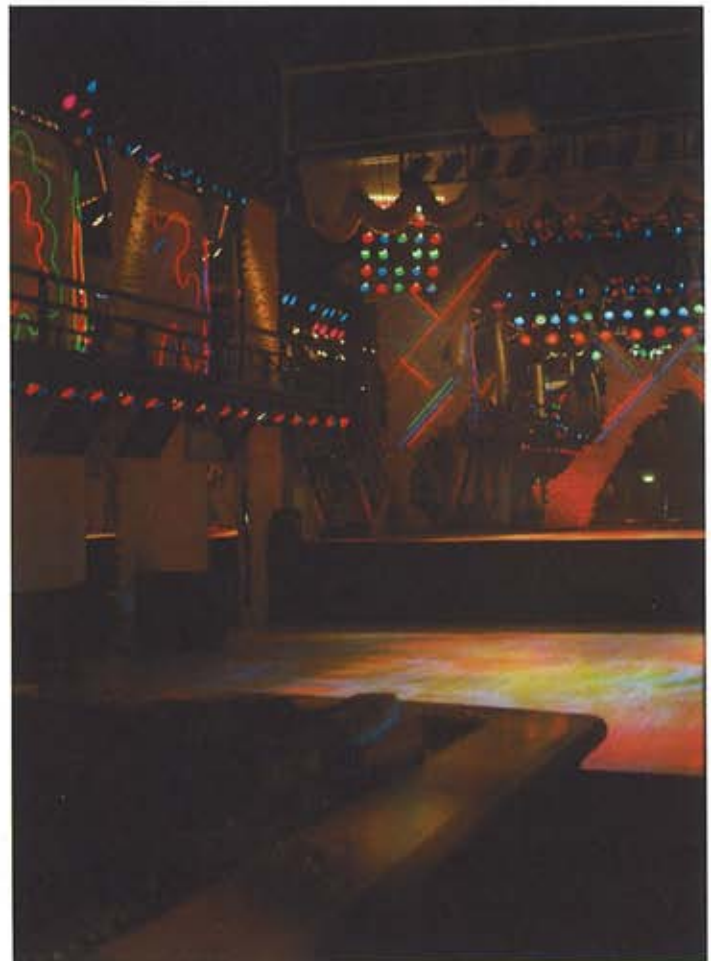




The Escape rear stage neons and lighting equipment pictured from one of the side walkways.



A view from the balcony with decorative blue and green neons specially designed for the project.



A general view from the main ground floor bar area, showing dance floor and stage.

For control Flashlight went all the way and opted for a Celco Series 2 90 channel lighting desk, and this, coupled with the Coemar 64 channel Robot computer, a Zero 88 12 channel control for houselights and neons, and a custom-built 36 channel controller and keyboard for hoists, readily identifies the variety of effects that can be achieved from the installation as it currently stands.

And there is more to come. The six circular mountings of Majorbeams shown on the plan will be installed in the near future, and will be sequenced to give a spinning effect, in addition to other variations.



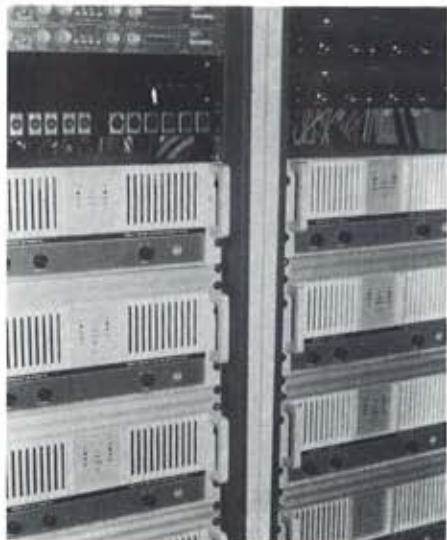
Gerald Jongerius, director of Flashlight Lighting of Utrecht.

Lighting Equipment

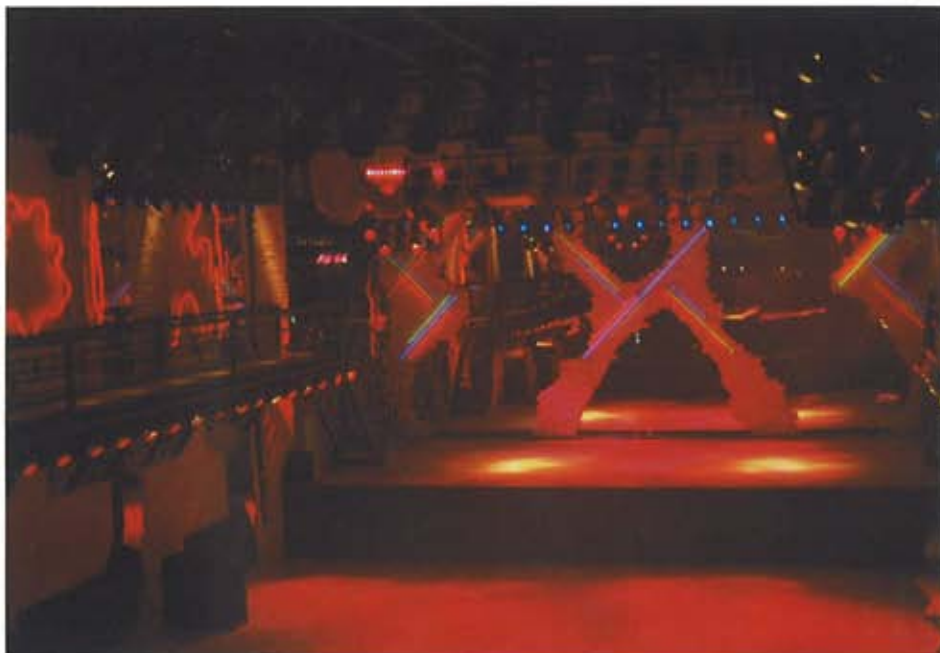
Celco Series 2 90 channel control
 Coemar 64 channel Robot computer
 Zero 88 12 channel controller for houselights, etc.
 Litelab controller and keyboard for Microlite graphic display
 19" rack with 72 Major 2k dimmers expandable to 120 2k
 600 Major Beamlights
 96 Raylights 500w
 700 Coldlight 50w
 64 Coemar Robots
 4 Coemar follow spots
 28 Donati hoists
 2 smoke machines
 1 wind machines
 2 Strobes
 500m+ high frequency neon controlled by Celco desk
 Houselights: about 50kw of Majorbeams

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 4 x Intersonics SDL (servo driven bass speaker)
 Monitor: 1 x Amcron DC 300A
 Monitor: 2 x Monitor speaker



Major dimmers backstage at The Escape.



A full view of the dance floor and stage area, with side walkway in lowered position for stage access.



Auditorium wall neons, a view from stage left.



Above-stage colour, showing part of the central bank of Majorbeams, the row of 14 Coemar Robots, and a mix of Raylights.

Het Muziektheater

John Offord visits Amsterdam's new Opera House



Het Muziektheater, the new Amsterdam residence of the Netherlands Opera and the Dutch National Ballet, although small in international terms is none the less gigantic by Dutch standards. Holland has needed an opera house for decades, and various plans and designs have been drawn up since the turn of the century.

The idea of building a new town hall is equally old, and the budgetary difficulties connected with both projects eventually led to the idea of combining them into one complex on the Waterlooplein in the centre of the City, fronting the River Amstel.

The 1700-seat theatre, in addition to providing a home for the two great national companies is also intended to provide the latest in technical facilities for large-scale musical drama productions from both home and abroad, and the whole design has been conceived around this concept. The use of the venue as a residential theatre was a conscious choice and set up to encourage co-operation between the two companies, whilst providing very adequate artistic facilities that would enable individual artistic development. Both the Opera and Ballet companies work alongside the management of the theatre when programming is considered, and regular guest performances by visiting companies from home and abroad are decided upon after joint consultation. There is also joint deliberation on issues such as staffing, administration of the building, and publicity.

Het Muziektheater, designed by Wilhelm

Holzbauer and Cees Dam of the Co-operative Architecture Bureaux Holzbauer and Dam Bijvoet Holt, is the largest theatre building in the country, and rests on a total of 3075 pilings. The exterior is constructed of brick, partially covered with natural stone, and the interior walls are fitted with metal parapets and glass. To British eyes, and particularly those of us who are acquainted with our own local government and subsidised

theatre building boom of the post-war period, the complex reminded me very much of our functional civic style of the sixties and seventies.

The exterior is unremarkable, the auditorium pleasant, but certainly not plush in a theatrical sense, and the only highlight for me was the light and open aspect of the foyer areas, with views down two angles of the Amstel river. It is perhaps wrong to be



Smooth, white, and circling - the foyers of Het Muziektheater are its most pleasing feature.

too critical at this stage, a few weeks after opening, and on a cold November day. Once the building has started to develop its own personality, both inside and out, and the surrounding area is tidied up and people allowed to move in the precincts, Het Muziektheater will sit more happily on its currently rather stark site.

Technically the facilities, particularly the provision of space and flexibility of equipment, are unique in Holland, and will also be the envy of many older and cramped international operatic venues. The technology was chosen to maintain links with the Dutch theatre tradition, the artistic approach of the Netherlands Opera and the Dutch National Ballet, and also to make it possible to meet the needs of major visiting guest companies.

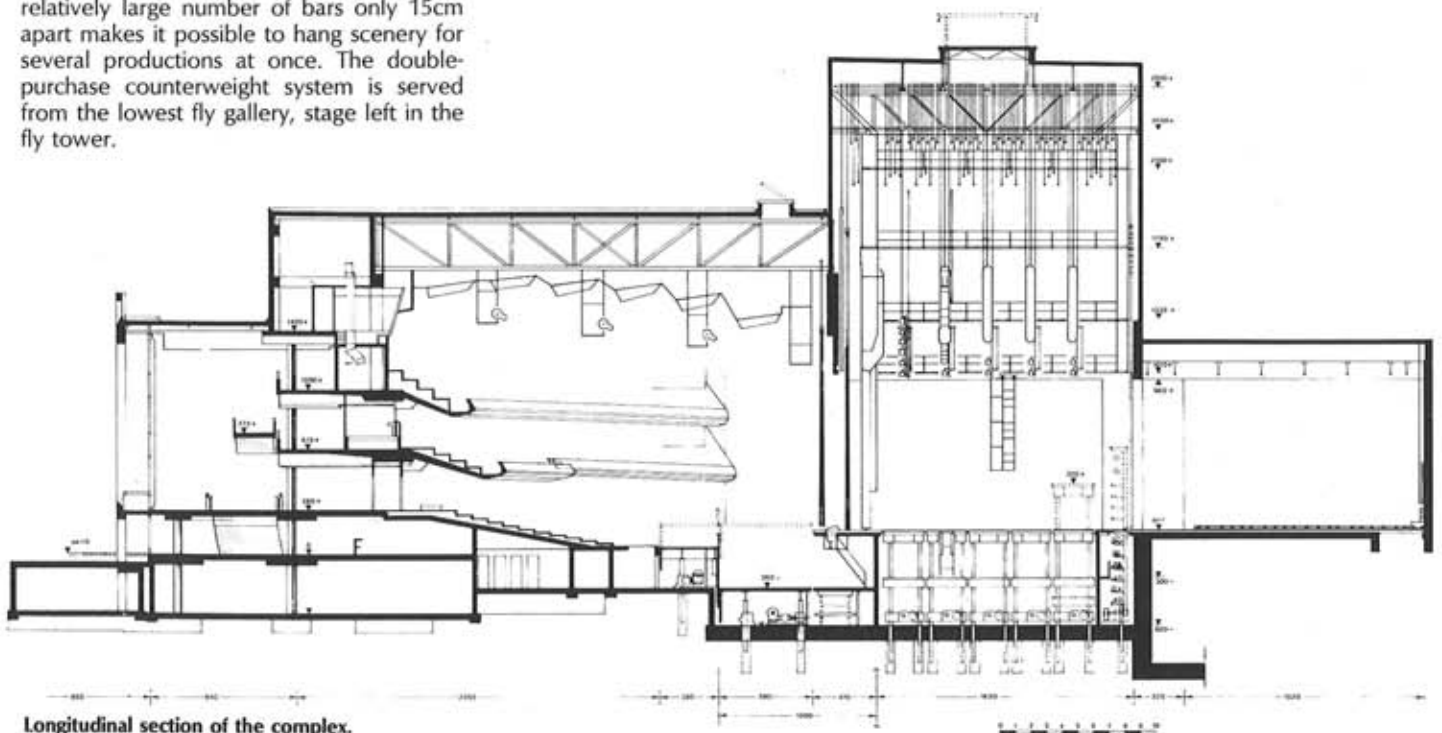
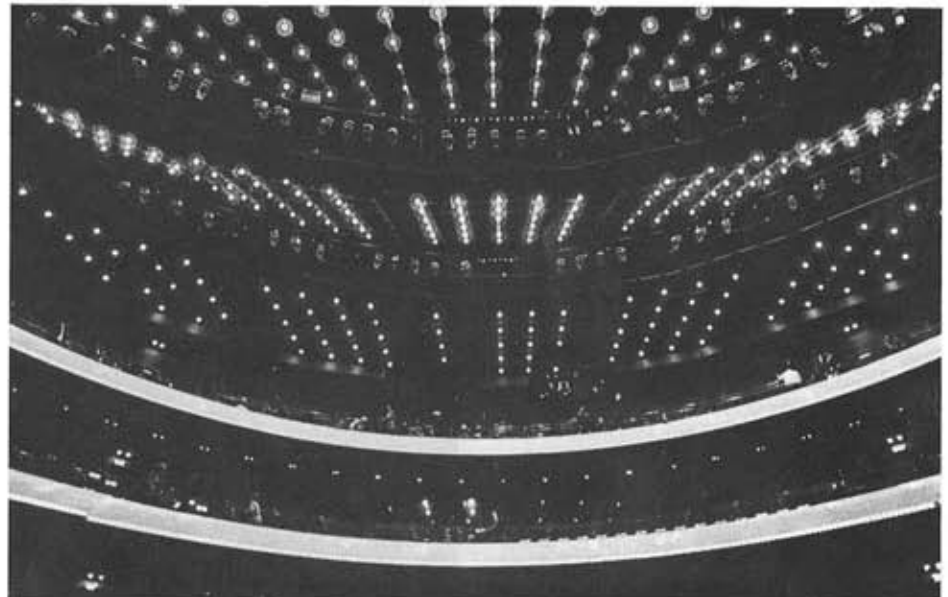
The technicians of both companies were involved in the initial design and consultation phases, and the eventual choice of equipment had to take into account that the most efficient use of the stage must allow for dress rehearsals during the day and performances of a different production the same evening. The plan all along was for "optimal artistic exploitation of Het Muziektheater".

Mechanical equipment in the floor of the stage is primarily intended to ensure rapid scenery changes from one production to another. A transport system has been developed consisting of 15 stage wagons, 2.70m deep and 16.20m wide, moveable by means of air bearings. Five linked stage wagons together form one acting area (13.50m x 16.20m) on which a complete set can be constructed. This makes it possible to perform on one set on the main stage, while on the rear and side stages and in the construction area, the other wagons stand ready to be constructed or taken down. Each stage wagon corresponds to a hydraulic stage elevator on the main stage, and these hydraulic stage sections can move independently of each other up to three metres up or down.

Above the hydraulic stages on the main stage to a depth of 15m are 40 regularly spaced 350 kg counterweight bars, 27 750 kg electric bars, and 10 rows of 4 lateral motorised spotlines at 150 kg per point. The relatively large number of bars only 15cm apart makes it possible to hang scenery for several productions at once. The double-purchase counterweight system is served from the lowest fly gallery, stage left in the fly tower.



The star ceiling of the auditorium, shown in detail below, can be 'programmed' by an IBM PC in the lighting control room.



Longitudinal section of the complex.

The electric bars are controlled from a panel which makes it possible to group several bars with various heights, speeds and direction of movement. The combination of stage wagons, elevators and flies makes the most complicated scene changes possible, but has primarily been developed to enable the change between two productions in a shortest time and with less manpower.

The lighting control system consists of 800 independent and variable current circuits, divided into 2.5, 5 and 10 kilowatt. A relatively large number even by international standards, it resulted from the desire to have the capability to divide the circuits over two productions. The connection points for the spotlights are divided over the bridges in the auditorium, the front stage area, the proscenium area and the stage floor including the hydraulic stages, as well as on the bridges above the main stage and the side and rear bridges.

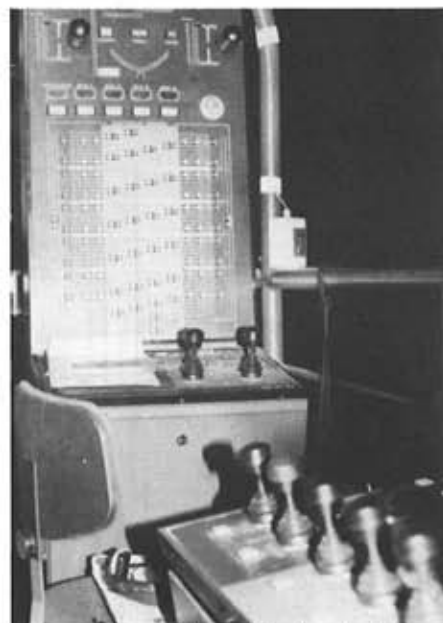
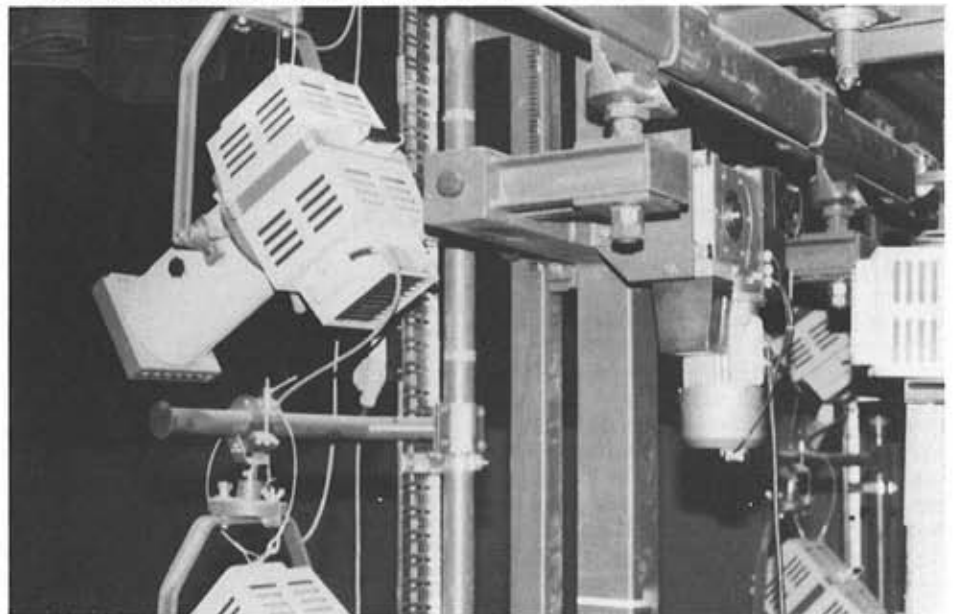
The heart of the lighting control system is a Swedish AVAB 'Viking' memory control desk situated in the control room at the rear of the auditorium. The main control panel is made up of various modules including an alpha numeric keyboard, 2 cross faders, 12 group faders, and various other keys for time functions and programming, enabling complete manual override during the performance. Storage is by floppy disc, and there is an emergency back-up system. Dimmers are AVAB LPS in specially designed cabinets built in Holland, and the installation was by AEG of Amsterdam.

Nucleus of the sound system is a British Soundcraft Series 2400 mixing desk located in the sound control room also at the rear of the auditorium. The desk, a 'world première' for theatre use, has 24 inputs and 16 outputs and can also be controlled from the auditorium using a mobile console.

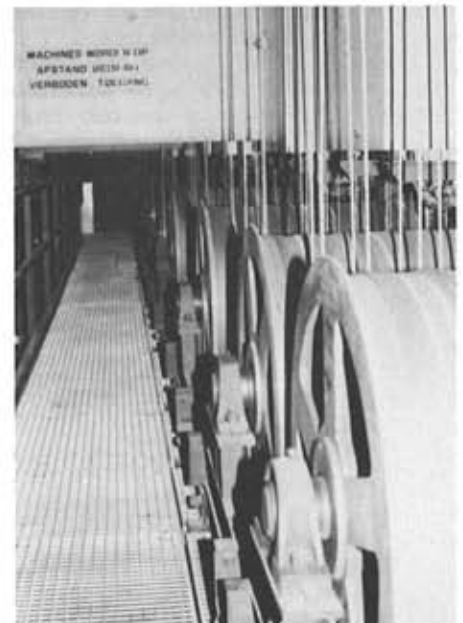
About 30 separate systems can be distinguished in the sound installation. An amplification system for the stage with five channels can be fed from microphones on the front edge of the stage, from microphones elsewhere and from other sound sources. There is a so-called front panorama system and a panorama system for the auditorium. These systems can pro-



Spotlights on the side bridges are on motorised drives, shown in detail below.



Above stage control panel for the electric bars.



Part of the above-stage machinery.



An AVAB 'Viking' is the 'heart' of the lighting control for Het Muziektheater.

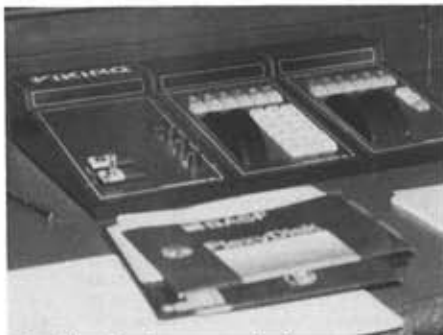
cess five independent sound sources at the same time, and reproduce them via the outputs selected, and in addition can be used to create three-dimensional sound effects.

Secondary circuits can be used to link the sound from the orchestra pit with the sound from the stage. The ambiophonic system is

capable of creating an optimal spacial effect, of changing the reverberation acoustics, and of ensuring an even distribution of sound in the auditorium without losing directional fidelity and of creating special effects. 140 speakers have been built into the walls and 28 into the ceiling of the auditorium.

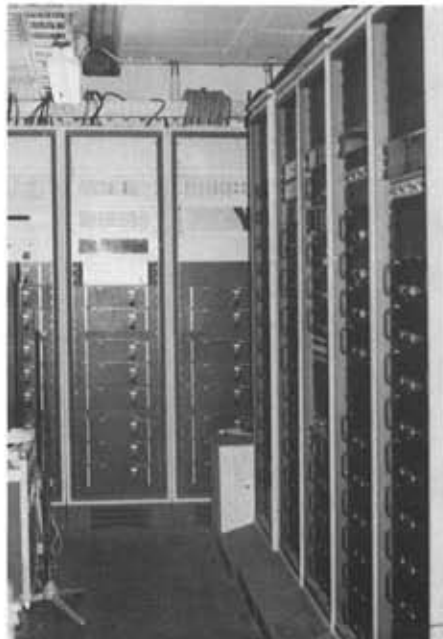


Stage management control.

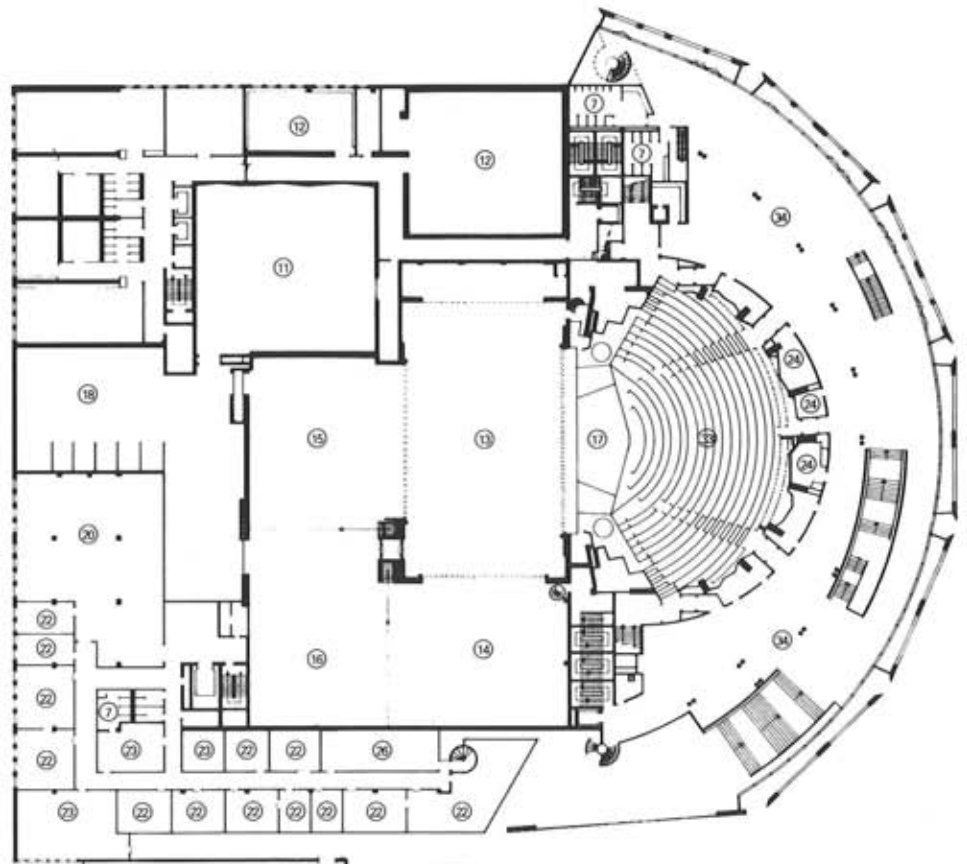


The Viking back-up system in the control room.

Acoustically favourable conditions result in a particularly direct sound. The primary form of the auditorium being a semi-circle, the distance between the stage and the seats at the back of the auditorium and the two balconies is relatively small - 30 metres at most. The acoustical disadvantage of a semi-circle - undesirable concentrations of sound - is banished by the prominent profile of the walls. These ensure the necessary dispersion of sound, preventing concentrations and echoes.



Side stage dimmers and amplification equipment.



Plan of the complex at first floor level, showing relationship of areas to the main stage (13). Legend: 12 - Ballet Studio, 14 - side stage, 15 - rear stage, 16 - construction stage.

The slope of the floor in the auditorium and balconies provide the audience with a clear view of the stage, and means that sound is acoustically direct; it is not impeded by tangentially passing the listeners sitting in front. The walls on both sides of the orchestra pit are shaped to provide the audience with the essential lateral reflections (from the sides), and are needed to provide a spacial feel to the sound.

The height of the ceiling, designed to disperse the sound, is chosen to provide a volume of about 10,000³. This results in an echo time of about 1.5 seconds for the mid-range frequencies in a full house; a good value for an opera house of these dimensions.

The walls and the ceiling of the orchestra

pit are lined with sound-dispersing sheeting, which also absorbs the necessary low frequency sound. In the stage floor covering both side wings of the orchestra pit, round holes have been made, covered with acoustically-transparent gratings, improving the transmission of sound from the musicians and chorus under these sections.

In order to allow all the technical capabilities of the stage to be exploited for the artistic production at the right time, a special communications system has been designed for Het Muziektheater. The most significant part is the stage manager's desk, a mobile console capable of controlling about 25 functions. In addition to an extensive public address system for both technicians and performers, there is a network of three



The Soundcraft Series 2400 mixing desk - a 'world première' for theatre use.

separate intercom systems: one for the lighting department and a second for the stage department, both integrated into a third system for the stage manager. The various areas are equipped with both fixed and mobile, wireless two-way communications equipment.

There is also a video communications system allowing a black and white picture of the conductor and a colour picture of the stage to be fed to places where direct visual contact is not possible. An infra-red camera makes it possible to see the stage in the dark.

* * * * *

Since its September opening Het Muziektheater has been playing to near capacity houses, and the Bolshoi Ballet has already been and gone without hindrance - apart from the fact that you had to very lucky to get a seat.

In my mind there is only one question left unanswered. Did they build the auditorium big enough for the demands of an international city?

An Englishman visiting Het Muziektheater and searching the maze of corridors for the right department, could be forgiven for assuming that the overlord of this magnificent establishment was a chap who insisted in printing his name in capitals, and putting it on every available direction sign. As I soon found out, TOM (Technische Organisatie Muziektheater) is in real life headed by Chris Lievaart, technical director.

Technical matters are organised by a total of nine departments, plus two overseeing sections, one headed by deputy technical director Siang Li that oversees the total production, and the other by engineer Goop Veerkamp who supervises maintenance and safety matters. The nine groupings are scenery shop, scenery storage, stage hands (carpenters), lighting, sound/video/com-



Chris Lievaart.

munications, props (both making and handling on stage), wigs and masks, costumes (opera), and costumes (ballet).

Chris Lievaart started his career in theatre in 1960 as a stage hand for the Stage Company Theatre in Arnhem. He left there in 1969, having risen to stage manager, and then began a period of involvement in 'behind the scenes' research into the organisation of technical and artistic aspects of theatre in Holland. He became a member of the Theatre School in Amsterdam, and undertook a survey of the position of theatre technicians, and also looked at the technical problems of the two dozen or so touring theatre companies within the country. Another research undertaking that was to prove important for the future was to make an investigation into theatre production systems in Germany in relation to what happened in Holland and also in Great Britain.

"The differences are very great," he explained.

"In Germany there is one central theatre in each major town or city that is used for all purposes. Major equipment, more expensive but more adaptable, is very good and easy to work with - but they don't travel. In England in the major London theatres equipment is specific to each show. Equipment is cheaper and provided for the one purpose only. In Holland the possibilities of development on the technical side are much more difficult. We have about 120 theatres, but the majority are in the 500-600 seat range."

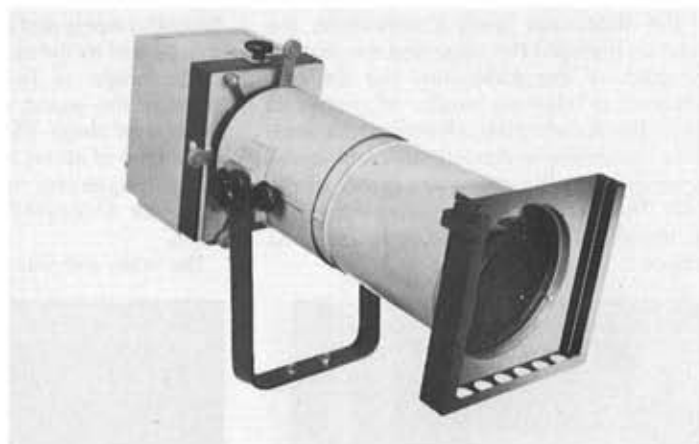
He believes very strongly that the artistic and technical areas should grow together, and not apart, and as chairman of the Dutch technicians he has played a key role in joining together many disparate groupings.

A culmination of his work was his appointment in 1977 as technical director of the Netherlands Opera, and a few years later he was appointed to take the role as technical director of Het Muziektheater. Building work for the venue commenced in 1979, and over this period Chris Lievaart began bonding together the various technical staffs. Since the 1st August this year technical personnel have worked as an integrated team, looking after the two companies in addition to the house and out-going tours.

At Het Muziektheater he has pioneered some interesting technical developments for the venue. A running cradle has been installed under the lighting bars for focusing and setting up of lanterns without the need to lower the bars and remove scenery. On the side bridges, spotlights can be raised and lowered by motorised hoists (see illustrations).

Lighting Equipment

- 4 Pani scenic projectors BP4 HMI
- 4 Pani effect devices
- 4 Pani deflect reflectors
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- 6 Pani scenic projectors BP6 HMI
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- 35 Niethammer halogen profile spotlights
- 127 Niethammer halogen profile spotlights 17°
- 96 Niethammer halogen profile spotlights 23°
- 74 Niethammer halogen profile spotlights 30°
- 2 Niethammer halogen profile spotlights 8°
- 4 Niethammer follow spotlights 8° - 17°
- 28 Pani low voltage parabolic spotlights
- 18 Niethammer halogen footlights
- 8 Niethammer halogen fresnel spotlights



Pictured above are some of the German manufactured Niethammer spotlights installed at Het Muziektheater. Left is the MZU106 Unispot, top right the HPS123 profile spot, and lower right the HPS209 2k profile spot.

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The power and lighting equipment recently acquired by the company was also on show at their new-look, North West London Headquarters, Samcine West.

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Big Names in Lights

John Offord visits AC Lighting at High Wycombe to look at their organisation and range of lighting equipment

The journey from Alpha Centauri Lightshow to AC Lighting 1986 style, from presenting their own light show to a £2m turnover that covers a full international range of lighting and projection equipment, has taken David Leggett and Richard Floyd just 16 years.

Coupled with that they own the freehold of their 5,500 sq. ft. premises in High Wycombe, and sit on £600,000 of stock for both hire and sale. Apart from all the standard lines, if you need something special for a major tour or production, it's often AC Lighting who will come up with the goods. "We give a comprehensive service to major rental companies," explained David Leggett. "We are an independent operation, and it saves them going to their competitors. They can either purchase or sub-hire from us."

From the days of the original lightshow, where they would travel to venues with their own equipment, the operation started to hire out bits and pieces of equipment on request. "Bands were playing in such darkness that we started to be asked to supply stage lighting, often with the necessary crew. On one side the light show and the psychedelic era was declining, and alongside it we were developing into a production company. This happened over a four year period. Eventually the business of hiring out and sale of equipment took over, and we noticed that there wasn't one major supplier catering for the needs of the rock industry. You had to go to various different places to buy your equipment.

"However, you cannot be a production company and sell to your competitors, and we are not active in this area now, apart from retaining three major clients in Gary Clitter, Chas and Dave, and Jim Davidson. This does at least enable us to keep in direct touch with what's going on in the business."

As AC Lighting's business has grown, important trading relationships have developed with many of the leading names in international entertainment lighting including Pani of Austria, Altman in New York,



AC Lighting's headquarters at Sands, High Wycombe.



David Leggett (right), director of AC Lighting and Nic Tolkien caught on camera during a rare respite from telephone action.



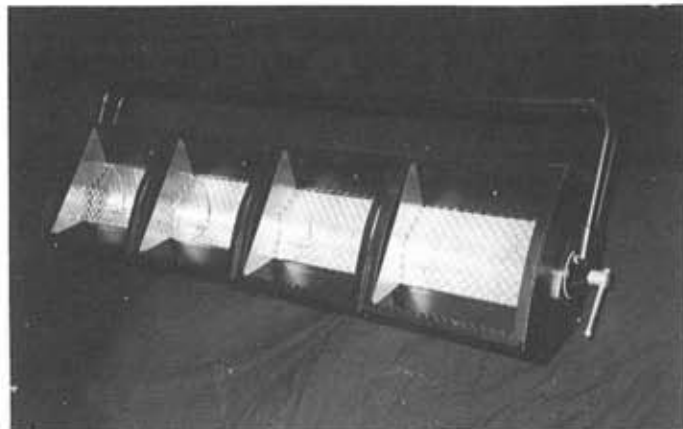
The 'infamous' Thomas Par 64 lantern has established itself as the standard within the entertainment industry.



Mike Stone, AC Lighting's warehouse manager, checks over a Pani HMV 1200 followspot prior to delivery



The Altman Orbiter follow spot with internal 6-way colour changer.



The Thomas 4-cell 1000W cyc light/groundrow with optional wiring to Socapex connectors.



A Pani HMV 1200 follow spot with 35cm lens.

the sales and hire (there are four cars between them to cover the four lines into the building), and stay all hours to see everything gets dealt with. "We're in a meeting' doesn't exist here," emphasised David. "We have a very personal operation, a head-to-head way of looking after things. On imported equip-



The Spotlight 1000w cyclorama unit - also available as a 4-cell.

Genie Industries and General Electric also in the USA, and most of the better known UK manufacturers. They are distributors of James Thomas Engineering products, one of their most important UK links, and when I visited their factory in October, they'd just been confirmed as sole UK distributors for Spotlight of Milan. They are now looking to set up a network of British distributors for this range.

Despite an ever-growing turnover and increasing throughput, if you ring AC Lighting the chances are it will be David Leggett who picks up the telephone. Either that, or Nic Tolkien who sits opposite. (Yes, I did ask the question, and the Hobbit man was his great uncle.) Together, David and Nic look after

ment we work on a one-to-one basis. We quote a price on the day, depending on the market rate."

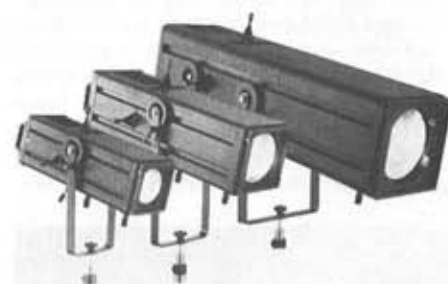
The fact that the company has built up a reputation for supplying such a wide variety



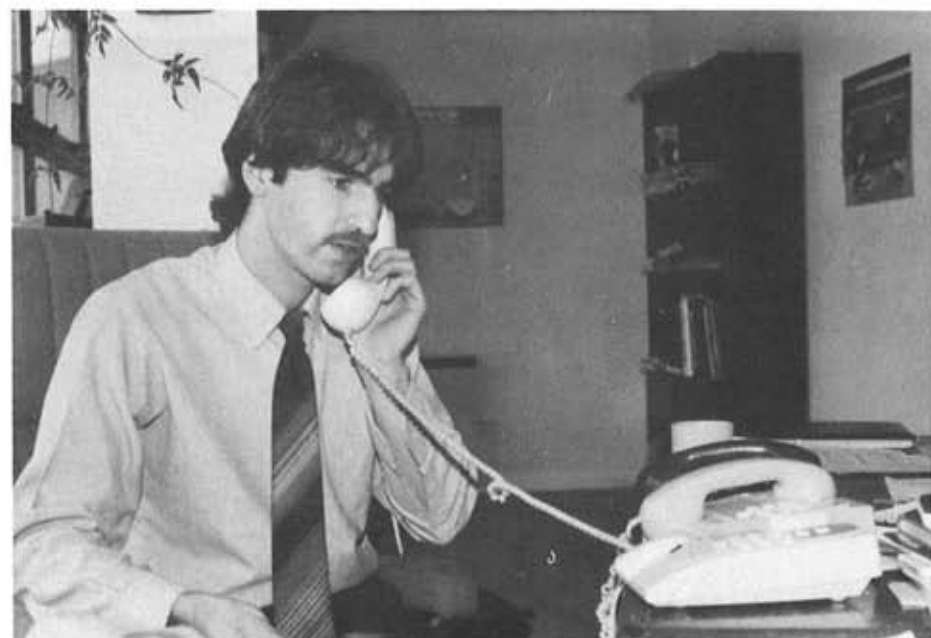
The powerfull 400w u.v. Blackgun from Spotlight.



Spotlight's lightweight and well-cooled range of pebble convex and fresnel lanterns from 500w to 2000w.



The Spotlight range of profile spots - 500/650w, 1000w, and 2000w.



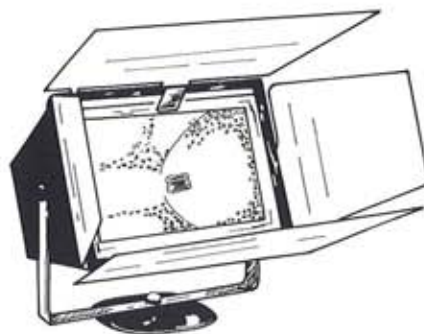
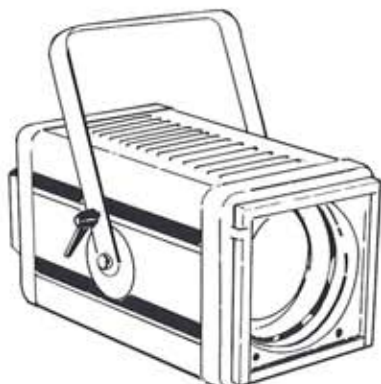
Nic Tolkien.

of lighting needs, on a 'one-stop' basis, is beginning to have a useful knock-on effect on exports, which now account for over 20% of business. This is expected to grow considerably, and AC Lighting is also looking towards theatre and television - "to offer these areas the service that the rock and roll industry has been used to."

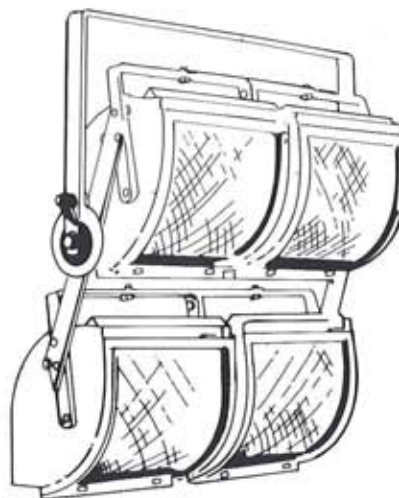
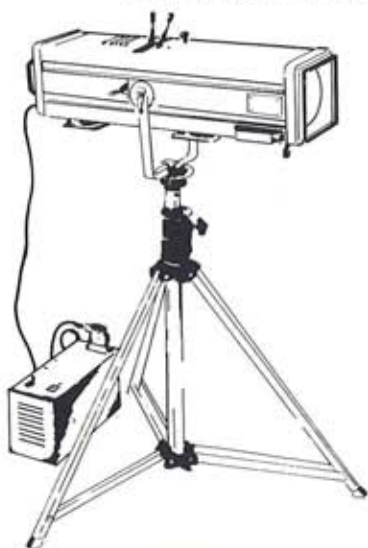
To keep UK clients happy AC have two vans almost permanently on the move, and will use taxis to link up with them as the needs arise. "Much of our work is sorting out people's problems, and if necessary we'll talk right through the night to come up with the solutions," said David Leggett.

SPOTLIGHT

MILANO



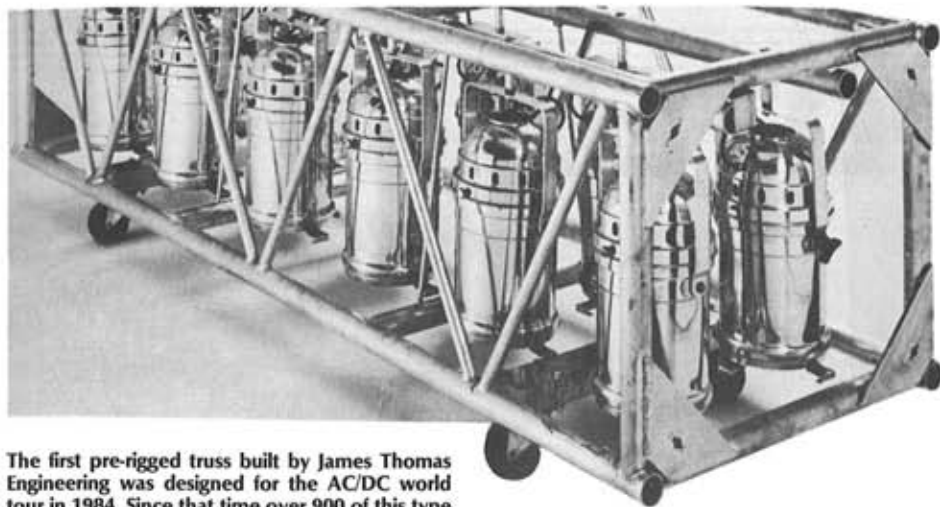
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The first pre-rigged truss built by James Thomas Engineering was designed for the AC/DC world tour in 1984. Since that time over 900 of this type of unit have been manufactured. Modified standard lighting bars with anti-chafing bushes are incorporated, and feature fast, easy access to all electrics. Assembly and break down is speeded up by use of 'Socapex' connectors, 'Snaploc' and 'Camloc' fittings.

Based on light but heavy-duty tubing, the construction provides maximum strength and ease of handling. The complete lighting bar rig can be swung down in situ, for instant focus adjustment, gel fitting and bulb replacement.

Typical of the sort of service back-up that has been developed is that AC are able to offer a complete range of lighting cables to the entertainment industry. Held in stock at their importer's warehouse, specific lengths of any type of cable can be cut and delivered within the day, or even within a matter of a few hours by special arrangement.

Whilst David pushes the sales side along, Richard Floyd makes sure equipment in the stores is ready for action, supervising all technical aspects of the business.

Regularly clocking up over 80 hours a week, I suggested to them that they had to be keen about their work. "Our life is our business," explained David, whose personal life-style includes a rather bright and punchy Porsche and a satellite TV system at home that enables him to watch American TV when he gets home at those extraordinarily late hours.

"We're still expanding, but we've got to keep the thing under control, and keep the customers happy.

"We thoroughly enjoy it."



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USITT DMX512

A digital protocol for data transmission between controllers and dimmers

USITT AMX192

An analog multiplex protocol for data transmission between controllers and dimmers

These two standards were developed by the USITT Dimmer Standards Committee in response to requests from manufacturers, consultants, rental shops, and end users who were faced with interfacing dimmers and controllers made by different manufacturers.

The two standards serve different purposes. **USITT DMX512** provides a simple means of digital communications without "bells and whistles". It allows communication between many different types of equipment, and will hopefully be added to all major manufacturers' consoles and dimmers as second communications link in addition to the manufacturer's current standard. Of course, manufacturers just getting started with digital data transmission schemes may adopt DMX512 as their only standard.

USITT AMX192 is primarily directed to manufacturers or users who wish to interface with the large installed base of Strand equipment which uses the "CD-80" protocol.

Now that the standards have been adopted, their success lies in **your** hands as a consultant or system designer. Consider some of the advantages of widespread adoption of DMX512:

- System designs incorporating the best products of different manufacturers
- Painless interfacing of rental equipment to permanent installation equipment
- Development of DMX512 into a generic digital protocol which would allow communications between many other devices (colorchangers, moving lights, etc.)

I urge you to specify DMX512 on all consoles and dimmers in addition to the manufacturer's standard protocol. Your specifications are a powerful tool in driving our industry towards an efficient, universal means of data communications between dimmers and controllers.

Steven R. Terry
Vice President
Chairman USITT Dimmer Standards Committee

Note: Recent interest in using alternate start codes to control devices other than dimmers (especially in the UK) has indicated that it is necessary to set up a 'clearing house' of start codes and their functions. The Professional Lighting and Sound Association has agreed to act as the clearing house for European codes and will liaise with the USITT for this purpose. Please advise the PLASA office if you plan to implement start codes other than 00.

USITT DMX512

1.0 SCOPE

This standard describes a method of digital data transmission between controllers and dimmers. It covers electrical characteristics, data format, data protocol, connector type, and cable type.

2.0 APPLICABILITY

This standard is intended as a guide for:

1. Equipment manufacturers and system specifiers who wish to integrate systems of dimmers and controllers made by different manufacturers.
2. Equipment manufacturers seeking to adopt a basic controller-dimmer digital transmission protocol.

Although widespread adoption of this standard is sought by USITT, compliance with the standard is strictly voluntary. Furthermore, it is not intended as a replacement for existing protocols already manufactured, but rather as an addition to existing protocols which will broaden the installed base of controllers and dimmers that can communicate with each other.

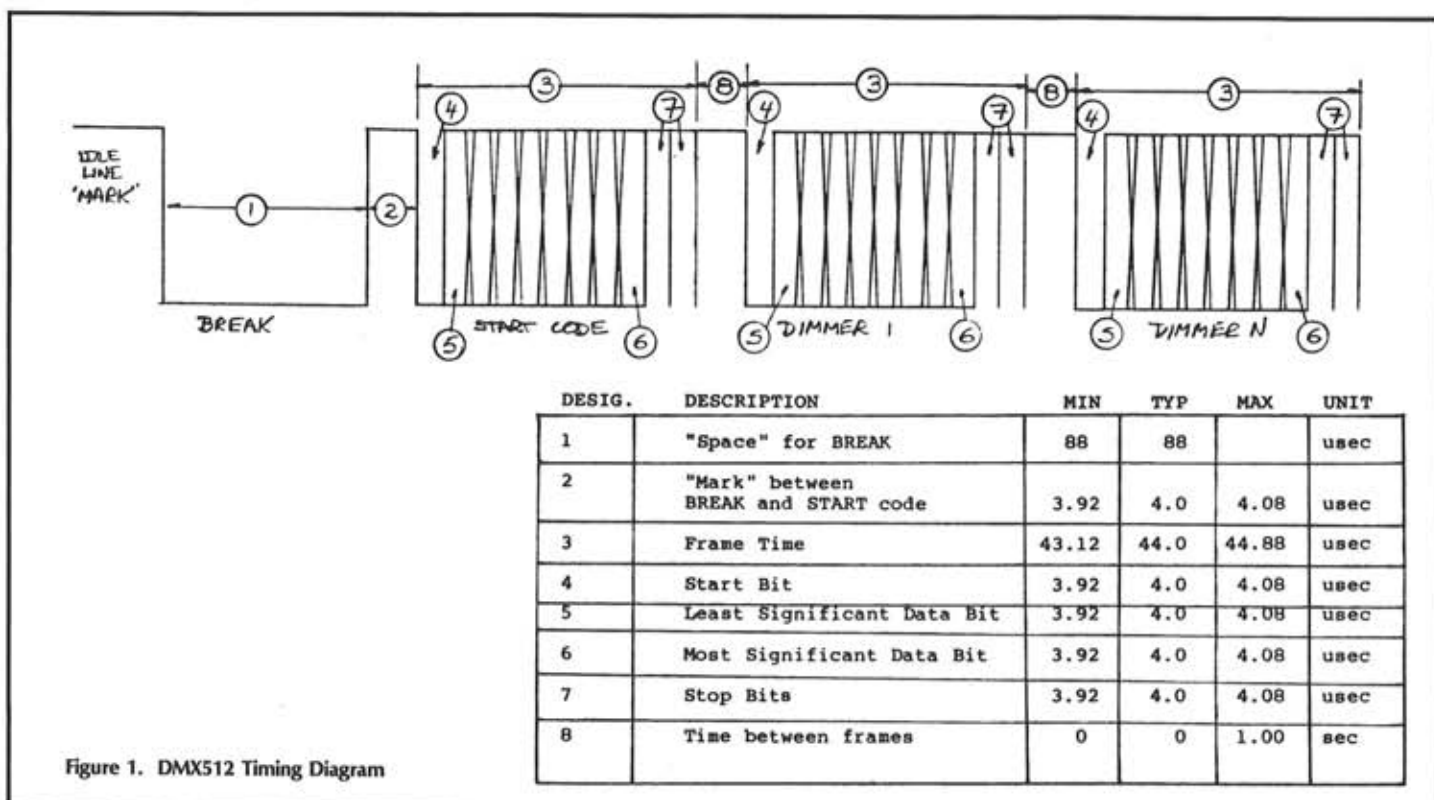


Figure 1. DMX512 Timing Diagram

3.0 CROSS REFERENCE

See EIA standards RS-422A and RS-485 available from:

Electronic Industries Association
Standards Sales Office
2001 Eye Street NW
Washington DC 20006
202-457-4900

4.0 ELECTRICAL SPECIFICATIONS

The standard shall follow EIA Standard RS-485 (an enhanced version of RS-422A) with regard to all electrical characteristics including line driver and receiver selection, line loading, and multi-drop configurations.

5.0 DATA PROTOCOL

Data transmitted shall be in asynchronous serial format. Dimmer level data shall be transmitted sequentially, beginning with dimmer 1 and ending with the last implemented dimmer, up to a maximum of 512. Prior to the first level transmitted, a RESET signal shall be transmitted followed by a NULL START code. Valid dimmer levels shall be 0 to 255 decimal (00 to FF hexadecimal) representing dimmer control input levels of OFF to FULL in a linear relationship. These numeric values shall not necessarily have any relationship to actual output, which shall be determined within the dimmer itself.

5.0.1 RESET SIGNAL

The RESET signal shall consist of a BREAK lasting at least 88 usec (two frame times). A BREAK shall be defined as a high-to-low transition followed by a low of at least 88 usec. A BREAK of any duration exceeding 88 usec shall be allowed. Multiple RESETS with no level information between shall also be allowed.

5.0.2 NULL START CODE

The NULL START code shall be defined as a properly framed NULL character (all zeros) following a RESET. The NULL START code is the data packet identifier which identifies subsequent data as sequential dimmer level information.

5.0.3 OTHER OPTIONAL START CODES

In order to provide for future expansion and flexibility in controlling devices other than dimmers, this standard makes provision for 255 additional START codes (1 through 255 decimal, 01 through FF hexadecimal). These additional codes remain undefined at this time, but may be implemented in the future. For this reason, a dimmer receiver must reject any data packet with a start code other than NULL START following the RESET, since such a packet is directed to a non-dimmer receiving device on the data link.

5.0.4 MAXIMUM NUMBER OF DIMMERS

Each data link shall support up to 512 dimmers. Multiple links shall be used where larger numbers of dimmers are required.

5.0.5 MINIMUM NUMBER OF DIMMERS

There shall be no minimum number of dimmers on the data link. The RESET may be transmitted after any number of dimmer levels up to 512 have been transmitted.

6.0 DATA FORMAT

The data transmission format for each level transmitted shall be as follows:

Bit Position	Description
1	Start Bit, Low or SPACE
2 through 9	Dimmer Level Data Bits, Least Significant Bit to Most Significant Bit Positive Logic
10, 11	Stop Bits, High or MARK
Parity:	Not transmitted

7.0 DATA RATE

The data rate and associated timing shall be as follows:

Data Rate:	250 Kilobits per second
Bit time:	4.0 microseconds
Frame time:	44.0 microseconds
Maximum Update Rate for 512 dimmers including RESET and START	22.71 milliseconds 44.03 times per second

7.1 TIMING DIAGRAM

See Figure 1 for the DMX512 timing diagram.

8.0 LOSS OF DATA TOLERANCE

In the event of loss of data on the data link, the receiving device shall maintain last received levels for at least one second.

9.0 CONNECTORS

Where connectors are used, the data link shall utilize 5-pin "XLR" style microphone connectors. Some manufacturers of this connector are:

Switchcraft
ITT Cannon
Neutrik

9.0.1 CONNECTOR SEX

Female connectors shall be utilized on controllers or other transmitting devices and male connectors shall be utilized on dimmers and other receiving devices. In cases where an optional second data link is implemented using the spare pins of the connector for bidirectional transmission, female connectors shall still be utilized on the controller.

9.0.2 CONNECTOR PIN DESIGNATION

Connector Pin Designations shall be as follows:

- PIN 1- Signal Common (Shield)
- PIN 2- Dimmer Drive Complement (Data 1 -)
- PIN 3- Dimmer Drive True (Data 1 +)
- PIN 4- Optional Second Data Link Complement (Data 2 -)
- PIN 5- Optional Second Data Link True (Data 2 +)

10.0 CABLE

Cable shall be shielded twisted pair approved for RS-422/RS-485 use. Examples of suitable cable are:

- Belden 9841
- Alpha 5271 (one pair, no spares provided)
- Belden 9842
- Alpha 5272 (two pairs, one as a spare)

USITT AMX192

1.0 SCOPE

This Standard describes the method of analog multiplexed data transmission between controllers and dimmers. It covers electrical characteristics, data timing, connector type, and cable type.

2.0 APPLICABILITY

This standard is intended as a guide for:

1. Equipment manufacturers and system specifiers who wish to integrate systems of dimmers and controllers utilizing analog multiplexed control.
2. Equipment manufacturers seeking to adopt a basic controller-dimmer analog multiplex data transmission protocol.

It is important to note that the origins of this standard come from a control protocol originally developed by Strand Lighting (Strand-Century Inc.). This protocol is used by a large installed base of equipment manufactured by Strand and many other manufacturers. One of the objectives of this standard is to describe a protocol that will successfully communicate with most of this existing equipment. Because the original protocol has undergone many slightly different versions, this standard is broken down into two major areas:

1. **Receive Timing.** Dimmers or other receiving devices that adhere to these timing requirements should be able to successfully communicate with most existing consoles that use different variations of the original Strand protocol.
2. **Transmit Timing.** Controllers or other transmitting device that adhere to these timing requirements should be able to communicate with most existing dimmers that use the different variations of the original Strand protocol.

There are substantial differences between the receive timing and the transmit timing. New controllers adhering to this standard must produce a signal acceptable to a wide variety of dimmers, and new dimmers must be able to listen to a number of different controller signals. As an example, note that new consoles should provide a wide "analog valid" window, but new dimmers must be able to cope with the differences in existing consoles and use a narrow "sample window". These differences in timing between the **Receive** standard and the **Transmit** standard produce enough tolerance to cover worst case variations on the original Strand protocol.

Although widespread adoption of this standard is sought by USITT, compliance with the standard is strictly voluntary. Furthermore, it is not intended as a replacement for existing protocols already manufactured, but rather as an addition to existing protocols which will broaden the installed base of controllers and dimmers that can communicate with each other.

3.0 CROSS REFERENCE

See EIA standards RS-422A and RS-485 available from:

Electronic Industries Association
Standards Sales Office
2001 Eye Street NW
Washington DC 20006

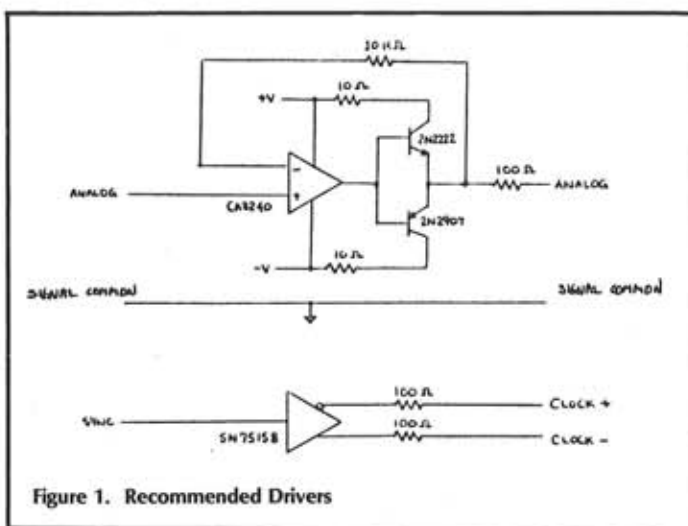


Figure 1. Recommended Drivers

4.0 TRANSMISSION MEDIUM

Data transmission shall be via a four conductor control cable with conductors designated as follows:

- ANALOG LEVEL
- SIGNAL COMMON
- DIFFERENTIAL CLOCK TRUE (CLOCK +)
- DIFFERENTIAL CLOCK COMPLEMENT (CLOCK -)

Analog dimmer control levels shall be time multiplexed on the ANALOG line, referenced to the SIGNAL COMMON line. These levels shall vary from 0 to +5 VDC representing dimmer output levels from 0 to 100%. Synchronisation of the controller (transmitting device) and the dimmer (receiving device) shall be via clock pulses on the DIFFERENTIAL CLOCK TRUE and DIFFERENTIAL CLOCK COMPLEMENT lines.

5.0 DRIVER ELECTRICAL CHARACTERISTICS

See Figure 1 for a description of differential clock driver and analog driver circuits. It is strongly recommended that these circuits be utilised in order to insure compatibility with existing equipment.

5.1 DRIVER PARAMETERS

PARAMETER	MIN	TYP	MAX	UNIT
Vf "Full" analog level	4.9	5.0	5.1	Vdc
Vo "Off" analog level	0.0	0.0	0.1	Vdc
Ro Analog driver output impedance		100		ohms
Maximum analog driver safe short circuit duration	unlimited			
Vhi Differential Clock Low level		4.0		Vdc
Vlo Differential Clock Hi level		1.0		Vdc
Ros Clock Driver output impedance		100		ohms

Note: Differential clock driver shall conform to RS-422A specifications and be connected to the line through 100 ohm series resistors. Above voltage impedance values for the clock driver are for reference only.

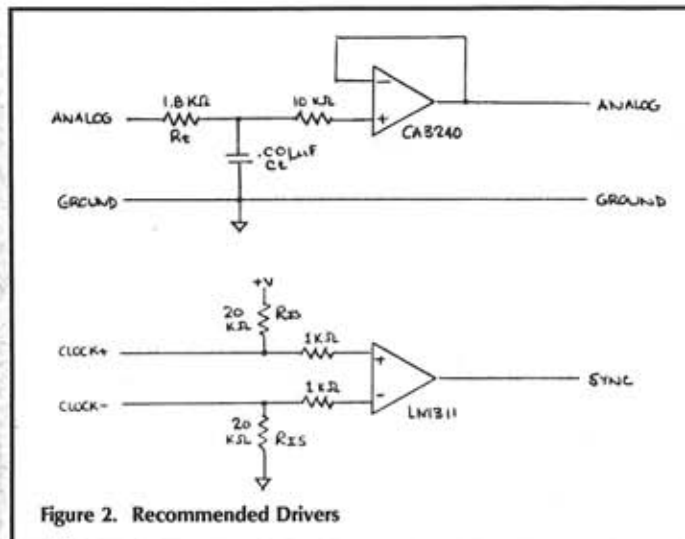


Figure 2. Recommended Drivers

6.0 RECEIVER ELECTRICAL CHARACTERISTICS

See Figure 2 for a description of recommended analog and differential clock receiver circuits. It is strongly recommended that these circuits be utilised in order to insure compatibility with existing equipment. In cases where no more than four receivers will be connected to the data link, use of standard RS-422A receivers shall be permitted.

6.1 RECEIVER PARAMETERS

PARAMETER	MIN	TYP	MAX	UNIT
Vf "Full" analog level	4.9	5.0	5.1	Vdc
Vo "Off" analog level	0.0	0.0	0.1	Vdc

Rt Analog receiver termination, per dimmer	20	Kohm
Ris Clock receiver termination, per dimmer	240	Kohm

Note: The above termination values for Rt and Ris allow the system designer to calculate the ideal termination for systems with fixed numbers of receivers and dimmers. In cases where system size is not fixed, it is acceptable to under terminate the line, but Rt should be 1.8 Kohm minimum and Ris should be 20 Kohm minimum. In no case should the line termination be reduced below that of 192 dimmers using the per dimmer values in the table above.

6.2 MAXIMUM NUMBER OF RECEIVERS PER DATA LINK

The maximum number of receivers per data link shall be 16 when using the type specified in figure 3. When using standard RS-422A receivers, the maximum number shall be four per data link.

7.0 TRANSIT TIMING

See figure 3 for a diagram of Transit Timing. Timing parameters for this diagram are as follows:

PARAMETER	MIN	TYP	MAX	UNIT
Trs RESET Pulse Duration	35	40	70	usec
Tri Reset Interframe delay after RESET pulse trailing edge	15			usec
Ts Dimmer SYNC pulse direction	6	8	10	usec
Ta advance of valid analog level before SYNC pulse leading edge	0			usec
Th Valid analog level hold from leading edge of SYNC pulse	50			usec

The following parameters define the "analog valid" window. Analog level should be output no later than the leading edge of the SYNC pulse, and should be maintained for at least 50 usec.

Tc 192 dimmer refresh cycle	10	50	500	msec
Td Dimmer frame duration	50			usec

8.0 RECEIVE TIMING

See figure 4 for a diagram of Receive Timing. Parameters for this diagram shall be as follows:

PARAMETER	MIN	TYP	MAX	UNIT
Trs RESET pulse duration	30	40	70	usec
Tri RESET interframe delay after RESET pulse trailing edge	10			usec
Tav Analog Valid delay after dimmer SYNC pulse leading edge	3	8	15	usec
Th Hold of valid analog level from leading edge of dimmer SYNC pulse	50			usec

The following parameters define the refresh cycle. Minimum refresh cycle is a function of the number of dimmer frames transmitted, up to a max of 192. There is no minimum time between the start of the last dimmer frame and the start of the next RESET frame. Dimmers must be able to accept a lapse in transmission for up to 500 milliseconds.

Tc 192 dimmer refresh cycle	10	50	500	msec
Td Dimmer frame duration	50			usec

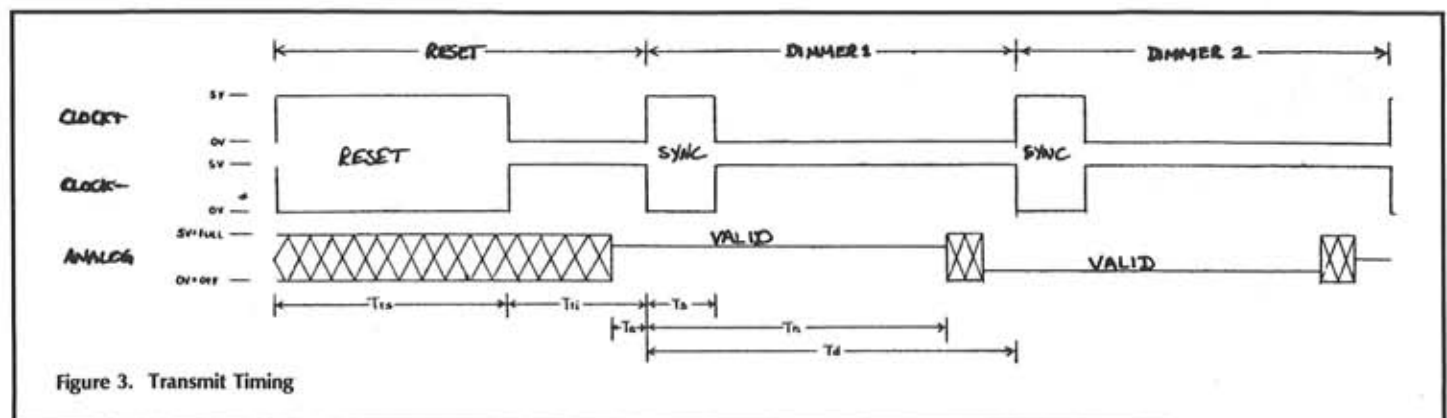


Figure 3. Transmit Timing

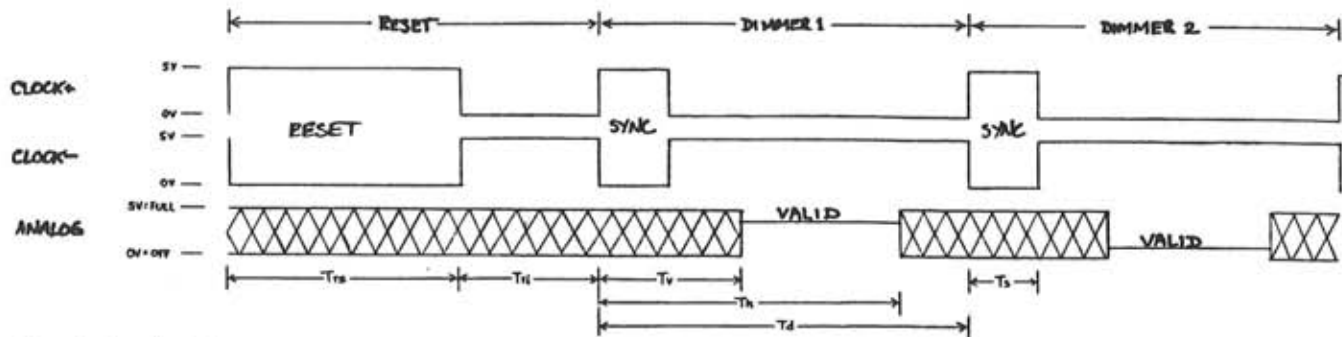


Figure 4. Receive Timing

9.0 NUMBER OF DIMMERS PER DATA LINK

Each data link shall support up to 192 dimmers. Multiple links shall be used where larger numbers of dimmers are required. Since a RESET pulse can occur after any valid dimmer frame, there is no minimum number of dimmers per data link.

10.0 CONNECTORS

Where connectors are used, the data link shall utilise 4-pin "XLR" style microphone connectors. Some manufacturers of this connector are:

Switchcraft
ITT Cannon
Neutrik

Optionally, when mating with existing Strand equipment, Switchcraft "Mini Connectors" (typical part numbers TY4F, TA4ML, and TA4FL) may be utilised.

10.1 CONNECTOR SEX

Where "XLR" style connectors are utilised, male connectors shall be utilised on controllers or other transmitting devices and female connectors shall be utilised on dimmers and other receiving devices.

Where "Mini Connectors" are utilised, all equipment shall utilise female connectors and all cables shall utilise male connectors except for specific "extension" cables, which shall be male-female.

10.2 CONNECTOR PIN DESIGNATION

"XLR" Connector Pin Designations shall be as follows:

- PIN 1- Signal Common
- PIN 2- Differential Clock True (Clock +)
- PIN 3- Analog Level
- PIN 4- Differential Clock Complement (Clock -)

"Mini Connector" Pin designations shall be as follows:

- PIN 1- Differential Clock Complement (Clock -)
- PIN 2- Signal Common
- PIN 3- Differential Clock True (Clock +)
- PIN 4- Analog Level

11.0 CABLE

Recommended cable shall be Balden 9156 or equivalent which utilises two unshielded 18 AWG twisted pairs.

11.1 MAXIMUM LENGTH

Maximum Cable Length shall be 1000 feet from controller to last dimmer unit connected to the data link.

11.2 CABLE INSTALLATION AND ROUTING

Where permanently installed, cable shall be routed through metal conduit containing no AC power conductors which might cause induced interference.

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Samuelsons at Samcine West

L+SI goes to North West London to see the results of Samuelson Lighting's recent major investment programme

A major lighting hire company which has been extending its scope consistently over recent years is Samuelson Lighting Limited, already well established in the world of feature films and now, increasingly, a force to be reckoned with in television and commercials.

To support this development, the company - which is part of the Samuelson Group plc - has undergone a £1.85m investment programme which has included the acquisition of a broad range of new power and lighting equipment, as well as the renovation and rebuilding of Samcine West, Samuelson Lighting's headquarters in North West London. The completing of the investment programme was celebrated in some style with a massive fireworks party on November 5th, when over a thousand guests from all sectors of the industry were able to see the changes which have taken place in the last 12 months behind the elegant new facade of the building.

"November 5th gave us a marvellous opportunity to show people exactly what we can do," said Daryl Vaughan, director of client liaison at Samuelson Lighting. "From our point of view it really was a major production. We were able to demonstrate a lot of the equipment we can supply, including the famous VariLites, and thanks to Laser Grafix we were also able to give a spectacular display of the latest laser technology. What's more, all our staff were involved, both from the administrative and the technical side, to make sure that the evening ran smoothly."

Under the guidance of managing director Graham Anderson, Samuelson Lighting has, over the past decade, built a solid reputation in the film industry. The company has been responsible for supplying lighting and crews for many of the major British films of the last ten years - 'Ghandi', 'A Passage to India', 'The Shooting Party' and 'The Company of Wolves' to name but a few, as well as providing location lighting for 'Superman 3', 'Santa Claus: The Movie', 'Aliens', and the last four James Bond movies. More recent projects include Nic Roeg's 'Castaway', filmed this year in the Seychelles, and John Boorman's 'Hope and Glory', shot at Bray Studios in Berkshire and other locations, and Samuelson Lighting has also worked on television films such as the critically acclaimed 'Paradise Postponed' and 'Prospects', both produced by Euston Films.

Having established a firm base in feature films, the company has set its sites on achieving a similarly prestigious position in television outside broadcasts drama. As Daryl Vaughan admitted, initial progress was slow, but now the company's TV career is rapidly gaining momentum, with contracts from the BBC and several of the independent companies, such as LWT and Thames TV.

"In certain respects our reputation in the film world has proved a mixed blessing in terms of television," said Daryl Vaughan. "For a long time people have tended to associate the Samuelson name solely with film, and haven't necessarily realised that we're also able to provide a high level of ser-



The newly renovated facade at Samuelson Lighting's North West London headquarters, Samcine West.

vice to clients in the television industry. I'm pleased to say, though, that that's really beginning to change now, and we're doing more and more work with television companies. Over the summer we supplied lighting equipment, generators and crews for two BBC dramas, and we have a number of other projects in the pipeline."

Their recent investment programme has been particularly valuable in giving the company the sophisticated technical resources essential to servicing the television industry. Besides a vast and varied range of lighting equipment from major manufacturers such as QuartzColor lanero, Mole-Richardson, De Sisti and LTM, the Samuelson stores house mobile alternators and generators (including equipment-carrying generators), lighting transport vehicles, power distribution systems and a full quota of lighting accessories. Samuelson Lighting is also the first hire company to stock the complete range of new incandescent lamps developed by Arri.

These resources, invaluable in meeting the demands of television, have also stood the

company in good stead with the other market it is starting to penetrate, the commercials sector. Recent credits have included the latest Levis commercial, produced by Reel One Films Ltd and shot at Elstree, as well as pop promos for Tina Turner and the Pretenders. This area is the province of Daryl Vaughan's colleague Guy Douglas, who emphasised the importance of independent producers to the company's overall strategy.

"Because our bread and butter - and sometimes jam! - comes from feature films and television it doesn't mean that we can't adapt to the needs of small production companies," he told L+SI. "In fact, we have a lot to offer this sector of the industry, with gear that's tried and tested, and a flexible pricing structure so that our service is accessible to producers who don't have million dollar budgets to play with. We've also done a fair bit of work with stills photographers, encouraging the trend towards using tungsten and HMI lighting. The point is that we're very accommodating to individual requirements: for instance, we're more than happy to dry hire equipment."

The company has been considering its position in the commercials arena through its involvement in the re-launch of the Rotherhithe Studios, on the south bank of the Thames near Tower Bridge. Equipped with two stages of significant size, the studios, which are owned by Sands Films and operated by Samuelson Lighting, offer a useful new location both to commercials producers and to still photographers.

"We're aiming to be able to give production companies and photographers a package, including studio space, at a really competitive price," said Guy Douglas. "Ideally, Rotherhithe will complement Bray, the other studio where we're permanently in operation, which is popular with producers at the higher end of the scale."

This kind of forward planning is typical of a company like Samuelson Lighting, which places particular stress on the need to understand the market and to anticipate the



Graham Anderson, managing director of Samuelson Lighting Limited.

needs of future clients. It is a lighting company obviously run by professional managers, rather than by former electricians.

"At management level, we tend to have made our careers in client liaison of some kind, and not actually out in the field, as part of a lighting crew," said managing director Graham Anderson. "However, we're fortunate in that Abbie Ewen, my co-director, who is in charge of our day to day operations, has had a great deal of experience as a working electrician, and we find that invaluable."

Another important feature of the company is that, as part of the Samuelson Group it has access to vast resources of both equipment and personnel in the UK and abroad.

"There's a tremendous spirit of co-operation between the different companies in the group, which is very helpful to us, particularly with those of our colleagues who supply lighting for theatre and the presentation sector such as Theatre Projects Services, Zenith Lighting, Stage Technical Services and Samuelson Communications."

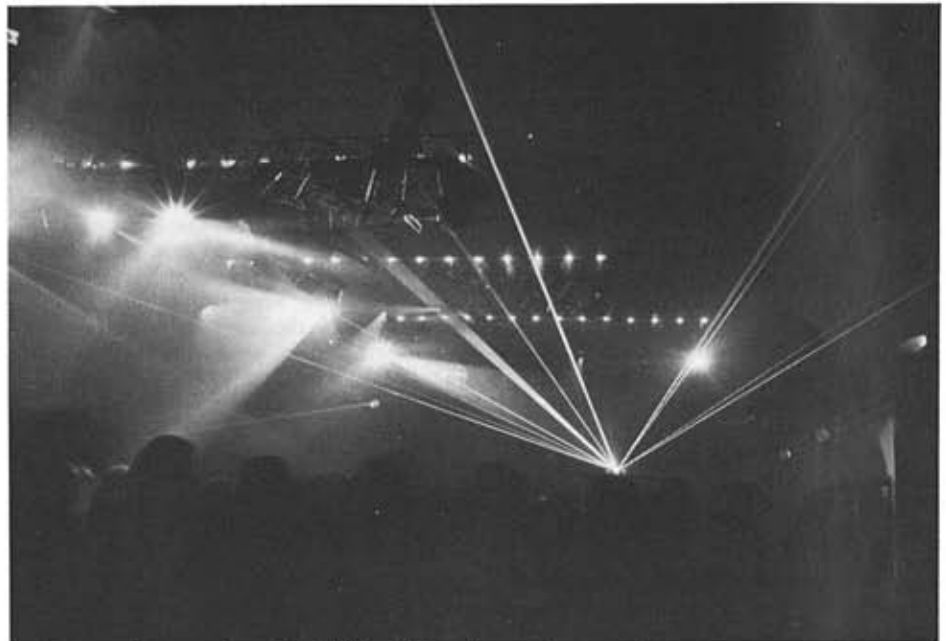
This emphasis on internal co-operation applies also within Samuelson Lighting itself, according to Abbie Ewen. "Of course the investment programme has been of vital importance to us in providing technical support that we need to extend into new areas of industry. But we fully understand that this is only half of the story, and that it's equally important to have crews which are both talented and reliable in order to capitalise on these resources. One of the reasons we've been able to establish a strong presence in the industry is because we've had skilled staff - gaffers, electricians and drivers as well as maintenance personnel - and that's something we certainly don't underestimate," he said.

With the force of their investment programme behind them, Samuelson Lighting are looking forward to a future which promises to be as challenging and as distinguished as their past.

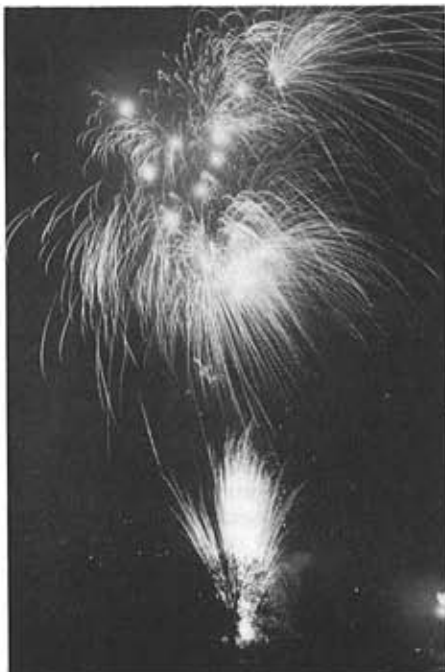
"I don't doubt that within the next year or so we'll have a whole new set of problems to tackle, as our client base increases still further," said Daryl Vaughan. "But I'm confident that as a company we have the resources not only to cope, but to maintain the high standards that we've always set."



A Samuelson Lighting 60kW equipment carrying mobile alternator pictured outside the new Stage 1 at Bray Studios in Berkshire with a full complement of luminaires, accessories, and distribution equipment.



Vari-Lites and lasers at Samuelson Lighting's November party.



Firework celebration at Samcine West on November 5th.



Left to right: Mark Whitfield (client contact), Abbie Ewen (director), Guy Douglas (client contact), and Daryl Vaughan (director, client liaison) of Samuelson Lighting.

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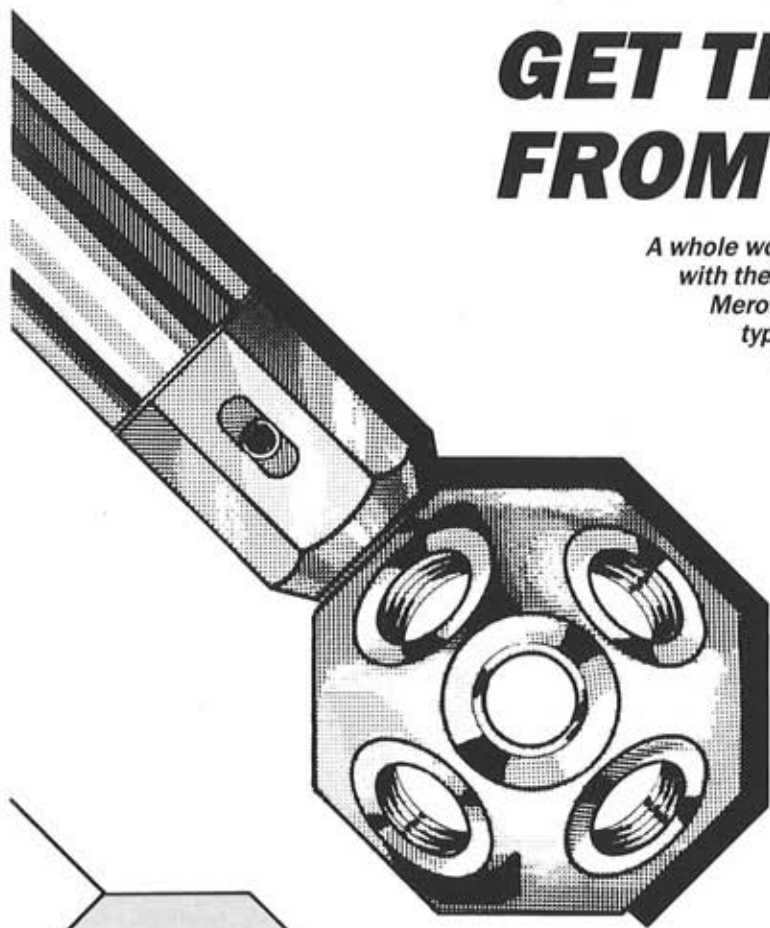
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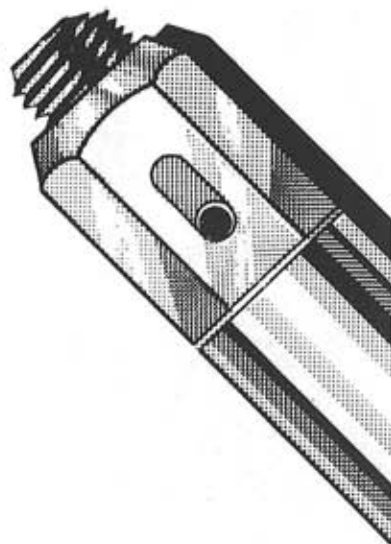
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TRADE ENQUIRIES WELCOME

Pattemore's Palace

John Offord looks at Blackpool's latest lights

You've got to do it big if you do it at all in Blackpool, and when you think about it, you've got to do something better than bright with the lights, too.

Mickey and Jan Pattemore's new Palace (their first offspring is alive and well at Crewkerne in Somerset), situated next door to the Tower in Palatine Buildings on the busiest part of the seafront, is ritzy to the extreme, and not the sort of place you'd go to for a quiet night out.

It's big - maximum capacity is 2100 - and the lighting presentation is on the grand scale. But different. Like the latest rides at the Pleasure Beach, the active role played by the three massive and moving rigs gives you plenty to talk to your friends about.

But despite its out-front appearance, the venue retains an up-market appeal, and bears the stamp of Group Northern Design. If you didn't happen to know who the owners were, no one would consider you'd made a gaffe if you thought The Palace was the latest in one of their creations for First Leisure.

Usefully, Group Northern knew the building, having some years before looked at it for a cinema concept for another client. As Malcolm Brocklesby told me, "the project had obviously not gone ahead, but we had a good idea where the new exits and staircases could most economically be constructed. An outline scheme was prepared and agreed with the Fire Prevention Department and Building Control."

The original layout of the venue was on two separate floors, and in order to link these together and create the setting for dramatic lighting effects it was necessary to cut an 11 x 15 metre hole in the floor of the upper level and install major new steelwork. Two smaller openings had to be made for additional staircases.

"After the setting had been carved out of the shell of the building, the next step was to

start setting the scene. The main features had to be positioned and the circulation routes worked out to encourage people to move from one spot to the next," explained Malcolm Brocklesby.

"The entrance leads into the first floor area. This is designed on three levels, stepping down to the hexagonal maple strip dance floor which is the main focus of activity, directly beneath the open well. There is a carpeted walkway round the dance floor on seven of the sides with upholstered seating bays one step up. Spectacular balustrades with high stools are fixed to the back of the seating. On the eighth side there is a raised stage with a rise and fall DJ console that travels up and down the end wall between the two floors. Three steps up from the dance floor, the main circulation area leads to a pair of split level bars, secluded seating areas and a steak restaurant.

"But this is only part of the picture and the setting is designed to attract people up to the second floor. The view through the open well is enhanced by angled mirrors applied to the ceiling above, giving a periscope effect so that whenever anyone looks up they see the reflection of excitement and action at the upper level - and with the fantastic light effects overhead, it is impossible not to look up."

Access between the first and second floors is by a pair of stairs at either side of the stage giving a dramatic view of the low level dancing area, or via a feature staircase with mirrored walls spiralling up and around an ornamental tree.

On the upper level there is even more choice and excitement. Here the dance floor is raised, with an illuminated fountain at either side. A walkway one step down encircles it, forming a break between the more secluded sitting out areas and leading to a viewing gallery around the open well, looking down to the vitality and action below.

This floor is served by three 'scintillating' bars.

But back to the story-line of those rigs. Two are white, shiny and designer-style. They are called Jack and Jill. In the South East they would have yuppie-style names like Justin and Jessica. The third is much bigger, matt black and ominous. He's called Fred up here. I've no idea what they'd call him in SW.

Anyway, Fred usually resides and hides above one of the upstairs bars. When making an appearance he travels along to a position above the centre of the void, and directly over the main dance floor. From here he can descend almost to the floor itself using all his tricks of light programming in the process.

Jack and Jill live at the opposite end of the upper floor, and above the secondary dance floor. They also make their way towards the centre, using part of Fred's track, and some of their own. Likewise, they can then perform over the central void area. In case you wonder what happens when Jack and Jill have moved away, another lighting system comes into view when they've disappeared off for their bit of fun.

The whole caboodle was worked out by John Adams and his men at Lightfactor of Greenford in Middlesex, and I spoke to him at the venue shortly after it opened.

"Lighting control has been condensed to two parallel control positions, specially created to suit the position of the rigs. One control position for when the rigs are at one extreme, and the other for the opposite extreme of movement. Sitting either side of the motorised rig control console, each position comprises 72 keys only, even though the total installation consists of 34 zones of multi-channels plus somewhere in the region of 90 switched circuits such as motorised effects, lamp circuits, strobes, smoke machines, and so on," he explained.

"We felt we couldn't bring everything out to a single key format - it would be too big to configure. 72 keys fit into the width of two racks, giving a manageable width and depth for operation and location in the control area.

"By using a 120 x 120 pin matrix we are able to set a scene on each key, with lights and motors and zones coming on when you hit a particular key, and create a scene. This layout gives us 6 sets of 12 scenes available, and taking the two control positions into account, we can therefore actually preset 12 light shows, each comprising 12 scenes.

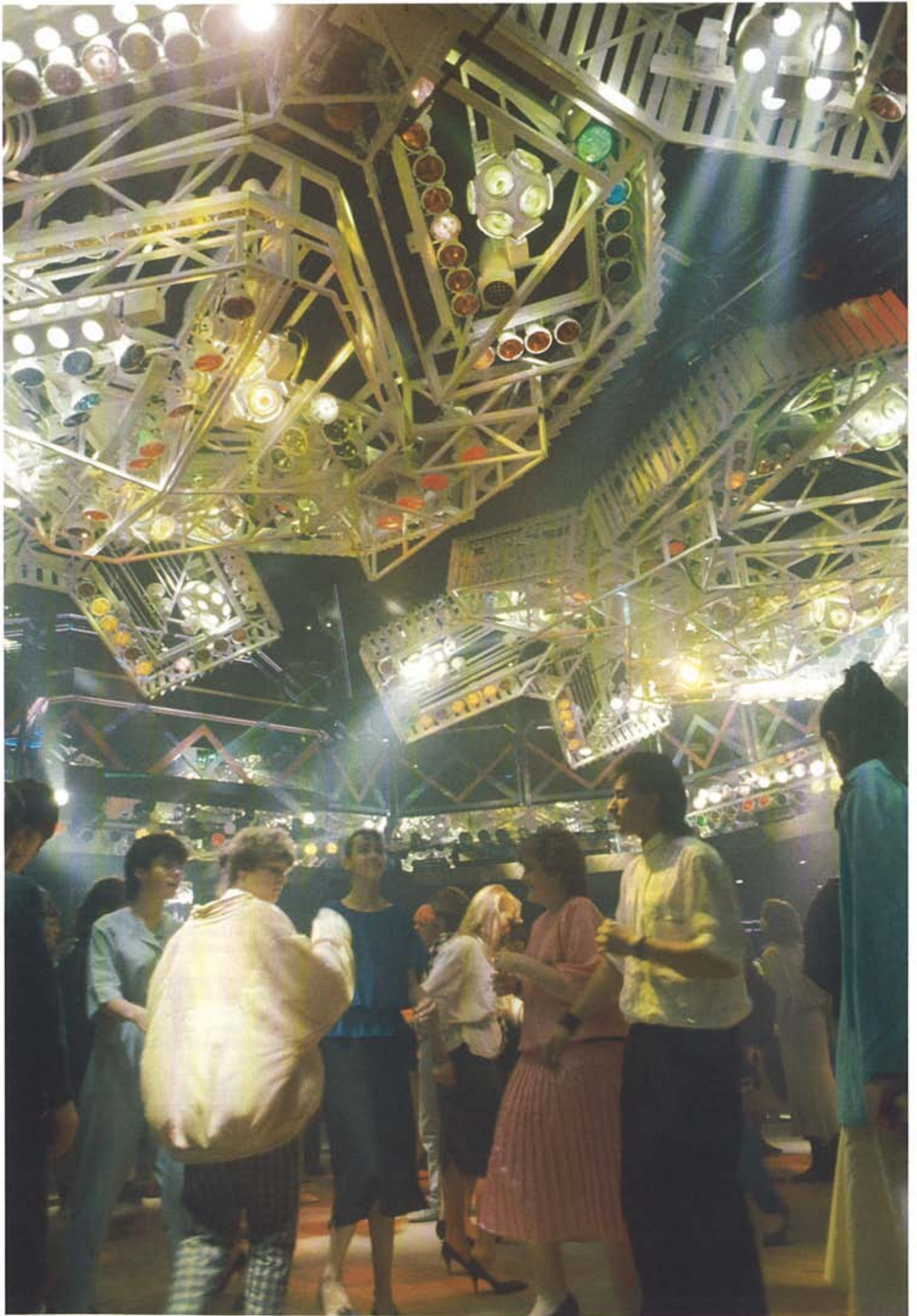
"It means that all the lighting scenes can be preconceived and pre-programmed to suit the necessary events. It requires very little dexterity on the part of the lighting operator to realise the best effects from the equipment available.

"He is left with time to move the rigs, programme the lasers, and assess the atmosphere. It gives him thinking time, and takes a lot of guesswork out of getting the lighting correct."

Lightfactor quite expectedly used their own Light Processor for control of lighting at The Palace. "There are very few systems on the market that allow you to control as much



Lightfactor's John Adams (left) with Palace man Mickey Pattemore.



Blackpool's latest illuminations. A view across the main dance floor at The Palace.



The Palace Blackpool - hallmark of a 'Group Northern' design.

lighting - there are 34 zones in the Palace set-up. It allows us the flexibility to cater for a bespoke situation. The Light Processor gives us the capability to pre-programme patterns on the zone with the same keys. For example, if a light show comprises switching six zones on in sequence, you may wish to make steps slowly to highlight certain patterns. With another 6 keys you can switch between these six zones using them as blocks of light," said John Adams.

Control to the rigs is through multiplex

transmitters which convert all information into a serial format which is fed down two wires to the rig itself. It is de-coded at the rig end to switch on the mains packs. This ingenuity had to be worked out because of the vast amount of movement of the rigs, and the distances they travel. "It proves Light Processor is flexible for this purpose," said John Adams. "There isn't another product on the market that could cope with the situation.

"The next step will inevitably be to convert the pin matrix system to software rather than

hardware based - more user friendly. With the speed of a computer it could mean the Blackpool show could be run on just 12 keys, and we hope we can develop this idea at the Palace in the near future. The basis of the manual control is there, and the operator will be able to switch the system to 'auto-pilot' if required."

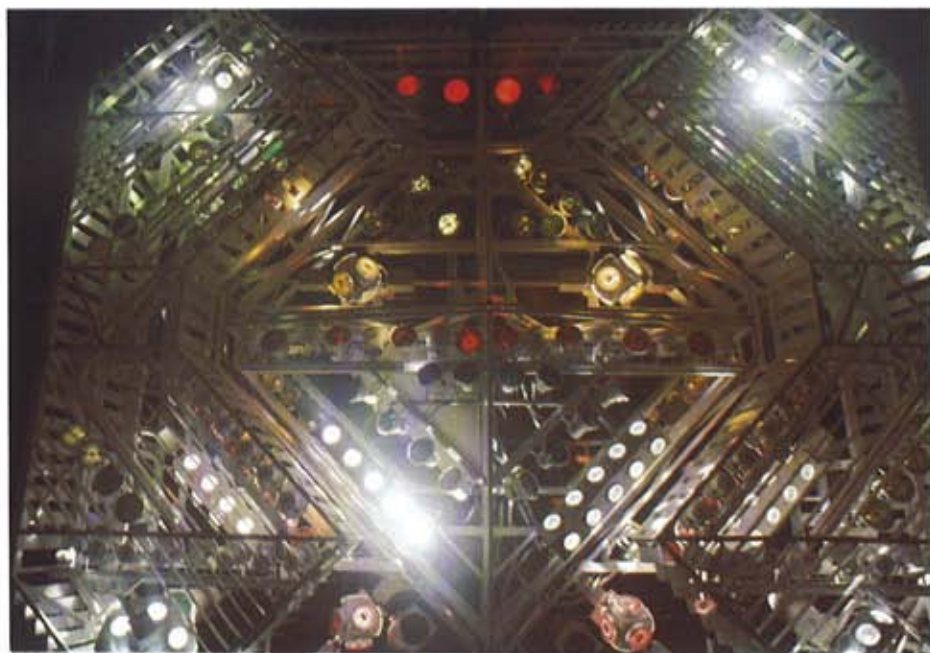
Fifteen system sensors switch the scenes and motors. In addition, to make the patterns there are two Commanders, which give eight different patterns and speeds of patterns on the 4 channel zones of lighting. In addition, there is one Light Processor 616 for the 6 channel zones of lighting, and an LP 818 for controlling the 8 channel zones of lighting.

Another interesting feature of the Palace project was how the various contracting was undertaken. Lightfactor took responsibility for all lighting and electrical work, the laser installation, and the sound, as John Adams detailed.

"The big plus was that we took away the rough end of the various contractors' jobs. We acted as an interface for sound, lasers, and the general connecting up of services. In addition, we also acted as a financial interface, with a pre-planned cashflow for the various installers.

"We became, in fact, an extension of the client. Integrity was demonstrated and a good relationship built up. It wouldn't always work, and it was a rather unusual situation. It depends on the personalities involved.

"The project was basically a very simple theme, but built on the broad scale. It taught us a lot, and on how to do things in volume. I am sure it will add to our level of professionalism.

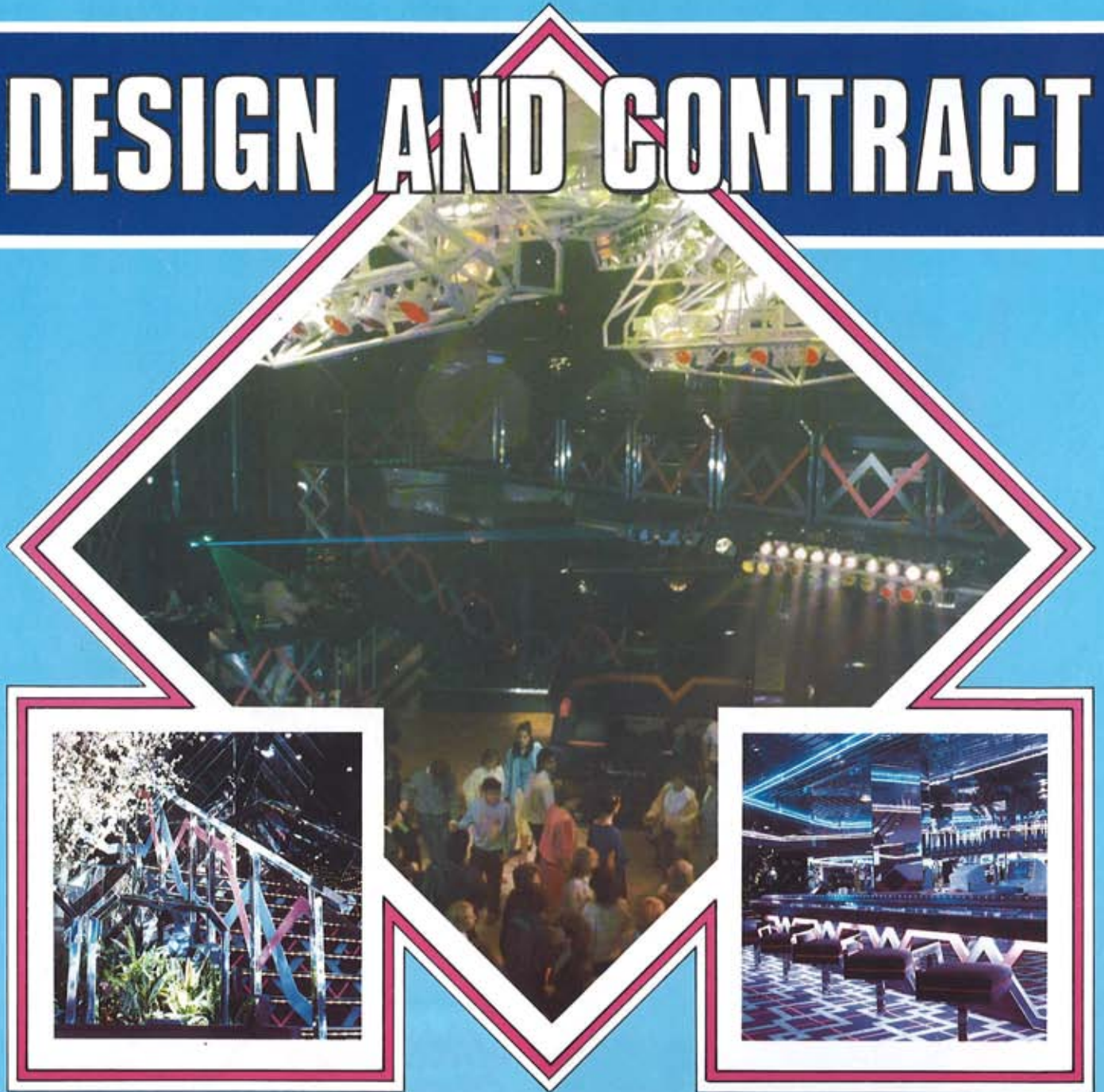


Jack (or Jill) - rigs at The Palace were manufactured by Dagar Contracts.



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"Another interesting point is that we also took care of the actual electrical installation, using a well-established local firm in J. Smith and Sons to undertake the work, and they have also been retained by the venue for call-out work if any is required. Of the total £400,000 cost of equipment installed, considerably less than 10% of this figure was the cost of basic wiring. Usually the ratio is much lower, with basic electrical work eating up very much larger sums.



Dance floor sound.

"The project has also seen a close link develop between companies like Shuttle-sound and Laserpoint, proving that together we can produce a system that works well," said John Adams. A point that was confirmed by Mark Burgin, the director of Shuttlesound responsible for sound at the Palace.

Laserpoint's Steve Johnson was of the same opinion, telling me that they were delighted with the ease in which their system was installed, and the organisational arrangements. "I personally think this is the best venue in the country at the present time," he said.

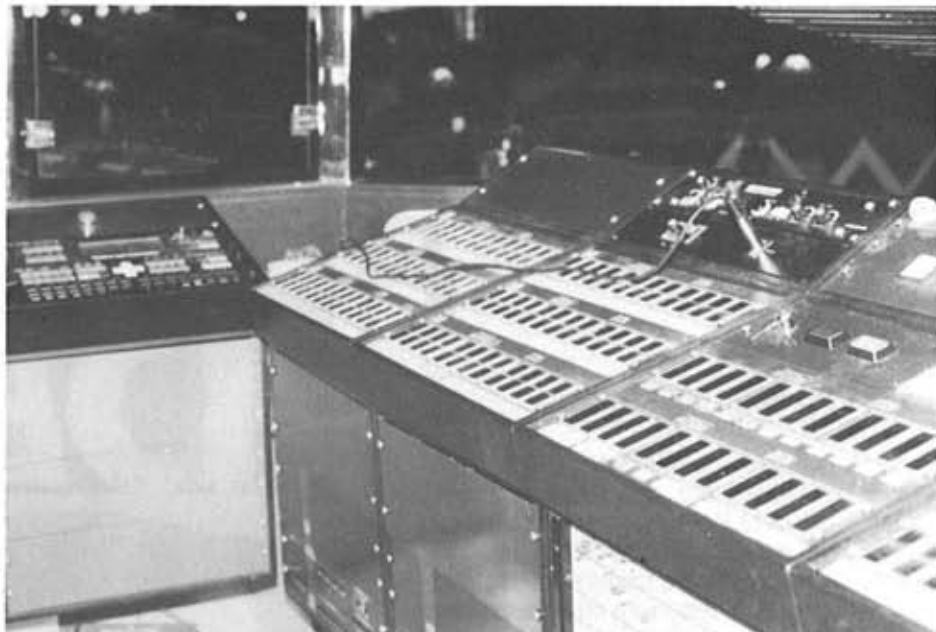
The whole package has cost £2.3 million, of which £450,000 went on purchase of a 99-year lease of the premises, and in my view there is little doubt it will be a success. And a resounding one at that.

In the words of Group Northern's Malcolm Brocklesby, unashamedly proud of his company's role in the project, "the Palace offers an unrivalled light show in an unrivalled setting."

Sound System

Designed and commissioned by Shuttlesound
Installed by Lightfactor

- 10 x Motivator 4 Cabinets which contain:
 - 1 x HP Horn
 - 1 x DH-1A Driver
 - 2 x EVM 12 L
 - 1 x DL 15X
- 5 x MTL 4 Bass Cabinets which contain:
 - 4 x Hybrid 18" Chassis speakers
- 17 x BES C70D Ceiling Speakers
- 4 x BES C60D Ceiling Speakers
- 2 x BES BB2 Ceiling Speakers
- 14 x BES C12BT Ceiling Speakers
- 7 x 15u Equipment Racks which include:
 - 5 x Rauch DVT 500
 - 2 x Rauch DVT 250s
 - 5 x Rauch DVT 50s
 - 5 x Rauch PB 44
 - 4 x EV XEQ 3 3-Way X-Over with EQ
 - 6 x EV EVT 2230 1/3 Octave Graphic EQ



The lighting control area with laser control at extreme left, and motorised rig control to the right. Either side of the rig control are the two lighting control positions. In this view only the left one is shown fully.



Part of the DJ console area at The Palace.

- 8 x Symetrix 501
- 1 x Mains Switching Master Units
- 5 x Mains Slave Units
- 1 x DJ Console which contains:
 - 1 x Aiwa Cassette Machine
 - 3 x Technics SL 1200
 - 2 x Sony C.D.
 - 2 x Keydial Cart Machine
 - 1 x Samson PR50/SH 1 Radio Mic System
 - 1 x PL 80 Microphone
 - 1 x A.S.L. Talkback System
 - 1 x Formula Sound custom mixer
 - 2 x HF 10/2 Speaker
- 1 x LJ Console which contains:
 - 1 x PM 80
 - 1 x SL 1200
 - 1 x Aiwa Cassette Machine
 - 1 x Revox B77

Laser System

Laserpoint Limited

- 2 x Spectra Physics 2010 5w Argon Ion Lasers
- 1 x Multiscan Controller
- 2 x Twin Scan effects system
- 4 x 2m SheetSweeps
- 20 x Starburst Mirrors
- 20 x Linear Mirrors
- 20 x Remote Mirrors

The two 5w lasers are set opposite each other at each end of the void above the main dance floor. Both lasers have 3 colour twin output scanning systems and all four outputs are controlled via the Multiscan. In each corner of the void there is a 2m SheetSweep which can be controlled positionally by the DownRange control facility on the Multiscan desk.

People . . .

Hughie Leslie, heavily featured in our November 'People' column, has left Donmar and is now in business on his own account, trading as LHS Limited. His new lighting sales and hire operation is based at the Business Village, Unit 4, Broom Hill Road, SW18 and he has been joined there by **Roy Narraine**, who will be in charge of the hire side.

Other moves prompted by the changes as Donmar have seen **Paul Fowler** move to become head of the hire and sales team at Lancelyn Lighting of Oxford. **Richard Rogers** has joined the audio visual department of HSS at St. Pancras, and **Andy Everton** has now joined LSD at Croydon.

Nick Craney has left Strand Lighting to join the sales team of Mike Sweetland's MSL operation as southern sales manager, and he will be based at Covent Garden.

Moving up country, **Ian Brown**, formerly of SIS, has moved across town to join Northampton-based WB Lighting. **Roman Walanta** told L+SI that it would enable WB "to reinforce the sales effort across the WB Group".

Christine James has moved from Avitec to join Laser Grafix at Royston, Herts. She has been appointed to assist with UK discotheque sales, for permanent installations, and also laser hire.

YOU CAN'T BETTER A BETA!

BETA PRO AMPLIFIERS

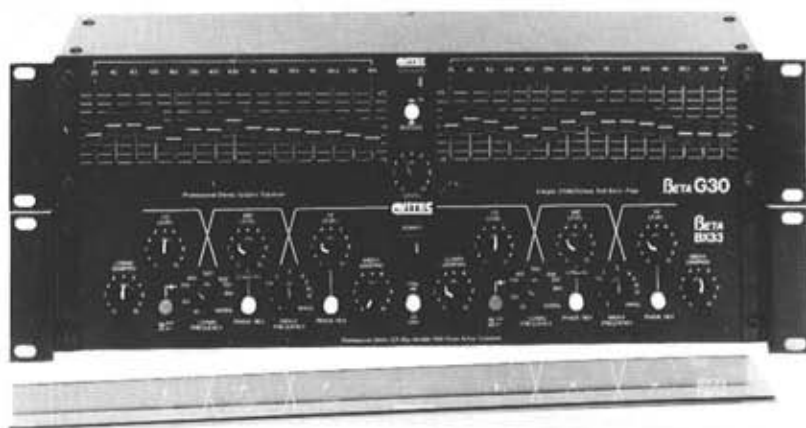
Avitec's highly successful Beta professional power amplifiers are now upgraded and re-styled – the Beta Pro range! An improved inbuilt limiting system is now incorporated as a standard feature, as are toroidal transformers and soft start and delay turn on. The neat new styling is combined with a reduction on size on the 800 (now three rack units high) but prices are still extremely competitive, with the Pro 800, for instance, being actually cheaper in cost than the old 800 complete with limiter.

We regard the inbuilt limiter as being a virtual must as it gives almost foolproof protection against loudspeaker failure – this, combined with all the other features, makes the Beta a must for all professional sound installations.

- * Superb, musical sound quality
- * Distortion free right up to clip point
- * Accurate clip and limit indicators
- * Rated output power comfortably exceeded (min. 400 watts rms. per channel into 4 ohms – Beta 800, 250 watts – Beta 500, 110 watts – Beta 220)
- * Built for maximum reliability, durability and dependability
- * Cooling system designed to cope even with hot or confined conditions



BETA G30 2 x 15 BAND STEREO GRAPHIC EQUALISER, BX33 2 or 3 WAY STEREO



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These new units both feature the installer's dream – a virtually molester proof anti-tamper cover – set it and forget it! Superb audio performance and reliability combine with value-for-money for prices making the G30 and BX33 unbeatable for professional sound installations! Variable crossover frequency points on the BX33 allow both the use of different speaker systems and also the tailoring of the sound to any situation – a unique variable damping facility on each crossover point increases the sound tailoring ability.

Full details on the Beta Pro amplifiers and the BX33 and G30 are in Avitec's new 1986/87 catalogue, available on request.

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EQUIPMENT *News*

Spectron from ACR

ACR of Zurich, Switzerland, launched their latest innovation 'Spectron' at the Dusseldorf Discotech Trade Show in November. It is a fully electronic colour changing system including spotlight, drive system, and computer controls.

It has an ability to produce practically any colour imaginable, has a fully electronic Spotlight with no moving parts, instant or slow and smooth colour changing, dichroic colours, is silent in operation, and easily maintained say ACR. It uses aircraft landing light type GE 45/96, 28v/250.

The Spectron Processor is a 34k computer allowing the controlling of colour, light level, dimming speed, etc. for up to 16 Spectron Spotlights in up to 256 programs. It can be interfaced with any controller of the ACR MacSpot moving light systems.

A detached dimmer pack is included, and it can be used together with MacSpot drive units (MKIIS) and position processor, or installed fixed like any ordinary projector or spotlight.

For full details contact ACR AG, Heinrichstrasse 248, 8005 Zurich, Switzerland, or through the sole UK distributor, Optikin-etics Limited, 38 Cromwell Road, Luton, Beds LU3 1DN telephone (0582) 411413.



ACR's new 'Spectron' colour change system.

New Lee Multi-Purpose Studio Luminaire

Lee Colortran has launched a new motorised multi-purpose dual source luminaire, with full motorised control, operated from a control desk.

The product is based on Lee's successful dual source luminaire, which combines fresnel spot and soft light in one luminaire, with a choice of full or reduced power with no colour temperature in either mode.

On the new model, DC motors control pan, tilt, focus, barndoor rotation and individual barndoor flaps. These operations, plus half/full switching and

hard/soft mode selection, can be controlled at a control desk via a digital multiplex and several standard decoder boxes.

For full details contact Lee Colortran, Ladbroke Hall, Barby Road, London W10 5HH telephone 01-968 7000.

Grapevine Zodiac

The new Zodiac winched equipment stand from Grapevine is stronger and lighter than its predecessor say the manufacturers. It can lift a load of 200kg safely and with the minimum of effort to a height of 5.1m, but still remain stable, with fail-safe devices to give peace of mind.

The unit can be supplied with a heavy duty Tee bar and lighting frames which can be fixed above and below the Tee bar, with a maximum capacity of 28 luminaires. It can also be used with an adaptor for supporting mini truss or barrel.

Other extras include wheels for the base and level adjusters for uneven surfaces.

For full details of the Zodiac and other stands in their Mercury series contact Grapevine Sound and Light, Unit 8, Sway Park, Station Road, Sway, Lymington, Hants SO41 6BA telephone (0590) 682622.



Grapevine's new Zodiac winched equipment stand.

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McKenzie Q-Max 7000

Yorkshire-based McKenzie Acoustics have now started producing their own line of loaded loudspeaker enclosures.

Featuring their Studio 7 Series chassis and the heavy duty BHF 520 Bullet Horns, the Q-Max 7000 system is in essence a full range modular disco installation that is both compact and portable, say the company, and good news for mobile jocks with limited means of transport.

The design of the Q-Max 7000 incorporates reflex tuning and the more complex 'Q factor' equalisation for optimum performance, plus internal filtering to create smooth frequency response and correct drive unit separation. The increasingly popular 'medium density fibre' or MDF is employed throughout construction of the Series and finish is a tough acrylic cloth.



McKenzie Q-Max 7000 Series.

For full details contact McKenzie Acoustics Limited, Albion Drive, Thurnscoe, South Yorks S63 0BA telephone (0709) 898606.

Soundtracs Midi

The Soundtracs Midi Series is an "in line" configuration with either 16 or 24 input/output module mainframe with 16 track monitoring and 16 sub groups. Designed primarily for keyboard workshops, the Series has 32 or 48 MIDI controlled inputs with additional MIDI control on four auxiliaries, plus eight optional MIDI controlled effects returns.

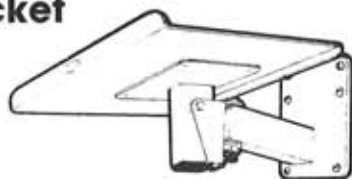


The PC Midi Series audio mixing console.

The built-in microprocessor enables straight forward programming of the console which may be designated to any of the sixteen MIDI channels currently available. Additionally, control of external MIDI effects may be programmed from the console. Used in conjunction with electronic instruments, signal processors and sequencers, the PC Midi Series forms an integral part of the MIDI chain say Soundtracs.

For full details contact Soundtracs at 91 Ewell Road, Surbiton, Surrey KT6 6AH telephone 01-399 3392.

'Multi-Vision' TV Wall Bracket



A new TV wall bracket that has a tilt facility, swivels through 180° and will support any portable TV or VDU up to 406mm deep has been launched by Giltminster Direct Marketing and Sales. For details contact Giltminster Limited at PO Box 16, Warmminster, Wiltshire BA12 7YA telephone (09853) 687.

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designed for universal use anywhere in THE WORLD, as a PUNCHLIGHT — KEYLIGHT, or BEAM EFFECT projector. Designed with the particular needs of THEATRE, ROCK-DISCO-PRESENTATION in mind.

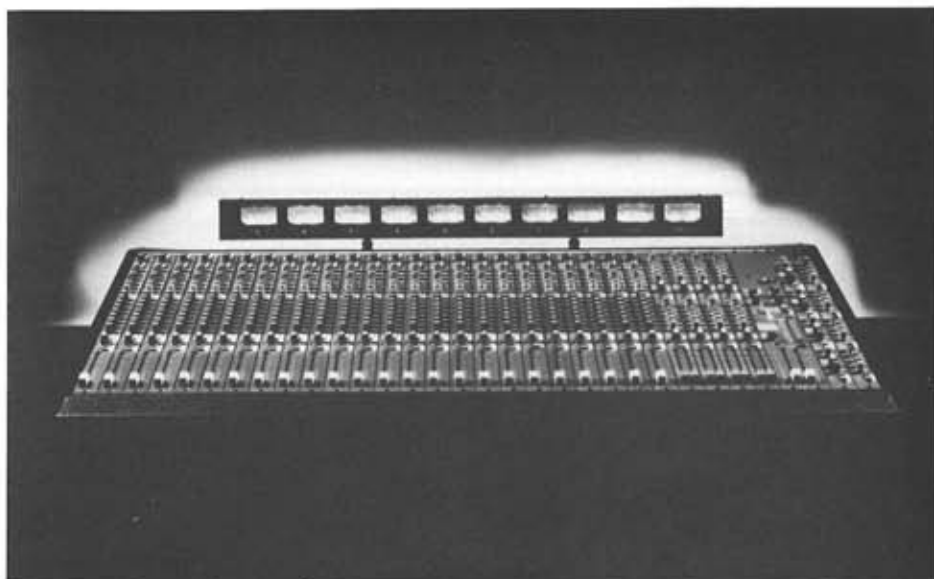
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The DDA S Series monitor console.

DDA Launch S Series Monitor Console

New from DDA is a budget price console for all monitor/foldback applications. Designed around the same compact, lightweight frame as the S Series and S Series PA consoles, the new monitor provides 8 independent monitor mixes as well as 4 auxiliary sends with 3 band equalisation, 4 auxiliary returns, and main stereo mix.

All main inputs and outputs are electronically balanced and full metering is provided on large scale illuminated VU's, with PPM's optionally available. Each input is provided with mic/line inputs, with 20dB pad, phase reverse, 48v phantom

powering, and high pass filter independent of the four band equaliser.

The eight independent monitor sends can be fed pre or post of the long throw fader, and a separate direct stereo mix via pan pot is available. The outputs are situated on four double output modules with individual long throw faders and three band equaliser. Four further sends are available from the outputs to the equalised auxiliary sends.

On the double width master module are situated the headphone and monitor output controls as well as a mono output. The console is also provided with comprehensive talkback facilities.

Full details are available from DDA, Unit 7B, Worton Hall, Worton Road, Isleworth, Middlesex TW7 6ER telephone 01-847 0363.

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01-549 1787

New Tascam Studio Compact Disc Player

Tascam have announced the addition of the CD501 studio compact disc player to their range of studio equipment. This new unit utilises electronics developed for their 'state-of-the-art' domestic ZD series, and incorporates Teac/Tascam technology to substantially reduce D/A converter distortion. A key feature of the CD501 is its custom design for studio applications, which will make it one of the very few studio C.D. players on the market, say Harman Audio.

For details of availability contact Harman (Audio) UK Limited at Mill Street, Slough, Berks SL2 5DD telephone (0753) 76911.

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ON TOUR

IRON MAIDEN 'Somewhere on Tour' 1986/87

Catriona Forcer talks to lighting designer

Dave Lights

Several years ago Dave Lights was living in a vicarage when a band came to ask if they could use the building for rehearsals. They called themselves 'Iron Maiden', and they spent a year rehearsing in the house.

Dave became their lighting designer, and used two window boxes to house three fitments and some switches. The following five years were spent touring pubs and clubs whilst equipment steadily improved. In 1980 the group secured a deal with EMI, and instead of renting equipment, Dave started buying and designing his own gear.

Iron Maiden's 'Somewhere on Tour' show was a total of 2½ years in the planning, and over the past three years almost £2m has been spent on it. The current tour is eight months long, small compared with their last one which went on for a total of 14 months. It commenced in Eastern Block countries in September and continued in Europe



The finale for Iron Maiden 'Somewhere on Tour' 1986/87. (Inflatables by Air Artists)

before starting its UK portion at Oxford in October, finishing with a one-week sell-out at Hammersmith Odeon in November. It then carries on in Europe again until December and then crosses

over to North America in the New Year.

Iron Maiden have a massive following in the States, and they will be playing venues that hold 20,000 people. On their last tour they played 12



The set and basic lighting rig for Iron Maiden, lighting design by Dave Lights. (Sets by Brilliant Constructions)

Photos by Peter Smith

shows at New York's Radio City venue. The USA and Canadian tour finishes in June when the B lighting rig and the B stage show goes to New Zealand and Australia, and the rest of the gear goes to Japan.

The show opens with a backdrop of a street scene similar to those in the film *Blade Runner*, and after three numbers is replaced by a black backdrop to give a more familiar heavy metal set with lots of chrome and a moving lighting rig. When they reach their infamous rendition of 'The Rhyme of the Ancient Mariner', there is another scene change with a lot of drapes, moving scenery, and thunder and lighting all thrown in.

The stage then becomes a spaceship as the backdrop evolves into a window looking out into space. During the song 'Heaven Can Wait', the whole crew come on stage to chant alongside the band and flee when a large monster walks on to the stage. The monster and Bruce then have a fight involving pyros and lasers. Another drape change follows for 'Phantom of the Opera', but the finale is during the song 'Iron Maiden'.

The whole stage becomes a monster, with the drum riser lifting to reveal a large inflated head whilst the stage becomes his shoulders and the front thrusts lift up, picking up some of the band in the process, to reveal a pair of large, outstretched hands. For the encore the stage reverts back to the black backdrop and moving light rig.

The last show at Hammersmith was a Sunday matinee charity concert for the NSPCC. At this particular event the support band was the hilarious 'Bad News', which featured Rik Mayall, Nigel Planner, Peter Richardson, and Adrian Edmondson of the Comic Strip, and they were described as a 'serious send up' of heavy metal. They are the only other band Dave Lights has worked on lighting for, and his brief on this occasion was to totally mess it up!

Needless to say it was a highly successful show, with a lot of cash raised for charity.



The Smiths at Brixton Academy - lighting design by John Featherstone.

John Featherstone

'The Smiths' at Brixton Academy

How did you commence your career as a lighting designer?

I used to work on drama productions at school, and I really enjoyed it. I then applied to the National Youth Theatre and spent a season there on lighting. I had to return home to finish my A levels, and started to build a small lighting rig out of really basic things.

I met The Smiths at Leicester Polytechnic, where I had a house lighting rig and they really liked what I was doing. That was in October 1983, and since then my career has developed alongside the group's.

I like to think that my theatre roots show through in what I do. I try always to use as many

theatre lights as possible - even though it's quite uneconomical. But that's what makes the rig look different, and I think it's worth the effort.

Tell me about tonight's design for The Smiths

At the back of the stage there is a white cyc with a black gauze in front to do a normal coloured reveal. On the back of the cyc we had the album cover printed in reverse. This was done by a company that scan a photograph and then use a computer to print on the material when it's on a large drum.

For the fast and lively numbers I tend to base my designs around Par Cans in a fairly traditional way. Whatever I'm doing I like to use a very limited

New Crown Range takes a bow

Since the launch at Electrex '86 at the beginning of the year, the new Furse Crown range of advanced flood and spotlights have become hot property in theatre land. Designed specifically for the semi professional theatre and educational market, sales are now exceeding all expectations.

Crown Floodlights are available as single or multi compartment units of 500 or 1000W and are designed to project a high intensity even wash of light with a fixed beam angle.

The new Crown Spotlight range offers variable beam angles through adjustable lens systems. The Crown 1000PW, 1000PN, 2000PW and 2000PN profile units produce a hard edged beam which can be shaped by integral shutters or optional iris diaphragms. The 1000F and 2000F Fresnel units project a soft edged beam for general lighting purposes.

Furse offers a wide selection of permanent and portable dimmer racks in addition to control desks to suit every requirement.



The new Furse Crown range of advanced flood and spotlights.

The new Furse Theatre products brochure and comprehensive technical data pack is readily available on request.

Low Cost Computerised Lighting Control

The new ADB - S20 theatre lighting control desk is now available in the UK from Crown House Furse Theatre Products of Nottingham.

Retailing from £2750.00 the S20 represents a real breakthrough in sophisticated theatre lighting control.



The ADB S20 theatre lighting control desk and colour monitor.

All the electronics and programmable software are contained in a single, compact console and the complete system is supplied with a colour monitor (RGB, 1600 or 2000 characters) and remote mouse control cursor. Specifically designed for repertory and touring theatre companies, TV and video studios, variety shows, clubs and discotheques, the new S20 is capable of controlling up to 120 independent lighting circuits and offers 250 lighting cue memories, one time-delay linear cross-fade (manual and automatic) in addition to automatic sorting on memory and 12 time-delay play-back registers.

ADVERTISEMENT FEATURE

The S20 is the latest addition to the comprehensive ADB range of theatre and TV studio lighting and control equipment available from Furse of Nottingham.

A full colour leaflet for the ADB - S20 is available on request.

Special Effects by Rosco

When it comes to adding the finishing touches to your next theatre production, Rosco designer products can make all the difference. For dramatic impact, no other company can offer a better choice of special effects products. These include colour filters, gels, dyes, gobos, glamé, paint, drapes, computer generated mural effects, floor finishes and accessories, fire retardant agents and textiles, fog/smoke machines, breakaway bottles and even stage blood for the next horror production.

For further information and the latest price list speak to Crown House Furse Theatre Products, the newly appointed Rosco distributors in the East Midlands.



Rosco Supergel colour filters are available in over 80 colours in sheet or roll form.

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Wilford Road Nottingham NG2 1EB UK
Tel: (0602) 863 471 Telex: 377065
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range of colours. With The Smiths I use three basic colours in the Par Cans because I think it makes things much clearer and you don't get so much washing out on the performers. For the slower, softer numbers I've got CCT Silhouettes with colour changers. I think of the show as two systems in one.

Do the band influence your designs?

The band do have a lot of ideas, obviously some more practical than others. But because we have developed together I generally know what the band are going to like. I am pretty much left to myself, but they are a band who are very conscious of how they look on stage.

Would you like to return to the theatre?

I think that eventually I would like to go back to theatre work, although the idea of setting up a show and then running it for months on end doesn't really appeal to me. Perhaps as I get older and want to settle down I will, but at the moment I am extremely happy on the road.

Do you go to see many bands?

I have a policy of going to see absolutely anybody and everybody because there are many bands who I thought would be awful but turned out to be really good, and vice versa. I think you can always learn from other people's shows even if they are terrible, because you may see something you had once considered using which didn't work. I really like what Andy Little does for 'New Order' because he has some good ideas which fit the music very well. Also, I've always liked the lighting for 'The Cure', but I don't know who does it. I'd really like to light Eric Clapton or Nils Lofgren because they are people that I've seen and I know I could light them really well.

I saw Sting at the Royal Albert Hall recently, and I thought Nick Sholem's use of Vari-lights was very professional. I think Vari-lights are best used as an extremely versatile lighting instrument rather than as an effect. Everybody has seen millions of lights

moving about for the last five years, and it all looks pretty much the same. I'd very much like to see the Tasco system as that sounds really good. I'd enjoy doing a show using either Vari-lights or the Tasco system, but I would only move them a couple of times during the show.

Is there anything about lighting design that annoys you?

I don't find heavy metal bands appealing at all. There has been nothing original happening in that field for a long time. The idea seems to be to get as many lights as you possibly can for your money, and to flash them like crazy.

How do you approach a design?

I tend not to start by thinking that I've got a budget to work to because that's restricting. I try to design a system where I do something different in every number, so that each song has its own specific little feature. If it's going to cost more money I'll fight to get it. I tend to use a lot of

gobos, which stems from when I was at the National Youth Theatre. I think that they are really versatile, and you can make them interesting by doing very simple things.

Also, I think anyone can design a rig that looks pretty, but I don't think that is basically what a lighting rig is for. It has got to complement what a band is doing, so I always try to develop a real feel for the music before I start a design.

What are your plans for the future?

We've just finished a very successful eight week tour of America and currently we're touring the UK. Following that the band go into the studio to record an album and I will be working with my other main client, Marc Almond. They have their own show designer, Hugh Feather, who designs very much in the way a theatre lighting designer does. He tells me the moods he wants to create, and between the two of us we choose the equipment and the method of using it. We work really well together, and I'm looking forward to it.

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Exhibition Diary

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Frankfurt Fair Centre, Frankfurt, West Germany.
UK Representatives: Collins and Endres,
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ABTT, 4 Great Pulteney Street, London W1R 3DF.
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London's new Student Opera House

Graham Walne looks at the Britten Opera House at the Royal College of Music

The new Britten Opera House is designed by Sir Hugh Casson, an architect of such stature that he clearly did not feel the need to draw attention to his work by rejecting traditional forms just because they are from another era. His team have created a space which will provide the students of the Royal College of Music with vital experience of the sight-lines and acoustics in which they will hopefully spend the rest of their lives, and acoustician Derek Sugden is to be particularly congratulated in creating a reverberation time of 1.2 sec in this intimate 400-seat opera house.

The auditorium isn't a compromise of styles but rather a refreshed statement of the merits of the horseshoe. The twin tiers encircle the stalls and are completed by boxes. The curved ribs on the fascias echo the mouldings of a Matcham, and are punctuated with small bracket lights bringing the eye level down from the awful downlighters round the outer ceiling. The colour scheme is quiet rather than cosy and quite successful - apart from the diversity in seating colours, which of course only look at their best from the bird's eye view of the designer's drawing board or model.

The theatre has been created in a courtyard within the main building, and although space has thus been limited it is adequate in most areas. A possible exception is the flying height of 40 feet which is not even the usual 2½ times the proscenium height of 17 feet - even though the tower continues empty for another 10 feet. The proscenium is 30 feet wide with a stage of 51 feet wide behind, and 27 feet deep. Beyond this is a useful paintframe.

The Duet lighting control has been retained from the old theatre and extra ways have been added to bring the total to 120 (not 7 as per the Electrical Consultants hand-out!). Strand Lighting have supplied a number of new luminaires to bring the total to a more than sufficient 118, and the specialist electrical installation bears all the neat hallmarks synonymous with Show Strand Contracts. Bruce Elliot has installed an efficient network of sound and communications outlets and



The new Britten Opera House at the Royal College of Music in London.



A scene from 'A Midsummer Night's Dream' - the first production at the Britten Opera House. Lighting design was by Neville Currier, lighting consultant for the theatre.

the 35 single purchase counterweight lines are by Telestage. The College are particularly impressed with Dellstar who have installed a hydraulic scissor orchestra lift though it is surely a mistake to locate the controls in such a way that three people are needed for its operation.

Whilst there are several technical problems yet to be resolved I doubt if there are more than in any other new theatre, and in the absence of a theatre consultant, the input of stage manager David Gorrige (and briefly of Tony Easterbrook) has clearly been beneficial.

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Telex: 883220.

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