

LIGHTING+SOUND *International*



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- ICC Birmingham: L+SI's biggest ever venue feature
- Frankfurt 91: Seven pages of report and pictures
- Julian Williams and a Tale of Two Little Theatres
- Arms-On Control? A five-part debate
- Ten pages of news and news features

APRIL 1991

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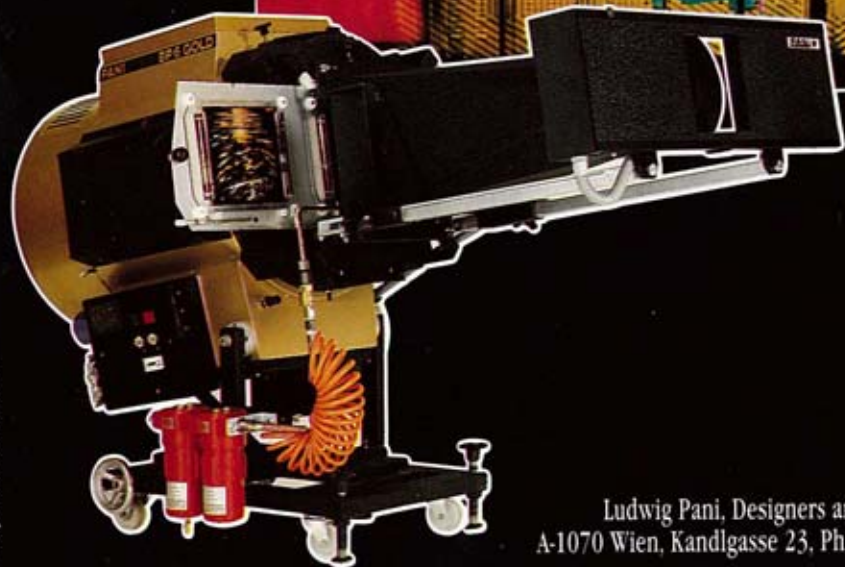
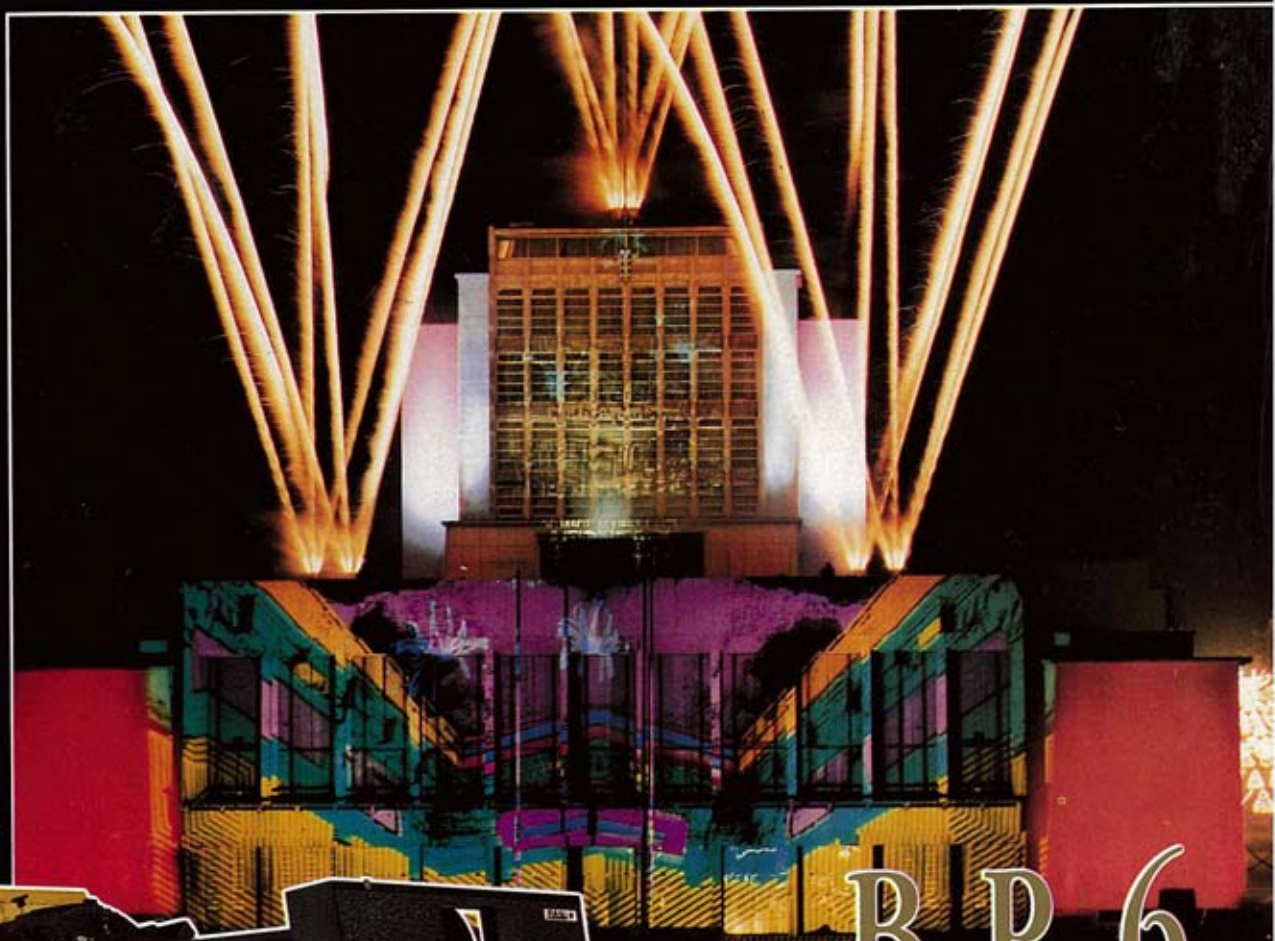
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luminaire

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GOBO PATTERNS

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LIGHTING+ SOUND *International*

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LIGHT & SOUND
SHOW 1991

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PLASA

Brighter Prospects for CCT and Avolites

As we go to press, the future for two major industry companies who've been riding stormy waters over past weeks, looks considerably brighter, according to soundings made from the L+SI office.

David Manners, sales director of CCT Theatre Lighting, who have been in administrative receivership for the past seven weeks, told us that negotiations to refinance and restructure the operation should be finalised this week (12 April), and this would place him and fellow director Don Hindle at the head of a new company. They are planning the opening of a new London office, which will open shortly, and in the meantime continue trading from Nottingham (telephone 0602 862722).

"I must express my sincere gratitude to all our staff, distributors and customers who have shown such immense support and loyalty recently," said Manners. "We are looking forward to a bright future based on the solid foundations of CCT."

Over in West London, Derek Halliday, Steve Warren and Rick Salzedo are working hard to keep the Avolites flag flying high, whilst Carlton Communications are looking for a buyer for the company, which is part of the UEI Group acquired by Carlton two years ago. Evidently, Avolites, in common with a number of other companies from the group, does not fit into the

'Carlton corporate strategy.'

We understand that approaches are being made from the existing management team led by Derek Halliday and negotiations are at an advanced stage.

Leading Launch of the Year?



Pictured above is Clay Paky's Pasquale Quadri with the new Mini Scan at its Rimini launch. A full feature on SIB and MAGIS will be included in our May issue.



Gottelier in Print

In an effort to broaden the base of L+SI's editorial content, Tony Gottelier (pictured above) who has been an established contributor to the magazine for a number of years, is to join the publication as associate editor.

While retaining his role at the helm of lighting design associates, Wynne Willson Gottelier, he will organise his time between the two operations.

"Having been a specialist publisher in a previous life," says Gottelier, "I am looking forward to making a substantial contribution to the future development of Lighting and Sound International. However, for those cynics who may be wondering, I am not giving up lighting design and WWG is in excellent shape."

Bigger Sites for PLASA Light & Sound Show 90

Philbeach Events, the new organisers of the PLASA Light & Sound Show, taking place at Olympia 2 from 8-11th September, has announced that 28% of exhibitors re-booking stands for this year's show have increased the size of their sites. Within weeks of the show going on sale, Philbeach say that 3,100sq.m of stand space has already been sold.

This high level of early stand sales reflects the show's growth, both in size and reputation, to become the UK's only comprehensive exhibition of equipment and technology for the entertainment and leisure industries.

The show is internationally acknowledged as one of the premiere exhibitions for the theatre, disco, live entertainment and TV and film sectors. It reflects the increasing diversity of the industry, both in terms of exhibitors and visitors, with expansion into areas such as the theme park industry, leisure centres, architecture and interior design.

Kevin Hopcroft, PLASA's chairman, commented: "The Light & Sound Show has now matured into an exhibition that appeals to both buyers and exhibitors from a wide range of disciplines within the entertainment equipment and leisure industries, from both the UK and overseas."

Last year's visitor attendance for the four day show was up by 30% over 1990 to 7,192 with 15% coming to the show from overseas. The show's new organisers have instigated additional plans to continue building attendance levels, in terms of numbers of quality visitors and representation from specific industry sectors.

Exhibitor details on the PLASA Light & Sound Show 91 are available from Philbeach Events Limited, PLASA Light & Sound Show, Earls Court Exhibition Centre, Warwick Road, London SW5 9TA. Contact Tanya Simmons or Simon Boyd on +44 71-370 8215.

ABTT at the Mermaid

The 1991 ABTT London Trade Show will be held this year from the 23 to 24th May at the Mermaid Theatre. The show will be open from 11.00am to 8.00pm on Thursday 23rd and from 10.00am to 5.00pm on Friday 24th.

Space will be allocated on a first come, first served basis. For further details about stand availability and costs contact exhibition organisers Theatrical Trading Ltd at 4 Great Pulteney Street, London W1R 3DF. Telephone 071-434 3901.

Queen's Award

At least two PLASA members have won the Queen's Award For Export Achievement for 1991. There is a press embargo until April 21, so you'll have to wait until our May issue to read all about it.

Action News

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ASSORTED COLOURS—

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MISSION IMPOSSIBLE??

"Right, I'd like Lee Steel Blue on those cans, Chrome Orange for the wash and GamColor's Antique Rose on that group there. Can you also load channels 2 and 4 with GamColor's Saffron and channels 13 and 15 with Congo Blue? Now, the support's L.D. likes Rosco Supergel colours, so you'll need Deep Straw, Magenta and he wants a nice selection of blues for the last number - here's his list. Of course, you won't have time to re-gel at the break, we've only got a few minutes. Now, when the guys come on stage, I want a nice wash of Light Rose, fading to Mauve over 30 secs, but I want Bastard Amber on Mick until they go with the first number. Got that? Good. **Okay, everybody, let's move - we've got 15 minutes!**"



Mission Impossible?? No!! That's because PanCommand's **ColorFader** can satisfy even the most demanding L.D.'s taste in colours. Imagine being able to "load" a completely new set of gels within seconds for the headlining band, and to have a virtually limitless selection of colours to hand. You can with **ColorFaders** - straight out of the box!

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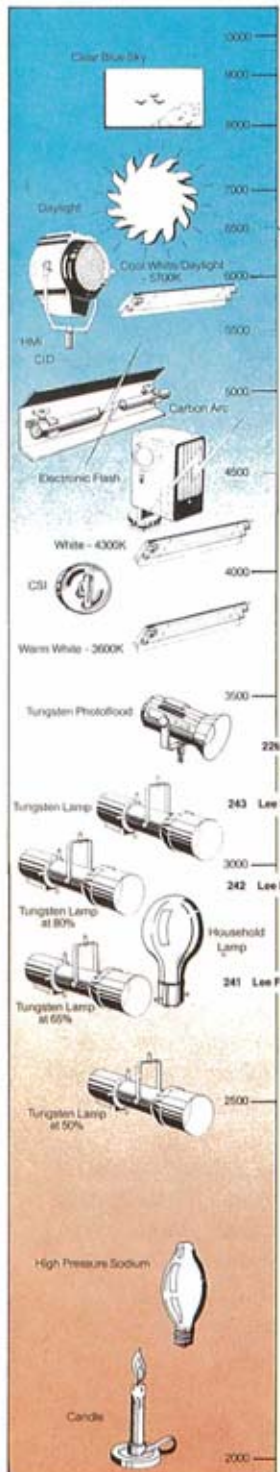
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Light Source Conversion Calculator

Original Source (Kelvin)



HOW TO USE
Simply draw a line from the Colour temperature value of your original light source, to that of the converted source. Where the line crosses the central band, read off the Mired Shift value. For your convenience we have added the range of Lee Light Conversion Filters at their appropriate positions in relation to the Mired Shift Scale.

EXAMPLE
To convert an original source of 6500K to 3000K, the line has been drawn as an example. You will note that it crosses the central band at just over 150° Mired Shift. This indicates that the Filter required is 204 Full CTO (also available with two degrees of Neutral Density).

247 Lee Minus Green	Coral 14 (Mired Shift -234)
248 Lee Half Minus Green	Coral 13 (Mired Shift -216)
249 Lee Quarter Minus Green	Coral 12 (Mired Shift -204)
219 Lee Fluorescent Green	Coral 11 (Mired Shift -186)
These Filters correct the colour cast of fluorescent tubes without affecting to colour temperature.	
Fluorescent FL 5700 - B (Mired Shift + 137)	Coral 9 (Mired Shift +198)
236 HMI to Tungsten (Mired Shift - 04)	Coral 8 (Mired Shift +144)
85B 85BN3 85BN6 85BN9 (Mired Shift +120)	Coral 7 (Mired Shift +126)
85 85N3 85N6 85N9 (Mired Shift +112)	Coral 6 (Mired Shift +113)
Fluorescent FL 4300 - B (Mired Shift + 80)	Coral 5 (Mired Shift +96)
81EF 81EPN3 81EPN6 81EPN9 (Mired Shift +53)	Coral 4 (Mired Shift +83)
Coral 1 (Mired Shift +36)	85C (Mired Shift +81)
Fluorescent FL 3600 - B (Mired Shift + 35)	Coral 3 (Mired Shift +69)
81B (Mired Shift -27)	Coral 2 (Mired Shift +54)
81 (Mired Shift -18)	81D (Mired Shift +31)
81 (Mired Shift -9)	81A (Mired Shift -18)
226 Lee UV Neutral Density ND 0.9 ND 0.6 ND 0.3	81 (Mired Shift -9)
213 White Flame Green	218 Eighth CTB (Mired Shift - 48)
243 Lee Fluorescent 3600K (Mired Shift - 34)	203 Quarter CTB (Mired Shift - 35)
242 Lee Fluorescent 4300K (Mired Shift - 26)	202 Half CTB (Mired Shift - 26)
241 Lee Fluorescent 5700K (Mired Shift - 137)	1/8 CTB - 203 - 202 (Mired Shift - 113)
	201 Full CTB (Mired Shift - 101)
	1/8 CTB - 201 - 202 (Mired Shift - 215)
	Twice Full CTB - 2 x 201 (Mired Shift - 214)



Twice Full CTO - 2 x 204 (Mired Shift - 215)

1/8 CTO - 204 - 205 (Mired Shift - 208)

204 Full CTO - 207 Full CTO - 3ND - 306 Full CTO - 6ND (Mired Shift + 115)

237 C/D to Tungsten (Mired Shift + 131)

205 Half CTO (Mired Shift + 96)

206 Quarter CTO (Mired Shift + 84)

212 L.C.T. Yellow (Y1) (Mired Shift + 62)

238 CSI to Tungsten (Mired Shift + 48)

223 Eighth CTO (Mired Shift + 26)

Fluorescent FL 5700 - D (Mired Shift - 6)

209.3ND 209.5ND 209.9ND 209.13ND Neutral Density

82 (Mired Shift - 15)

82A (Mired Shift - 21)

82B (Mired Shift - 31)

82C (Mired Shift - 45) Fluorescent FL 4300 - D (Mired Shift - 51)

800 (Mired Shift - 54)

80C (Mired Shift - 81)

Fluorescent FL 3600 - D (Mired Shift - 36)

80B (Mired Shift - 112)

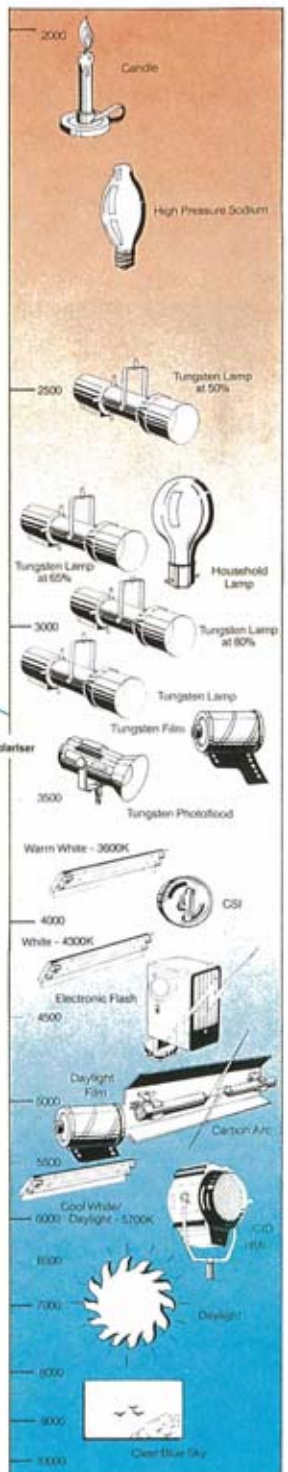
80A (Mired Shift - 131)

MIRED SHIFT CALCULATION
To calculate the Mired (Micro Reciprocal Degree) Shift value for any conversion, carry out the following simple calculation.

$$\frac{1000000}{T_2} - \frac{1000000}{T_1} = \text{Mired Shift Value}$$

T1 is the colour temperature of the original light source in degrees Kelvin.
T2 is the colour temperature of the required source

Converted Source (Kelvin)



The Art of Light

revealed

Lee Filters Limited does much more than manufacture high quality light control media for the film, television, theatre and stills photographic markets. The company offers – whenever it can – to make an additional input to benefit the industries it serves.

That's why it has developed a series of technical posters – available free of charge – to help filter users make the most of its products. To understand more fully how the art of light works. To create better images.

The first poster in the series – shown on the opposite page – has been designed to provide a simple and instantaneous reference for the calculation of filter requirements when converting from one light source to another.

Each type of conversion filter is listed in its appropriate place on the scale together with neutral density, UV and polarising filters.

To get your free poster (size 33" x 23½") simply clip the coupon, and send it to:

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New Distributor for Clay Paky in USA



Pio Nahum of Clay Paky (right) with Celco/Elektrolite's Vinny Finnegan.

During the recent SIB exhibition in Rimini, Clay Paky appointed Celco/Elektrolite as exclusive importer and distributor for their products in USA. Clay Paky's products are already well known to the American market – in the past they have been distributed by several different companies.

After their commercial break with High End Systems, the main concern of Clay Paky has always been to grant the end-users of their products good support and for this reason a daughter company Clay Paky Americas Inc was created in Orlando (Florida). However, the management of Clay Paky soon realised that to work in the American market it was necessary to be 'American' – a philosophy that fits every market and that Clay Paky are carrying out, together with Pulsar, their industrial-commercial partner, in many European countries.

For this reason Clay Paky say they have carefully analysed the American market, looking for a well established American company with the necessary know how to distribute and support their products. The agreement with Celco/Elektrolite is the result of this study, Pio Nahum, Clay Paky's sales and marketing director told L+S.

Celco/Elektrolite is the distributor in the United States for Celco, Jem smoke machines, Optikinetics, Trilite, Light Processor, Pulsar, Sapro and Lynx Lighting. According to Nahum, the company's range of products, addressed to the professional lighting users and to the disco market, matches perfectly with the programme of Celco/Elektrolite, a leading dealer in both professional and disco markets.

The signing in Rimini of the agreement coincided with the launch of the new Miniscan, an intelligent lighting fixture that Clay Paky have created for small club use, and a product they hope will realise a huge potential market in the United States.

Joint Venture



Steve Watts of Abstract (left) signs on the dotted line whilst NJD's Kevin Hopcroft looks on.

The formulation of a joint design, manufacturing and distribution programme with Leicester-based Abstract Electronics has been announced by NJD Electronics. The agreement allows both companies to pool their technical knowledge, manufacturing skills and resources.

Products bearing both the NJD and Abstract brand names will be targeted primarily at nightclubs, clubs and mobile discotheques. Three products, soon to be launched, include the Colourscan lighting effect, the CS2000 – a multi-colourscan version and the Twister, a low-cost lighting effect designed for use in hotels, clubs or for mobile use. Both companies are working towards the launch of the IQ250 Intelligent Lighting System at the 1991 Light & Sound Show.

Miss Saigon on Broadway

The New York production of Miss Saigon, which is opening on April 11, 1991, features a 70-input Cadac E-type console plus a specially commissioned side frame.

Based on the E-type layout, the custom-built side frame provides 25 additional inputs and has been designed to fit into the extremely limited space available.

Clive Green & Co worked closely with the show's sound designer – Autograph's Andrew Bruce – to ensure that the Cadac configuration would match the available space within the theatre.

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FRANKFURT MUSIC FAIR 1991 (see main feature pages 51-57)



Graham Norman and John Adams with Lightfactor's Q Pack and Q24 desk.



The Galleria: music in action.



Volt's David Lyth with his new radial drive unit.



Part of the PLASA group of stands.



The Opus Amplification stand.



Rock music at the Messe.



Sound and colour at Frankfurt.



Xylo's Turbine and Madonna.



Paul Marsh and Mike Wood with a giant from Slick.



Lightpower toast: Ralph-Jörg Wezorker (left) with Ken Sewell (Pulsar), Robert Achlimbari (Roscolab) and Derrick Saunders (Pulsar).



Shining metal: the Penn Fabrication stand.



The new lighting console range from MA Lighting Technology is the realisation of four year's intensive research and development by one of Germany's most creative teams of technicians, designers and engineers.

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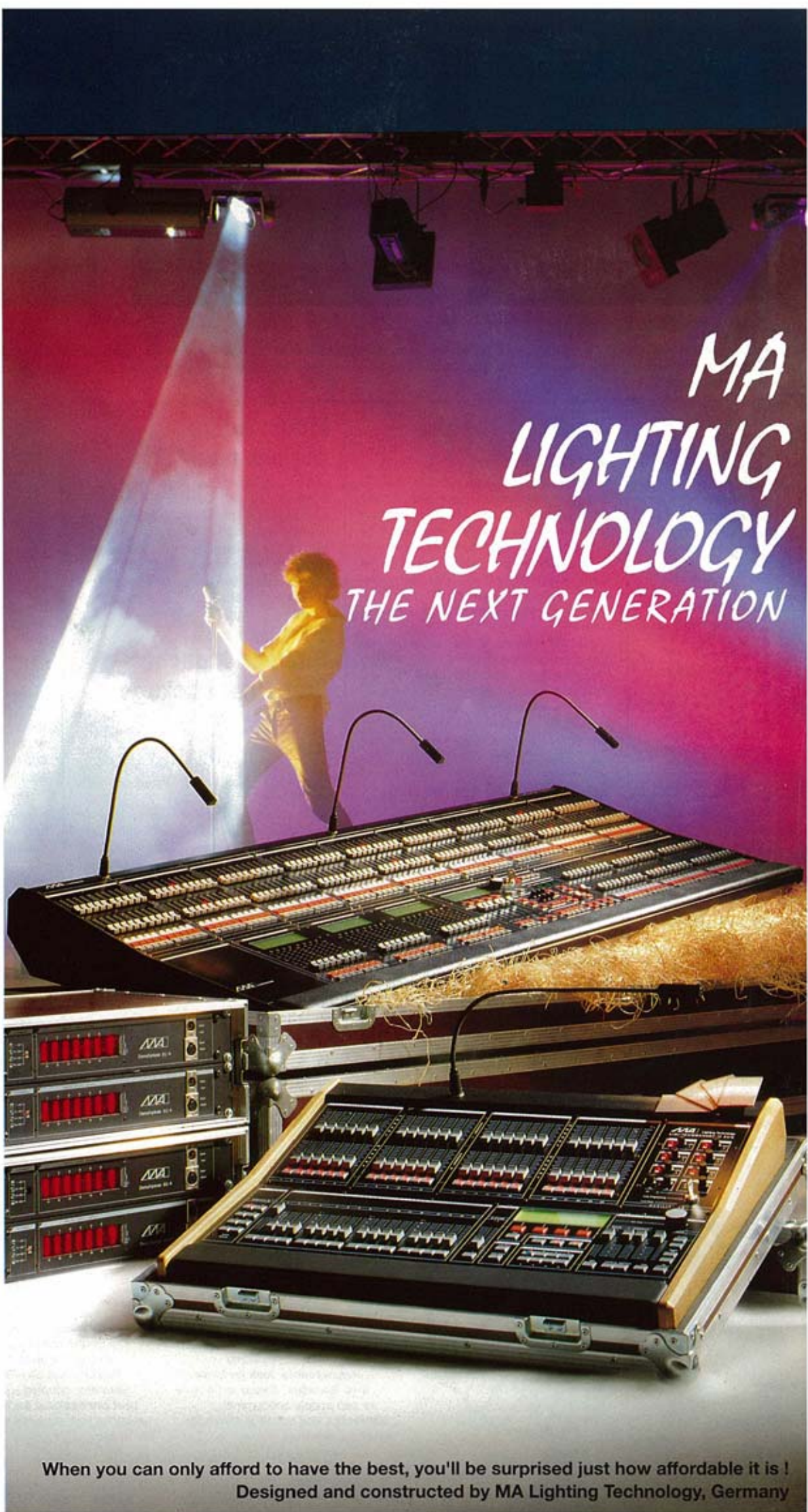
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THE NEXT GENERATION

When you can only afford to have the best, you'll be surprised just how affordable it is!
Designed and constructed by MA Lighting Technology, Germany



Lighting the BMW Launch

Pictured above is part of the presentation from the current world-wide launch of the BMW 3 series. The lighting for the corporate promotion was designed by Simon Tapping who used the recently developed MultiArt to run the lights. For further details see Simon Tapping's comments within the Arms on Control feature on pages 59 to 62 in this issue.

BBE Sound Inc has recently appointed two new distributors. Supravox will be looking after distribution, marketing and sales of BBE products in Spain, and national distributors in France will be SCV Audio.

Klark Technik PLC recently announced the departure of founder, and managing director Philip Clarke.

He and his brother Terence started the company 20 years ago and have built up a highly successful British Professional Audio Group. Clarke's place is being taken by Tony Smithson, finance director, who has been appointed managing director designate.

JHE Audio, the North London based division of John Henry Enterprises have recently purchased 16 C-Audio amplifiers from Harman Audio. The amplifiers, eight SR707 and eight RA2000, will be used to drive JHE custom bi-amplified monitor wedges.

Specialist Theatre Services

Following the rationalisation of the ITS Group at Nottingham, Specialist Theatre Services have purchased the contract sales and installation division of Independent Theatre Services. Specialist Theatre services is a new joint venture by John McAlonan and Richard Atkins, the former sales manager of ITS, both of whom have many years experience in the industry.

STS will provide a free planning and design service which they claim will be totally impartial. Also offered will be the installation of equipment by experienced engineers with a service and maintenance programme completing the areas of operation. For more information contact STS in Nottingham on (0602) 384111.

Educational Imagery

The recently opened Ecology section of the Natural History Museum boasts many innovative and interesting exhibits. The most impressive attraction must be the huge Quadroscope occupying one complete wall of the room which is configured with 20 Barco 32" monitors in a videowall format of 4 x 5, making the shape almost square. The videowall is surrounded by Light Boxes depicting the earth's Life Cycle.

The giant Quadroscope employs standard Memotech videowall electronics, the software having been completed at Memotech's development facility on an IBM PC which was then down loaded onto Rom in a MTX computer. The system can precisely control laser disc players, Light Boxes and other peripherals.

Martin Audio Appointment

Martin Audio has appointed Sara Kendrick as its sales and marketing administrator. She will work in support to international sales and marketing manager Dave Bearman who joined the company in October last year. Sara Kendrick has five years' marketing experience working for companies including Audi, Volkswagen and Mercedes.

Eurotech launches Computer Package

The Electricity Companion is a comprehensive computer-based training course covering the Electricity at Work regulations 1989 and the associated Notes of Guidance, together with general electrical safety.

Designed in modular form for ease of use, it covers personal electrical safety and responsibilities for workers including detailed modules on general workshop electrical safety, permit to work systems and more.

Full training record are maintained automatically and can be examined by tutors, stored on disk or printed out for future reference, as required. There is no limit to the number of learners who can use the package. The software, which runs on IBM compatible desktop PCs under MS-DOS retails at £885 plus vat. It can be purchased or hired from a number of distributors or from Chichester-based Eurotech, specialists in computer-based solutions to health and safety at work training, by calling (0243) 672891.

Smart Call for Papers

The Smart Group's technical committee is inviting the submission of technical papers for possible inclusion in the programme of the SMARTEX 1991 conference, which will be held in conjunction with the SMARTEX 91 Exhibition at the Wembley Conference Centre on 15-17 October.

According to Bob Willis, chairman of the Smart Group, papers must be technically orientated, original and first-time presentations on aspects of surface mount technology (SMT). "We are also looking to include workshops which are more detailed sessions on a given subject. Abstracts and proposals for workshops should be no longer than 200 words and sufficiently thorough to enable the review committee to evaluate the technical content," he told L+S.I.

The committee has listed the following topics, but potential authors and presenters may suggest other topics that relate to SMT technology.

Design practice	Cleaning alternatives
Component reliability	Plastic substrates
Testing assemblies	Polymer circuits
Solder pastes/adhesives	Tape automated bonding
Component placement	Component standardisation
Contract assembly	Environmental protection
Fine pitch technology	Quality control & inspection
Printed circuits for SMT	
Statistical quality control	
Soldering technology	

The programme will comprise conference sessions, workshops and advanced courses. Abstracts should be submitted by 30 April to Bob Willis, chairman, Smart Group, 94 Easton Street, High Wycombe, Bucks HP11 1LT. Telephone (0494) 465217.

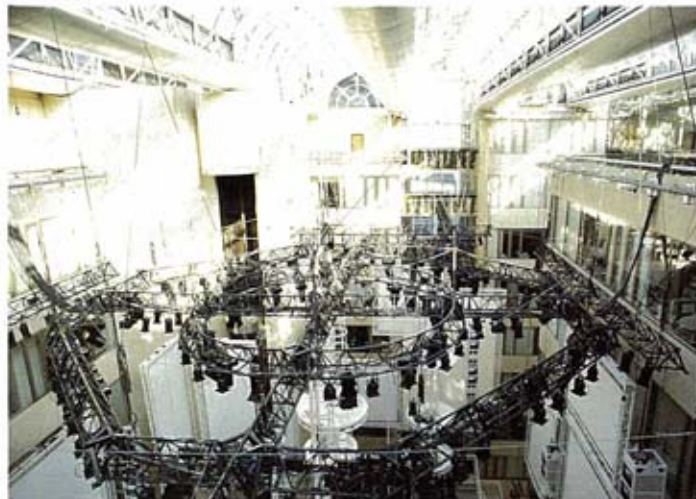
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planning and equipping of an international touring act or Rock Festival. We have the very latest Lighting and Sound technology, including sole distribution rights for **Vari-Lite** and **Sky-Tracker** in Germany, coupled with the best professional back-up, ensuring your success whatever the event.

Imagination and Orbital Launch BT's New Image



When British Telecom staged its much-hyped corporate image relaunch last month, they turned to Imagination and Orbital Acoustics to make the event a spectacle befitting the project's £60m budget. BT's nine-storey HQ, built around a 30m square central atrium which stretches from the ground floor to a huge vaulted glass roof, was the chosen venue.

Imagination built a temporary 360 seat amphitheatre at first floor level with tiered seating surrounding a central dias from where the audiences to the nine shows heard various presentations and an interview with BT's chairman. An A/V presentation, with a battery of monitors all round the dias, was used to introduce the show and its various sections. From there, right up to the roof were suspended tier after tier of Vari-Lites and numerous fixed lights, the whole array controlled from a second floor nerve centre decorously screened off from the audience.

On the audio side, Orbital Acoustics employed Midas consoles, and a mixture of both Hackney Cab and Bose speakers. 24 Hackney Cab enclosures were flown around the first truss tier, with a battery of Bose 101s for under-stage in-fill and as vocal delays above the stage. Presenters' microphones were Beyer MC10 cardioids, and a Midas XL-2 desk served as the main mixer.

Business Wise

Having recently celebrated 10 years in the industry, Light Engineering have now established over 800 accounts within the UK and a considerable export base.

The Walthamstow-based company keep large stocks of Celestion power chassis and SR systems, as well as their own manufactured lighting range together with SGM and Satel products at its busy trade counter.

Induction Lighting

The world premiere of Philips Lighting's revolutionary system QL Induction lighting will take place in Eindhoven, the Netherlands, on May 16th. The QL system, based on the concept of induction lighting, features an exceptionally long operating lifetime and high efficiency, say the company. The first products to incorporate this new technology will become available for the European market in September this year.

Entertainment Supplies

Entertainment Supplies Ltd is a new company based in Enfield, which has been set up to service the growing leisure market. It offers a wide range of services including the sale and hire of all forms of stage and disco lighting, sound equipment and a wide range of special effects, together with a free advice service.

Nexo Winners

Nexo has announced the winners of its coveted distributor awards, which were presented at a distributor meeting following the AES exhibition in Paris in February.

Distributor of the year for 1990 was Italy's Orthophono. Based in Bologna, the company is responsible for a large percentage of Italy's discotheque installations, and uses Nexo systems exclusively for this application.

German distributor Camco won the award for Outstanding New Distributor 1990. Camco is already well known in Germany as a major distributor for many other products, including Avolites, Slick Systems and Camco amps.

Promotions at Rolls Corporation

The Rolls Corporation has announced the appointment of founder David DiFrancesco to CEO, while partner Marilyn DiFrancesco is now the new President of Rolls. Based in Midvale, Utah, the company manufactures products specifically designed for the professional audio and musical instrument markets, all of which utilise the half rack format. These products include preamps for guitar and bass, power amplifiers, microphone processors, graphic equalizers and mixers.

Parent Company Buy-Out

The managers of one of the world's leading cinema and auditoria screen manufacturers, Harkness Screens Limited, and one of the UK's main theatre stage equipment supply companies, Hall Stage Products Limited, have bought out the business from parent company Arley Holdings plc, which is in receivership.

Performance Lighting

Christine White, a lighting designer and lecturer on the subject at RADA, is conducting a survey of ALD members to find out what they are really looking for. The survey is intended to gauge the disparity between customer and supplier and, at the same time, to try to discover how it affects the art and technology of the lighting designer's world.

White's survey is part of her Masters Degree, and the conclusions will be published in a future issue of L+SI. Anyone wishing to take part in the survey can contact Christine White on 081-316 5294.

TVDJA President

The TVDJA are pleased to announce that long time honorary member and well known industry figure Rob Peck, has been appointed association President. He accepted the position at the association AGM held on 24th March, 1991.

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Guy Hawley has returned to Harman UK following a year with sister company JBL International. Hawley has been appointed product and marketing manager for the company and is responsible for all marketing operations for the professional group.

Celestion International recently appointed Steve Dean as UK sales manager for its professional product division. Dean, formerly Roland's boss and MI rep for the south of England, will concentrate on expanding Celestion's market share of the loudspeaker chassis business and consolidating its reputation in the OEM market.

Browns Choose Squire

Squire Sound and Light has secured the high prestige installation of sound and light equipment at Browns, the West End club which was recently gutted by fire.

Squire once again enlisted the services of lighting designer Graham Barron, together with a specialist sound design team. The refurbishment is set to run into several million pounds, and a sizeable proportion of this has been set aside for sound, lighting and effects. Lighting includes six Martin Roboscans with customised gobos which will spell out the six letters of the club's name on a specially designed screen.



Pictured above are Angelo Panayiotou (right), the club's managing director, and Squire's southern area manager James McKeown, who is coordinating the whole sales, presentation and installation project.

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Régiscene Purchased

Following our short news announcement in last month's issue, we understand that major French rental and sales company Régiscene was purchased by Jean-Françoise Hocquard and a financial group after going into receivership on the 21st February.

Within the group are Dimatec, who distribute Rosco, DeSisti, Dedolight and DM Labs; Dimaphot who distribute Lowel Light and Comoslight; and D Studio who specialise in TV studio and cinema rental operation. The acquisition of Régiscene will add distribution rights for Avolites, BSS, Turbosound, DDA, White Instrument, and Modulation Sciences.

Olivier Bordini of Régiscene sales told L+SI: "We intend to keep our high profile in the touring production industry and use this new connection to increase our presence in the TV studio installation market. As Dimaphot has installed 35 studios over the past three years, I am very excited about the possibilities that now exist."

Chief executive Jean-Françoise Hocquard commented: "We are actually the only group of companies in France who can respond to all the needs of show business, including the entertainment, movie and video market – both in lighting and sound. Since there are no longer any hard-defined boundaries in this market, everyone is using the whole field of techniques in order to enhance creativity."



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British Council Course

Despite the Gulf war, which intervened at a crucial time, the British Council were able to attract some 25 theatre lighting people to London from all over the world for their Design and Technology course invigilated by Francis Reid.

The course, which ran from March 3rd to 15th and was the second of its kind to be held, appealed to visitors from as far afield as The Philippines, Australia, Singapore, Korea and Hong Kong in the East to Canada, Mexico, Barbados and Brazil in the West. One attendee, Mr Leonard Ondur, had travelled from Uganda, where he is the stage director of the National Theatre in Kampala, and in which country facilities are minimal to say the least; but the person to whom the journey may have seemed the longest, must surely have been Virgil Petrovici from Romania. Despite being the chief lighting engineer of Free Rumanian Television, associate professor of the Bucharest Theatre and Film Institute and the author of six books on lighting practice, there were no funds available to cover his costs to attend the course. However, thanks to the generosity of the Cameron Mackintosh Foundation, Mr Petrovici was eventually able to attend.

Visits organised during the period of course-members stay in England, included the National Theatre, where they enjoyed a performance of Kafka's *The Trial* and had a technical tour guided by Tony Bond, Miss Saigon at the Theatre Royal, Twelfth Night at the Playhouse Theatre, *The Lives of the Great Poisoners* at Riverside Studios, *Lulu* at the Almeida and *King Lear* at the ENO. Technical visits to the Prince of Wales and the Prince Edward Theatres and Strand Lighting in London, and the Grand Theatre, City Varieties Theatre in Leeds and backstage of the West Yorkshire Playhouse in Wakefield under the aegis of technical manager Mike Brown, were also arranged.

Speakers ranged from, theatre lighting designers Rick Fisher, Dee Kyne, David Lawrence, Robert Ormbo, Paul Pyant, David Taylor and John B. Read of the Royal Opera, to others such as Ian Albery, Christopher Baugh of Goldsmiths College, Fred Bentham, David Bertenshaw, Howard Eaton, architect and author Roderick Ham, Chris Toulmin, Charlie Paton of Lightworks, John Wycham and L&S's Tony Gottelier who also addressed the course.

Francis Reid, whose masterly hand steered the course to a successful conclusion, introduced a final session which might have been called 'the ultimate wish list', in which participants looked into their future requirements. Among numerous technologically futuristic suggestions, which included one simple time-saving innovation that gels should have their colour numbers printed across the sheet, Francis' own contribution was to canvas all participants to write to Rosco to encourage them to produce quarter Hamburg Frost, following the successful introduction of a 50% version, with the object of reducing the overall number of luminaires required in any production.

The British Council hosted a reception to mark the completion of the course, at which the students made

an impromptu presentation to Sally Goggin, who was responsible for the day-to-day administrative organisation.

A repeat performance is planned in two years time.

Three Times Over

April saw the opening of three new productions, two in London's West End, and all of which are using Rainbow colour changers. Howard Harrison has chosen Rainbows to light *Matador* which opens at the Queen's Theatre, Shaftesbury Avenue on April 17. Rainbows were also the choice of Mark Henderson for *Carmen Jones* at The Old Vic, which opened on April 8th. For the UK tour of *Guys and Dolls* which opened on April 6th, designer Nick Ritchings opted for Rainbows yet again. These were supplied by Theatre Projects.

Vari-Lite Dallas Get Awards

In the first three months of 1991, Dallas-based Vari-Lite Inc's Los Angeles office has provided Vari*Lite automated luminaire systems for four of the entertainment industry's biggest award shows: the 63rd Annual Academy Awards, the American Music Awards, the People's Choice Awards and the Soul Train Music Awards.

A system of 277 Vari*Lite automated luminaires lit the 63rd Academy Awards, held at the Shrine Auditorium, Los Angeles on March 25 of this year. The company also provided 43 VL2B spot luminaires for the Soul Train Music Awards, held on March 12 also at the Shrine Auditorium. On the People's Choice Awards, held on March 11, lighting designer John Rook used 24 VL4 wash luminaires to paint striking looks on the set.

Major Refurbishment

Architects Renton Howard Wood Levin Partnership (RHWL) have been commissioned by Basingstoke and Deane Borough Council to refurbish the Haymarket Theatre, Basingstoke. Building work will start on the first phase of this two phase project in the summer of 1992.

The £2.27m first phase of the refurbishment focuses on improving the stage, auditorium and foyer areas. Improvements to the enlarged stage include a new side stage giving more space in the wings and new suspension equipment for moving scenery. A new removable orchestra pit accommodating 17 musicians will also be created, with rostra to form an optional fore stage when the pit is not in use.

The existing auditorium is to be reorganised creating a more theatrically intimate environment. In the stalls a continental seating pattern and steeper rake will solve lighting problems as well as improving dramatic feel. The refurbishment also includes a mechanical heating and comfort cooling system, together with improved acoustics.

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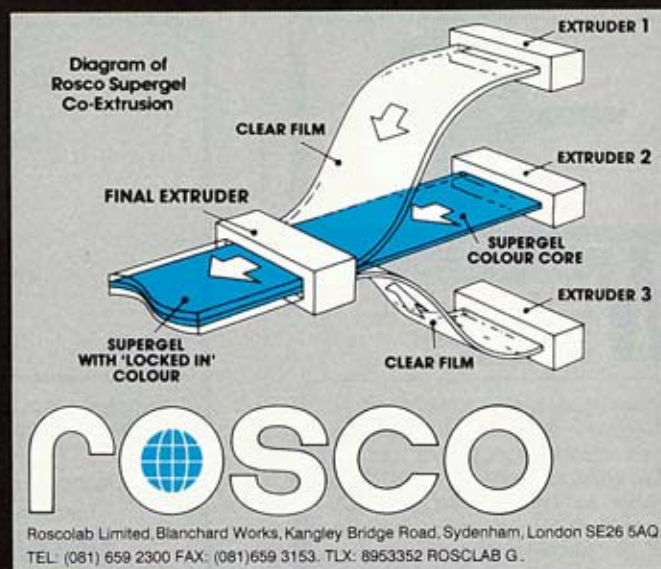
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Bradford Maestro – 'Biggest Nightclub in UK'



Echoing the scale of the venue the dancefloor rigs are outlined with Disco Neon supplied red and blue neon, and utilise multiple Lynx 100SX spots to create high powered light curtains.



The view from beneath one of the traversing kite rigs demonstrates the interplay of neon ringed rig shapes and beam patterns from FAL Italy Static Scorpions.



One of the many 'scenes' creatable from a host of 'beam' effects installed, the LED U Rays produce a beautiful web of interlaced light.



Custom built by Optikinetics, the centre three dimensional hexagon, seen here with its petals open, features a Kremesa Genesis at its heart. The hexagon and Genesis can be concealed in the roof space, and both lower independently.

March 18th marked the official opening of Javed Ahmed's Maher Entertainment's most ambitious project to date, the Maestro in Bradford. Claimed to have the largest nightclub capacity in the UK, the Maestro can comfortably accommodate 3,000 people. The lighting and sound systems are on an equally grand scale. The Avitec designed and supplied lighting was installed by Jasco Light & Sound and spans the huge split level dancefloor, with no less than seven moving rigs comprising three tilting triangles and three traversing 'kites' of Astralloy

trussing with, as centrepiece, a giant moving hexagon custom-built by Optikinetics.

A further three triangles and two trusses cover the revolving stage with the entire venue swept by 15 Avitec Litemovers. Zenith Sound Systems designed and installed the Amcron powered ElectroVoice system that provides both stage and dancefloor sound. The sophisticated video system which includes Vidicron big screen projection and a large number of strategically placed monitors was designed, supplied and installed by Alpha Electronics.

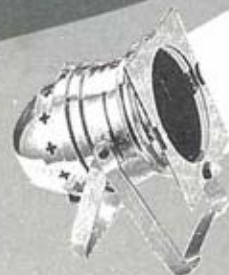
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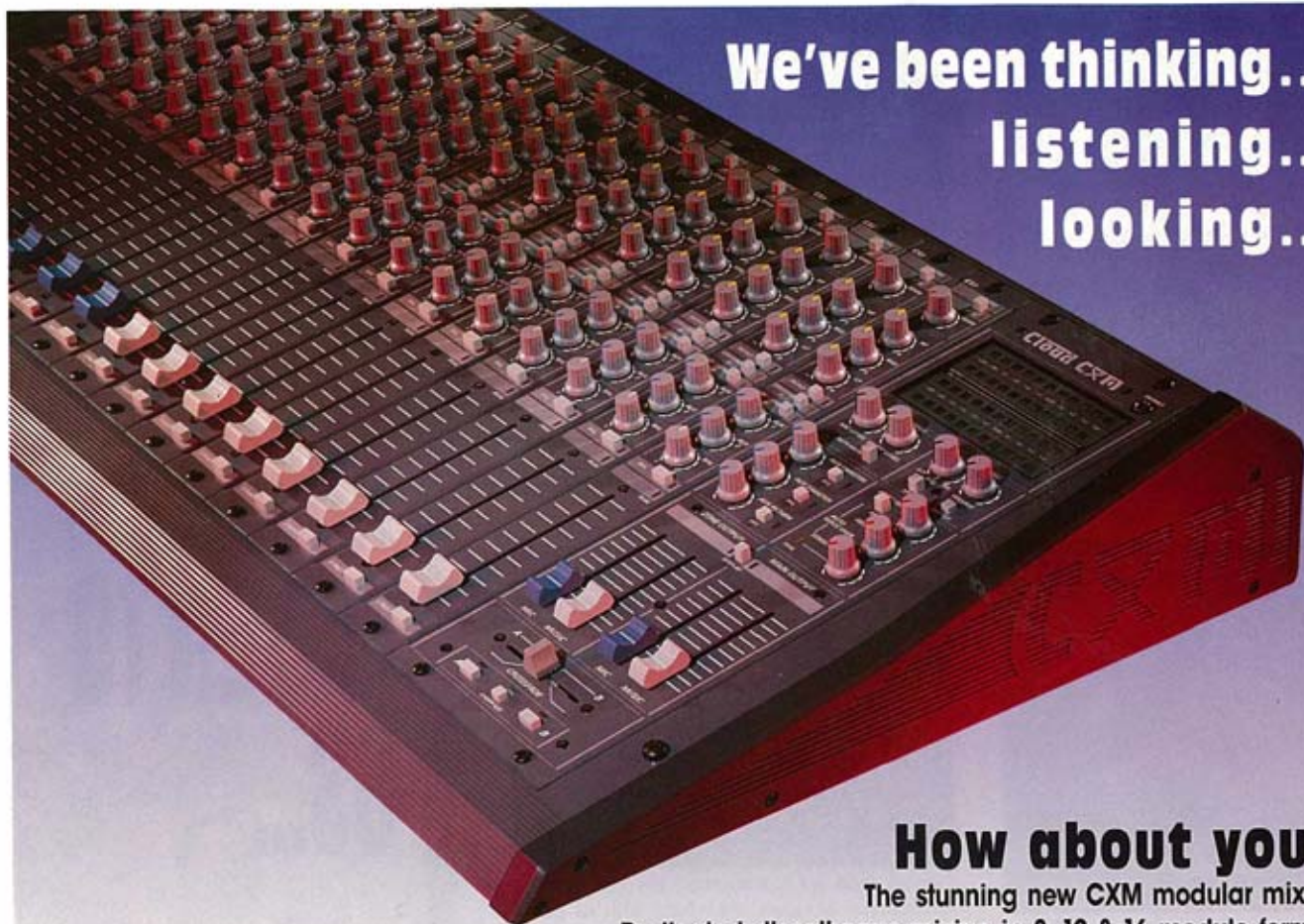
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Ansells Noise Control

Webb Associates has been appointed by Ansells Leisure to implement a wide range of noise control measures in their nightclubs in response to Noise at Work legislation.

Proprietary noise analysis techniques will be used to ensure compliance with the legislation at each workstation without significantly lowering perceived sound system levels. This is especially important for live band operation where the in-house PA system has been designed to produce the high SPLs associated with heavy rock acts.

The Sound Directory from Custom House

Recognising the end-user difficulties in identifying requirements for a satisfactory system, Uckfield-based Custom House are to publish The Sound Directory. The book will, in a totally non-technical manner, explain away the mystique which surrounds PA equipment and installation, allowing the least qualified to design and order a suitable system.

The second part of the Custom House proposal provides for highly competent installation facilities, should the end-user require it. Invitations have been issued to a wide range of professional installers, giving them the opportunity to take part in this marketing plan. Following a vetting exercise by Custom House, installers will be appointed to specific exclusive areas throughout the country, with all requests in each area being passed to the approved installer.

With regard to equipment chosen, the end user will either adopt to use his own choice of equipment, or select from an extensive range of products from the Custom House catalogue. The featured range has been sourced from well established manufacturers in the UK and EEC.

According to Custom House there is no catch. They locate the end user through extensive advertising and promotion. Any installation work required is then passed on to the approved installer in that area, who is then paid by Custom House — not the end user — thus eliminating payment and cash flow problems.

In addition to the installation costs and a two year maintenance contract the installer receives commission on the equipment chosen by the end user. For more details, contact Custom House in Uckfield, telephone (82581) 2601.

Twice the Lighting Control

London's Greenwood theatre is doubly certain of being able to cope with all lighting eventualities — with a twin installation by Strand Lighting.

As part of an upgrading of the sound and lighting systems, owners Network One had planned to install a Strand Galaxy 3 lighting control system. However, it was felt that it might not be sufficient for their plans for lighting live rock acts. Consultations with Strand Lighting resulted in Strand's new MX board being suggested.

Spitting Image



Forming part of a new exhibition at the Spitting Image rubberworks in Covent Garden, Lickety Lick, an electronically controlled pneumatically powered piss-take of a game show, sees the Queen and Neil Kinnock pitted against Prince Philip and a retired housewife from Dulwich in a game chaired by none other than Sir Alistair Burnet.

Apart from providing four SR3 and two Compact loudspeaker enclosures for the show, and in-house support sound systems, Celestion has had one of its K530 loudspeakers implanted in the chest of a puppet called George Bush.

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Exhibition Diary

EXPO MUSICA

April 13-17, 1991 — MADRID — IFEMA, Avda de Portugal, s/n Casa de Campo, 28011 Madrid 1101, telephone 470 10 14

A.B.T.T.

May 23 and 24, 1991 — LONDON — Mermaid Theatre, ABTT, 4 Great Pulteney Street, London, W1R 3DF, telephone 071-434 3901

A.P.R.S.

June 5-7, 1991 — LONDON — A.P.R.S. 163a High Street, Rickmansworth, Hertfordshire, WD3 1AY, telephone (0923) 772907

PRO LIGHT & SOUND EXPO 91

June 14-16, 1991 — MELBOURNE — PO Box 913, Adelaide, Australia 5001, telephone 08 269 4189, fax 08 377 0564

SOUND & LIGHT SHOW and PRO AUDIO ASIA

July 10-12, 1991 — SINGAPORE — Enquiries to the PLASA Head Office in Eastbourne, telephone (0323) 410335

LIGHT & SOUND SHOW 1991

September 8-11, 1991 — LONDON — Enquiries to the PLASA Head Office in Eastbourne, telephone (0323) 410335

VISION & AUDIO 91

September 15-18, 1991 — LONDON — Emap Maclaren Exhibitions Ltd, 840 London Road, Purley, Surrey CR2 2BH, telephone 081-660 8008

LIGHTING DIMENSIONS INTERNATIONAL

November 22-24, 1991 — RENO — Enquiries to the PLASA Head Office in Eastbourne, telephone (0323) 410335

Yamaha Centralises UK Operation

Yamaha-Kemble, the British joint venture, representing the world's largest musical manufacturers Yamaha, are to take a major step forward into the 1990s with the move of their management, sales, accounts, warehouse and technical divisions to new multi-million pound purpose-built premises at Tilbrook, Milton Keynes.

Covering over 80,000sq.ft, the new site will encompass all main areas of the Yamaha musical instrument operation (other than pianos) under one roof, in a specially streamlined block, designed and built by the Japanese company Shimizu (UK) Ltd. The 9.5 acre site also allows for significant future expansion in the future.

The premises have also been tailor-made to accommodate the needs of Yamaha's operational and musical requirements, utilising innovative new materials and construction processes for top quality results. This can be seen in all areas from acoustic and lighting facilities through to floor and work surfaces.

New technological developments have been employed to ensure top quality sound, including a special spatial void construction in the seminar rooms, silencers within the mechanical air-conditioning system, and acoustically treated soundproofed walls in the piano section.

Launching a new era in Yamaha Kemble's corporate and musical development, the Tilbrook Yamaha building will be officially opened on Thursday April 25, 1991.

LMC go Crest

LMC, the professional audio distributor have been awarded the sole distributorship of Crest Audio products for the UK and Eire. Previously available through First Audio, the Crest product range has developed an enviable reputation world-wide and is now seen as a market leader in its field, claim LMC.

The company's sales and marketing director Paul Ward told L+SI: "We are delighted to have Crest on board. It complements our portfolio perfectly and the response so far is phenomenal."

The Crest product range encompasses products to meet the critical needs of users in a broad range of amplifier markets; from the state of the art Nexsys computer control system, to the new LA series amplifiers.

LMC will be providing full after sales and technical service for the complete Crest range.

Entertainment and Arts Management Show

The Institute of Entertainment and Arts Management has announced its sponsorship of the Entertainment and Arts Management Show taking place on November 13th and 14th 1991 at the Ramada Inn in West London.

The exhibition will incorporate all aspects of the entertainment industry and the arts, including agencies, venues, seating, lighting, special effects etc. The organisers hope that managers of arts and entertainment complexes from all around the country will visit the show with the purpose of seeing the whole range of products and services that they need.

The exhibition will be extensively promoted through the industries' publications and will be a unique showcase with the opportunity to attend a programme of seminars organised by the IEAM, covering a range of relevant topics. For further details contact Silver and Collins in London on +44 71-729 0677.

Antonio Ianiro

Antonio Ianiro, 68, born in a small village in central Italy, was one of the pioneers of lighting equipment manufacture for TV, film and professional photography. He died on March 14 of this year.

He was among the founders of the prestigious Ianiro Quartzcolor company back in 1947. He was a natural mechanical engineer and craftsman, and throughout his time at Quartzcolor he initiated into the business a good number of today's most respected lighting equipment designers, manufacturers and experts.

Cerebrum Lighting

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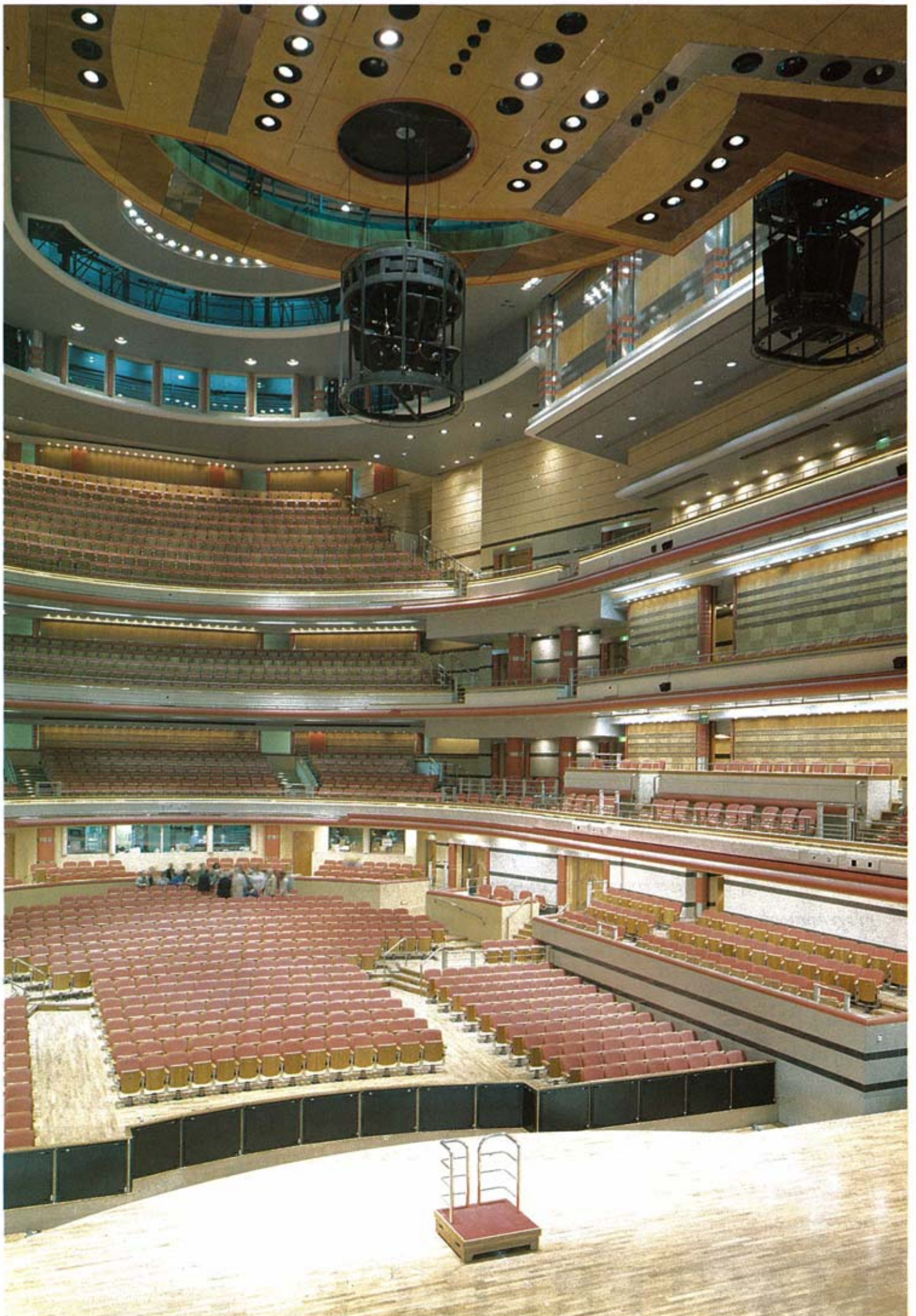
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Tel: 31 741001 Fax: 31 74729

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Symphony Hall, Birmingham, within the new International Convention Centre.

SPEAK, RATTLE AND ROLL

Tony Gottelier at the new Birmingham International Convention Centre

When Simon Rattle raises his baton for the first time in public in the new Symphony Hall in Birmingham on April 15th to conduct Stravinsky's *Firebird*, he will have the satisfaction of knowing that he is appearing in Europe's most acoustically advanced concert hall.

Although the technology for this massive achievement was imported from the United States, the whole has been achieved with a great deal of input from PLASA members. For the 2200 seat Symphony Hall is only part of the massive International Conference Centre which architects Percy Thomas Partnership have created on a 26 acre site in the City centre, to the enormous and obvious pride of local people who were visiting in droves just to look around long before the official opening.

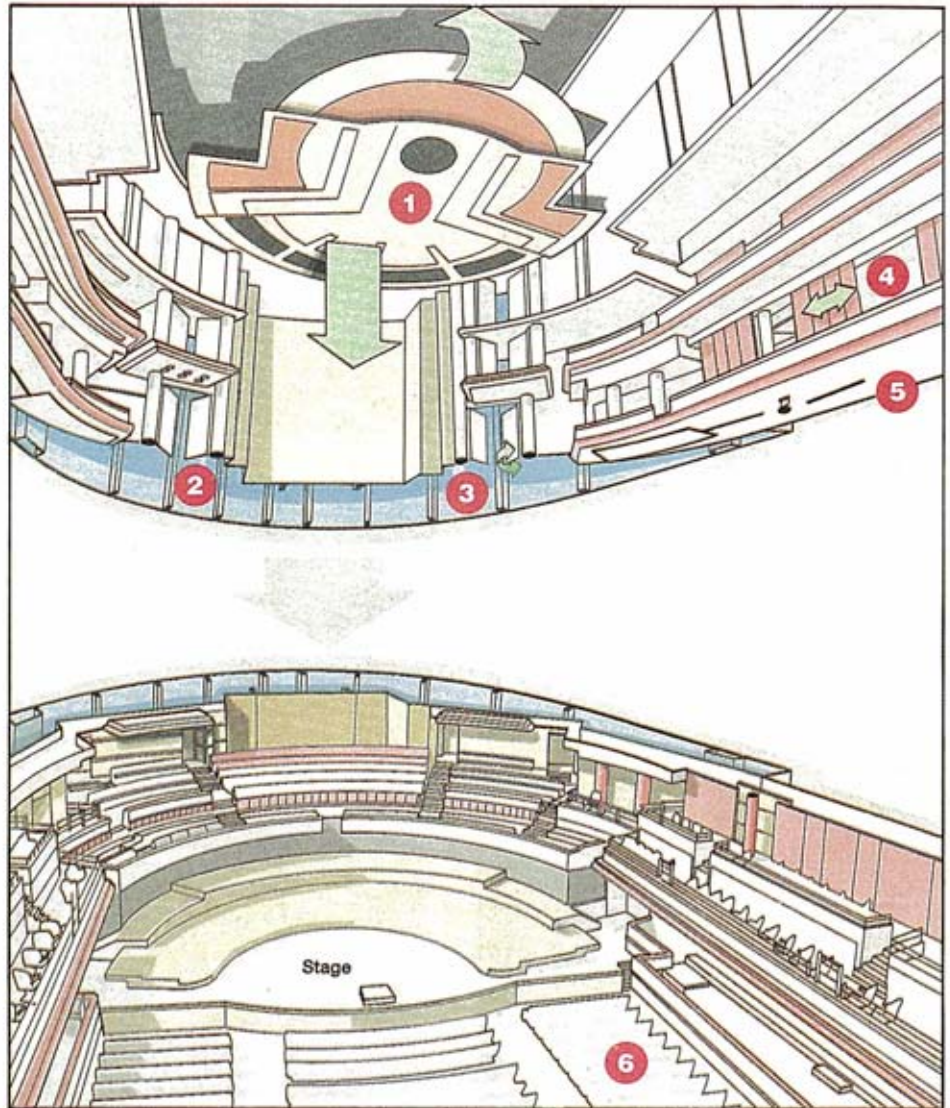
Sitting alongside the 11,000 seat National Indoor Arena (to be opened in October), a retail development and the new Hyatt Regency on the same site, the Centre must be the most major performance arts development in the UK since the construction of the Royal National Theatre 25 years ago. The ICC consists of a full theatre space with 1500 seats and a 22m x 14.8m stage, a 3025m conference/exhibition facility also with a flexible stage, a smaller exhibition and conference area, another smaller theatre and no less than six other conference, or seminar, areas of various sizes which can be used individually, or in combination from off the main concourse for a major event.

Flexibility is the key to the entire concept of the ICC. Every space is capable of supporting several activities. In the case of the Symphony Hall even the acoustics are adjustable to suit the occasion, be it conference, cinema, or industrial presentation, pop or classical, or to fine tune for the perfect response between organ, choral and pure orchestral performance. Responsibility for this and all aspects of the technicals throughout the Centre fell to Artec Consultants of New York, who had previously achieved the, seemingly, impossible with the Morton H. Meyerson Symphony Center in Dallas (see L+SI January 1990).

The Artec team set about these problems with customary fastidiousness.

Concentrating on the unique problems associated with concert hall acoustics, the Artec team led by Russell Johnson and Nick Edwards applied all their flair and knowledge to the Symphony Hall. Taking the theory that historically the most successful halls, from an acoustic viewpoint, have between 1600 and 2200 seats and are shoe-box shaped, being long, narrow and with steep tiered seating on either side, he exercised his science in ensuring that the structure would be basically silent before detailing the interior acoustic finishes.

The major noise source was provided by British Rail whose main line train tunnel runs nearby and the resultant vibration and audible rumble would have been completely unacceptable. The pragmatic solution was to float the entire building on a neoprene waffle. This, coupled with especially designed, fully suppressed, air conditioning, means that not even a breath of air can be heard. There are solid 300mm deep concrete walls and the ceilings are lined with thick plaster. The floors are bonded directly to concrete. Zero lamp



Reproduced courtesy John Lawson/The Times



The new Birmingham International Convention Centre with Indoor Arena in background, and Symphony Hall to the left. The existing Birmingham Repertory Theatre is in the foreground, right.



Moveable acoustic canopy in the Symphony Hall.



Head of lighting Simon Kent at the ARRI lighting control in the Symphony Hall.



Hall One – the main conference theatre.

filament noise was achieved via larger chokes in the Arri dimmer packs and a 1m/sec. rise time. All this should all ensure the elimination of any alien or external noise.

While these structures are of great importance acoustically, they are also highly reflective; it is the extraordinary detail of the interior finishes which should ensure that the public receive the pure sound faithfully transmitted.

As in the concert halls of old, Artec used overhanging soffits to reflect the sound down towards the audience. But the modern techniques employed to ensure the right amount of reverberation and, what's more, to enable the adjustment of the reverb. time by changing the shape of the acoustic space, is extraordinary and employs devices only previously embodied in the Dallas Center.

The most striking of these devices is the reverb. chamber which unseen increases the volume of the hall by one third, or 12,700 cubic metres, connecting the sides and the top of the hall with a series of giant concrete doors each weighing eight tons. Each door is hung in such a way that it can be silently opened and closed to adjust the feel of sound from rich church-like warmth for orchestral and choral work to the sharper, clearer transmission required for speech.

To provide for the fine adjustment between one work and the next, a wooden canopy over the orchestra can be raised and lowered, and to reduce reverberation when required, rail-mounted, sound absorbing, panels can be moved in and out of the hall as necessary.

But if flexibility is the keynote of the acoustics in the Symphony Hall, it certainly hasn't been lost on other members of the Artec team when it comes to organising the technical services throughout the complex. In every hall there are remote infra-red 'riggers' control points in strategic positions, both wireless and hard-wired, and remote video



The Mall.

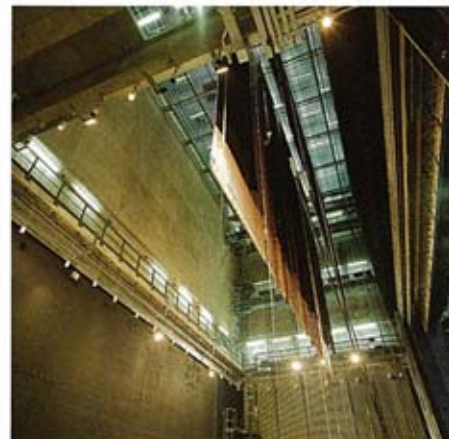


Bill Graham, the ICC's technical manager, was sent down from Oxford for spending more time in the performance theatre than the lecture theatre and then went on to complete his professional training at LAMDA. On leaving there he worked successively at the Belgrade Theatre Coventry, Open Air Theatre Regent's Park and the Royal Opera House Covent Garden before going to Birmingham for the first time in 1971 to the Alexandra Theatre.

In 1974 he moved to the RSC at Stratford and in 1978 to the West End with Backstage Productions. After a brief spell with Theatre Projects and freelancing he took over as technical manager at the Harrogate Conference Centre shortly after its opening in 1982. After 7½ years at Harrogate he joined NEC Limited in November 1989 at the International Convention Centre.



The main exhibition hall.



Fly Tower, Hall One.



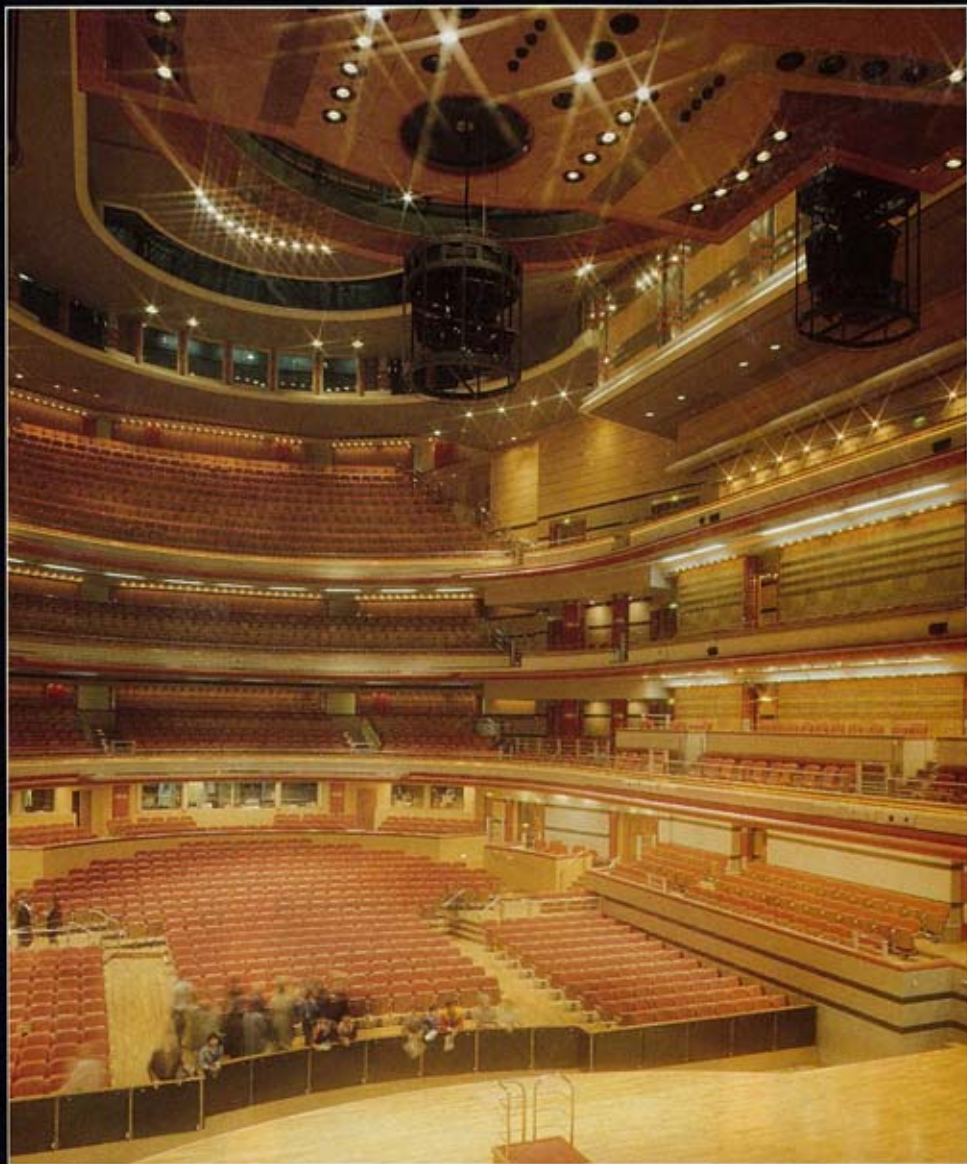
Hall Nine: seating capacity up to 375.



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points from where the lighting designer can input cues to the main lighting board from the body of the hall. All these systems and the IR hand-held remote were designed and supplied by Arri GB who won the lighting control contract and worked closely throughout with Artec's Steve Friedlander who detailed the specification.

All the systems are fully backed up at Friedlander's instigation: anything wireless is hard-wired, also all DMX512 transmission lines are duplicated and replicated for analog input via an Arri Connexion multiplexer. The Imagine 500 control desk in Hall One, and the Imagine 250's in Symphony Hall and Hall Three, have full redundant tracking backup via duplicate parallel processors, the second of which shadows the first and can switch in seemingly in the event of a catastrophic failure. By prior arrangement these boards can be replaced by either a Celco 90 Gold, or Celco 60 Major, both with Connexions soft patch to 512 channels and which also formed part of the Arri contract. Alternatively, touring companies can bring their own board and plug into the DMX patch. Arri's Tim Burnham, who showed me around his systems on-site, told me: "Although it has been an exacting task, it has been a sheer joy to work with such competent and careful people as the guys from Artec. There is absolutely no doubt that they really know their onions when it comes to the requirements and infrastructure for flexible performance technology!"

Perhaps nowhere is this exemplified more than in the future protection employed in the cableways. For example in Hall One, 485 2.5kW and 15 5kW lighting circuits are provided, but when you walk through the labyrinth of basement corridors, which link all the halls together, you notice everywhere at high level the foldaway cable supports and large diameter piped ingresses above each doorway for OB, or other additional temporary cabling.

Similar attention to detail went into the design and specification of the ancillary lighting control systems carried out by Glantre Engineering. These fall into two categories, the houselight systems which were designed and made by Glantre, and working light control panels commissioned from Northern Light under the Glantre contract.

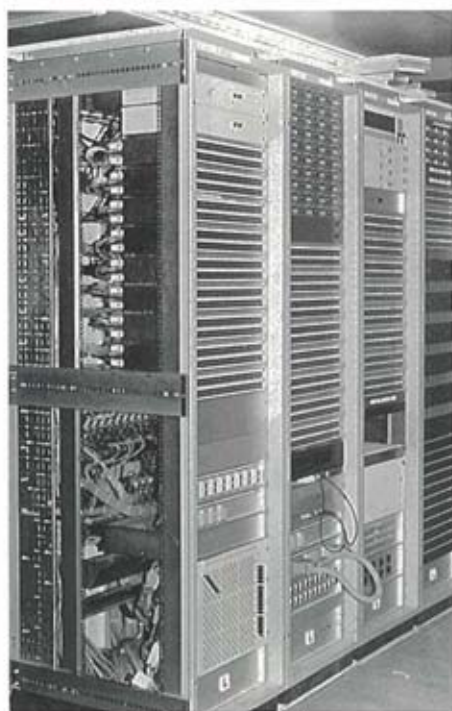
Artec's Steve Friedlander clearly gave considerable thought to the selection of these systems, and the attendant architectural luminaires, for often when the halls are being used for conferences and concerts these systems have to stand alone as the total illumination. In the event, Steve was unable to find a complete proprietary system to satisfy his exacting requirements and, contrary to his usual reticence over the use of unproven technology, decided to opt for a made-to-measure system.

Both preset and non-preset systems were required for houselight control, the latter for the smaller areas. Each preset system consists of two main control panels, one on stage and the other in the control room. All are fitted with master fader, channel faders and up to eight programmable preset buttons. Dipless crossfading occurs between lighting states and fade times are adjustable. In line with the policy of maximum flexibility a portable pendant panel is provided to access recorded presets via up to eight remote locations in each hall. Again the dimmer systems are duplicated to provide full tracking back-up in the event of a fault.

The standard Northern Light WL2000 systems used for working, technical area and blue lights adopt similar systems principles,



Staging technician Linda Bennett with the Celco Gold in Hall One.



Pro sound racks, Symphony Hall.

BICC TECHNICAL STAFF

Bill Graham — Technical Manager
 Alison Bowen — Technical Administrator
 Kirsty Page — Secretary — Bill Graham
 Nicola Grimes — Junior Secretary/Clerk
 John Rochfort — Technical Co-ordinator
 Alan McDevitt — Technical Co-ordinator
 Debbie Johnston-Smith — Technical Co-ordinator
 Graham Wilson — Maintenance Engineer
 Craig Noble — Head of Staging
 Simon Kent — Head of Lighting
 Mick Lown — Head of Sound
 Simon Burnett — Stage and Platform Manager
 Richard Fitzgerald — Stage and Platform Manager
 Mick O'Brien — Stage and Platform Manager
 Carl Hanson — Stage and Platform Manager
 Alex Cartwright — Senior Technician
 Mike Coster — Senior Technician
 Alan Calloway — Senior Technician
 Chaz Griffiths — Technician
 Sheldon Talbot — Technician
 Eleanor Ballard — Technician
 Andy Gates — Technician
 J. Gresswell — Technician
 Nigel Wright — Technician
 Mark Hopcroft — Technician
 Steven Clifton — Maintenance Technician
 Ian Ellis — Maintenance Technician
 Richard King — Staging Technician
 Linda Bennett — Staging Technician
 Clive Callaghan — Staging Technician
 Paul Curley — Staging Technician
 Keith Quiney — Staging Technician
 Mark Westwood — Staging Technician
 Terry Watton — Staging Technician
 Alan Goodman — Staging Technician
 Brendan Curran — Staging Technician
 Marion Ratcliff — Staging Technician
 Katie Collett — Staging Technician
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 Keith Hay — Staging Technician

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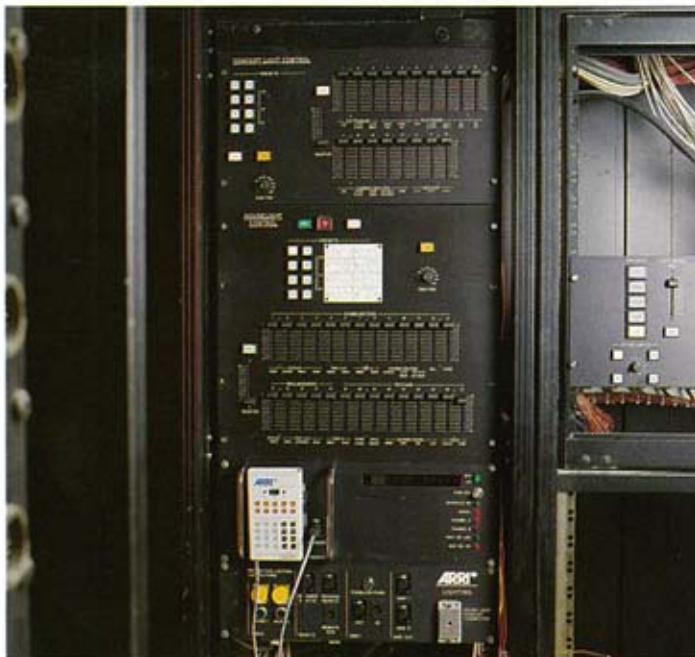
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Arri dimmer racks in the South dimmer room.



Glantre control racks, South dimmer room.



Concert and work light controls by Glantre/Northern Light with Arri rigger's control and interfaces in one of the stage rack panels.



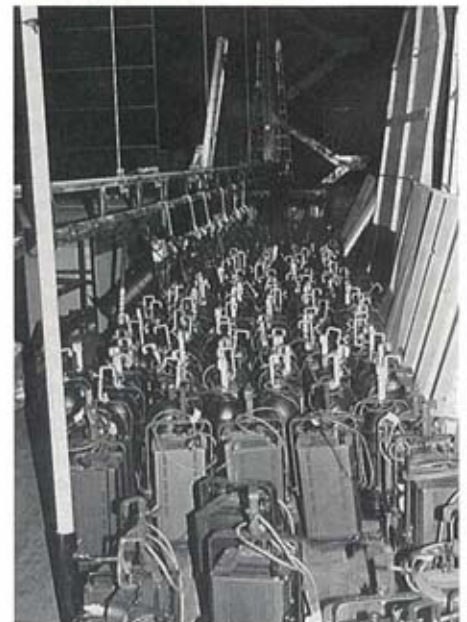
Arri Imagine 500 in the Hall One control room.

although the controls themselves are tailored more to the application. Each group of circuits is controlled by a master override switch and selector buttons are provided to enable the various programmed modes identified as Day, Night, Rehearsal, Performance and Concert. Once again, a number of locate switches are provided in each area for local control together with the pendant remotes already mentioned.

The production lighting barrels with socket outlet boxes, in an especially designed configuration envisaged by Steve Friedlander, which make extensive use of 19 pin Socapex connectors and multicore cables were also made by Northern Light and supplied as part of the Glantre contract. Rigging and stage engineering was implemented by Sheetfabs for the 28 metre fly tower incorporating up to 70 counterweight and line sets. Ray Stage supplied the stage lifts in Hall one and Symphony Hall plus suspension systems in Halls Three and Five with acoustic engineering and orchestra risers in Symphony Hall coming from Theatre Tec.

As far as the luminaires are concerned, Artec wrote their specification around certain suppositions, but did not specify the instruments themselves. This was left to Bill Graham, ICC technical manager, and Simon Kent his head of lighting in Birmingham. Bill, who was previously responsible for the technical facilities at the Harrogate Conference Centre following several years in theatre, told L+SI that the choice of instruments was often based on size and fit as well as performance. "We were very impressed with the new Teatro fittings which we saw at ABTT and these were selected for most of the front of house including MSR follow spots. I have known Mike Lowe for many years and the fact that we were able to deal directly with him was a great help with local support provided by Mushroom Lighting." Further production lighting including profiles, fresnels and Lekos are by Strand, 4-way cyc floods and groundrows are Thomas, and there is a large number of Kudo Par 64 cans and Raylights.

Similar buying arrangements were made for sound and AV equipment, with Artec's Paul



A parade of Strand lanterns backstage Hall One.

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*Dimmer room at the ICC, Birmingham with
Glantre houselight control racks in the foreground.*

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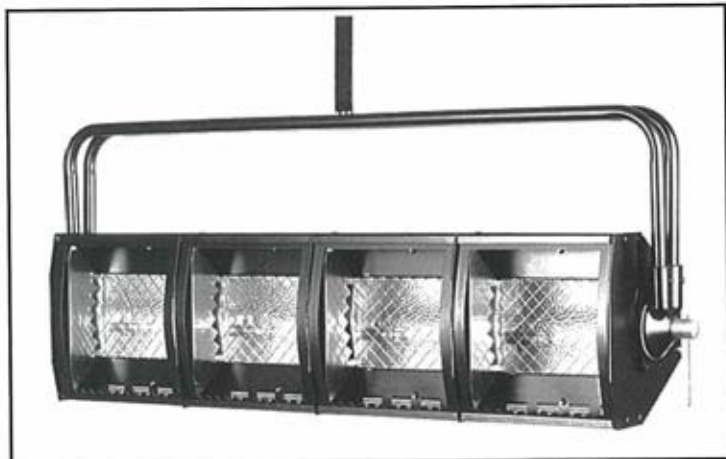
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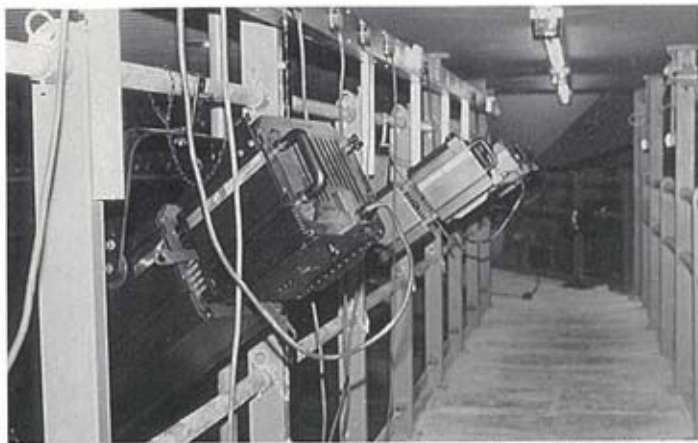
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One of the Hall One lighting bridges with a line-up of Acuto 2K profiles from Teatro.



More Teatro: followspots in Hall One.



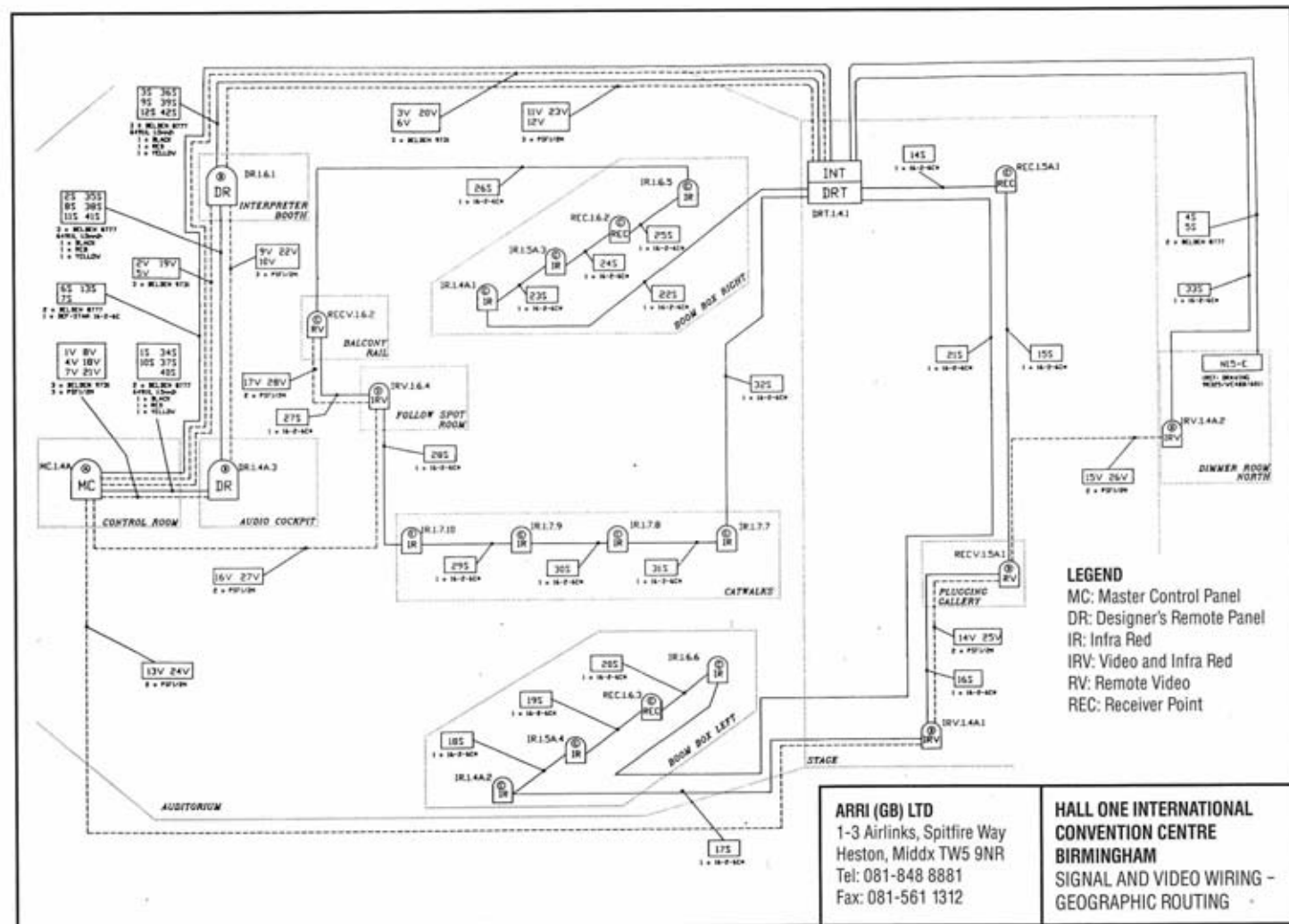
DDA D Series desk in Symphony Hall control room.

Garry designing the system around certain suppositions. But first the infrastructure had to be devised and once again flexibility is the key.

If we take Hall One, the performance theatre, as an example we will get an idea as to how he set about solving these problems throughout.

The system is configured to allow control from the main control room via DDA Series D 24:8:8 sound desk and effects rack; a stalls sound cockpit from DDA 40:8:8 and similar effects rack; and from the wings with a DDA 36:8 foldback console. A 40 way active mic splitter divides input signals and provides spare outputs.

Loudspeaker coverage is principally provided from a movable bridge situated above the forestage which carries central and side JBL arrays driven by 7.5kW of QSC Series Three amplifiers in a four way configuration. There are a further two JBL floor level side fill





Symphony Hall: the central speech cluster lowered from the acoustic canopy above.



The organ, Symphony Hall.

stacks totalling 2.5kW in a three way split with the capability to add further amps or subwoofers if required. Five 300W amps stereo amps can be patched to any of 76 loudspeaker outlets around the stage and auditorium. Graphic equalisers and BSS crossover/limiters for all systems are located in the control room.

I counted over 200 mic lines from stage, orchestra pit, auditorium floor, roof and side positions without those from the interpreters booth. There are over 300 other control room lines including tie lines, return foldback lines and lines to the OB vehicle point.

For AV, the same Hall provides for projection to a 17m x 7m cinema screen with variable masking, from high power Yokogawa Xenon slide projectors. There is a total stock of no less than 60 new Simda 400W slide projectors and five Eiki 16mm film projectors. Video projection is by GE Talaria MP 8000

from any video source. Video replay to other areas, including text transmission, is provided and six video tie lines to the central rack room supply links to all other halls.

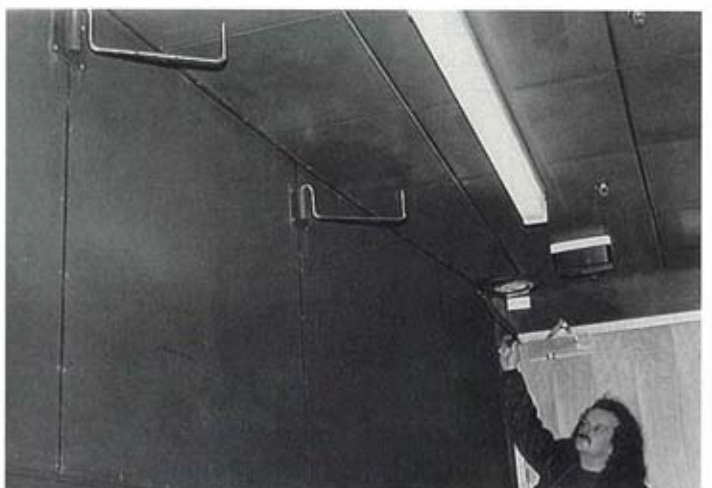
Even the Figueras seats, from Spain via Restall, add to the flexible conception by providing chair backs which double as desks, for the row behind, when classroom configurations are required.

With all this hardware it was surprising to discover that the biggest single contract, worth £2.3m, was the one awarded to Tannoy-Audix for the public address throughout the Centre. However, the system comprising 250 paging zones fully backed up and integrated with the fire alarm system in 11 separate fire zones, and linked via a data highway to the central administrative computer, is claimed to be the largest and most complex sound installation project ever undertaken in the UK. Certainly, Audix were reputed to be struggling against

the completion deadlines and the tension amongst their people on site was evident during my pre-opening visit.

If this was the one small blot on an otherwise immaculate landscape, this would be an achievement in itself, in such a complicated and multi-purpose technical environment.

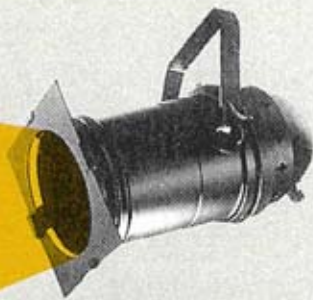
At last Britain can claim, not only a Convention Centre whose facilities for industrial presentations and the like can rival the best in the world, but also a world-class Concert Hall which hopefully will be the source of praise from international musicians and discerning audiences alike, rather than the source of constant carping which has been attendant to previous efforts in this regard. If this is the case, it will be no small thanks to Artec Consultants in New York and the many dedicated PLASA members who rose to meet the highest standards which had been set for them.



Senior technician Alan Galloway shows one of the cable pass-throughs (left) and right with the cable brackets.

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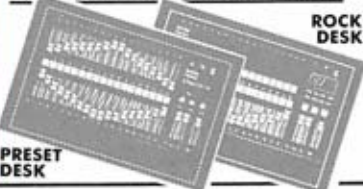
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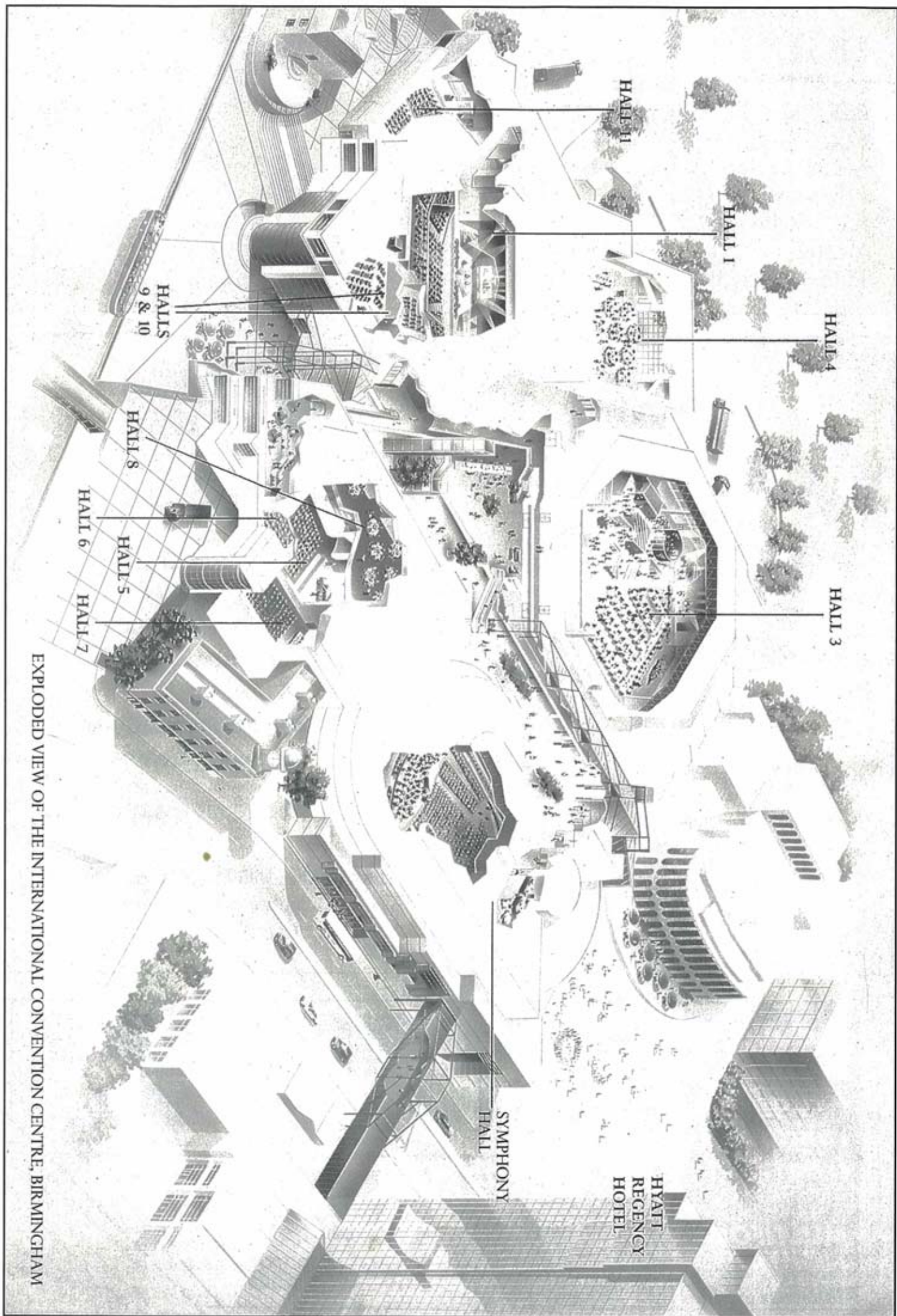


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A TALE OF TWO LITTLE THEATRES

Julian Williams at the New Orange Tree, Richmond, and the Old Fire Station, Oxford

It's my view that many of our elder statesmen in technical theatre hold the idea that what happens on the stage is often overpowered by the technical might that surrounds it. With this in mind, I was particularly interested to attend a recent meeting of the ABTT which included a visit to a cosy new purpose-built 'in-the-round' theatre situated in Richmond, reputedly the first such in London.

And on this occasion there was another factor: while the debate continues, the technological roller coaster moves along, and in February we also had the opening of the purpose-built Cameron Mackintosh work space associated with his Theatre of Musical Studies courses in Oxford.

This is a theatre in which the modern musical can now be launched from the drawing board. Both the Orange Tree and the Oxford Fire Station are multi-purpose, though the former is dedicated to 'in-the-round' but with the possibility for 'end-on' whilst the latter is normally used end-on. They both have interesting differences, and between them will cover most theatrical whims.

The New Orange Tree Theatre, Richmond

Fred Bentham, doyen of theatre lighting, surveying the scene from a gallery seat, asked why there was so much lighting. David Taylor, technical designer for project coordinators Theatre Projects Consultants, provided the answer. "The lighting, which covers two levels, had to be provided as the sum of many details. It couldn't be achieved just by having large fresnels in the four corners. Most of the lighting here is reasonably narrow focus equipment," he



In-the-round: the New Orange Tree Theatre, Richmond.

explained. "In-the-round, without any set, the only thing there is to light, apart from the floor, is the actor, and in the current production there are 12 people on the stage. A sculptured illumination over the whole area, hopefully retains some sort of design without getting any light into the eyes of the audience at all!"

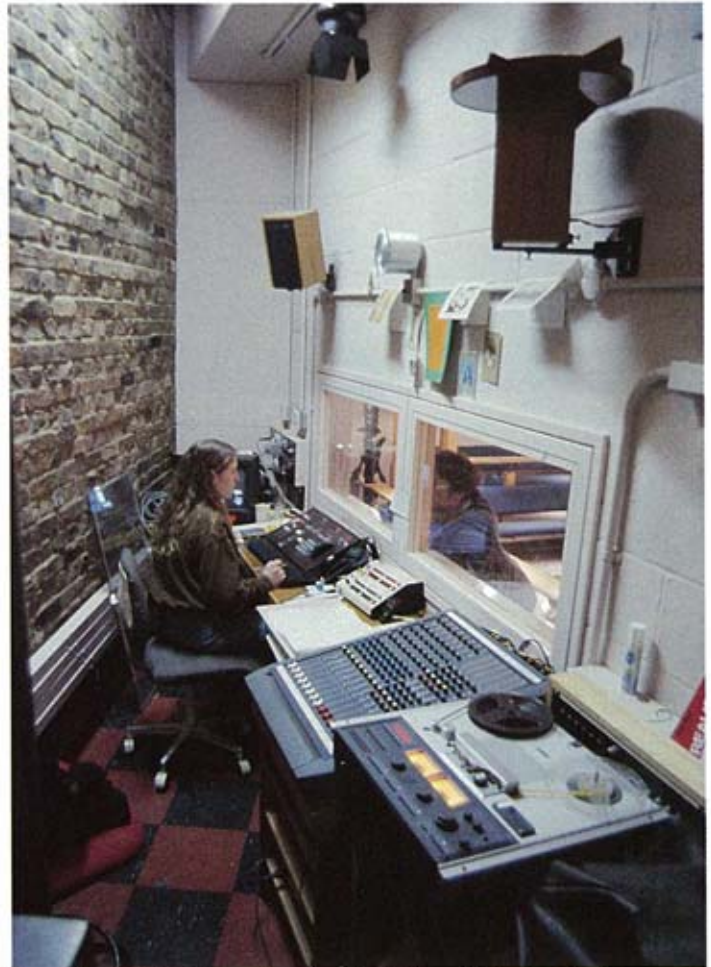
Head of the design team, Iain Mackintosh, added that the play on at the time was a comedy, and the lighting and set reflected this:

"It's the lift of comedy and that is what the design of this theatre is all about," he said.

"We discovered the excitement of making the audience part of the action," said director Sam Walters, who founded the original theatre in a room over the pub opposite back in 1971. At that time there was no money for lighting, and most performances took place during daylight hours. Theatre Projects Consultants' Project 919 detailed the need for intimacy to be



Orange Tree Theatre: the lush interior. Note narrow focus lighting equipment and removable side bars on walls and on gallery fronts.



Control room at the Orange Tree, showing lighting, SM communications, sound and tape controls.

retained, whilst creating a completely new environment and providing a doubling of audience capacity with seating increased to 175.

Comfort has been the key to this long-established fringe venue, having been carefully specified to create a congenial atmosphere. The use of blue fabric cushioned seating, stepped in three rows on each side of the stage, is in direct contrast to the penitential pews of the old space. Quality wooden panels and hand rails now surround the front of the gallery level of single row seating, with two diagonally opposite round balcony corners.

The theatre has been constructed on a site opposite the pub, behind the renovated facade of a caretaker's house and the old school hall, and retains an element of charm with its three lancet windows and rose window above.

Most of the budget for the project went towards the cost of a sound-proofed double skinned concrete roof, and an elaborate silent heating and ventilation system. There are costume and technical workshops, and a kitchen in the basement. A box office, foyer and bar are at ground level as is the stage area which has entrances at each of its four corners. A scene dock opens onto the street and is large enough to store properties for shows both in progress and rehearsal. On the first floor at gallery level there are two dressing rooms and a main office. There is a rather nice upper foyer behind the lancet windows, which can double as a meeting room.

Technically, the project is considered to be luxurious when compared to the basic facilities of the old space. The lighting grid, at a height of 4.9 metres, is nine bar squared (8.5m x 9.2m) with its trunking crossing in two rows above, carrying the loose extension cabled outlets in varying lengths.

A scenic-plate is independently suspended from the four corners of the roof structure, avoiding use of suspension from the lighting grid and any movement of it as a result. An interesting feature is the TP purpose-made 'Z' brackets which are in various positions around the space at stage floor ceiling height. This enables short length lighting bars to be positioned like 'building blocks' into slots placed along the walls, and allows for a reduction in the amount of unsightly hardware.

In the cheese-shaped control room, with dimmer room underneath, duty deputy stage manager Antonia Castle explained that she operates everything in the room including the Strand M24 lighting control system, the Soundcraft mixer and cue light system, while calling the show. She also has facilities for operating the Revox tape machine from remote auto-locate, and pre-set faders, with go buttons.

In the dimmer room there are two rows of portable dimmer racks. When in a touring situation, the company can take the whole rig with them. All 96 circuits can be patched into any dimmer socket in the dimmer room. A further feature is that the luminaires in the grid can be patched via the extension cables into any socket outlet.

What appears to be an interesting mandatory requirement here is the introduction of a mains supply fed via 30mA RCD breakers and remote RFI suppression, in the intake room — to feed the 10 x 6 way Tempus dimmer racks. There was some discussion at the meeting about this because of the potential inconvenience for theatre use, and I believe more debate will come up on this subject in the future.

The house light fittings are custom-designed, utilising mini RAAK M16 luminaires, which can be adjusted to any audience position.

Discussing the ideal lighting grid for an in-the-round theatre, David Taylor told me that "the lighting grid at high level at Richmond is perfect for in-the-round lighting, though its size made it very difficult to design and there are very few theatres of this type and size." He claimed the



Old Fire Station Studio Theatre: an overview of lowered rigging system.

use of the Rosco Lightwright software was an essential tool in the planning of the complex circuitry involved. "It took a lot of time at the drawing board," he said, with a degree of pride in the accomplishment.

Technical

Performance Area — 5.0 x 4.75m
Height of Grid — 4.9m
Lighting Grid — 8.5m x 9.2m
Height to Balcony Front — 2.2m (above stage floor)

Lighting Equipment

Control systems and dimmers — Strand M24 console 72 channel; FX backup and effects console; 60 Strand Tempus dimmers; 3 demultiplex units
Patch — 96 way hard to wired outlets
Outlet boxes/positions — 20 x 30 way boxes at corners of grid; 8 x 4 way boxes on gallery fronts others in control room, car park, scene dock in stage floor pit
Luminaires — 16 x Prelude 16/30 profiles; 16 x Prelude 28/40 profiles; 16 x Prelude F fresnels; 16 x Punchlite Beamlites; 8 x Cantata 18/32 profiles; 8 x Cantata 26/44 profiles; 16 x Cantata F fresnels; 4 x Sunflood 500W working lights
Control console outlets — stall floor, balcony floor, scene dock and control room
House lights and control — custom RAAK 12v 50W M16 luminaires; 2 x Strand Micro dimmers

Sound — distributed outlets integrated with lighting boxes

Mixer — Soundcraft Delta 8-4-2
Power Amps — 3 x Quad 521F
Speakers — 4 x JBL Control 1
Tape Recorder — 1 x Revox C270 + remote
Cassette Recorder — Denon DRM800 + remote
Compact Disc — Denon DCD820 + remote
Communications — portable custom built SM console paging, technical intercom and 8 cue light channels and masters
Mechanical/electrical consultants — Max Fordham Associates

Acoustical consultants — Arup Acoustics
Theatre Consultants — Theatre Projects Consultants
Theatre Systems sub contractor — Show Contracts Ltd

The Old Fire Station Studio Theatre, Oxford

"This theatre has a rare distinction in that it has been designed and realised entirely by people with extensive theatre experience. It is a practical and flexible space which can be totally changed by the alteration of both the seating and roof layout," said general manager David Mayo. The project has taken two years from its germination to its opening on 19th February of this year, with a traditional student review.



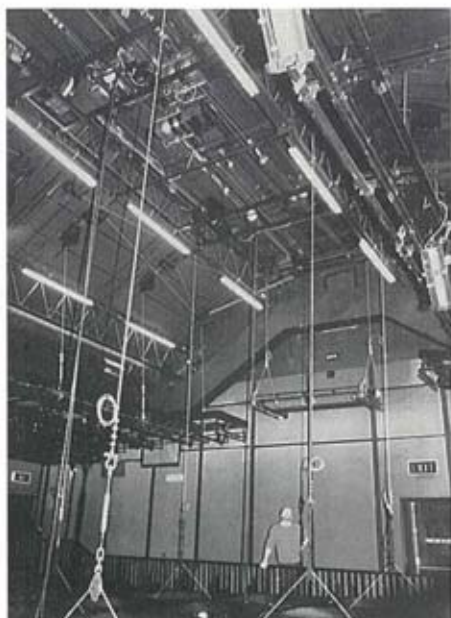
Howard Eaton demonstrates the grid winch motor controls.

Apollo Leisure had already taken a lease on the space as a workshop theatre when producer Cameron Mackintosh started looking for a local structure to stage works from his College of Musical Studies. They then collaborated to realise this purpose-made environment.

Where there once stood three engine tenders there is now the studio space, with a seating capacity of 200, which can be adapted to suit virtually any drama configuration — in-the-round, end-on, etc. The latter, a 21 feet by 15 feet deep stage, being the default position. And it's all part of a complex which includes a cafe bar with disco, and an upstairs gallery.

The concept of ploughing back some of the profits from a highly successful theatre medium of musical theatre was encouraged by Cameron Mackintosh's foundation who paid for the fitting out of the space — equally expecting his compatriots to follow suit. Specialist suppliers who have contributed to his own successful shows pooled their resources together to make a similar donation with their expertise and time.

Cameron Mackintosh's MD, Martin McCallum, who was responsible for setting up the project, approached experts such as Andrew Bruce from Autograph for the sound, Alan Jacobi from Unusual Rigging, David Edelstein



Old Fire Station Studio Theatre: view of winch motors, cable drums and suspensions in the roof.

from Triple E and Howard Eaton Lighting. The project co-ordination was organised by Simon Heap.

The facility is available on a shared basis over a one year period. The students of the college have it for six months; Apollo Leisure's commercial interests are catered for within four months; and the remaining two months are allocated to the local authority.

"This theatre has to run on a commercial basis. It is the first commercially-funded arts centre in Britain," Mayo informed me.

The building is rectangular which, by its nature, limits most of the seating to either end. The attractive mauve fabric seating, supplied by

Seating Systems, complements the blue and black interior. Around the perimeter of the inner walls are integral sound proofing acoustic panels, with Unistruts positioned four feet apart. These provide a universal fixing system, allowing easy attachment of scaffold supports, lights or other fittings along the walls.

I talked to technical consultant Howard Eaton, who told me that the idea had been to create "a general purpose space to allow anyone to come in and do anything."

Every ounce of space has been utilised to the maximum including the basement, which has two good-sized changing rooms, a store and an intake area. A spiral staircase has been installed to take the performers up to stage level. Above, the gallery level surrounds the space with main seating at one end. By removing the all metal hand-rail, the seating continues down to floor level for full end-on performances. The sound and lighting control booth sits on this level in a corner above a stairwell.

The sound operation is courtesy of a 16 X 4 way Soundcraft desk provided by Autograph with four Bose 800 loudspeakers for the basic system. The 96 channel Strand Impact lighting control desk was donated by Four Star Lighting (NY) Inc, who provide services for Cameron Mackintosh's shows in the US. The luminaire equipment has been made more flexible by a 'change of use' arrangement from Keith Benson at Glyndebourne who wanted to upgrade his own equipment. The SM communications system was donated by Paul Farrah.

An unusual technical feature for a relatively small studio space (which I jokingly suggested could possibly be in tune with the modern musical design hardware), is an overhead three frame moving grid system. "It was Martin McCallum's idea to move the grid around to create different atmospheres. We designed and built the control system to operate the motors at our works," said Eaton. His company came up

with the 'frame combination' idea of a hinged section at each end of the roof space, and a centre section which can be lowered, with adjustable heights at either end of its frame. The centre grid can move and angled. "You can alter the floor and seating layout," explained Eaton, "and also the shape of the roof!"

The grids are constructed from Triple E Unitrack, above which is a purpose-built system of trunking which carries all the dimmer outlets and temporary cabling. The grid is based on a 1 metre square module, with the lighting bars suspended from the tracks at 1m centres. This is the first time Triple E Unitrack has been used to form a structural grid.

Howard Eaton and David Edelstein came up with the idea after much deliberation over more conventional systems. Unusual Rigging provided and installed the winches; Triple E provided the track. HEL designed and built the cable trunking systems. The grids were installed by Unusual Rigging and HEL, who also installed the electrical systems.

It is HEL's purpose-made 'open trunking' arrangement for taking all those loose cables, that will score here as shows get under way. It is a simple idea of an open trunking with slots at 300m centres at the sides. The cabling system uses trailing sockets on tails installed in the trunking rather than conventional fixed position socket outlets. (The installed circuits cabling is neatly covered in the base of this trunking.)

Howard Eaton told me: "You can run cables anywhere here without having to get a role of PVC tape out, avoiding the place being covered in tape and a mass of old sound and lighting cables in the months to come - you can hang a light anywhere."

There is an outlet at every metre in each direction, albeit some are patched on the 92 dimmer system: 88 X 22.5k, 4 X 5k with an outlet in each corner. 20 circuits are in the centre frame, 40 circuits are in the frame over

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JEROME ROBBINS' BROADWAY, BLACK & BLUE,
42nd STREET, ANNIE, LA CAGE AUX FOLLES, EVITA, CHESS,
CABARET, THE WIZ, ME AND MY GIRL, SWEET CHARITY,
SINGIN' IN THE RAIN, BIG RIVER,
SUNDAY IN THE PARK WITH GEORGE, TAP DANCE KID,
MY ONE AND ONLY, SOPHISTICATED LADIES,
A LITTLE NIGHT MUSIC

the conventional stage area, and 30 circuits on the other frame.

House lighting was designed by Eaton. It consists of a number of Birdie Parcans, some of which are installed on the walls utilising the Unistrut; others fitted to the grid form down-lighting over the seats. The grids themselves are lit with a series of Par 36 and Par 46 units.

"The aesthetics play an important role. The lighting grid is functional and designed so that the proportions look right - with the track, spotlights and the trunking above it. If you want to fly some tabs or scenery you can just slide a pulley out along the track and simply rig a set of fly lines," said Eaton.

Unitrack also runs underneath the front of the gallery level, and the open trunking facility will prove highly functional in this position. Not knowing what productions these students may create in the future, our dream realisers' have presented them with a well-prepared space.

Already the first production has transferred to the West End and the new musical "Yusupov", written by Kit Hesketh Harvey and James McConnel, was in production towards the end of March. Produced by Atlantic Overtures it was first performed as 'Work in Progress' as part of the Stephen Sondheim/Cameron Mackintosh masterclass last year.

As a by-product to this whole exercise, Unusual Rigging are considering sponsoring a technical staff member as there are no funds available for crewing. Currently college students perform all technical chores. Could their ideas lead to a future with a technical training school within a commercial environment?

Technical

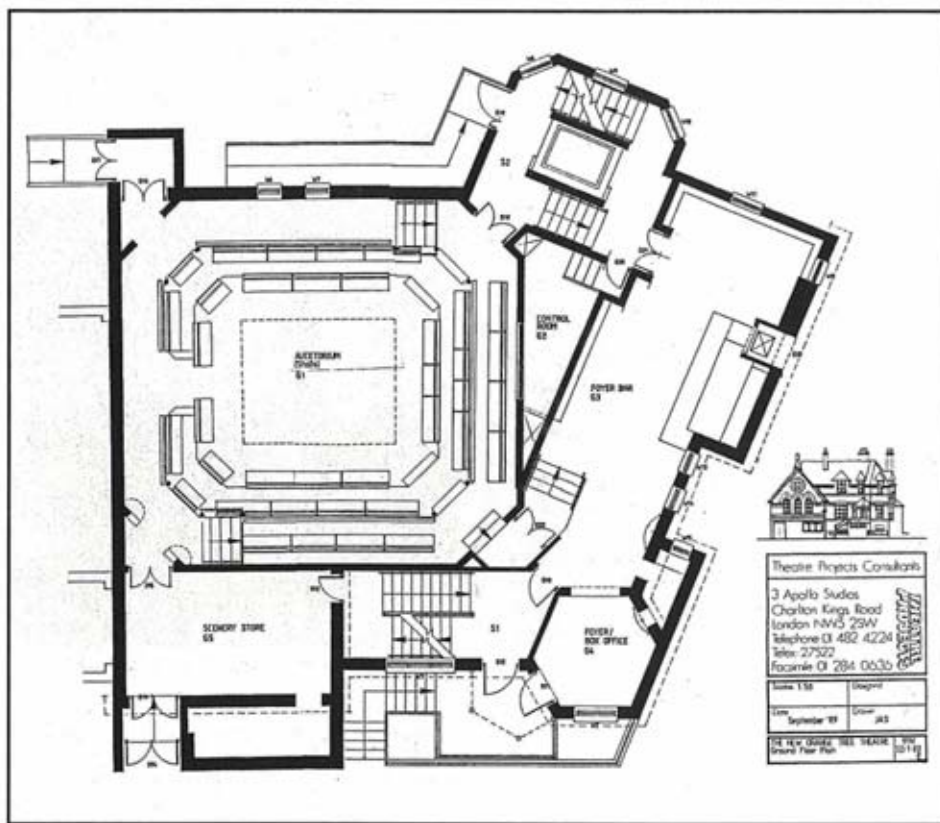
Performance Area - 26.8 sq.m x 23.6 sq.m

Height to grid - 6.5m x 8m

Height to balcony front - 3.4m

Lighting equipment

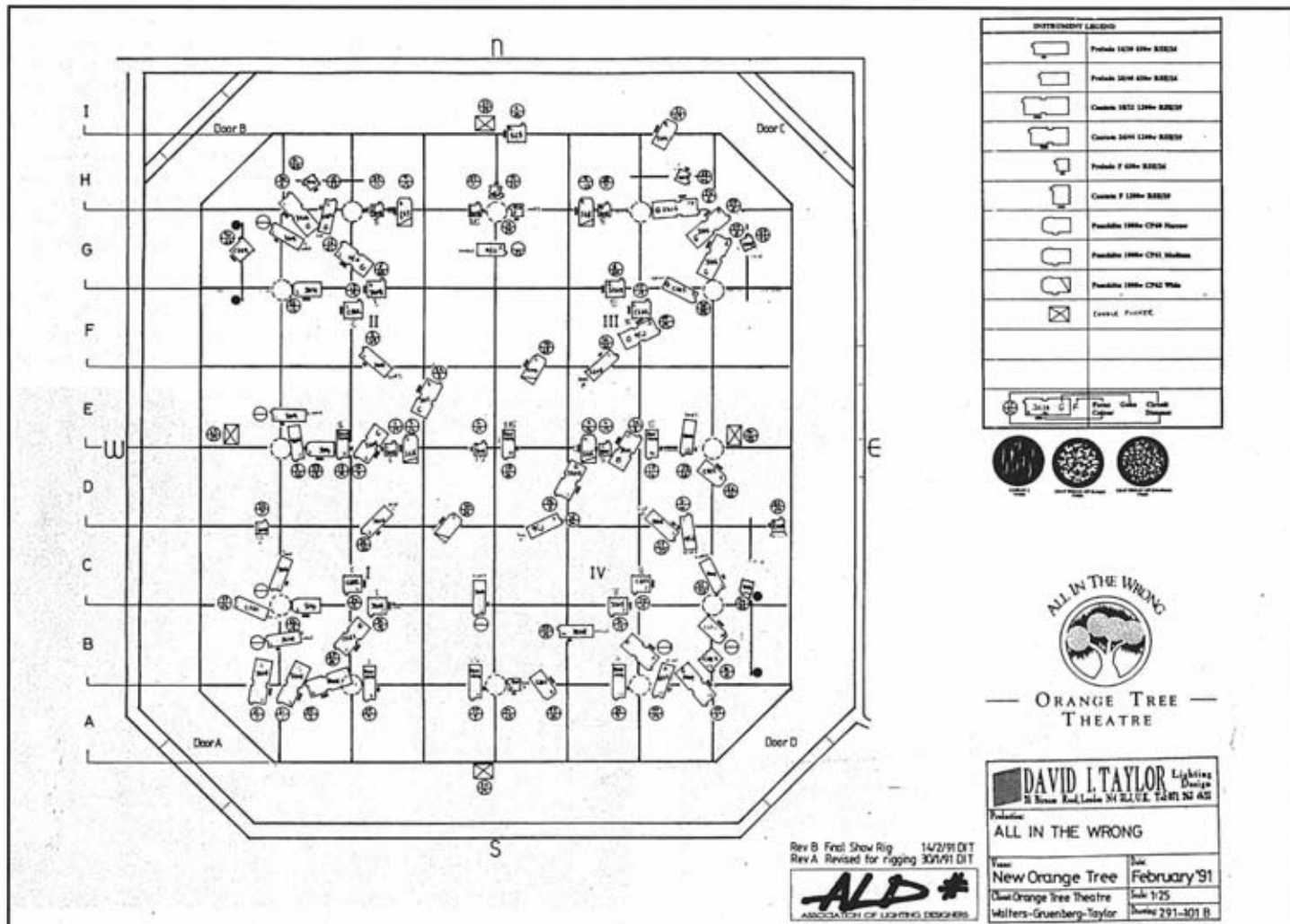
Control system - Strand Impact



Ground floor plan of the New Orange Tree Theatre, Richmond.

Dimmers - 4 x Eurolight DMX wallrack; 88 x 2.5kW; 4 x 5kW
 Patch - 60 into 25 15A patch panel
 Outlet boxes/positions - 86 into grids; 6 x 6 way boxes at other levels
 Luminares - 6 x 743; 6 x T84; 12 x Thomas 650 profile; 6 x Cantata PC; 4 x Quartet fresnel; 8 x Quartet PC; 4 x Quartet 22/40; 8 x Quartet 25

House lighting - 12 x Par 36; 14 x Par 46; 68 x chrome MR16 Birdies
 Worklights - 16 x black MR16 Birdies
Sound - Soundcraft 16 into 4 mixer; 2 x Crown DC400A amplifiers; 4 x Bose 802 loudspeakers; full microphone; loudspeaker and video patching; 30 x mic lines; Metro comms system with 4 outstations



David Taylor's lighting design for the New Orange Tree Theatre production of 'All in the Wrong'.

PUTTING ON THE CORPORATE STYLE

Alison Hunt gets the technical details from the recent Coca Cola Sales Conference

They do sales conferences differently these days. Once upon a time it was some 'up and at 'em' stuff from the sales director, a bit of dry ice and 'hey presto, here's our fabulous new product', and then down to some serious drinking. But all that seems to have changed, if the conference recently held in Hall 4 of the Birmingham NEC by Coca Cola and Cadbury Schwepps Ltd (CCSB) is in any way typical. Which, all things considered, it probably wasn't.

For a conference designed to launch two new products and thank the salesforce for their hard work, the day was certainly remarkable. Delegates were asked to swap their executive clothing for racing overalls before they were let loose on a 200 lap karting endurance race with only a few words of wisdom from Murray Walker, to guide them.

But it wasn't all racing. Between each track event, company speakers made a series of business presentations from the stage. This could have been somewhat of an anticlimax for people who, only moments before, had been close to meeting their maker out on the track. But not a bit of it, indeed it seemed that the rush of adrenalin created by the racing only served to produce a higher level of attention when the delegates returned to the grandstand for a presentation. They certainly needed to pay attention: this conference was designed to surprise.

The day was co-ordinated by London-based production company Donovan Cobb. To add to the excitement of the karting and to aid the product launches the company approached Watford-based Blitz Vision to supply a combination of high power slide projection, film and video presentation equipment. Blitz decided to use slide projectors from the Hardware Xenon range and duly set about arranging for tests to be undertaken at the NEC. These tests were designed to determine the depth of field and keystone luminosity. The results were excellent, with a depth of field of 15 metres, and it was agreed to go ahead.

In fact, Donovan Cobb were sufficiently impressed with the equipment to redesign the layout to include 360 degree wrap-around projection throughout the whole of Hall 4. The butted together slide images effectively created



Durham Marengi at the Celco board which ran the show.

a projection screen 330 metres \times 10 metres. To fill this area, 10 Xenon 5kW projectors were used, projecting from towers and gantries, in a variety of acute angles, onto sharktooth clad walls. This could have been problematical because of the irregular plane of the screen surface, but the very large depth of field available allowed the images to remain consistently in focus.

The main presentation and information screen was 27 metres \times 9 metres and onto this Blitz Vision projected two 5kW images, nine 1kW images, two GE Talaria video projectors and one 35mm film projector. This screen was flanked by two product screens each 4.5 metres \times 9 metres, onto which six 1kW Xenons were directed. During the karting events nine live action Sony Hi8 cameras were used, to relay the drama of the racing to clusters of 18 profeel monitors, strategically placed in the lounge areas. Computerised racing results were also relayed to graphics monitors. Blitz Vision arranged for all the equipment to interface to AVL control, to enable varied dissolve rates and slide advances from the PC control system.

With the projection sorted out it was left to lighting designer, Durham Marengi, and suppliers Birmingham-based Light & Sound Design to light this extraordinary event. The

brief called for a theatrical environment enclosed within the floor to ceiling projections, with a floodlit race track, viewed from the grandstand, as the main element. Marengi also had to find a way to keep the secret of 'Giniland' — an entire Mediterranean village environment complete with open air cafes, restaurants, shops and a funfair, not to mention the villagers themselves. Delegates were not to catch a glimpse of 'Giniland' until the unveiling of the new Coca Cola product called, not surprisingly, Gini.

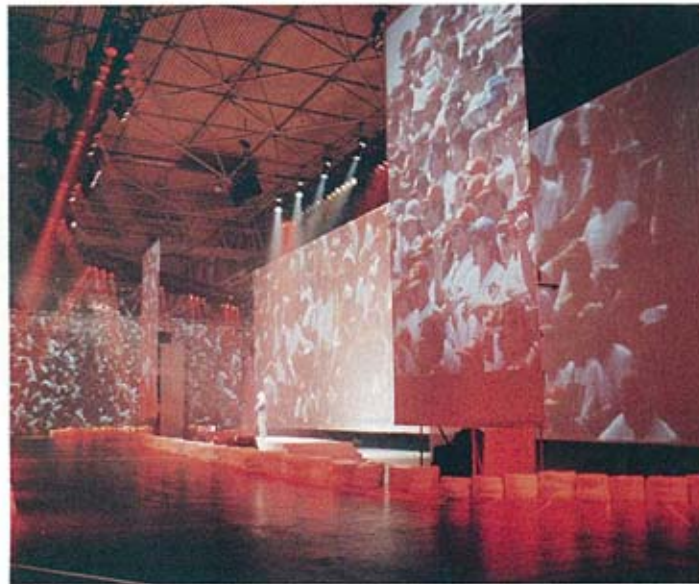
As the delegates entered Hall 4 the reception and snack-bar areas were lit with pools of red and white light, reflecting the famous Coke branding, and enclosed by illuminated Coca-Cola dispensing machines. Making their way to the dimly lit grandstand, surrounded by the high intensity scenic projections, they could just see the faint outline of the race track. The white tyre barriers were illuminated with 240 red Raylights, again to reflect the world famous Coca Cola livery. Directly in front was the red washed stage, backed by the projection screen for the scenic and speaker support images, and concealing 'Giniland'.

After a short presentation the race track was revealed fully lit. To jazz up this reveal Marengi created a chevron pattern which was chased around the track. This was achieved, after painstaking rehearsals using chairs laid out along the track to aid focusing, by splitting the track into two metre spaced areas with each having two MFL par lamps focused to form an arrowhead in the direction of travel. An NSP par lamp formed the centre line, creating extra chasing effect. The track needed to be brightly lit for the drivers safety but a tight focus was also needed to avoid spilling onto the projections on one side, and the darkened 'secret' of Giniland on the other. To do this, ten trusses were rigged along the line of the track, and hung at 30 feet to avoid spoiling the line of the projections. These gave 360kW of white light and held both the tyre Raylights and aircraft landing lights.

After all the excitement of the racing, another business session ended with the reveal of 'Giniland'. The huge concealing screens, behind the speaker, drew apart to reveal the



The karting track was lit with over a 1,000 Parcans, and a cluster of molefays, molemags and lekos.



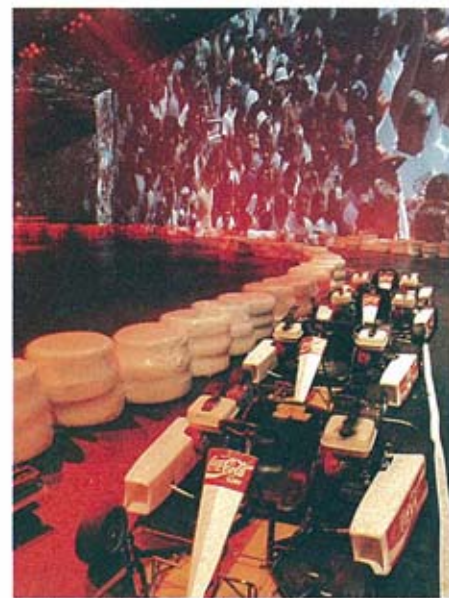
The main presentation screen and two product screens formed 360° wraparound projection.



Karting results were relayed to 18 Profeel monitors.



The huge screens drew apart to reveal 'Giniland'.



In terms of power this event was the largest application of projection ever staged in the UK.

village set. To create a Mediterranean ambience Marengi used 60 Lekos with 'lemony' leaf gobos in yellow together with 14 5kW fresnels to provide an overall bright gold wash with an underlying green wash from Molefays to reflect the green/gold branding of the Gini can.

As the invited guests sat down to dinner the wall projections changed to a night town-scape and the lighting in the whole hall, including the track, pits and walk-in areas changed to dark blue. Giniland was bathed in a deep amber wash with a negative pattern of the yellow day gobos from a further 60 Lekos and a high saturation blue wash. The stage and dancefloor

areas had a chrome Parcan rig, using 48 colourmags for effects, as well as Molefays with ACLs and Molemags for the punchier moments of the cabaret. The Colormags when combined with a selection of chases from the sources created an effective disco wash with over 50 different colour combinations per minute.

Eight followspots were used to highlight various street performers during the meal, as well as lighting the dancers, Paul Morocco, the juggler, and finally Lenny Henry. The fairground rides dotted around Giniland were kept busy and the masses of flashing, coloured lights on these added to the party atmosphere.

All in all, it was a day that most of the delegates will not forget in a hurry. The winners of the races were given championship treatment on the podium and could possibly be forgiven for believing Murray Walker's assertion that he had seen future Formula One champions in the making. And whilst those who had commissioned the whole event were breathing a sigh of relief, and grateful for the fact that the day had resulted in nothing worse than a bruised wrist and some pretty hoarse throats from all the shouting, the Ayrton Senna's of the future were settling down to some serious drinking — of refreshing, ice cold Coke.



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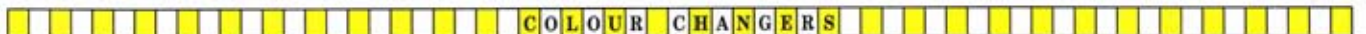
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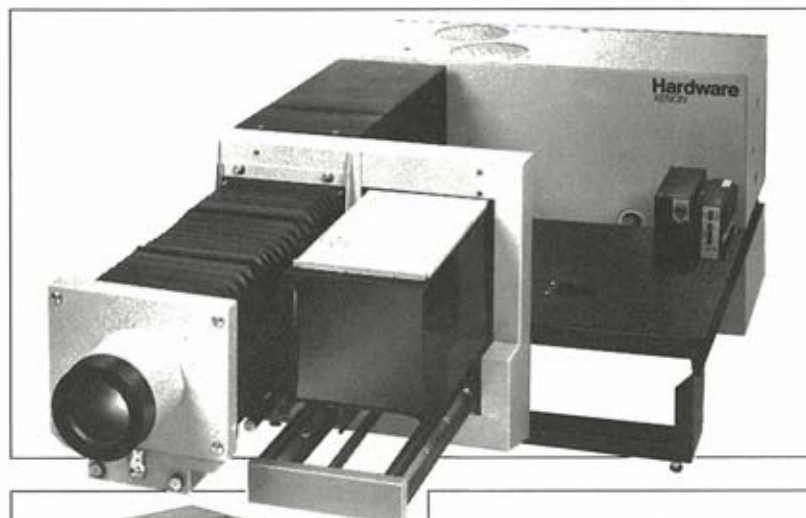


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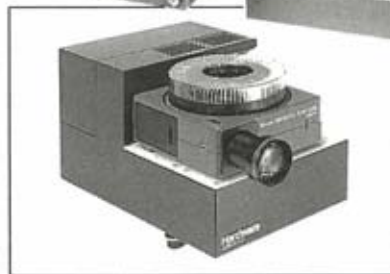
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RENTALS**

ON TOUR

Catriona Forcer

This month's On Tour features two recent concerts held at London's Town & Country Club. I first met Tony Fagan, lighting designer for Jesus Jones, two years ago at one of the band's performances at the UEA in Norwich. It was obvious then that he was a guy with ideas. Tony is not shy of trying something a little different, and hopefully he will have many chances in the future to use his fresh approach to lighting design.

The second performance I attended was that of Chris Isaak, who put together a very entertaining and amusing set to a packed house. His lighting designer, Victor McPoland, is from a theatrical background and he divides his talents between rock 'n' roll, ballet and theatre. A rather small rig was worked to its limit very successfully.

Jesus Jones

Town & Country Club

LD: Tony Fagan

"I started in the business by collecting glasses at a club called 'Hype' which was next door to the T&C2, and I ended up running the place," said Tony Fagan. "Jesus Jones started there too and one day they asked me to do their lights so I started banging buttons in time any old how! The first real gig I did for them was supporting The Wonderstuff at the T&C2 back in April 1989, after which I was asked to do a tour. I didn't know anything about lights. The first tour involved house rigs, with two strobes, two UVs and half a dozen floor lights which took me 24 hours to put together. I had to rely on the sound engineer to tell me such things as what a Socapex is!

"For the first production tour we hired from Entec who subsequently shoved me into the Marquee Club for a month with Phil Stevens. He stood behind behind me and showed me how to patch, twist bubbles and all the usual stuff. Last year I was in and out of the Marquee and I've learnt a lot whilst working there. I also picked up some bands through the place. I did Blur, Voice of the Beehive and covered for people on The Godfathers and Blue Aero-



Jesus Jones on stage at London's Town & Country Club.

planes. I spent most of my time at the Marquee where I had the opportunity to play with the rig — hanging at odd positions, random patching etc. I had to do a lot of Heavy Metals which is no fun, but it certainly is good learning experience. I learnt a lot quickly and I had good teachers.

"My third tour was the first production tour and I had Gary Massey as rigger to baby-sit me, which basically involved him booting me firmly up the arse and telling me what to do! This is only my fourth production tour ever, everything else has been with house rigs. On the last British tour I got an idea from seeing Whitney Houston on a late programme where she had a sheet of wind driven red velvet and I thought it looked stunning. We started off looking at black drapes with silver thread as we wanted a metallic look. Then I went down to Rosco who had some gold foil which I crinkled and I thought to myself 'this look is amazing, we'll go gold'. We ended up with a 30 x 24 feet gold drape and we loved it so much we went berserk with it. We draped it over all the trussing, riser boards, in fact everything visible apart from the band and their equipment. I was going through a phase of strobe flowers and things like that so they'd all be revolving and bouncing off the gold everywhere. There were a lot of lights under the

gold drape which was wind driven so you'd get huge ripples in it. The red light focused on the drape created a flame effect.

"This tour is going to be five months long and we've just completed the first month which covers the UK and which was totally sold out apart from Dublin. In Glasgow I ended up wearing the board! It was a really small gig and I had about two feet between myself, the wall and the desk. The barrier collapsed, the crowd came back and the desk ended up on my lap. I did the show braced against the back wall with my knee on the desk to keep it in place. The sound board came back two feet as well because all the security was at the front where the barriers had also gone and the crowd was picking up the strobes and playing with them. It was chaos, the band loved it and the crew had a nightmare — it took five people to hold on to the sound desk.

"We are off to Europe soon, then San Francisco for three dates, back to finish Europe and then back to the States for a tour. We follow with Canada, New Zealand, Australia and Japan before returning to London in the summer to support INXS at Wembley Stadium.

"The rig consists of five Manfrottos, 12 Par 64 CP60s, four Molefays, 12 wide rim Par scrollers, four Molefay scrollers, four 4 light units which are basically a block of four CP60s, three strobes which are white lightning and eight Optikinetic Quasars — four of which have got autocassette changers. There are also eight Par 36 rays on mic stands which are at odd angles around the keyboard risers.

"Jesus Jones don't charge support bands to come on tour with them, in fact they pay them, and as a result we have a really tight budget, and there is only one 40 feet truck which can be limiting. If I had an unlimited budget, I'd probably still keep the design fairly small. I've been trying to get on a Vari*Lite course for ages but either I've been too busy, or they're not training people. I think that I'd like to get into pre-fabricated staging. At the moment I've decided to take a definite break away from the laser/overboard strobe flower effects that bands like The Happy Mondays or even smaller bands like Carter are still using. I'm weaning the band off them because they expect them. I've got the Quasars which do fairly laser-ish things occasionally. Last time was very overboard as we had something like 26 laser/light flower/strobe effects going on. It looked really good but everybody is doing it now. I think the lighting industry has outgrown it but nobody has realised it yet. With the industry in a slump, it's time to get small — 'small is beautiful' has got to be the motto for the next couple of years.

"If possible, I'd like to work only for the bands whose music and style I like, because if you're going to design for someone it might as well be someone whose work you respect. In my case this would be Sinead O'Connor and Kate Bush. I can work with bands I don't particularly like; let's face it, I worked at the Marquee long enough. If you can put up with thrash and heavy metal constantly with the odd band like the Macc Lads thrown in, then you can do anything. Working with The Macc Lads was the only time I've ever given up operating the lights for a band — I covered the desk and walked away. I'd had a pint of piss thrown over me and the front truss had been pulled down. Everyone acted like a bunch of animals.

"Another difficult gig was Jesus Jones at Glastonbury. I arrived the night before thinking



The rig features Manfrottos, Molefays and Optikinetic Quasars.

'I'll be a cheeky git, get there early, and see if I could bag some programming time,' which I did. We were going to start between 8.30 and 9.00pm when it was just getting dark. Ten minutes before the show, a spot operator upstairs kicked a beer over which went straight into the Avo QM90 which I was just about to start the show with. I'm standing there checking through a few last things and then BANG! absolute chaos. I had to do the show from the side of the stage, upstairs, and it was horrible. I was hanging off a truss shouting 'I can't see shit!'

"If I go to a show now, I just watch the lights and I don't enjoy it. I don't like to comment on other people's shows unless they're really good. Fido did EMF at the Marquee and what he did with the rig there was brilliant. Dave Byers' Blur show, once he sorted out record company problems, was really good. If I'm bored I'll sit down and design a rig. That way I build up lots of ideas like a whole rig of Par 36s on mic stands creating trees of light. It's always important to experiment."

Chris Isaak

Town & Country Club

LD: Victor McPoland

Victor McPoland gained a bachelors degree in technical production at Carnegie/Mellon University, Pittsburgh, USA before moving to California where, with some friends, he started a theatre company. He also worked for the big film studios including Universal and Columbia pictures on special effects and set building. At Paramount, Victor's skills were employed in the welding and blacksmith departments.

"Basically, I'm a theatre technician," explained Victor. "I was also in a band called The Rave Ups about ten years ago. One thing led to another and after that had run its natural course, I had friends in other bands that needed help. As I owned a van I was very popular! My sensibility comes from theatre and I naturally crossed over. The first band I worked with was Romeo Void back in the mid eighties. I then picked up Chris Isaak and, through him, KD Lang, Santana, and last year I was doing Leil Lovitch and Killing Joke's US tour.

"When I started out I had no thoughts of rock 'n' roll at all. My dream was to be a set and lighting designer in theatre. Today, if any opportunity came up to do design, whether it be rock 'n' roll, theatre, monologue, opera or whatever, I would take it because I love live performance in any form. A lot of people say that they can't put their finger on what it is that they like about my work. It seems to be a different sensibility with focus, with mood, with composition, with movement. Those things I learnt with 'the word', and without music. It's all story telling to me — little stories within one big story. I think my theatre training has definitely given me an advantage because I had time to study colour, composition and texture."

A Chris Isaak show isn't like any usual rock 'n' roll performance. There's a wide variety of music and mood swings. He's an entertainer and showman in the classic all-America sense, creating styles of Vaudeville, TV Variety, sleazy lounges and even high school proms.

"I've been working with Chris Isaak for about five years," explained Victor, "and it has been wonderful. We're on the same wavelength. The whole band and crew are neatly tuned in. Chris has suddenly become very popular, and we've always wondered why this didn't happen years ago. The show hasn't really changed that much although Chris has developed more as a personality. He weaves stories between songs that will involve band members; he creates more characters than just himself on stage so



'Small is beautiful' is lighting designer Tony Fagan's motto.

when you leave the show you haven't just heard a series of songs, you've been given a movie or a novel. You feel like you know each one of the people on stage.

"The rig is quite simple because of budget constraints. One design that I did was quickly axed because of the money involved. On such a short tour there isn't the opportunity to form something bigger. What I have now is a two truss system and that's all I've got. There are four washes in the front, some specials and I've got six washes on the back, a few specials, some ACLs and floor lights for the black curtain at the back — I couldn't carry a cyc. We couldn't really get into anything complicated because it was such short notice. If I'd had more time, and a larger budget, I would have used colour changers which I've used a lot in the States even at club level so I could maximise colour composition and combinations. I wouldn't have used much more than we have now, it's just that I would have been able to quadruple its value.

It seems to be a different sensibility with focus, with mood, with composition, with movement. Those things I learnt with 'the word', and without music. It's all story telling to me . . .

"I'm fortunate to have Derek McVay of Frontline taking care of the entire production, overseeing both the sound and lights. Derek advanced the show for me and when I arrived everything was exactly as specified. I'm using a Celco Series 2 60way which is very nice. I'm still one of those guys who is up in the air as to whether I prefer Celco or Avolites. I love the Rolacue from a visual memory point of view — I remember where the blocks are a lot easier. I found that really handy when I was doing Chris Isaak a few years ago, because half way through the set list I might as well have just tossed it because they would start doing whatever they wanted. It was a lot easier for me to not even have to remember the page, which made it very straightforward to work with. That's one of the important things — shortening the distance between the mind and the eye and hand. Boards today really help that.

"We've had our 'Tiki' lights on the set ever since the first Chris Isaak show. They are a string of plastic party lanterns with 7 watt Christmas tree light bulbs inside and shaped like the Easter Island Tiki heads. They provide contrast to the painting and break up the symmetry. On many levels they make the show, on some occasions, like a dance party. I'm really happy with the palette and it's a very flexible rig. It provides me with everything that I need, although I think that I'll be able to do something a little bit more special in April when we tour the States for six weeks.

"When I was first getting into rock 'n' roll I found myself being trusted, but not really talked to about the show. Artists would say 'we've heard good things about you, we trust you, do what you want'. I find that very lonely as my training has always been that two or three heads are better than one. I've been with Chris for five years and whenever he tours, I'm usually there. He has always been open to any suggestions that I have, although he also has ideas of his own, and as he develops, he naturally has more and more.

"I would love to do Robert Cray. I've been lucky in that I've had a collective clientele, ranging from KD Lang to the Killing Joke. The styles couldn't be more extreme if they tried. I'm open to just about anyone or anything. It's fun solving the puzzle, although I probably wouldn't do much thrash metal! I start with an empty performance area and then I need just one key mood or element to strike me, then I can build the rest of the palette around that in order to get the balance.

"I still work in theatre in San Francisco where I live. I paint scenery for the San Francisco Ballet and the San Francisco Opera. I also have friends that own a small theatre company and I keep my hand in doing whatever — sets, lights etc. At the moment, I have no intention of specialising or excluding my roots from my work. I'd like to expand more into opera, as I feel it would prove helpful. What could be more operatic than rock 'n' roll?

"The concert that sticks in my mind, and impressed me at the time, was part of the Pink Floyd tour of 1988. That was mainly down to the use of VL3s, and their ability to change colour — melting from one to another. They opened up a whole new range of ideas in movement for me. I tend not to go to shows unless I know someone working on them, and as far as clubs are concerned, I steer clear where possible as I like to save my ears!"

PLASA News



PLASA vice-chairman Tony Kingsley (left) and chairman Kevin Hopcroft (right) pictured on-stand at SIB/MAGIS in Rimini with interpreter Claudia Pratelli.



The PLASA stand at the Frankfurt Music Fair with Jan Weir of the PLASA office (right) and interpreter Nicola Wesp.



European Federation of Entertainment Technology (EFET) member associations held one of their regular meetings during SIB in Rimini, Italy last month. Representatives attending posed for this group photograph. In the picture (right) of the meeting in progress, PLASA's chairman Kevin Hopcroft keeps a wary eye on what L+SI editor John Offord is up to with his camera.



PLASA in Europe

Representation at the major European shows has been one of PLASA's priorities over the past two months. There has been a PLASA and L+SI stand at SIEL (Paris), the Frankfurt Music Fair, and at SIB/MAGIS in Rimini, Italy. Apart from the routine work of magazine and association representation, the PLASA Light & Sound Show has been given a strong publicity push with excellent response — most particularly at Rimini, where many major companies took details of stand space, and with one firm booking and several provisional bookings made at the show itself.

Chairman Kevin Hopcroft and L+SI editor John Offord attended the EFET meeting in Rimini (see pictures above) and this proved valuable as a communication point between the associations: VPLT (Germany), APIAD (Italy), the Dutch association and PLASA itself — most particularly on

subjects such as standards and trading practices. The next meeting of EFET takes place during the PLASA Show in London in September.

Smoke Safety

Following the publication of PLASA's Report on Investigation into Safety of Smoke Machines, it is hoped to mass produce a short Code of Practice on their use. Whilst funding methods are being considered George Thompson, PLASA's standards officer and author of the Report, is progressing with a proposed list of contents and gathering together reaction and comment to the original Report.

Note: George Thompson will be presenting a paper on the subject at the forthcoming SAFE-T 91 conference to be held in London in June (see leaflet insert in this issue).

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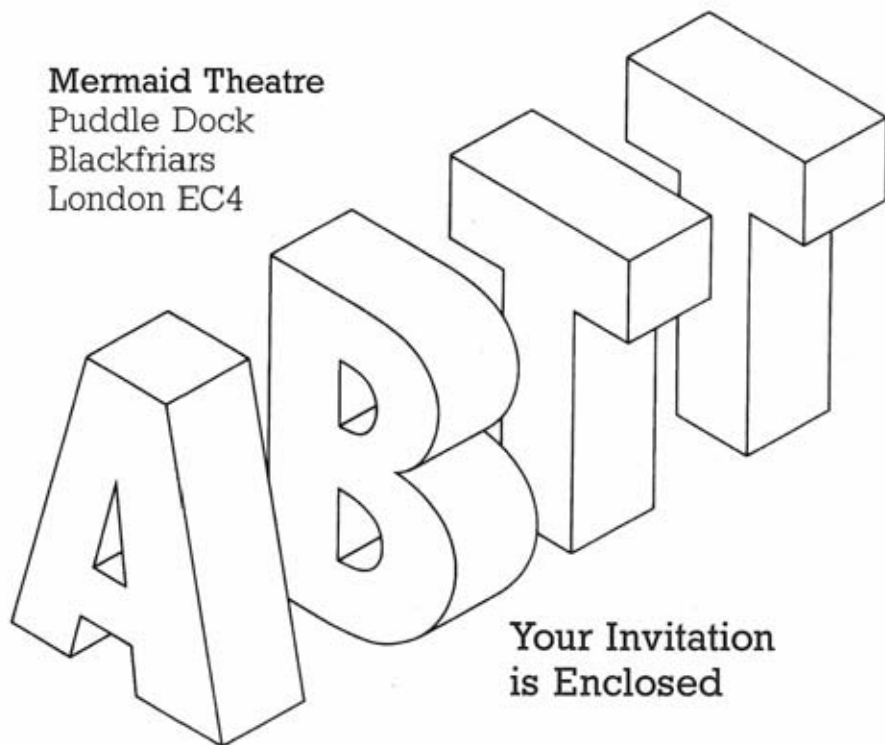
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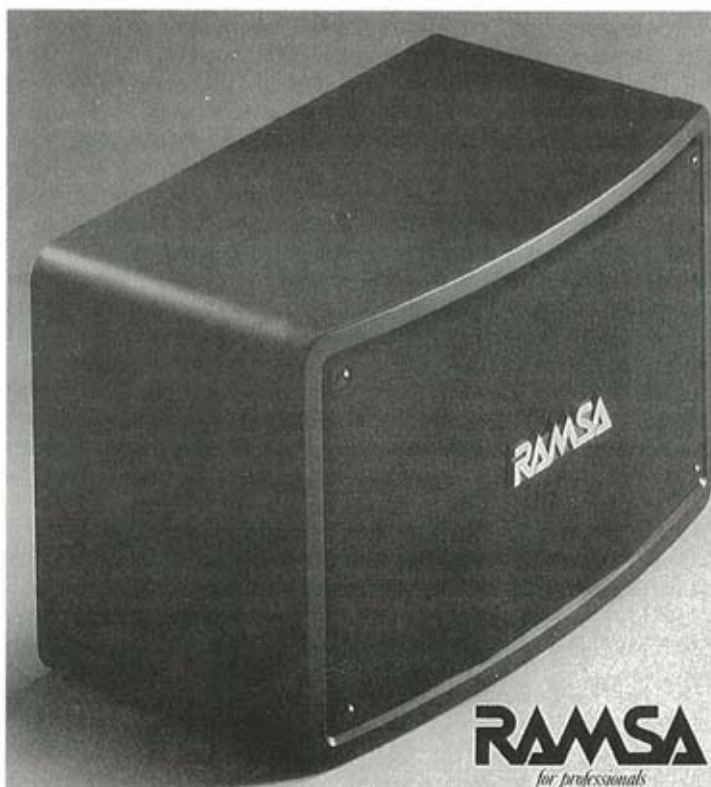
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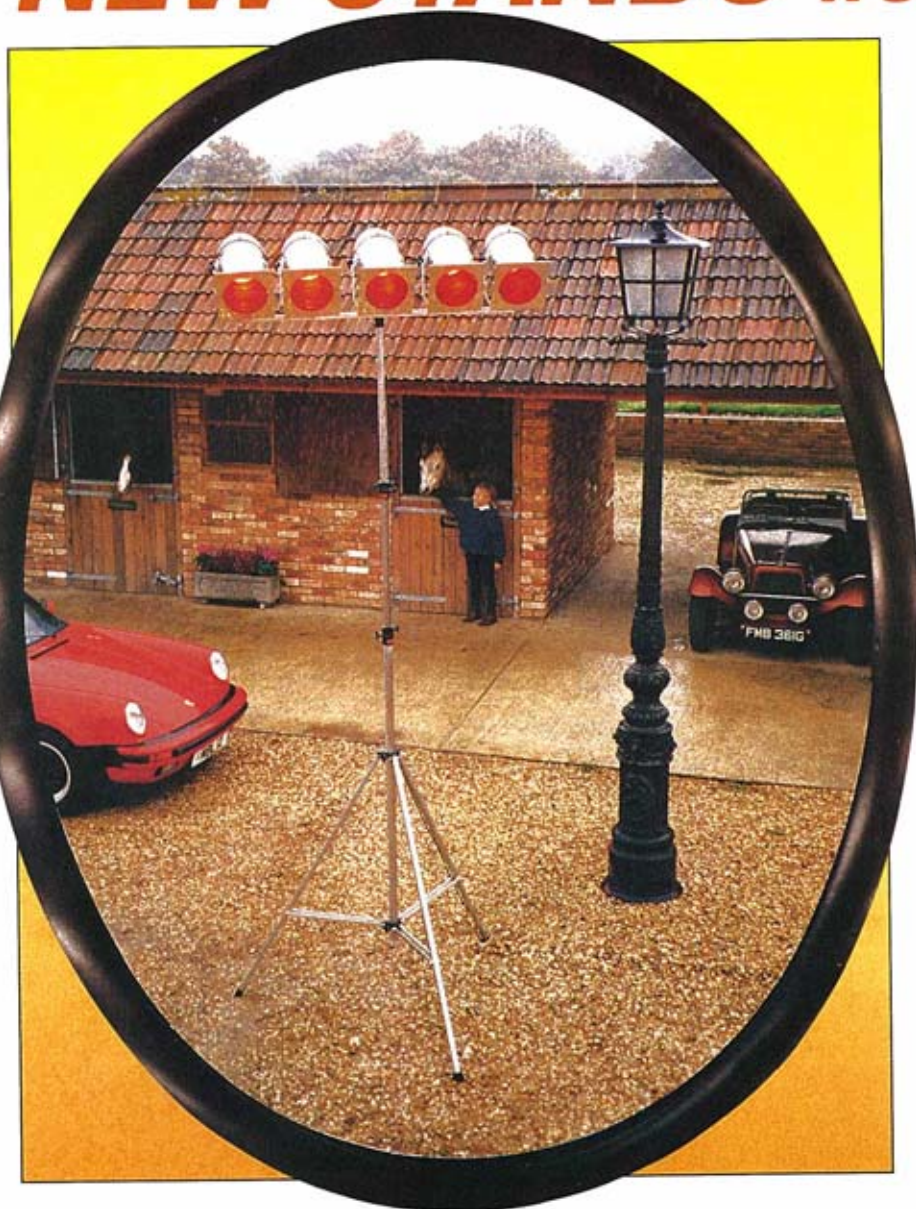
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DOUGHTY

FROM ROCK TO BAROQUE

The Frankfurt Music Fair rolls relentlessly on

There were a few changes this year. On level 3 of Hall 9 there was live rock, a laser show, and the appropriate noise. In Hall 6 the Piano Salon had grown even bigger — and can you imagine the lovely din created by a couple of dozen young and energetic pianists determined to out-do each other? In the Galleria the 200th anniversary of Mozart's death was duly celebrated against the background of a rather ghastly galleon.

Halls 9/1 and 9/2 are where our main interests lay, and at first look and in answer to early questions, there didn't seem to be much new about. I began to think I might have a lighter briefcase of literature to return home with than in years past. A deeper look, as usual, revealed much more than was evident on the surface.

Tony Allen of **Studiomaster** showed me their new Stagemaster and Showmix consoles. The Stagemaster 16-8 is a monitor console for stage and rehearsal studios, is expandable in blocks of 8, and has an impressive list of features. The Showmix is available in either 16-2 or 16-4-2 versions and is also expandable to 40 input channels by blocks of 8. The input channels of the 16-4-2 have individual routing switches to the subgroups, allowing the groups to be used as mono subgroups for multi-zone speaker systems, or as stereo pairs for subgrouping. Also new from Studiomastrer are two disco mixers, the SA2030E professional sound mixer and the SM-1004 stereo mixer.

On the stand of **Formula Sound**, Sandra Cockell was so keen to explain to me the advantages of using their Sentry environmental noise control system for control of sound levels at the PLASA Show — and why not? — that she almost forgot about their new PM-90 mixer. It will be launched with full trumpet fanfare at PLASA, but should be into production about three months from now. Main improvements over the well-proven and industry standard PM-80 are fully assignable crossfade, more output facilities and studio quality faders. Sandra is also busy with the paperwork: Formula Sound will have a new short-form catalogue available in the near future — in five languages.

Next for mixing consoles came **Soundtracs**, who introduced their Megas range: the Mix is a general purpose job, the Stage is a dedicated 8 bus sound reinforcement console available in four frame sizes and variable configurations, and the Studio consoles are dedicated recording consoles available with either 16 or 24 group busses with MIDI muting and full metering provided as standard. Configurations for the Studio are varied between 20-16-2 and 40-24-2. The Megas



Music live in the Galleria, Frankfurt.

'Source' is a 19" rackmount power supply unit which comes as standard with all the Megas consoles.

Wharfedale exposed their Force 9, and aimed it at the discotheque, PA and sound reinforcement markets. It uses new co-axial driver technology and can handle 250W of power. It requires no additional processing or response correction. Also shown on stand was the established System 2130 and an upgrade of the Programme 2180 speaker. Part of Wharfedale plc, **Fane Acoustics** launched several new 'power music' products, including

two improved Colossus XB models. Additional features include a new die-cast rear cover, dual suspension and power handling up to 600W — an increase of around 50 per cent over the old versions. The HT 150D compression driver is now available as a separate model for the first time, and also offered in conjunction with the latest retrofit 10 x 4" horn. Also introduced was an improved 1" compression driver with re-designed diaphragm. Fane have, according to demand, they say, re-introduced their range of glass fibre horns.

One of the show's talking points was the launch by **Volt Loudspeakers** of their Radial 3803 380mm (15") drive unit featuring an innovative new chassis design which works to keep the unit cool, and leads to considerable performance advantages over conventional units. By building the chassis in front of the cone instead of behind it, it is possible to conduct heat from the coil to the air outside the cabinet. This new approach gives two main advantages. Because the unit runs cooler it will deliver at least 2dB more maximum level than an equivalent conventional unit, and the cooler operation results in less stress and extreme reliability.

The unit has been specifically designed for use in sound reinforcement systems, and it has an extended response that is excellent for monitors. By optimising the Thiele-Small parameters it is reputed to give extended and powerful bass from reasonably sized enclosures.

Unique in appearance, Volt are offering optional colours of red, blue and white in addition to the standard black.

The whole of **Citronic's** 1U range of professional processing equipment has been re-designed and up-graded and their two new ReMixing desks, the SM550 and SM650, were shown for the first time in Europe. Designed specifically for mixing DJs, they offer a unique combination of punch in/out transformer functions, EQ on each channel, on-board crossfade and mic/music remix facilities for infill systems. A new addition to the SPX range is the SPX1-01 audio zoning processor which will configure a mono or stereo source into four outputs with on-board and remote level control facilities. It also provides inputs for automatically detecting fire alarm situations and making manual or automatic emergency announcements. Citronic say that it's the first unit in a new range of level control systems which has expansion facilities for future equipment offering automatic level control to pre-set specifications to meet noise pollution and noise at work regulations currently being introduced throughout the EEC.



Studiomastrer's Stagemaster 16-8.



Formula Sound's Sandra Cockell with the first PM-90.



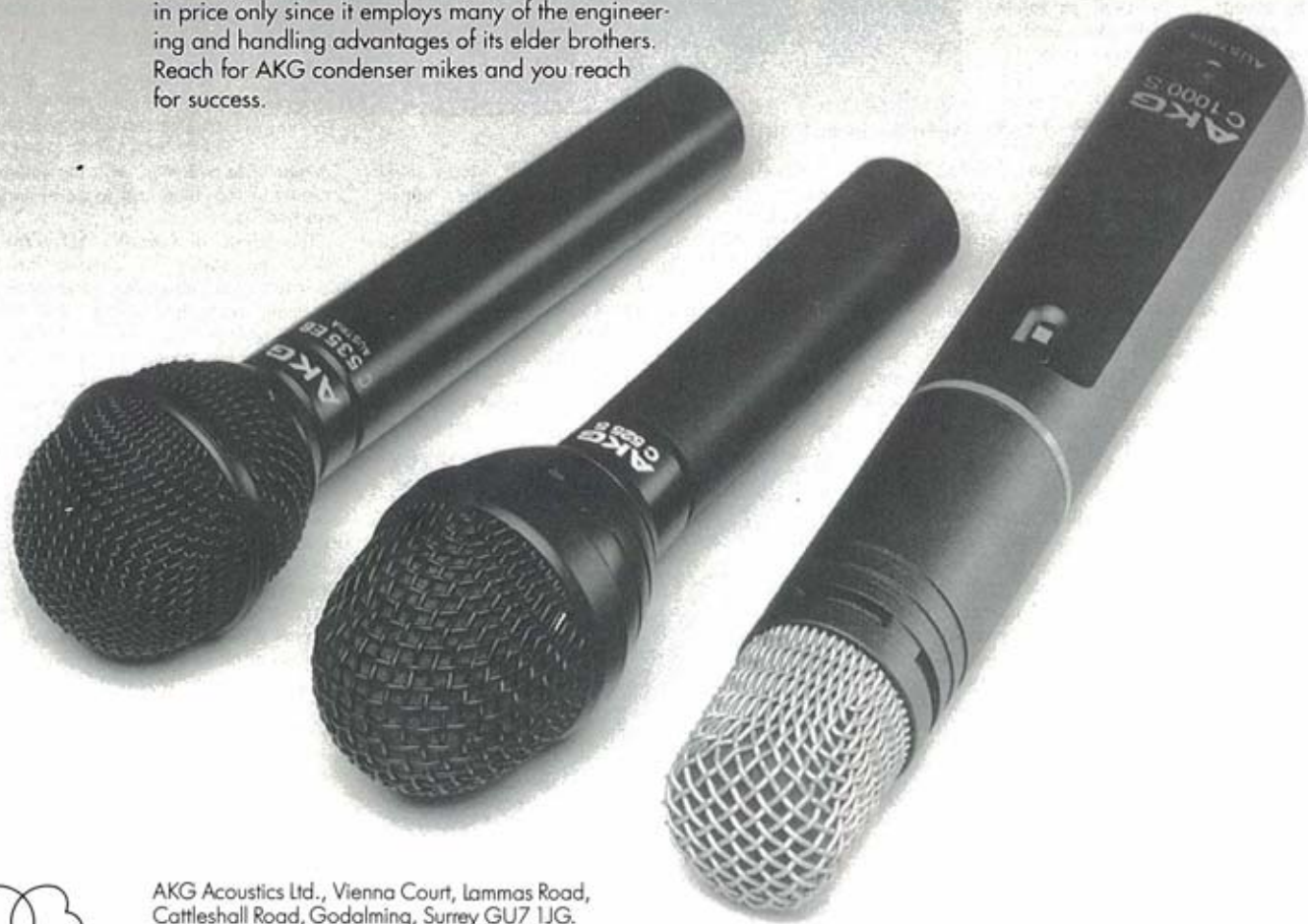
Soundtracs' Megas Mix general purpose console.

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Wharfedale's Force 9 was the story from Michelle Dickinson, Ashley Ward, Steve Halsall and Gary Orrell.

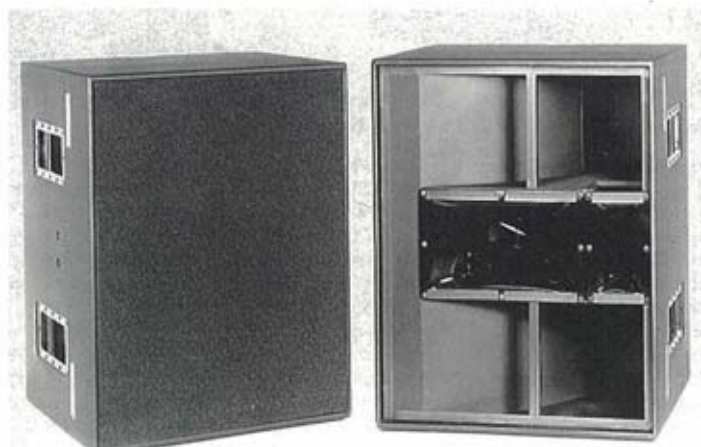


David Lyth of Volt with Jürgen Mollenhauer of Mollenhauer High-Tech and the new radial loudspeaker 15" drive unit.



Citronic's Mike Gerrish (right) with Jürgen Kutzker of Light Effects, their new German distributor.

Nexo of France introduced two new ranges, the TS2400 touring system and the LSub range. The first enclosure from a new top of the line range, the TS2400 is to be followed by larger and more powerful enclosures. Currently it is the most powerful Nexo system utilising new 3" diaphragm neodymium treble drivers, and has been designed with portability in mind with its dimensions in exact sub-multiples of standard truck measurements. It has six separate flying points with Aeroquip track for ease of flying and angling, and



The new TS2400 touring system from Nexo.

the configuration of components within the enclosure allow for different flow control characteristics to be achieved. It is aimed to meet the needs of large touring applications and Nexo consider it particularly applicable to long throw stadium and arena venues. The new LSub range currently features two enclosures, the LS2000 and LS1500, together with a dedicated LS TD controller. It has been designed to provide high power servo-controlled low and very low frequencies, to augment new or existing systems when extended bass response is required.

Dynacord's systems design manager Winfried Hintze gave me a demonstration of their new SRC range, and of particular interest was the 400 system for PA applications in large auditoria, consisting of the SRC 400 Hi and SRC 400 Lo, and the 500 3-way full range system. The SRC 500 is conceived as a combination of a semiconical bass short horn with a mid/high range column.

Tannoy Audix has added two slave amplifiers to its Orbit range, originally launched last year. The system integrity is greatly increased by the use of self-contained slave units rather than one larger central power block, and there is the dual advantage of allowing the system to grow at any time without costly central modifications.

Mike Gentle and Mike Reay of EMO Systems were delighted with the response to their new mains power monitor, designed to provide comprehensive real time information on the state and consumption of mains



Mike Gentle (left) and Mike Reay of EMO with their MPM3 mains power monitor shown in close-up below



Angela and Stephen Court (left) with Chris Gunton on the Court Acoustics stand.



Martin Audio's new F1 mid/high and bass box.

power supplies. Known as the MPM3 it will measure voltage, current and frequency across all three phases of a supply system. Current measurement is implemented using current transformers which allow remote sensing. With the correct choice of ratios, values up to 999 amps can be displayed and true RMS conversion ensures that measurement accuracy is not affected by distorted waveforms. The unit is powered from any or all three phases of the connected mains supply, so in the event of up to two phase failures it will still be operational. Supply voltages (phase to neutral) from 80v to 260v will operate the equipment without adjustment. If only single phase measurement is needed, the MPM1 is available. In addition to a new microphone combiner, EMO were also showing a selective range of products including their inductor-based graphic equalisers.

Kelsey Acoustics had their GR series graphic equalisers, connector boxes and Trouper cable crossovers. Bill Kelsey designed the GR series using the precision hand-wound inductor and capacitor technique the company say is favoured by virtually all sound engineers. The GR60 is a dual channel equaliser with 30 bands on I.S.O. centres providing cut or boost of 10dB using 45mm faders. The GR30 is a single channel version identical in performance but with 60mm faders.

Court Acoustics Ltd, with Stephen Court in charge, gave the PLASA stand a regular and healthy reminder of what big sound is about. Their loudspeakers come in various versions: the 'Black Box' System 2000 is the heavyweight for medium to long throw live music applications, the System 1000 is their best selling system and is



Andrew McLuckie (right) and Mark Fiddaman of Labtek.

used by clubs and concert halls worldwide, System 500 is in a trapezoid enclosure for free standing or flying and has the benefit of a sub-bass unit if you wish to increase the high level dynamics in compact installations, and System 250/100 provides various full range enclosures including the new System 200 12" bi-radial monitor for surround sound systems.

In addition, Court showed their renewed and improved range of graphic equalisers, a new range of electronic crossovers and new power amplifiers. The PN1250 amps are billed as "Over 1000 watts of superb transient performance combining the absolute quality required for studio monitoring, with the sheer power headroom and ruggedness for live music and club work".

Still in the footsteps of the heavy mob, **Martin Audio** showed production versions of their F1 and PM3 systems, following their launch at last year's PLASA Show. The F1 is a compact two-box system ideal for touring and fixed installations. Pulling in many of the best of Martin's flagship F2 system, it is smaller in size and particularly suited to venues which do not require the interchangeable rackmount facility of the F2 top box. The PM3 is a biamp 3-way monitor featuring a small but extremely powerful dedicated mid-range horn complemented by a 15" LP and 1" compression driver HF. With a compact quasi-trapezoid cabinet shape (ring up David Bearman, who'll give you a splendid definition of what that means) and five rigging points, Martin reckon it's ideal for corporate presentation, music playback and high-level stage monitoring.

Vitavox showed two new 1000W drivers, the MM 380 15" and the MM 300 12". Based on diecast aluminium alloy chassis, cone and coil



The Theatre Series from Laney.

arrangements have been improved to achieve extra power. On the same stand **Wembley Loudspeakers** showed the bits and pieces of their Pro Plus system that is all you need to make your car shudder down the road by its own volition.

Executive Audio are the sole European agents for **Samson Technologies** who launched their new Concert Series II true diversity wireless system, a rack mounting unit featuring dbx, internal power supply and removeable antennas. The hand transmitter is a new design that is available with most popular name brand mic elements.

Celestion keep adding to their established SR range and launched two new additions, the SR4 and SR6. The SR4 is suitable for use both on the road and for installation purposes. Built on the success of the SR2 subwoofer, but with a more compact design, both the SR4 bass reinforcement loudspeaker and the SR6 low profile bass reinforcement loudspeaker are based on Celestion's SR parallel reflex concept in order to extend SR bandpass technology and create cleaner and more efficient bass frequencies.

On the Harman stand **JBL** launched their Music Power Series. This is aimed at musicians who require a small to medium sized PA system or general back-line system which is portable, compact, robust and able to offer the quality and dynamic range of the larger JBL units. There are five units in the range: three were shown at Frankfurt and a further two follow later in the year. The first group include a 12" unit plus horn, a 2-way 15" unit plus horn, and a 3-way unit comprising 15" and 8" loudspeakers and a horn. Three new Control Series products also made their debut.

AKG had two new headphones, the K400 and



Ted Rook of Allen & Heath (left) and David Clowes of Expotus. New on stand was the studio version of the Saber 8 production console.



Michael Schneider of Lichtronic Licht & Lampen (left) with Roy Millington of Cloud Electronics and the new CXM mixer.



Paul MacCallum and Paul Mansfield of Wembley Loudspeakers with Neil Young of Vitavox Ltd.



Andrew Harrison of Harrison Electronic Ltd: Comput-Tek Series is now in full production



Connectors and much else from Canford.



Always crowded: the Numark/Vestax stand.



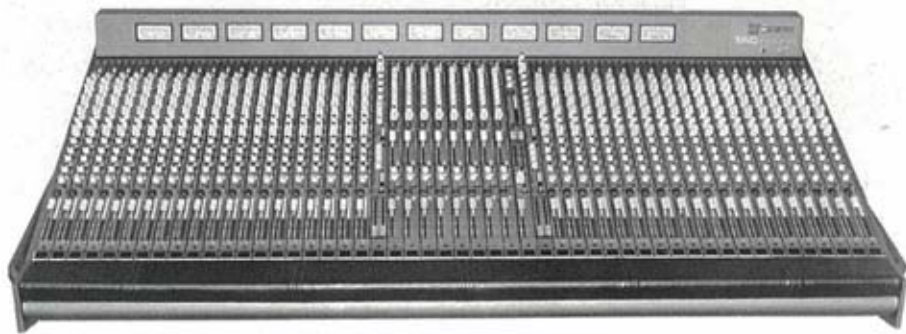
Jim Garlick (right) with Scott Noddings on the Opus stand. New was their SoundControl Bass 15 unit.

Before moving over to lighting, here are some snatches of news you might like to follow up, or look out for in the near future. **Audio Technica** had preliminary information on numerous new items including condenser and dynamic microphones with seven new variants in their Pro series. **EAW** had new monitor and installation cabinets that are designed to complement their big 850 series speakers. **RCF** showed their new AS 6001 power amplifier and **Canford Audio** had new battery headphone amplifiers, recessed floor and wall connector boxes, rack fans and the rest. I'd come to Frankfurt expecting to see much more on the stage and disco lighting side, given the pre-Show hype. However, apart from the previously mentioned continuous rock presentations on level three of Hall 9, it wasn't a lot different to previous events, or didn't appear so at first glance. Having been to SIEL in Paris, and glancing at the exhibitor list for SIB and MAGIS at Rimini, there were new products and exhibitors at Frankfurt who didn't bother with the other two — and that's an interesting development.

First piece of interesting equipment to come to my attention was the LightPaint intelligent colour changer from **Oscar Lighting** of Stockholm, and director Anders Stuart gave me some of the highlight detail. The unit can scroll up to 11 colours and runs extremely quietly, totally controlled by its own processor. It can receive either DMX512, SMX, AVAB-240 or analogue signals, and has autosense between the first three with no switching. It can run through 11 colours in 2 seconds and accepts any length of gelstrips between 2 and 11 colours and no blanks are needed. And that's only half of the list. The



Uli Petzold (left) on the LMP Professional stand with Gary Pritchard of LSC Electronics.



TAC's new SR6000 sound reinforcement console has a range of special features.

K500, their well-known Micro-Mics, and Turbo-sound's Flashlight TFS-780 fully integrated system. The usual Flashlight package for array systems comprises 12 enclosures, a single rack of three stereo power amps, a controller and all the necessary cables, etc.

Four new units were to be seen and heard on the **Labtek** stand: the Tek subbass 600, the Tek bass 700CF, the Tek 250 and the Tek 300. The 600 has been designed to reproduce, 'with full authority', the very lowest musical frequencies. The system is only 4dB down at 26Hz, and it will underpin the sound of any Tek system, and is stated to be particularly effective when used with Tek carbon fibre 15's. The 700 is billed as the ultimate 'kick-bass' system, producing at high levels a low bass 'thud' which pins you to the wall (I didn't go into their sound booth for the experience!). Labtek's smaller units are the 250 and 300 which are compact in design and suitable for a variety of uses, with fixings for permanent installation incorporated. However, their main application is for high power portable sound at a reasonable price. Main difference with the Tek 300 is the inclusion of a 100 watt 1" compression driver with titanium diaphragm and edge-wound coil, and 90 x 60 degree fibre glass horn. The power handling of the system increases as a stand-alone unit to 300 watts continuous. Additionally, the 300 can be used as mid-hi pack for 700 watt 3-way systems with an additional bass speaker.

Graeme Harrison, European marketing manager for **Renkus-Heinz**, reported that their new C-1A coaxial point source loudspeaker system has passed its first major concert test with flying colours. The development of the 'A' system out of the C-1 came about through a joint project with Ampco of Holland and it features a unique flying

system designed for quick rigging time and a large number of possible configurations. Following its success at a Christmas concert in Rotterdam's 6000 seat Ahoy stadium the system is scheduled for use on numerous concert tours across Europe this summer.

Another success for the company is the **EASE** (Electro-Acoustic Simulator for Engineers) advanced system design programme marketed world-wide for the Berlin-based company ADA. An economical method of producing acoustic simulation, when used with data derived from a system design programme, it allows acoustic consultants, engineers, system designers, contractors and clients to listen to how a room and its associated sound reinforcement system will sound, possibly even before it is built. Although the acoustic simulation part of the programme is still in its prototype stage, Renkus-Heinz plan to offer it as a complete package along with the EASE programme.

C-Audio centred attention on their TR 850 power amplifier. In a rugged 2U steel chassis, the unit boasts a total output of 1660 Watts R.M.S. into 4 Ohms and C-Audio state that short bursts of up to 2000 Watts are well within capacity. This beauty of a beast has a back panel that accommodates two pairs of high current binding posts, parallel XLR inputs for daisy-chaining, a three-way mode selector and a simple ground lift to bring it down to earth.

Four new Eminence speakers were on the stand of **Adam Hall Supplies**. The new models are all in their EM Series: EM8 100W, EM10 200W, EM12 300W and EM15 300W. Also on stand were Link Dynamics' comprehensive range of audio devices such as horn tweeters, bullet and slot tweeters, compression drivers, glass fibre horns and replacement diaphragms.



Anders Stuart of Oscar Lighting with their new LightPaint colour changer.



CP&P Germany showed a wide range of Pulsar and Clay Paky equipment.



Celco's Matt Deakin (left) gets some under-cover questioning.



The stand of Lightpower with MA desks in the foreground.

emphasis is on easy rigging and control, and I've a hunch this unit will compete with other top level scroll systems in the very near future. Also new on stand was a digital dimmer system with memory for back-up states, and a Two To One unit that merges two signals with a combination of the DMX512 and AVAB-240 protocols into one. It also converts between digital control signals.

LMP Professional had a wide range of standard lighting and control equipment, including the first European showing of LSC's Focal desks. A modular system that enables you to order the features you want, the Focal 1 has been available on the Australian home market for 18 months, and went into full production in September last year. Also on stand were LSC's latest in their Precept series, the Precept 48 and the Precept 60, plus their new Tour Series dimmers. LMP also had on show the Enigma control system from Advanced Lighting Systems, Celco controls, Powerdrive stands and JEM smoke machines.

CP&P (Clay Paky & Pulsar) showed a new road version of the Superscan. Pulsar's Ken Sewell told

me they had managed to reduce the standard 35kg Superscan down to nearly half its weight to make rigging it easier, and the road case has ballast and power connection for four units. "Austrian television stripped 24 down in a similar manner," stated Ken Sewell, "and others have done the same. We've now made it official!"

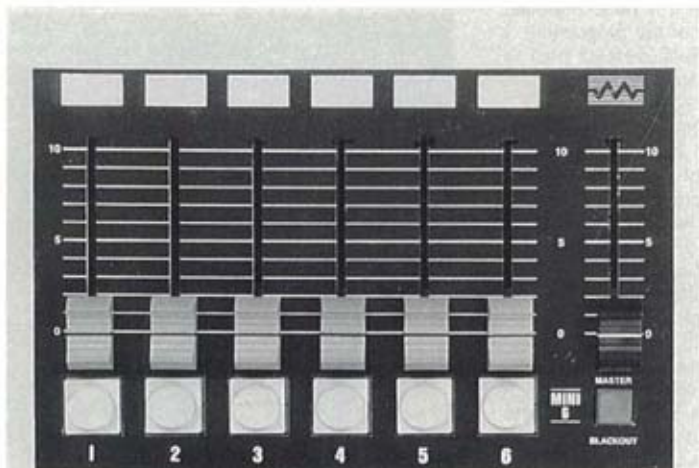
While Andy Graves was playing the keyboard of a Peavey DPM3 digital phase modulation synthesiser other items featured were the new Pulsar Universal Interface and a DMX512 strobe interface. And the Masterpiece control system was there too, of course.

Near to CP&P was the stand of Lightpower who had the range of MA Lighting's control consoles including the new Light Commander II, mentioned in our March issue feature on the company.

For Celco, Summa comes early. Keith Dale, Colin Whittaker and Matt Deakin showed the full range of Celco controls. New was their inexpensive dimming system - the E-System 36 - which was shown in Europe for the first time. It features surface mounted hot patch, Socapex outlets, a

choice of analogue or digital control input, Camlok or CEE 17 power inlets and more. The main interest for Europe however was the second appearance this side of the water of the SummaHTI automated luminaire. This 'moving light' unit features 60 selectable colours and uses an Osram 400W HTI light source to produce a very bright beam thanks to a clever zoom optical system. Summa Technologies' technical development engineer Rick Romano was on hand to make sure you knew all about it.

AC Lighting are the European distributors for Jands of Australia, and various Jands equipment was shown on the stand of Multilite Lichttechnik. First seen at LDI in Orlando last November, the star was the 'Event' control desk which backs up the success of the ESP and Instinct. AC look on the Event as an ideal control system that will address many markets, from concert and theatre across to discotheques. AC Lighting's Commandos were also at Frankfurt - in the form of motorised towers in two versions. As David Leggett is reported to have said: "If the task is a single lift or



Multiform Lighting's Iain Price-Smith (left) shows the new Multipatch MPX-6060 unit. Left is Multiform's new Mini 6.



Lightfactor's Graham Norman with their Q Pack and Q24 lighting desk.

a goal post configuration, send the Commandos in."

Light Processor had two new products. After the successful launch last year of the Q12 lighting desk, the company decided to carry on the theme and have come up quite naturally with the Q24. It has all the features of the Q12 but twice the capacity: it can memorise 240 level scenes and their associated fade-in and fade-out times — additionally 24 level chases and their fade times. Four chases may be run simultaneously, and two Q24's can be linked together to give 48 channels of lighting control. Outputs are analogue and DMX.

Also new from Light Processor is Q Pack, a professional dimming pack with 6 channels, 10 amps per channel, which has been developed primarily to work alongside their Q12 and Q24 desks, although compatible with many other lighting desks. Standard features include adjustable pre-heat controls for each channel and a test facility (flash to full) for each channel. It is available with output sockets to suit most European standards.

Multiform Lighting demonstrated the latest addition to their professional range of stage lighting control systems, with Multipatch MPX-6060. This is a programmable soft patching unit for systems of up to 60 channels, it provides eight pages of programmable level cross patches, and has a graphical bar graph output display and simple menu selection of all programming options.

New at the show were two low cost six channel control desks, the Mini 6 and the Aquarius 6. The Mini 6 is a simple six channel desk with flash buttons and a blackout switch. The Aquarius 6 is a two preset desk with dipless crossfade, autofade, flash buttons and blackout switch. Both units are

provided with 8 pin locking DIN connectors and are suitable for use with standard 0 — +10V dimmer packs. Multiform also had on display their Scorpio and Aquarius 18 desks, Rakpac dimmer packs, and their complete range of discotheque control systems including the Quattro four zone controller and the new Maestro programmable touch panel.

The German company **Smoke Factory** had a busy stand and some interestingly named product. Their Sky Walker professional fog generator can either be rack mounted or stand-alone and can connect to other units by XLR. A flight-cased version is the Enterprise TC2. Either version can be controlled by any 0-10V control desk, wireless remote control unit, or remote control. Several machines can be connected and controlled through one channel. New is the Smoke Factory's R2D2 machine, a high power fog generator for big halls or in the open air. It has six output nozzles to keep the noise down and the output up, and they reckon it's the 'handiest' machine on the market.

Eurolight's Andy Stone showed me their new Green Ginger Micropack 310 dimmer system on the stand of Hannover Stage Lighting. These 3U high units are six channel, and available in either DMX or Analogue, are hard-wired and have Socapex or 15A Schuko outlets. They come in the new Green Ginger colours of blue and grey. Eurolight's full range of lighting control consoles were also on stand.

Zero 88 Lighting had nothing new at first sight, but it's all there somewhere in those lovely grey boxes. By adding a pcb to their market storming Sirius 24 or 48 channel desks (now in production with DMX output) you can achieve analogue and digital outputs simultaneously along with access to a built-in soft patch facility. And to go along with

this there is the new Demux 48, which will convert 48 channels of DMX into standard analogue control.

What else? **Strand Lighting** were at Frankfurt for the first time, as far as I can recall, and went into the music business. It was an interesting stand, but to get out front in the music business it should perhaps have been bigger, bolder and brighter. On the Camco stand **Avolites** had a new rigger's control, and **Slick Systems** had the biggest truss system in the world. Could AC Lighting's Commandos cope with this, I wondered? Xylo had no graphics on their walls, but left it to their super clever Turbine system to draw the crowds, and the Madonna video to keep them there. **ACR** of Switzerland had their club laser system on show, but I'll leave this to Tony Gottelier to describe in his Rimini report in our May issue.

So, to sum up this Messe with the Mozart theme? There was growing evidence of a much larger German participation in the industry, particularly in our sectors, not only in conjunction with other established European manufacturers and distributors but also with their own-manufactured products. VPLT, the German equivalent of PLASA, now has over 80 members and it's a serious-minded organisation. The German market is big: the European market huge. Some companies have seen the signs, and are forging links now, co-ordinating the best parts of their operations and setting up deals as they plan for the future.

For any manufacturing and major distributing company in the industry, innovation, quality and international thinking will be paramount for survival. Luckily, thinking pan-European is a useful first step. But for those who stay at home I see little hope, and at best a steep and uphill struggle.

John Offord



Zero 88's Peter Brooks (left) and Freddy Lloyd (right) with Noel Skrynski, sales manager of KLS of Ontario, their new Canadian distributors.



Keyboard expert Andy Graves of Pulsar.



Roland Schulze (left) of Hannover Stage Lighting with Eurolight's Andy Stone.



The Strand Lighting stand.



Avolites Steve Warren demos their new rigger's control system.



Mike Wood Thomas of Slick Systems with their giant truss.

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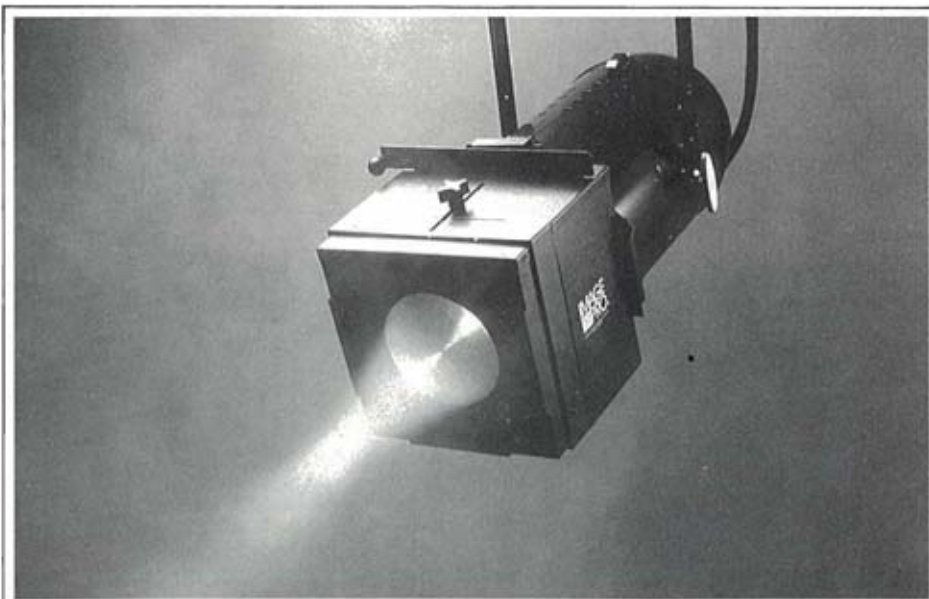
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ARMS-ON CONTROL?

A debate on the use of control systems — integrated or dedicated — with Vince Rice, Carl Dodds and John Lindsell, Paul Dodd, Mark Tonks and Simon Tapping

In my report on Rock Circus in Hull (L&SI Dec), I wrote some mildly disapproving remarks about the operational practicality of the vast landscape of the lighting control surface employed by Avitec at the venue.

What I actually concluded was, "... skilled ambidextrous individuals with the stamina to withstand a six hour arm twisting marathon are in short supply, whereas integrated microprocessor-based controllers can give a close interpretation of the designer's cues night-after-night in almost anybody's hands."

Should I be accused of bias, I added a quote from the lighting designer in question, Vince Rice: "To programme a simple co-ordinated effect on the Studio Circus system requires the knowledge of up to six different lighting protocols and the arms of an Octopus."

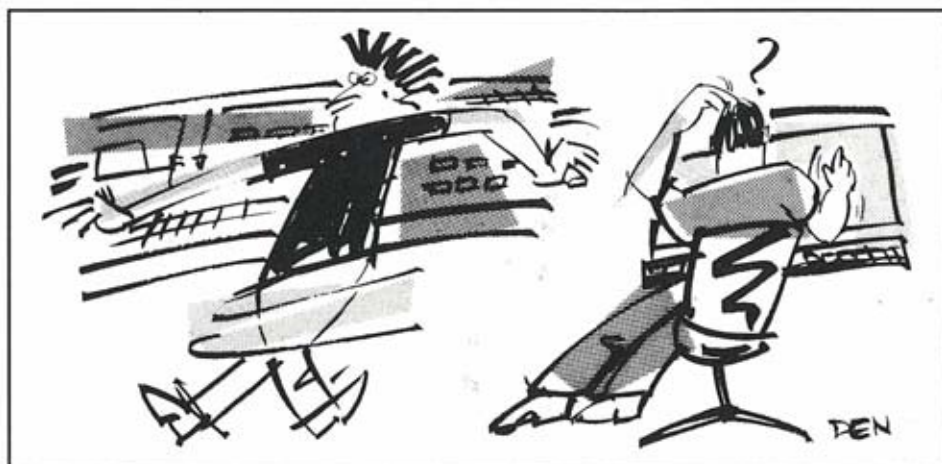
Since there is a continuing debate on this very subject, L&SI culled conflicting views from both sides of the control divide, including Vince's, which are presented below.

Tony Gottelier

Let us be clear about what we are debating here. There are certain companies within the discotheque industry that promote the use of discrete lighting controllers, often from different manufacturers, to control separate 'zones' of lighting within a larger system, rather than a computer-based machine controlling all the channels (by computer-based I really mean a machine with a high level operating system since all controllers contain microprocessors of some sort).

For me the argument was over years ago and I shall attempt to outline why I favour the integrated single controller approach. But first let me also make clear that I am not advocating a single controller for all show-control functions. I am sure the future lies with an integrated 'net' of specialist controllers with control surfaces and programming protocols suited to their generic purpose; a lighting controller, a laser controller, a video controller, a motor hoist controller, a pyro controller etc., any one of which could act as the 'cue-master' for the whole system (for discotheque use of the proposed extensions to the MIDI message standard for controller to controller communications should be more than adequate).

The predilection for small, typically four channel, lighting controllers in discoland is essentially historical. The first controllers were, in fact, three band lighting modulators, (bass, mid, treble). Chasing of the three channels followed on as did the addition of a fourth channel (like television really). As lighting systems grew the control systems coped by simply adding more four-channel chasers. A certain level of integration is possible by enabling or disabling the power packs of different zones from a central, usually touch sensitive, control panel. There are controllers that integrate three or four zones into a single unit, and there are units that allow control of eight, 16 or 24 independent channels, but they share the same limitation as their smaller brothers in only allowing one sequence to be active at any one time. There were attempts to use larger Rock'n'Roll type desks to control disco systems but they all failed for a very simple reason: even with 90 channels they simply weren't big enough. 500 separate fittings is not an unrealistic number for a discotheque installation and whilst some can



naturally be ganged together there is not much point in taking the integrated route unless most channels can be controlled independently. These desks also do not allow enough simultaneous sequences to run.

There now exist several desks, with more on the way, that do meet requirements of sophisticated disco lighting control — perhaps it would be helpful to spell out what those requirements are:

Independent control of at least 100 channels and preferably 512 or 1024, output via DMX512.

A large number of freely programmable, level proportional groups.

A large number of freely programmable sequences with a large and variable number of steps.

Groups of groups and sequences of groups and sequences. No practical limit on the number of simultaneous sequences.

Higher level programming for the control of articulated lighting, colour changers etc, via DMX or some other serial interface (RS232).

MIDI input and output for integration into the control system 'net'.

An appropriate and informative programming and operating interface.

There are advantages to using a system such as this in every aspect of lighting system design and operation (we got there eventually) which are best illustrated by what a traditional multi-controller set-up cannot do.



Vince Rice: "I think there is an inevitable outcome to all this. It's just Luddites with financial vested interests versus fab and groovy guys with vision!"

The first becomes obvious as you approach the drawing board (that's Old English for CAD workstation) to start designing your lighting system. Using the traditional discrete method of lighting control the design is dictated to a great extent by the controllers you are intending to use. Say you are designing for a room that is pentagonal and you want your rig to consist of five triangular sub-rigs. Four spots along the face of each sub-rig, fine, a four channel chase. Now you want a three way chase in blocks of four spots around the faces of the sub-rigs; er sorry, not possible. You want a 12 way chase of the single spots around the sub rigs A, then sub-rig B, then C and so on; not possible. Say I have a tall column that I want to ring with neon. To get the aesthetics right it needs nine independently controlled rings. Rings? — get outta here! Get the picture? The controllers are dictating the physical design and not the building or interior structure.

The control system also affects the layout of the actual fittings. Because each zone may have to act independently, there is an irresistible urge to spread the fittings of each zone evenly over the whole rig in a roughly symmetrical fashion. (So, that's why disco rigs all look the same!) It doesn't have to be symmetrical. With an integrated controller you can always balance an asymmetrical bunch of fittings in one part of the rig with different types of fittings elsewhere, and of course this can be tweaked after installation.

The next problem is that most of the modern small controllers do require some programming by the installer to get the most out of them. This gives the worst of both worlds; lack of flexibility and the necessity to programme perhaps a dozen different controllers with different protocols. It is also impossible to programme any rig-wide grand theatrical sequences — these will be up to the operator. By the same token a consistent programming interface makes it far easier for the novice operator to learn how to get what he wants out of the system.

Next is the lack of flexibility in operation. Successful disco lighting relies on being able to follow the mood and dynamics of the music and controlling the excitement level of the audience. In gentler moments this means chases between fittings a short distance apart to give a smooth continuous effect. For the exciting dynamic bits one wants to move great gobs of lighting i.e. over the whole rig. One

also wants to be able to group totally different fittings by colour to obtain rig-wide colour stabs. One also wants to run chases between totally different types of light fittings. These things are not easily possible with traditional lighting control.

Next is the variable quality of lighting operators. We have all seen the ones who believe that good operation requires a sort of St Vitus dance of the fingers over every available touch pad of the control system at a frenetic pace during the evening. The trouble is the effect produced simply doesn't seem to correspond to the energy being put into it. With a central pre-programmed system at least you can put enough 'effect power' under each key to give the guy a fighting chance. You can also programme in some long, effective pseudo-random sequences to give him the option of taking a breather.

The final and potentially most important advantage of an integrated, programmable, central controller is that of long-term flexibility. I hope to see, and certainly my efforts will be in this direction, discotheque lighting rigs that have a strong aesthetic identity in their structure whilst allowing complete flexibility in the position and type of fittings used. In other words I would like to see more cash being spent on the quality of design and construction of the supporting structures while the lighting layout is totally flexible and can be changed from year to year without great expense. I think we can offer our clients greater value for money and ourselves greater opportunity for creative design by adopting this attitude; which most certainly will not be possible without the use of fully programmable control systems.

I have tried to put my points seriously but frankly I think there is an inevitable outcome to all this. It's just Luddites with financial vested interests versus fab and groovy guys with vision!

Vince Rice

We have been using integrated control systems now for nearly four years so it will come as no surprise to anyone that we were more than willing to spring to Tony Gottelier's defence viz a vis his comments on the unbelievable control system attached to Vincent Rice's brilliant rig at Hull's Studio Circus.

We well remember the old days when we too performed virtuoso feats of endurance on limited multiple controllers and we always had the advantage of having 20 fingers working not 10. But it was still a very rare experience to be able to physically translate what was in our heads to what our fingers were capable of reaching at any one moment. Many a time we used to moan about poorly thought-out control layouts that installers inflicted on light jocks. A good example was at Le Palais in its pre-Enigma days. There were loads of fabulous open white blasters all over the rig but it was physically impossible to put them all on at once as they were spread over several touch panels. Even if you used your nose you could still only get three sets on at one go - this is a simple matter on any integrated controller; just program a key with them all on and press it.

Paul Dodd has always used the argument, on the numerous occasions we have tried to convert him to the modern integrated control approach, that they never have the budget to use integrated control and this is what we thought must have been the case at Studio Circus until we got our trusty Avitec price list and totalled up the cost of the 12 separate controllers used. OK, so you haven't quite reached the price of an Oska or a full blown Enigma system, but it's not far off. Pulsar's Masterpiece had not been launched, of



Dodds (foreground) and Lindsell: "Integrated controllers expand what an operator is capable of and also free the boundaries of the designer's imagination."

course, when Studio Circus was designed by Enigma Micro was. It was not only available but would have worked out cheaper, even including the cost of Color Pro software, demultiplexers and custom Light-mover software, which are additional basic costs.

So let us imagine that we now have Enigma Micro installed instead. The immediate benefit is, of course, that the poor light jock no longer needs multiple extendable arms. He/she can programme in chases that look good at Studio Circus, and not have to rely on the generally limited pre-programmed chases built into the old controllers by manufacturers trying to find the highest common denominator. He/she only has to learn one method of programming, not half a dozen, and can build up massive sequences simultaneously using any or all of the equipment very simply and quickly. No more having to try and remember where everything is or what program number the mega lightmover sweep was - it's all written out on the monitor. The only thing to remember is which of the 10 desks you put it on. Set piece lightshow? Put it all on the key for instant recall perfectly on time, every time.

There are improvements to the effects creation potential of the design as well, by the use of an integrated controller. The 16 strobes could now be on 16 channels, not eight as before and, let us assume that the money saved by using, say, the Enigma Micro is put into extra power packs. For a start those fabulous red neon rings could be split into 24 channels not eight as at present giving vastly more potential for exciting chases not only up and down, but side to side as well. The contra-rotating choppers could be on separate channels instead of grouped together. Imagine the effect of the vertical blue and green neons weaving and dancing amongst themselves in multi-channel chasing concert etc, etc, etc.

One day we shall get the message through that not only do integrated controllers expand what an operator is capable of by providing them with a tool to help enhance creativity, but they can also free the boundaries of the designer's imagination. At the same time it does not have to limit any 'predilection for frantic hands-on production'. That is entirely up to how you programme the machine.

Carl Dodds and John Lindsell

The invitation to write this for L+SI bought with it the realisation that there were a few basic misconceptions out there which need to be addressed from the outset. Neither Avitec, nor I as Avitec's designer, have eschewed the use of centralised cueing, quite the reverse. Co-ordination is an essential of lighting control. The open question is in which way one chooses to co-ordinate. Let me state for the record, here and now, that I perceive, and welcome, computerised control systems as the future industry standard.

But then again, with today's protean technology, which standard is it going to be chaps? Deftly avoiding for the moment the DMX, SMX, MIDI debate, let's examine what is meant by 'centralised cueing'. Obviously computer control is one form and realistically the only viable option for the majority of (what shall we call it today?) articulate lighting. In a venue where waggling forms the major part of the system this is then the only sensible route to follow.

However, in venues where this is not the case the 'horses for courses' factor comes into play. The alternative to computers in centralised control is to use a number of separate and/or dedicated controllers. Now as neither I, nor any of the professional light operators that I have the pleasure to know, are octopods, the control of these separate units needs to be centralised. With experience, good planning/design, and today's excellent programmable touch sensor technology, all the diverse elements can be brought to, and integrated within a centralised area, allowing completely co-ordinated control. There are also a few critical points to be considered with this route.

Firstly, there is the cost equation. It's all very well for a designer to want a 96 channel neon sequence but what about the budget? 96 channels of neon should look fabulous, but will also require individual transformers and pack channels and is therefore not cheap. A balance should be kept between what is seen and what is not.

Secondly, there is ease of instant access to all individual effects, without changing screens. The point about ease and speed of access to any effect, is, I believe, an extremely important one. It allows spontaneity in response to the music, the essence of a good lightshow. Here

is where we arrive at, I feel, the crux of the matter. Recently I had the honour to receive an award for best light show and interpretation of music and light at LDI 90 in Orlando, and a question has since been raised about what happens in a venue after its opening night when the 'guest' operator leaves the resident light jock to get on with it?

It was mooted that I belonged to a rare species and that the only way the majority employed as light operators stand a chance of gleaned something effective from their new lights, is to replay pre-programmed scenes from a computerised control system. I have to ask why I should still be a rare species?

Avitec and Disco International ran a light jock competition, quite a few years ago, in the hope that we would encourage new operators out of the woodwork. This did not really happen. Since then, many club owners and industry pillars have bemoaned the fact that there are so few proficient light operators. How often have we seen elegant lighting designs with their concurrent investments of, not inconsiderable, capital being mauled by the inevitable chimpanzee that results from paying 'operators' peanuts?

Surely we, through our industry association, PLASA, should be actively trying to do something to rectify this. Having got that off my chest, let me say that with any venue designed and supplied by Avitec (as I am sure it is with any other responsible company), the operator is trained in how to use the equipment, and I do not accept that it is any more difficult to learn how to change patterns on, for example, a Mercury, a strobe controller, or to programme a Mode U16TS, than it is to learn to programme a computerised system like the Enigma. Simply, what it boils down to is that you can teach anyone how to switch something on and off, but not when. They must have a feeling for what they are doing and this can not be taught. So, back to our resident light jock.

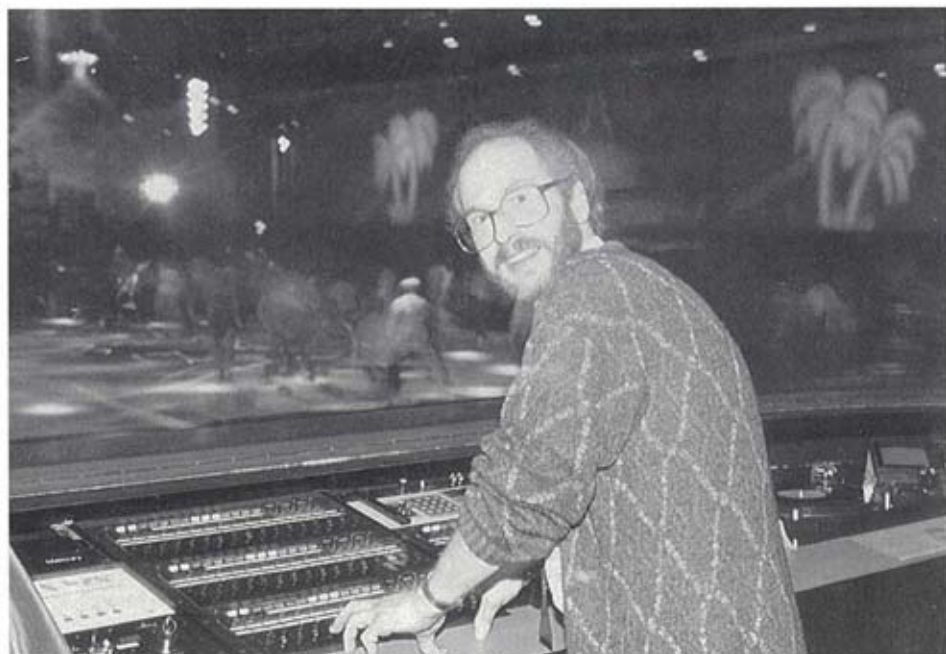
If they lack this feeling, a computerised system will still only produce for them a boring, cyclic repetition of preset scenes, unless, of course, you believe in the infinite number of monkeys theory.

Thirdly, there is one other important consideration regarding a single computerised system for the 'unintelligent' venue. A single system could be considered similar to a single basket with all your eggs inside. The resultant vulnerability to Murphy's Law increasing with the sophistication of the system. Thankfully, Mode's new DMX packs can now avoid the worst case scenario - darkness.

So, what's my answer to all of this; what would I like to see as the control system of the future? An integrated computerised system, one that can be fully interfaced with external touch sensors for analog (or, if I remember my latin, maybe it should be digital) operation, allowing the computer to run the complex co-ordinated sequences, movements etc., permitting both spontaniety and ace-programming. I see no reason why such a system should not also allow complete reproduction and editing of music and lighting for lightshows.

The times they are a changing. A top ten song advocates walls covered in fractals and Brian Eno has been on Desert Island Discs. Manufacturers of computerised controllers are adding more touch pads to their units (though I still think they need a little help in this area) and sensor manufacturers are making their touch panels more powerful. Perhaps soon we may see a meeting of the ways.

Paul Dodd



Paul Dodd: "The open question is in which way one chooses to co-ordinate."

When I was asked to write a piece on comparing a plethora of controllers against the all-in-one-system, like Enigma or Masterpiece, it was not the first time the question had been put to me.

As a wholesaler of many types of product we invariably get asked to suggest a controller(s) for a particular job and to do this successfully means finding out what the client really wants to achieve from his/her system, and of course, the budget has a bearing on all this. So, it's a question of weighing up the pros and cons.

Does the multi-controller path fit with the way the club is to operate? In a large club, controller 'power' is required to provide many different 'looks'. But to actually put these 'looks' into even a good light show requires a great deal of experience and dexterity (and sweat). It may even mean employing more than one light jock. The multi-controller path can also be more difficult to install, as there is no standard size for these units, some may be 19" wide, some smaller, some flush, some not; so the controller area tends to become a real hotch potch. I am sure, however, that it is nothing compared to what goes on underneath. Just imagine the wiring required to link that lot up to the dimmers, switch packs, laser control and intelligent lights alone.



Mark Tonks: "Only a matter of time before education, economics and common sense prove that the single multi-purpose controller path is the only route to take."

If the single controller path is taken, on the other hand, the power of many different units is harnessed in one, therefore allowing control of switching/dimming intelligent lighting, lasers and even videowalls. With systems that are software-based, new software can be bought and added to existing units as the need arises.

Of course, with this power more complex 'scenes' can be put together and it is all co-ordinated from one controller via one operator. This isn't to say that the operator who uses this control does not need to be experienced, as they will, but they only have to learn one system to achieve the best results. It is also possible via some single controllers for a time code to be used, therefore allowing a large number of programs to be linked together for use at the touch of a button (useful when nature calls). The other advantage with one controller is that installation is simplified, especially as the new DMX power packs emerge onto the market to meet the needs of these new generation controllers.

There are therefore two options, both have advantages and disadvantages, dependent on the venue into which they will be installed. However, I think it is only a matter of time before education, economics and common sense prove that the single multi-purpose controller path is the only route to take.

Mark Tonks

Late last summer, I was asked by Nigel Greening, creative director of Park Avenue Productions, to work on the world launch of the new BMW 3 Series.

The brief contained several unusual ideas, including the need to illustrate on stage the international nature of the launch, and to put the history of the car in the context of contemporary world events using audio visual techniques. The show had to be able to work in three very different venues: a purpose-built lecture theatre in BMW's research plant in Munich, the showroom at the Burswood Resort Casino in Perth, Australia, and a hotel ballroom in Arizona.

Others working on the project included Bill Harkin (set design), Phil Sawyer (composer), Martin Pilton (sound design), and my team included Richard Knight and Paul Cook (Vari*Lites) and Glyn Peregrine (production electrician).

To achieve the effects required in the show,



Simon Tapping: "The system should be picked for the show."

it soon became obvious that I was going to need a control system capable of synchronizing lighting cues to a sound track. I had quite a lot of experience of integrated control systems, including use of Celco, AVL, Dataton and Live Wire, with varying degrees of success, but for various reasons none was suitable for this project.

I knew that Vari-Lite were developing a MIDI interface for their Artisan console, and I established that this would be available from Vari-Lite Europe in time for our first show. What we then needed was computer able to lock to external time code on which to create a MIDI programme for the show.

Roland Hemming at Theatre Projects suggested a Yamaha C1 music computer, which did just that, and we duly got the system together and tried it out on the first leg of the tour. It worked, but as with other systems it was slow to programme, particularly as we had to treat it as though we were writing a piece of music, rather than a series of lighting cues! This was when Richard Bleasdale at Vari-Lite entered the picture. He had been doing some work on an Atari programme, and with the help of our experiences with the Yamaha, and a very long list of 'wouldn't it be good if it could do this...' he was able to come up with the Vari-Lite Cue Editor software in time for the second leg of our tour. All we had to do then was to persuade T.P. to buy, and hire to us, an Atari Stacey lap top computer and a time code reader, and we had exactly the system we wanted.

The equipment layout for the show was as follows: a 35mm cine projector linked to a 16-track tape deck. The tape had music, effects tracks, versions of the show in several languages, and time code. The time code was fed to a Genesis for slide control, to a laser controller (supplied by Laser Grafix, who also use an Atari for synchronized control) and to our Atari for control of all Vari-Lites, conventional lighting, neon and fibre optics via the Artisan.

The resulting show consisted of the following elements: an opening module, to music, which started with laser beams shooting down onto a floor made of 1m square perforated metal tiles. Each square when lit by the laser, lit up with fibre optics from below, and as the number of lit squares increased, they formed a map of the world with some 8000 points on 40 separate circuits. The laser and fibres then ran through a series of synchronised animations, ending in a co-ordinated sweep to blackout.

This was followed by a film, showing

tracking shots of five previous BMW models from the last 25 years — the predecessors to the new model. This was accompanied by music, and by a soundtrack of international news clips from the period. Each of these clips was accompanied by a black and white slide, tracking across the screen, and over the set and auditorium walls. These slides were made as glass Vari-Lite gobos, after some research, by DHA, and with the help of the Atari, each slide appeared, moved, and faded away with the appropriate soundtrack. The show then went on with the first of several company speakers, who, punctuated by film and slide, described the development of the new car. All cues for this section of the show were manually operated. The show then climaxed with the reveal of three of the new cars, on motorized trucks. This was accompanied by a transformation of the set, with neon ceilings (by Syrett Neon) which reflected in, and enhanced, the aerodynamic lines of the car, as well as laser, lighting and smoke effects.

By using the Atari to run this sequence, we were able to guarantee that every single cue was absolutely on the beat, in time with the music, and also, by recording the cues in two batches and playing them back together, we were able to put in more cues than could possibly have been run by a single operator with only two hands!

The show was a great success, and elements of it were re-used for the recent UK launch in Brighton. With Sean Nugent programming, and Paul Cook again using the Atari, we adapted the Vari-Lite a/v for use on a different set, designed by Paul Bonomini, and lit a new car reveal, again using the Atari for total accuracy of cueing.

I cite the above mainly as a means of leading me into the discussion on integrated control versus individual control. The experience of these shows has reaffirmed my opinion that individual control is preferable.

It seems to me that the problem with a single control which operates all systems is the complexity and time taken to programme. I can see that there would be times when, if the set-up time is available, you could save money on crew by reducing the number of operators, but for a short show, the crew are going to be on site anyway to set up their equipment and maintain it. Also, the demands on a single operator during programming become more immense, with a string of interested parties queuing up for programming time.

Having come down on the side of this forum of individual synchronized control, I should add that the system should be picked for the show.

I have used Live Wire successfully to interface between live music and lighting, and I currently have a small show for Shelton Fleming Associates running off a Dataton system at the Royal Museum of Scotland. It runs sound, slides, lighting and switched effects all day everyday, with only a weekly maintenance call to check focus and line-up.

So it must be good to have this increasing number of systems available to choose from, and care must be taken in choosing the right one for the particular job.

Simon Tapping

Notes on the Contributors:

Vince Rice is sales manager of Xylo Ltd.

Carl Dodds and John Lindsell are independent lighting designers.

Paul Dodd is Avitec's lighting designer.

Mark Tonks is Cerebrum Lighting's UK sales manager.

Simon Tapping is an independent lighting designer.



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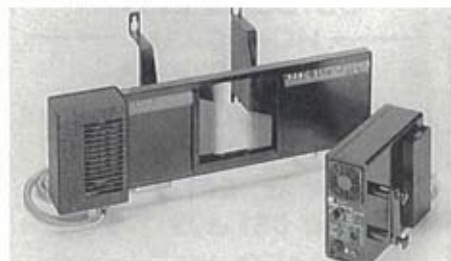
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EQUIPMENT *News*

Process Controlled Shutter

According to Ludwig Pani, the disadvantages of their old shutter have been eliminated in the new Pani Gray Scale Shutter. Positioning of the gray scale glass is accomplished by means of a 'Divi-Step' stepper motor.



The positioning accuracy is greatly improved as is the speed which is 0.35-0.5 seconds (nearly twice as fast as the older shutter). Control is +/- 0-1-VDC with MUX-Control compatible with USITT DMX512 in development. Special features include no light-cut at the lenses; simple adjustment of the external signal by means of a spindle trim potentiometer; no adjustment of the zero-position of glass plates is necessary; and automatic reset after projector start or after power interruption.

Also new from Pani is the Combi-Colour Roller which features a motorized dimming shutter designed to consolidate all empty space allowing the colour roller to be built-in.

The front section of the patented interchangeable cassette permits colours to be changed in seconds while the unit is upright.

A noiseless fan cools the colour media permitting extended life of the material. Control may be achieved through either a +/- 10VDC control signal or with a standard dimmer output voltage. The drive system for the shutter is integrated into the unit. The shutter is operated separately from the colour roller through a control box. For further details contact Ludwig Pani in Vienna, telephone 0222 93 24 62-0.

Low Cost Lighting



From its experience in supplying lighting controls to both restaurants and small hotels, Lytemode believes it has identified a gap in the market, which it hopes to fill with a new low cost lighting control package. The system is based on a standard full function Lytemaster controller coupled to a new four channel dimmer offering five amps per channel for tungsten or low voltage tungsten, no downrating being needed for low voltage loads.

This package is compatible with all other products in the Lytemode architectural range allowing future expansion or upgrading. Features of base system include five scene programming with adjustable fade rates between scenes, an L.E.D. bargraph display of lighting levels, L.E.D. indication of selected scene, an interface to

allow for expansion of the installation or coupling to time clocks and remote control units.

For further details contact Lytemode Limited in Feltham, telephone 081-751 5449.

Peavey Line-Up

A number of new Peavey products are due to be shown for the first time in the UK at the April MIDI Music show at Novotel, Hammersmith.

The DPM-3SE keyboard is the new 1991 keyboard model at the top of the range. This latest software-based composition centre features full sample editing facilities and a host of new features. The operating system is available as an upgrade conversion kit for DPM-3 owners. Complementary to the DPM-3SE is the DPM-SX sampling expansion module. This 'inexpensive' 1u rack module combines with the keyboard to provide a 16 bit sampler with full edit facilities in addition to the sound programming, dual stereo effects processing and sequencing power of the synthesiser. The DPM-V3 rack mount version of the digital phase modulation synthesis architecture will debut at the show.

Also on display for the first time will be the profex software-based multi-effects processor/pre amp and the MIDI Master programmable 8 channel MIDI data processor. Recently introduced products such as the MIDI Librarian and Autograph programmable automated EQ system will also be demonstrated. Together with these the full range of AMR Studio/MIDI peripheral products will be shown including the Sync controller MIDI/SMPTTE synchroniser. For further information contact Peavey in Corby, telephone (0536) 205520.

Trafalgar Hire

A new hire list for 1991/92 is now available from Trafalgar Lighting. A number of new items are featured including the Le Maitre LSX Low smoke convertor, a wide range of special effects lighting, and a greatly expanded sound department, together with all the usual range of theatre lighting.

Copies are available free of charge on request. For further information please contact Trafalgar in Enfield, telephone 081-443 4960.

Zoomspot 1200 Range

Latest release from Selecon is the new Zoomspot 1200 range. Comprising three lens systems - narrow (8-16), medium (16-32) and wide (22-40) the luminaires include a number of important improvements to luminaires of this class.

The two shutter planes (N/S, E/W) are individually rotatable providing up to 180° of movement between adjacent shutters. As well as the wide range of masking angles the system is a great time saver during exacting focus sessions.

The lens cartridge moves on an extruded rail section held captive on a machined PETP bearing. Even when the luminaire is vertical, lens movement is constant without lamp damaging vibrations.

The two lens assemblies can be changed in less than 15 seconds without tools, a bonus for hire companies and busy venues.

Other features include a spring dampened lamp mounting system, simple yoke movement adjustment, rotatable gobo holder (separate from the shutter system) and a cranked yoke supplied as standard with all luminaires.

The Zoomspot 1200 along with the rest of the Selecon stage and display luminaire range is

available in the UK through M&M Lighting in London, telephone 071-722 4147.

New Laser Display

Laserpoint have developed an intelligent lantern mounted laser display device which is currently in use on a major Spanish television series, Viva El Espectaculo for TVE SA, one day per week for three months.

Drawing on technology developed for the recent Cliff Richard tour, Laserpoint have produced a four channel Aquarius system driving four independently controllable fibre optic fed laser scanning units mounted in individual moving lights.

The Varibeam lights have been modified by the company to provide the best of both worlds - the intensity and sharpness of laser output with wide angled X Y deflection provided by the intelligent lantern. For further information contact Laserpoint in Cambridge, telephone (0223) 212331.

All Systems Go

Vestax are about to receive their first shipment of the DSG-1, eight second, stand alone, digital sampler which they claim will connect to any mixer, adding to it the latest technology.

DSG-1 is designed to lay next to the mixer, requiring no special fixing or rack. It has four memory banks of two seconds, two banks of four seconds, or one bank of eight seconds. It also has a separate two second digital delay. The user may switch between delay and sample without losing samples from the memory.

The company have also shipped five and a half tonnes of its range of UK built loudspeakers to Japan. Mainly intended for the south east Asia market, the boxes, designated the SPS range, were designed by Vestax using Tayden drivers



and specialised crossovers. The range includes a 2 x 10" with two horns, a 1 x 12" with horn, a 1 x 15" with CD type horn and 15", 10" plus CD type horn. The design of SPS speakers includes a stacking arrangement.

Together with these the first shipments of the PDT-1600MKV turntable have been well received in Japan, according to the company.

The PDT-1600 was designed and built for Vestax and the first shipments were quickly sold and orders have been placed for more. PDT-1600 is available for the UK and Europe.

For further details contact Vestax (Europe) Ltd in Haslemere, telephone (0428) 53117.

BBE Sonic Maximizer

BBE have recently introduced a new product, the Sonic Maximizer. The device corrects the phase and amplitude distortion inherent in dynamic loudspeakers, claim the company.

The BBE 822A is a 1U single rack unit featuring two independent controls, hardware bypass for each channel and active balanced outputs. The BBE 702 retrofits any dbx 900 series modular mainframes and includes process and low EQ controls, switchable modes of operation, process and clip indicators plus a hardware bypass switch enabling the operator to compare the processed with the original sound. The BBE 411 is designed for use as an acoustic, electric or bass guitar preamplifier or any other mono sound source. The single channel unit gives access to the BBE process without having to pass the signal through effects loops.

Transcription Success

Following the current trends for mobile disc jockeys and nightclubs to use separate sound equipment, Nottingham-based NJD Electronics have introduced the DL-P500 transcription turntable.



Each DL-P500 incorporates a sophisticated stroboscopic timing controller to ensure that records rotate at a genuine speed of 33 or 45 r.p.m. The unit also contains individual varispeed controls for both speeds, speed selector switch, with a forward and reverse remote control facility for all cueing purposes.

For further details contact NJD Electronics in Nottingham on (0602) 394122.

Fluorescent Paint from Rosco

Blacklight technology is not new, but there are more blacklight sources available now from the major lamp companies, giving new possibilities for uses outside the traditional theatre markets. Rosco have relaunched their Fluorescent Paint to give more intensity than previously under normal lighting and have added two new colours to the range. These new, brighter colours make the Fluorescent Paints ideal for use in theme parks, exhibitions and museums, in television and film, signage display and amateur markets and many more, claim Rosco.

The paints now include a pink and a gold in addition to the existing red, orange, yellow, green, blue, invisible blue and white. The paint can be used on virtually any surface but to obtain the maximum fluorescent effect Rosco advise it should be applied to a white surface.

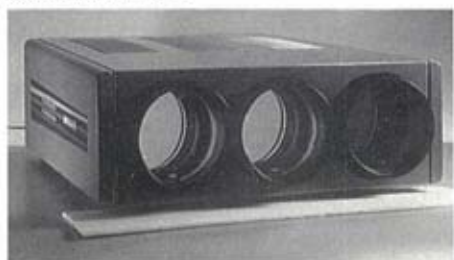
Formulated with a vinyl acrylic binder, the paints are water resistant, re-coatable and may be applied to scenic canvas, wood, plaster, various plastics and metals.

Supersaturated Roscopaint, the company's top-of-the-range vinyl acrylic paint, has three new colours in the range: lemon yellow, navy blue and turquoise. Supersat can be used on almost every porous and non-porous surface in a theatre and dries to a flat, matt, velvet-like finish which does not reflect stage light.

Technical details are available from Roscolab in London, telephone 081-659 2300.

Maxivideo

Video Projector Industry of Trento, Italy, has introduced a new range of videoprojectors under the Maxivideo trademark — the VT-2000 series. The compact videoprojection units are the result of team research carried out at the laboratories of VPI.



According to the company, the Maxivideo VT-2000 is an easily assembled frontal videoprojection machine which can be either ceiling or floor mounted without having to turn it upside down thus making moving the projector around an easy task. The unit also features infra-red RC, modular electronics, high brightness CRTs, teletext, S-VHS input and an incorporated audio system.

In order to offer a complete support service to the customer, VPI have also developed a new production line of video accessories consisting of a wide range of products such as video distributors, audio/video matrixes, loudspeakers, and a series of video projectors, mounting brackets and extension arms.

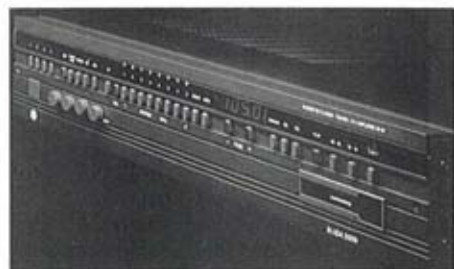
For further information and available distribution areas worldwide contact VPI in Italy on 461-82 12 39.

RCF ELISA 2000

Easy listening sound ambience 'ELISA' is the commencement of a series of equipment designed to enhance the sound quality of background/foreground music systems, and recently introduced by RCF of Italy.

The ELISA 2000 is a complete integrated sound system for sound reproduction in small to medium size areas that require a full selection of sound sources. In a single elegantly designed unit the ELISA 2000 contains a 30watt RMS amplifier with two high quality sound sources: an AM/FM tuner with frequency tuning and an electronically aided auto-reverse tape player.

The tuner can store up to 16 stations and can be automatically or manually tuned. Only the slightest touch is needed to operate the auto-reverse cassette player with full fast forward/reverse, play and eject controls. The built in amplifier can be driven by the internal sources (tuner and tape) or from external sources. The whole is provided with two microphone inputs with voice override facilities available.

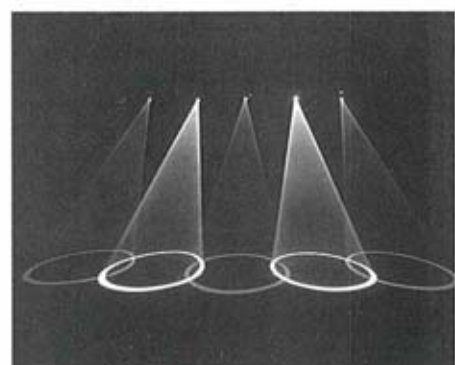


Summed phono sockets provide inputs for Compact Disc, Phono and Auxiliary In, external music sources. An innovative feature of the ELISA 2000 is via zone switches on the front panel being available to provide four distinct listening areas if required. According to RCF, the ELISA 2000 can be connected to power amplifiers for larger systems making it an extremely versatile integrated music system source. For further information contact RCF Electronics (UK) Ltd, in Laindon, telephone (0268) 415150.

Lightwave Emulator

The engineers at Lightwave Research of Austin, Texas, USA have announced some significant improvements to their Emulator system. High resolution galvanometers are being used for its mirror scanning system and the fixture's light output has been increased up to four times by using a new proprietary Xenon lamp. Enhanced software has produced superior pattern definition, scale and rotation. A Chorus Mode will allow for units to be sync'ed together in tandem via the joystick. Additionally several advancements in audio response capabilities have been introduced including image size modulation.

Emulator simulates a laser beam by creating a near parallel ray of concentrated light that scans by means of two front surface mirrors working in tandem to produce planes, lines, tunnels and scanning beam patterns over long distances. The brilliant white ray can change to any one of 11 additional pure colours by means of a self-homing, micro-stepping, colour changing system. Any of the up to 99 pre-programmed patterns can be assigned to any of the individually addressable fixtures and stored into any of the controller's 891 scenes. The X and Y mirrors have a scanning angle of 70 degrees each and can easily cover large areas. There is also an indexing shutter system that can create an intermittent pulsing light ray or instantaneous blackouts.



Emulator utilises a proprietary Xenon compact source lamp that has a rated life of 400 hours, and produces a converged beam of light only four inches in diameter at a throw of 22 feet. Because the Emulator only simulates a laser-like ray, the system is completely safe to use in theatrical, concert touring, nightclub and studio applications, say Lightwave.

The Emulator controller has 24 preset buttons and nine memories each containing 99 scenes. In each of these scenes can be stored any of 99 different programs and their modifications. Modification can be of precise beam positioning, speed rate of program pattern or of colour and strobe gate wheels. The system is also capable of precisely targeting and striking fixed mirrors and creating multiple beam displays.

Emulator has a special Concert Mode function that will nearly double the light output of the lamp. The fixture operates at a low power consumption of 6.4 amperes @ 120V/60Hz. For touring and export markets the Emulator can easily be selected to operate at any of the following voltages: 230, 120 or 100 volts AC at either 50 or 60 hertz. For further details contact Lightwave Research in Austin, USA telephone (512) 836 2242.

Setting the Stage

Following on from the success of their series of educational videos 'Lighting in the Real World', Rosco have produced a further series 'Setting the Stage.' Designed for teachers, students and others who paint scenery, the three videos demonstrate clearly and simply the skills and know-how which add dimension and interest to scenery. Each video lasts between 25 and 35 minutes and is hosted by Cathy Poppe, an accomplished American scenic artist and designer.

The first video, 'Preparing the Surface', details the important first steps in painting scenery. It covers muslin and flats, flame-treating muslin, priming, base coats and how to transfer the drawing onto muslin using charcoal or marker.

'Painting Exteriors' is the second video, which covers the most common exterior elements and how to achieve them: bricks, stone, woodwork, foliage and landscape. The video demonstrates mixing and applying highlight and shadow, as well as different techniques and tools to give painted scenery distance and perspective.

The final video is 'Painting Interiors' and it includes woodgrain, marble and wallpaper, using applicators such as sea sponge, rag and even newspaper to add unique texture to scenery.

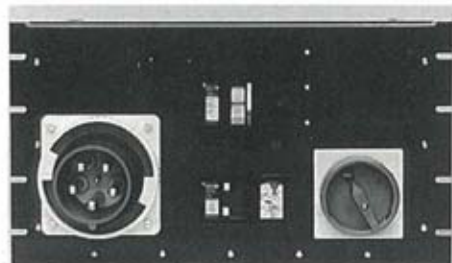
The videos are available on rental from Rosco dealers or the full set can be purchased for £96.95 from Roscolab in London, telephone 081-659 2300.

Audiomotion Systems

Audiomotion Systems is now offering automated EQ switching and automated insertion switching for any console fitted with the company's Uptown Automation. These innovations were designed to facilitate quarter frame accurate drop-ins of the console EQ and insert point, while the latter will also automate the switching of outboard effects devices, reverb and pitching. For further information contact Audiomotion Systems in Co. Durham, telephone (0207) 282880.

Light Beams' Showrack

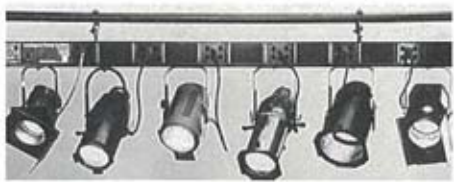
The SR24/2 Showrack from Light Beams of Belgium is the result of more than ten years' experience in stage lighting and services related to the entertainment industry. It combines the strength and versatility of the Power Card modular dimmers together with the flexibility of the Silicon Controls range of 19" panels. Featured as standard are Socapex input and output; 24 channels of 2.5kW each, divided in independent dimmer modules of four channels and extensive user diagnostics and testing.



The company have also launched the MDU125 (pictured above), a prewired mains distribution unit which allows mobile systems to be used directly on both 220V and 380V mains grids without having to rewire them. The unit features 19" 6U front panel of 2.5mm steel, 1.5mm chassis, 125A, 380V, CEE mains socket, electronic mains sensing and indication system, 160A star/delta switch, together with total maximum power rating of 47,600W/220V or 82,000W/380V. For further details contact Light Beams in Deinze, Belgium, telephone 91 86 82 55.

IPS Dimmers from GAM

The Intelligent Power System featured in last month's USITT report, has recently been launched by The Great American Market. It features 'smart', distributed dimming in a dimmer-per-lamp connector-strip package.



The System, a departure from traditional dimming, eliminates the need for the patch panel, dimmer rack and dimmer room. It greatly reduces the cable requirements normally associated with a lighting control system. The chokeless dimmers do not have fans. They are acoustically quiet, impervious to dead shorts, and operate accurately on severely distorted power lines. They offer continuous status reporting back to the console or companion System Monitor. Focus switches on the connector strip enable the electrician to turn each fixture on and off in the air while focusing.

Intelligent Power System is manufactured in the USA by Entertainment Technology Inc. It is configured in a 6 x 1.2kW connector strip, a 6 x 1.2kW plugging box, a 3 x 2.4kW connector strip and a 3 x 2.4kW plugging box. For details and specifications contact Great American Market in Hollywood, telephone 213 461-0200.

Laser Magic

Laser Magic has developed a number of software products and can offer new IBM PC packages to all existing users of Laser Magic PM20, Laser Grafix Midas and Universal Lasers Wizard controllers. Two products are available now.

PM Draw is a complete graphics preparation package for users that need to create their own graphics. This allows images to be digitised, edited and manipulated on screen. The generation of all data for the controller EPROMs is done automatically by the software. PM Draw offers graphic pre-view mode that allows images to be viewed immediately without the need to make any graphics EPROMs. All individual graphics and information about graphics grouped together into EPROMs may be stored to disk for future use allowing the build up of a library of graphics.

ShowPlan allows the user to control and programme up to four laser desks simultaneously. Apart from offering the capability of a quad-scan system ShowPlan has many other features that greatly enhance the usefulness of the PM20 (and compatible) laser controllers.

All controller programming may be saved to disk for subsequent down-loading to the controller. All desk programming may be done in the conventional manner or from the PC using ShowPlan's programming facility that offers all of the standard controller functions and some extended features, especially with respect to graphic chases and text. A full blown sequence editor is available that extends the abilities of the PM20 by offering 1000 timed events per head for precision, repeatable displays. Programmable events include standard button pushes and a whole set of extended commands. Each event may be timed to 1/24th second precision and be played using either the computer's internal clock or by reading SMPTE time code with the optional SMPTE interface card. ShowPlan and PM Draw may be fully integrated to act as a single Workstation that will support all PM20 controller needs from graphics pre-preparation through to the programming of complex, split-second timed shows that can be repeated again and again.

For further details contact Laser Magic in Seaford, telephone (0323) 809752.

Subwoofer System



Italian-based Outline recently launched three new subwoofer system models to complement its wide range of loudspeaker systems. All the models use optimised-mass, high excursion proprietary made, Magnifluid cooled 18" woofers that can handle 800W AES and 1600W continuous program. They are all direct radiating with Maximally Flat 6th order Butterworth alignment (Thiele No 15) for optimum bass extension in small-sized vented enclosures.

The Flysub subwoofer system is best suited for medium to short throw in discos and in medium sized live shows. The units have a sensitivity of 98dB SPL/1W/1m, and a frequency response of 33-800 (?) 3dB. Power handling is 800W AES, 1600 Continuous Program, and the maximum SPL is 127dB/1m continuous full rating.

The Minisub is recommended where the smallest possible dimensions and weight are required together with sub-bass performances in discos or in small portable sound systems. It features the same sensitivity and power handling as the Flysub.

The Topsub subwoofer is designed to match Outline's largest loudspeaker system, the Topfly, and it is a doubled version of the Minisub. To equal the very high sensitivity of the Topfly, two 18" Magnifluid cooled woofers are provided in the same enclosure with a sensitivity of 104dB SPL/1m, and frequency response of 33-500 +/- 3dB, it has power handling of 1600W AES, 3200 continuous program and maximum SPL is 133dB/1m continuous full rating, 136dB peak.

For further information contact Outline in Brescia, Italy, telephone 30 2680712.

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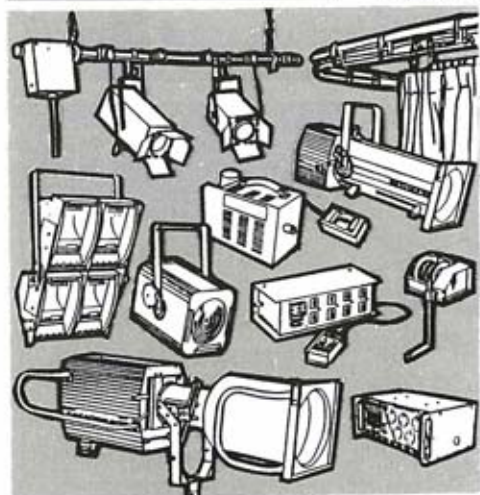
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VIEWPOINT

Steve Terry on The Business of Standards

In the last five years, one thing has become abundantly clear about DMX512 and its effects on the entertainment lighting industry: the advent of the standard has made money for lots of businesses. While standards are generally perceived as having a rational and organising influence on the market, I doubt if many people could have foreseen DMX512 as an actual creator of revenue. But that's what's happened. The concept of 'systems integration' in the permanent installation market has been driven by the availability of the standard. Companies that were unable to sell their control products into "serious" applications in the Pre-DMX world have made forward strides using DMX to bundle and package complete systems. The standard has relieved every manufacturer of the burden of having to produce the best dimmer, the best desk, the best colourchanger. The specialist manufacturer can now concentrate on their particular area of expertise, and rely on the end-user or systems integrator to pull together a viable system in a relatively pain-free fashion.

And here's the best part: DMX512 came to the industry at almost no cost or effort from most of the manufacturers who are reaping the benefits. A small group of interested individuals and companies produced the standard using 'guerilla' standards-making techniques. But the quick, expedient, no-cost process that worked for DMX512 is unlikely to fly again in our industry. New standards are going to require that we 'pay the piper' as an industry.

At the USITT National Conference in Boston in February 1991, a series of intense discussions took place surrounding the future standards efforts of the USITT. First, in Brad Rodriguez' session entitled 'Advanced DMX-Class Protocols', it became clear that while the industry wants one or more advanced protocols, the overwhelming opinion was not to tamper with DMX512, because 'advancing' it would, in fact, dilute its interoperability. At last, the debate about advancing DMX that has raged on ad nauseum for the last two years seems to have been put to rest. Individual companies who want to produce product that uses an enhanced version of DMX to create a proprietary protocol will be able to do so, but by the consensus the standard itself will remain unchanged.

The next important USITT session dealt with the actual process of standards-making. The USITT will

shortly be adopting an ANSI-acceptable procedure which will formalise the process. ANSI (American National Standards Institute) was deemed a must for many future USITT standards, particularly those dealing with rigging applications. For standards that will never require ANSI acceptance (arguably, control protocols fall into this group), an abbreviated and more streamlined version of the procedure will be adopted. It is likely that these documents will be complete by the autumn of 1991.

But, far more important than the actual mechanics of the standards effort, this meeting produced a radical shift in the USITT attitude towards the standards process. Previous standards work has been accomplished by very small groups or single individuals that carried virtually the entire workload. Some standards have simply languished and died, notably the 0-10 volt Analog Standard, which now appears to be somewhat of a moot point. And it's not surprising, since many of the people most actively involved in standards have pursued the work as a 'hobby', without support of any kind from their companies. Fitting the standards work in between 'real' business and attending one USITT meeting per year has simply failed to provide enough forward motion in our industry. Unfortunately, many companies fail to realise that standards are real business!

In order to get our industry the new advanced standards that it so desperately needs, there must be a new corporate awareness that participation in a standards effort is prestigious and commercially intelligent. By supporting standards work with an engineer's time, during the normal work schedule and with time off to attend working group meetings, a company establishes itself as an industry leader and a major contributor to a project which will eventually have good commercial fallout.

The new, more formal approach to USITT standards and the higher complexity of those standards will require members of working groups to put in significant time and effort over the course of a project. Group chairs will use new, tougher criteria in selecting participants. Selection will be made on the basis of expertise, but participants must have the time resources to perform meaningful work over the life of the project. Those time resources will rarely be made

available by individuals, they must come from strong corporate support of participants.

The final session of the Boston conference dealt with the possible adoption of the Strand SMX protocol as a USITT standard. This effort has languished for the last two years as a joint project of the USITT Engineering Commission and the Illuminating Engineering Society Theatre, Television, and Film Committee. The USITT, fueled by the new 'get it done' attitude, has pulled the project firmly back to the engineering commission. Using the new approach to standards, a study group of 36 companies and individuals, co-chaired by myself and Ian Ibbotson of Strand, will be evaluating the viability of SMX as a supportable industry standard. The study group is international, with five UK companies represented.

The process of evaluating SMX will not be a simple 'read-through' of the protocol. Study group members will be asked to 'test' the protocol in model applications to determine its usefulness to their companies. Questions will be raised and answered about the ongoing support and administration required to keep a complex protocol managed, and whether this can be done outside the Strand organisation. Considerable thought, time and effort will be required, but the potential payoff is tremendous. If SMX will indeed, satisfy the industry needs of the next decade, it represents a body of work that might take years to do from scratch.

If you're the managing director of a company and one of your engineers is asked to participate in the standards effort, keep in mind that standards mean good business!

Steve Terry is the Executive Vice President of Production Arts Lighting, a New York-based lighting rental and sales organisation. He has been active in standards and codes efforts for the last 12 years. He founded and chaired the original USITT National Electrical Code Committee, and chaired the Dimmer Standards Committee which wrote DMX512. He is currently a USITT Vice-Commissioner for Engineering, and is the co-chair of the SMX Evaluation Study Group. Steve also serves as a contributing Technical Editor for Lighting Dimensions magazine.

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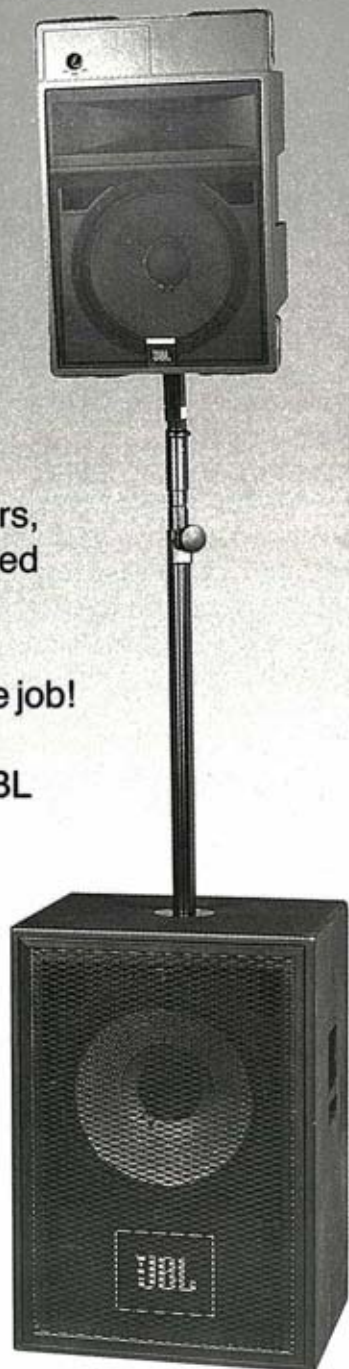
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