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International



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- New Look Top of the Pops
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NOVEMBER 1991

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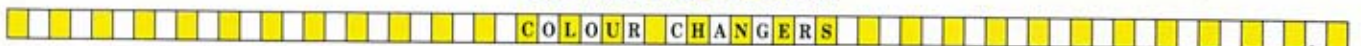
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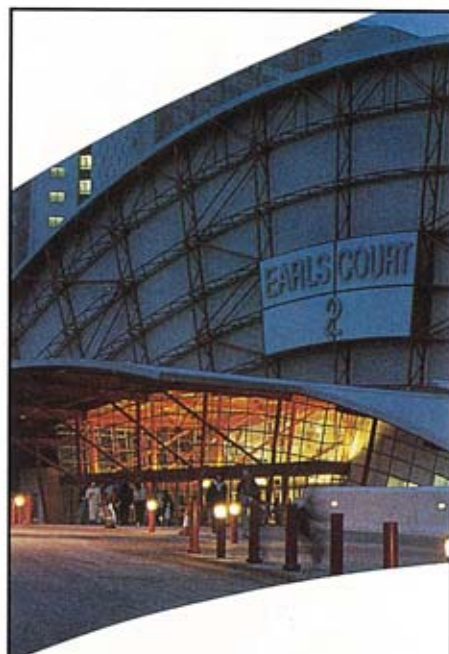
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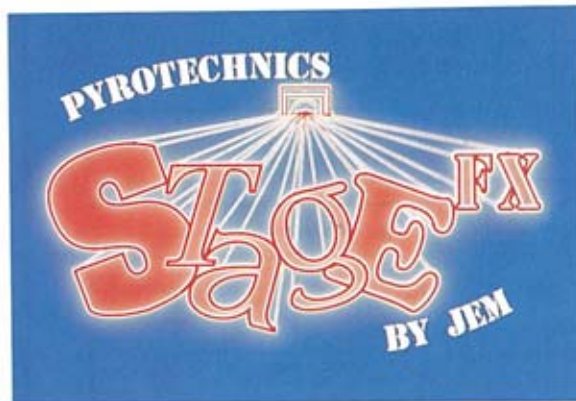
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LIGHTING+SOUND *International News*

Mori Research Confirms Strength Of Plasa Show

Seven in every ten visitors to this year's PLASA Light & Sound Show came with money to spend according to MORI, and more than half this number had over £25,000 available.

Show organisers Philbeach Events and PLASA commissioned MORI to conduct the exhibition's first-ever visitor analysis survey, and among the findings based on face-to-face interviews with 573 visitors over the show's four days, was firm evidence that PLASA is one of the major events on the international trade show circuit. One in seven visitors don't even bother to attend any other UK or overseas industry exhibition.

Confirming that the show is one of the principal international launch pads for new products, more than 60 per cent of visitors cited new products as their principal reason for attending. And they weren't disappointed. Over half the exhibitors had launched new or enhanced products this year. Asked if this year's show had met their expectations, 52 per cent of visitors were 'satisfied' and 25 per cent 'very satisfied'.

Simon Boyd of Philbeach Events stated: "Conducting this MORI poll has enabled us to confirm what so many have felt for a long time: that the PLASA Show not only delivers what the visitor wants but that it has an extremely strong and loyal visitor base.

More important, we are now equipped with the information we need to confidently structure and develop the show over the next few years, particularly with the move to the exciting new Earls Court 2 venue in 1992, which will be another exciting stage in the evolution of one of the most important international industry shows."

... and puts L+SI Top

L+SI, PLASA's own magazine, came top of the league in the 'Readership of Trade Magazine' sector of the MORI exit survey at the Light & Sound Show. On which trade magazines were read regularly (at least three out of every four issues) Lighting+Sound International came out way in front with 51%. Our nearest competitors reached 35% and 25% with the rest way behind.

By sector we had a near clean sweep. We lead the field handsomely by readership in local authorities, manufacturing, rental, TV/Film, Theatre, Installers and Wholesale and Retail. Disco Club and Leisure International beat us by just 2% in the Leisure area and in the club and disco section we got near to Disco Mirror (our 38% to their 40%), with DI winning that section with a score of 50%.

We'd liked to have given you some accurate detail on some other sectors, but the poll people lumped mobile discos, live and touring into one section and there was no way we could split up the results from the computerised returns. DI won the group with 40%, with L+SI on 34% and Disco Mirror on 25%. But we don't think DI would argue with us if we suggested they would have easily won a 'mobile' group, while we would have taken the honours in 'live' and 'touring'. We'll have to wait for a friendly battle on that score next year!



First in France

Pictured above is the ALS Enigma Micro installed at La Pergola, a major club at Bais in Brittany, by Business Number One of Lorient. The Micro controls a wide range of Coemar equipment together with Tubelight fountains and a special motorised screen. It was supplied from the UK by Cerebrum Lighting, the world-wide agents for Advanced Lighting Systems' Enigma control systems.

All Aboard British!

When the world's biggest cruise liner, Royal Caribbean's 2400 passenger 'Monarch of the Seas', left St. Nazaire in France for the transatlantic crossing to its tropical island-hopping playground, it carried with it the most sophisticated entertainment technology installed on-board ship.

Many of the performance areas were designed or supplied by British companies. Both the main Show Lounge, which can seat 1000 people for a single performance, and the more intimate aft lounge with its smaller stage, have Strand Light Palette boards and EC90 dimmer racks and large numbers of Strand luminaires. Installation of lighting and sound was carried out by French marine installer HMS.

The main show lounge, dubbed 'The Sound of Music', also incorporates a massive 50 monitor Electrosonic Picbloc video wall, or two walls in fact, for a 5 x 5 monitor wall is stored in each of the wings and driven on suspended track to centre stage to form one gigantic screen. The concept was devised by Multivision of Miami.

In addition, Electrosonic Sceneset lighting control is installed in all the public areas on board, including the Centrum, a stunning atrium with glass wall-climbing lifts, fountains and a grand staircase, surrounded by shops. Altogether 15 racks of Digidim dimmers are employed on the Monarch, all under Sceneset control, with a Scenemanager time-clock controlling the lighting environments throughout.

There are also two state-of-the-art discotheques on board, with lighting, sound and video systems designed by Wynne Willson Gottelier. Both incorporate Databeat-controlled, JBL sound systems and, while one features extensive use of fibre optic lighting, the other is a self-operating interactive room designed to appeal to younger passengers. Lighting control in both rooms was by Zero 88.

(L+SI will be running a feature on shipboard entertainment systems in the December issue which will include an extensive in-depth report on the main Show lounge on Monarch of the Seas).

Safe-T 91 On Record

The recent Safe-T 91 conference, jointly organised by the ABTT and the Society of Theatre Consultants, and sponsored by PLASA, amongst others, was judged a major success and copies of the tapes and transcripts of individual papers are being offered for sale. For details and an order form contact the member services of CIBSE on 081-675 5211.



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MOSTLY LIGHTING

After having one of their busiest PLASA Shows ever, **Doughty Engineering** report record sales for September and October. Managing director George Chiverton told L+SI: "We are very pleased with the number and quality of the visitors to our stand - both from the UK, and just as important, from overseas." The company's European distribution network now covers eight countries and is building up its hand as 1992 approaches. In the UK, three new stockists have joined the original 15. These are White Light (London and Halifax), East Midlands Sound & Light (Grantham) and ProCreation Ltd (Telford). Doughty are hoping to emulate their last financial year when their sales increased by a massive 70 per cent.

The fourth winner of **Zero 88's** prize draw for a Lightmaster XL was drawn by John Offord at the PLASA office before we went to press. The lucky person was G. Street of Bradford.

CCT Lighting are back in town having opened a new sales and head office in south London. All export and sales enquiries should now be directed to 4 Tudor Court, Brighton Road, Sutton, Surrey SM2 5AE



Working for American ABC news, **Playlight** of Manchester went back to Russia for the fourth time within a year recently to provide equipment for various programmes during the Bush-Gorbachov summit talks. One of their fleet of smart red generator trucks made the overland trip complete with a full range of flicker-free HMLs from 6kW down to 200W as specified by British lighting director John Burgess. At any given time Playlight had fixed rigs in four different venues that were totally self-sufficient and with no need to rely on local services.

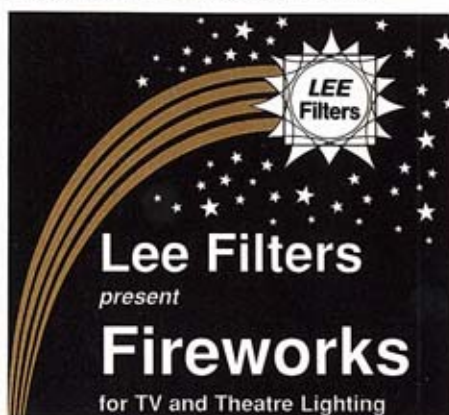
The directors of **AFM Lighting** and **S. G. Fenner Lighting**, who both service the television and film industry, have announced an intended merger of their business interests. Following to the completion of legal formalities, both companies will trade from Standard Road in Park Royal, London.

The finishing touches have been made to Europe's first three-dimensional multi-coloured sculpture which was unveiled by the Queen when she opened the ICC in Birmingham. Standing over 70 feet tall above the entrance to the Centre, the grafted-glass sculpture depicts 82 brightly coloured exotic birds flying round a tree. It was built by the specialist sign company **Sign Specialists** of Hockley Hill in Birmingham and is believed to be the first time a three-dimensional neon sculpture has been made using and the first time multi-coloured neon glass which has been successfully grafted in continuous lengths. At the heart of the creation is a 21-way microprocessor-based control which selects the parts of the sculpture to be illuminated at random and controls the time sequencing. It has such a large range of parameters that it is estimated the sculpture will only reproduce the same sequence of movements once every five years.

Green Light Hire in Birmingham reach their

tenth birthday in November and have decided to change their name to **Central Theatre Supplies** to more accurately reflect their expanding activities. The company acts as distributors for a number of major lighting and sound manufacturers and has recently been appointed a Midlands dealer for Zero 88 equipment. Director David Harwood told L+SI that their new hire catalogue is now available with a separate sales price list following at the end of November.

The Lighting Industry Federation has announced that it has pledged its support for the Lighting Association's **Lightshow** which takes place at Earls Court 2 on January 26 next year. The news coincides with the announcement that LIF will formally withdraw its sponsorship of all other exhibitions at the end of 1992 to ensure that Lightshow continues to expand and grow.



To mark the 386th anniversary of Guy Fawkes' little prank at the Houses of Parliament on November 5th 1605, **Lee Filters** have come up with some fireworks of their own with the addition of 12 new gel colours, and all presented in a special mini swatch-book.

Electrosonic have announced the opening of a new office in Los Angeles, specifically to deal with leisure projects in North America and the Pacific Rim. It will be run by Doug Hunt, formerly technical director of Audio Visual Headquarters, and he has been joined by Paul Giguere, vice president of leisure sales in North America, and Jim Bowie, originally from Electrosonic UK, as project manager. Other news from Electrosonic comes from Kuwait where they are busy re-establishing contacts. A Sceneset lighting control system is currently being installed in the VIP areas of Kuwait Airport.



Lighting for the recent All-African Games in Cairo was provided by **Philips Lighting** and Philips Egypt who were responsible for systems in all the sports venues used. Centre of the spectacle was the enormous Cairo Stadium and the Indoor Sports Complex with four sports halls. Floodlights for both playing areas and stands, together with the halogen emergency floodlights, were installed on concentric catwalks within the dome-shaped roof of the stadium, and it was the first-ever project to involve the use of ArenaVision in an indoor sports complex. Metal halide lighting was used in the other three circular halls.

Juliana's Leisure Group has just opened its latest facility in the Algarve resort of Vilamoura. Located within the Casino de Vilamoura complex, the venue continues the string of branded multi-purpose facilities that are being developed by the company in major world-wide locations. It follows the huge success of Juliana's Tokyo. Future plans include venues in Istanbul (this month), Barcelona in May 1993, and London, Madrid, Lisbon, Berlin and Budapest in the near future. Other projects are a major contract to equip the new 'Club Alibi' discotheque at the Hotel Dresdner Hof in Germany which opens on November 20.

Following an announcement from parent company GTE that it was reviewing 'strategic alternatives' for its electrical products business, the president of **GTE Lighting Europe**, S. Donald McCullough stated that it was "absolutely business as usual". With major brand names in Europe such as Sylvania, Claude, Concord and Luminance, GTE is one of the top three companies in European lighting with ten plants, over 30 marketing offices and 4000 employees. "We are a strong, successful organisation, world-wide and in Europe," said McCullough, "and we intend to build on and strengthen this position."

With the success of their previous fair behind them, the organisers of **World Lighting Fair** in Tokyo next year are working hard to persuade industry representatives to make the trip to Japan. Interests and expectations in the Japanese market are rising and the 1992 show is beginning to attract more overseas visitors. (see advertisement in this issue, page 43).

Despite the recession, **PA Installations** of Llanelli have been busy on the installation front with the placement of lighting and sound systems in a mixture of venues. At the Cheltenham and Gloucester College of Higher Education the new sound and lighting system comprised of a Community sound system and also included an SVT stereo video projection unit with a commercial satellite installation. Lighting equipment from Zero 88, Lightforce, Fabtronic, Optikinetics, Coemar and Rossula was incorporated.

Another Community sound system was chosen by PA Installations for a prestigious scheme at the Middleton Park Hotel in County Cork in Eire. It was the company's second successful venture into Southern Ireland in conjunction with Thomas Parry interior designers of Swansea. PPX amps were used and Bose speakers were employed for secondary sound reinforcement. PA also installed an effects light-show and the stage lighting system.

A JBL system was provided for Aberystwyth Football Club for their discotheque and this project



Tower Bridge at night from HMS Belfast.

Lighting London's Skyline

The Society of Television Lighting Directors held their October meeting on board HMS Belfast in the Pool of London and the subject was 'Lighting London's Skyline'. There was discussion along the way on the use of different light sources, but most of the evening was given to the description of work on different major projects on the City skyline.

Michael Simpson, project engineer and chief lighting engineer at Philips Lighting described his work on St. Paul's Cathedral and Tower Bridge, Andrew Bridge covered his approach to lighting the new Lloyds building and Simon Bruxner-Randall detailed his schemes for Waterloo Station and the special BT light-up of the Telecom Tower when the London telephone numbers went 071 and 081.

From the aft end of Belfast you could take a look at Philips equipment and see Tower Bridge in all its glory as L+SI's photograph shows.



Mike Jeffries of the STLD (left) with lighting designer Andrew Bridge on board HMS Belfast.



(L to R) Simon Bruxner-Randall, Andrew Bridge and Michael Simpson.

also involved a stage lighting package and effects lighting system. PA used another Community sound system on a scheme for the Liverpool Polytechnic Students Union building, a project under the supervision of David Rice Interior Contracts of Peterborough. A small stage and effects lighting system was also included.

A new standardised databus for installation in buildings, the 'Instabus', is being launched this autumn. Developed by EIBA (The European Installation Bus Association) - a joint venture between **Siemens** and other leading manufacturers of electrical installation equipment - the Instabus matches electrical installations in a building and monitors and controls most functions and processes. It is capable of integrating most electrical systems used within a building. Details are available from Daryl Hynes of Siemens on 061-446 5356.

Exciting Lighting & Decor of Bangor in Northern Ireland recently completed a major up-grade project for a 1500 capacity discotheque at the Seaview Hotel in Bunbeg, Co. Donegal, a family owned luxury hotel. Equipment installed

included JBL speakers and C- Audio amps and on the lighting side a mix of products from Lynx, Coemar, Clay Paky, Fal, Mode, Lampo and Given set on a powder-coated spaceframe of TriLite. Lighting control is all from Mode Electronics including an Arcline controller. There are three separate Lynx elevator controllers.

Having won the DI award for best laser display system, **Laser Grafix** of Royston have been busy installing their systems into six premier First Leisure venues and two Juliana's establishments. Other venues have been installed in major overseas resort entertainment complexes. The company is also active in the product promotion field and on the rock and roll front they have high hopes of big future bookings for their lighting/laser 'Starlaser', a joint venture with Tasco Communications.

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Celco In Japan

Celco recently held their first customer seminar in Japan which was organised by the company's two exclusive distributors, Technical Supply Japan and H Ito & Co. It took place in the Event Suite of the Laforet Museum Espace in the busy Harajuku district of Tokyo.

Two 30-minute lectures, including slide presentations, were given by Keith Dale and Colin Whittaker of Celco, with Japanese translation by Tomoko Hirasawa. A total of 160 customers attended the seminar which also featured a 'hands-on' session with the full range of Celco consoles, controlling, amongst other things, several SummaHTI automated luminaires. The event culminated with a world-exclusive preview of the radical new 'Navigator' console.

Pictured above behind a 'Gold' console are Keith Dale and Colin Whittaker of Celco with Takeshi Hayakawa (TSJ), Harumichi Ito (H Ito & Co), Tomoko Hirasawa (translator) and Hitoshi Ogata (TSJ) and the rest of the seminar production team. In the picture (below left) the Navigator gets an enthusiastic response from the normally reserved Japanese. The after-show party (below right) was attended by all concerned and included numerous 'Campari's' long into the night!



WB/Coemar Venetian Travels

In late September just two weeks after the PLASA Light and Sound Show, WB Lighting/Coemar transported 72 of their dealers and distributors, plus assorted others, to the mediterranean climes of northern Italy, and more particularly Lake Garda.

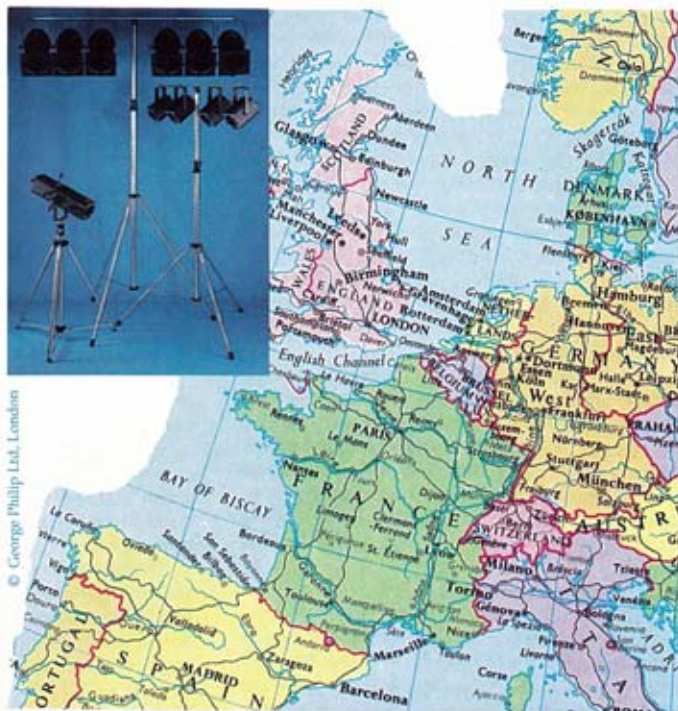
Departing from Heathrow on Friday, a short flight across the seas, and the 72 embarked on one of the most demanding schedules known to man. Fresh(?) from the flight and a two hour coach journey, and at the civilised hour of 11 pm, the group sat down to tea, Italian-style. 54 courses later and this troop was flagging, but nobly soldiered on throughout the week-end, and was ushered from restaurant to hotel, to coach, to boat, to Venice, to boat, to coach, to restaurant . . . and still only Saturday. Sleep went out the window, and sheer determination to stay the course came in.

Aside from the travelling, and the eating, there were other sights to take in along the way. Most notably a trip to Genux, the world's largest nightclub, to see Coemar products in situ; followed next day by a visit to Coemar's premises in Castel Goffredo for a preview of the new range of TAS effects, a competitively priced complement to the current Coemar range. And onwards from coach to restaurant (54 things to do with fish this time) to coach, to airport and home . . . They certainly know how to show a girl a good time - so thanks to all at WB and Coemar for the invite.

Ruth Rossington



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MOSTLY SOUND



Product specialist Peter Jostins of **Soundtracs** (in picture above, right) recently presented a series of seminars in Beijing, in conjunction with Tom Lee Music. They were held in the same building as the Beijing International Broadcast Exhibition and introduced the Megas range of consoles as applied to video post - multitrack recording and sound reinforcement to a wide audience of engineers from all over the country. Tom Lee Music will soon be opening a special studio in Beijing in addition to their recently-opened office.

As the first stage in a major project **Electromusic** have designed a complete recording studio package for Synchrotec in Harare, Zimbabwe which also includes a project management service. The next stage will include record cutting and manufacturing equipment.

English-style pubs are evidently the latest craze to hit Bulgaria and are being developed by Red Lion, a specially formed British-Bulgarian consortium. One beneficiary on the sound side is **Harman Audio** whose JBL Sound Power systems have been installed by Chris Bradbury of SuperVision. In complete contrast, a JBL Control Series sound system has been installed at the new 'The Other Place II' at Stratford-upon-Avon by **Midnight Electronics of Newcastle**.

With the loss of Graeme Harrison due to a business restructure, Renkus-Heinz European marketing is now being handled by Karl Brunvoll from his Oslo office. Handling UK enquiries are **R G Jones** who have the largest RH system for hire in the UK and are ready and eager to make sure Renkus-Heinz products get their due share of publicity and sales in the home market. On a different front, R G Jones Engineering has won a BBC TV contract for the supply of a customised speech reinforcement system for the 36 week run of 'Question Time'.



After a record-breaking spell at the top of the charts, Bryan Adams is going out on the road with a world tour which commenced at Belfast in late October. He is pioneering the **Soundcraft Europa** sound mixing console, the choice of Jeff Lilly of Canadian PA company Jason Sound (in picture above). A Soundcraft user since the early seventies, Lilly has been closely involved with the development of the Europa over the past three years.

Neve North America and AMS Industries have merged to form a single company called **Siemens Audio Inc.** The merger was officially announced at AES New York and marks the formation of the first Siemens Audio company in North America.

Optex have been appointed exclusive distributors in the UK and Eire for the Eurex Pro range of video and audio visual stands, trolleys and support furniture. The comprehensive range includes over 40 catalogue models

custom-designed stands which can be manufactured in a very short timescale.

Alan Ayckbourn's new play 'The Revenger's Comedies' which opened in October at the Strand Theatre has a complete sound system supplied and installed by **Autograph Sound Recording**. As with many of Ayckbourn's plays, sound effects are a crucial part of the production and Autograph has installed four Revox tape machines mixed via a 10-input Cadac desk. The mixer is fitted with switched output matrix modules, customised by Autograph, to route the effects to a total of 13 loudspeaker locations. Birmingham based **SSE** has recently purchased a



new Electrovoice MT2 system to complement its extensive stock of MT4 speaker systems. The equipment was supplied by UK EV distributor Shuttlesound Ltd. Pictured above is the MT2 system as used for the 'James' tour.

And there's more from **Shuttlesound**. Until the end of January 1992 they are offering from between £800 to £3000 as a trade-in price for old consoles against new Soundtracs Megas models. The price of your trade-in depends on the Megas model you chose and the only other stipulation is that the trade-in board is 16 channels or more and in working order.

There's more news from **Soundcraft**. Chris Rea's current European tour features three of the company's consoles on the sound rig: two Delta 8:4:2s and an 8000. These were specified by Rea's engineer Ray Furze and Chris Hill of Wigwam Acoustics. At the newly opened Ronnie Scott's Jazz Club in Birmingham two Delta 200 have been installed. Installer here was Louis Austin of The Home Service. "They were a natural choice," he said. "It keeps a commonality with Ronnie Scott's London club in the use of Soundcraft."

Proving that they've got what it takes, **Entec** sound and lighting teams have just returned from a sizzling 10-city tour with The Page Seven Men, Britain's raunchy response to the Chippendales. Entec supplied a large and complex moving truss system for the stage set with lighting designed by Chris Kempton. Andy Watson operated the Vari*Lite and Paul Birks ran the conventional lighting. Sound was JBL Concert Series and FOH mix was handled by Graham Blake on a 16-channel Soundcraft Delta.

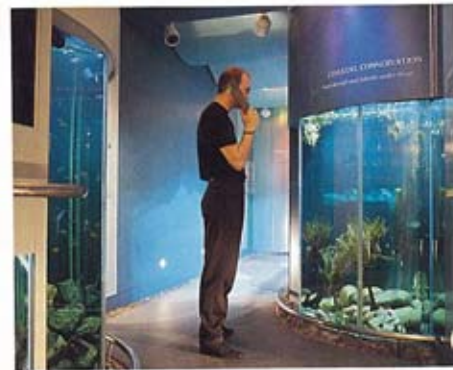
Strictly on sound, Entec has been contracted by 24 Hour Productions to provide stage monitor systems and studio audience PA throughout the 20-week run of 'The Word', transmitted live each week from Limehouse Studios in Wembley. Other recent projects have included JBL sound systems for Alton Towers Fireworks Spectacular and for 'Stiff Little Fingers' at the Brixton Academy.

Marquee Audio have supplied four Soundcraft desks to the new International Convention Centre in Birmingham. An 8000 and three Delta 200s will be in service as 'roaming desks' throughout the 11 halls in the complex. "They will be available to all areas at the ICC," said head of sound Mick Lown, "In fact, we've just started using one of the Deltas as our main desk in the National Indoor Arena."

Multisound Services and Skan PA Hire Ltd were commissioned to attend to sound duties on the day of the royal opening of the massive Queen Elizabeth II bridge which crosses the Thames at Dartford. Multisound supplied the 'house PA' while Skan supplied the expertise to mix the 44 piece band of the Royal Engineers and a 500 strong choir, feeding it all to the broadcast networks taking the

event. EAW MS30s were used in conjunction with a Soundcraft 8000 along with 80 mics and a comprehensive FX rack.

The Hornimann Museum in South London has



chosen the MIA 1060 system from **Sennheiser** to provide visitors to its new aquarium galleries exhibition with audio commentary. The 'Living Waters' exhibition (pictured above) features a series of dramatic aquatic environments built around a theme of waterlife ecology and conservation. For each zone, two or three 'radiators' or transmitters are attached to the ceiling and emit a pulse-coded infra-red signal which effectively encloses the zone into a receiving area. The visitors, with their lightweight wireless receivers, then pick up the broadcast, with the appropriate mix of voice, music and sound effects.

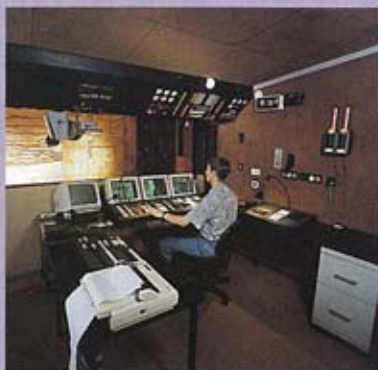
VISION & AUDIO 91

Following hot on the heels of the PLASA Light & Sound Show came Vision & Audio '91, in Earls Court 2, which ran from Sunday 15th September to Wednesday 18th September. For those of you who spent the week following the PLASA Show recovering/re-learning to drive your desk/car, imagine how we felt loading out of Olympia to transport the gear a couple of miles, build yet another stand and do it all again! No fun I can assure you, but then we have been able to sample the 'delights' of Earls Court 2 a full year before the next Light & Sound Show.

Vision & Audio 91 was organised for the first time this year, by EMAP Vision, perhaps better known for the range of periodicals they produce, which like the show are aimed largely at the corporate communications sector. What was perhaps surprising was that EMAP only took over the show six months ago from the previous organisers and I think this fact was entirely transparent to everybody involved with it. What they tried, and succeeded in achieving, was an innovative approach, with a number of 'firsts' for this exhibition including the first national AV seminars for the business community, exhibitors selling business television by satellite, and an area dedicated to a large number of projector technologies allowing side-by-side comparisons by potential users. One nice touch was the provision of a children's room on Sunday staffed by a qualified childminder, leaving parents free to wander around the exhibition without the worry of what the little darlings were getting up to! All in all, full marks to the organising team for a job well done under difficult circumstances.

Obviously, this show is aimed at a different market sector than that addressed by PLASA, consequently only two companies appeared at both shows, Optex and Hardware for Xenon. The former was showing a more representative sample of its product range than appeared at Light & Sound, the latter essentially the same. What I do find interesting (and this applied equally to V & A '90) was the extremely low level of lighting products on display. In essence, there were only two companies exhibiting lighting - ourselves and Holmes Photographic with their range of Lowel lights and (as mentioned in the report on BKSTS) a small sample of the DeSisti range. Perhaps there is an opportunity here for the other lighting companies to get involved, after all the corporate sector could use their products.

As is usual at these affairs, the largest stands (and



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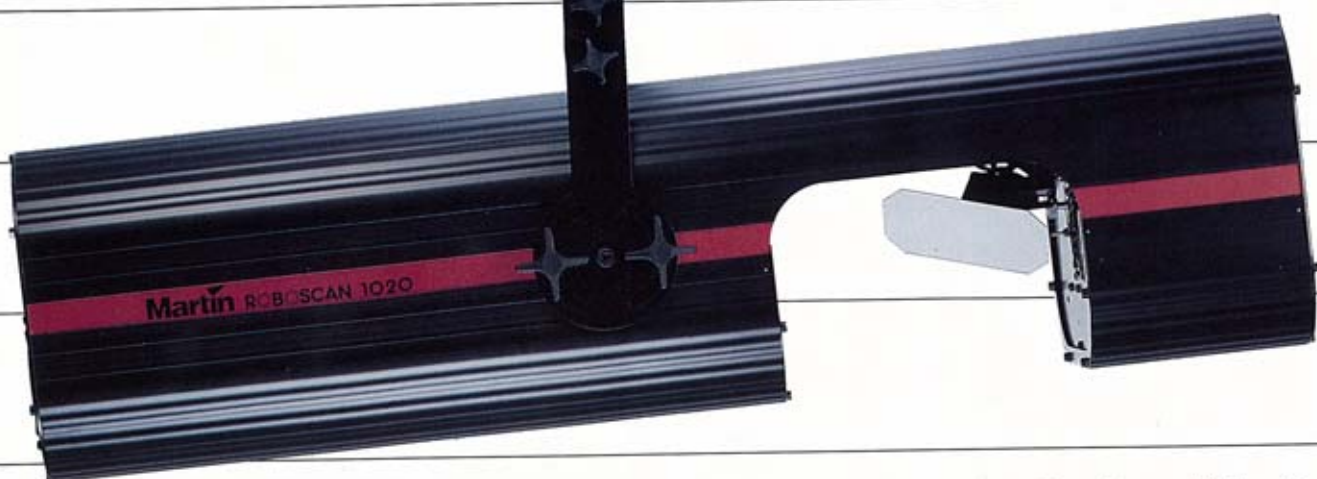
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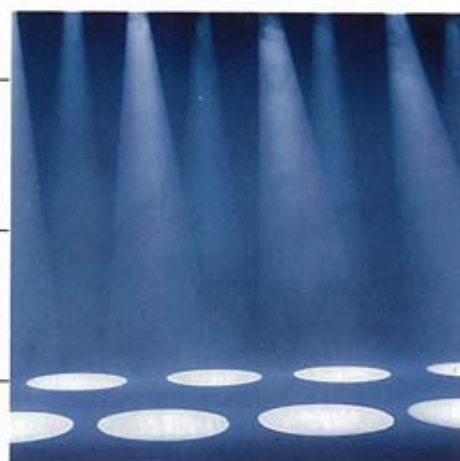
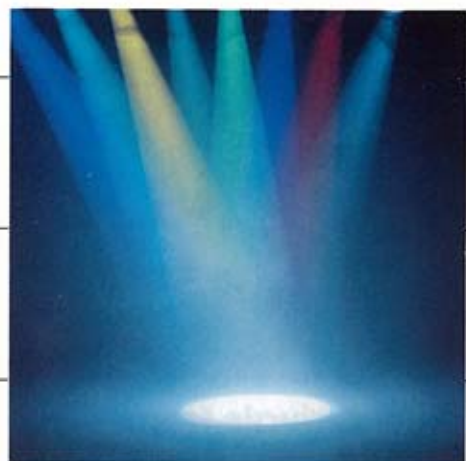
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most impressive displays) were provided by the Camera/VTR/Edit manufacturers, with Sony at the forefront closely followed by JVC and Panasonic. What is surprising is the level of investment that these companies are prepared to substantiate in these times of economic gloom, or is it that they know something we don't and that things really are on the turn. In terms of attendance some 7,958 people visited V & A '91 which represents an increase of 10% over last year's show. Personally, I found the show busy with an opportunity to meet potential customers who would be difficult to track down in any other way. I must admit, at first I was concerned by this show's proximity to Light & Sound, but in retrospect, coupled with the realisation of the different markets addressed by the two events, this show was definitely a success. Incidentally, I can confirm that Earls Court 2 is a much more pleasant venue to work in than Olympia, with both the much-vaunted air conditioning and the 'single level' ease-of-access contributing to this belief. Consequently, I believe we can all look forward to an even better Light & Sound Show 92.

Ian Lake

Low Buys Teatro

On the 1st November 1991 Mike Lowe, managing director of Teatro srl purchased the remaining 50% shareholding in Teatro, that was previously held by Coemar. The change in ownership has been made so that both companies could be more tax efficient and take advantage of other national fiscal arrangements. "The special relationship that exists between Coemar and Teatro is maintained through an exclusive purchase/supply agreement and Teatro continue to operate from the same location as Coemar," said Mike Lowe. "I am very happy with the way Teatro is growing and the way the 'synergy' with Coemar is working. To put my 'money where my mouth is' is the best way for me to prove my confidence in the future for Teatro srl."

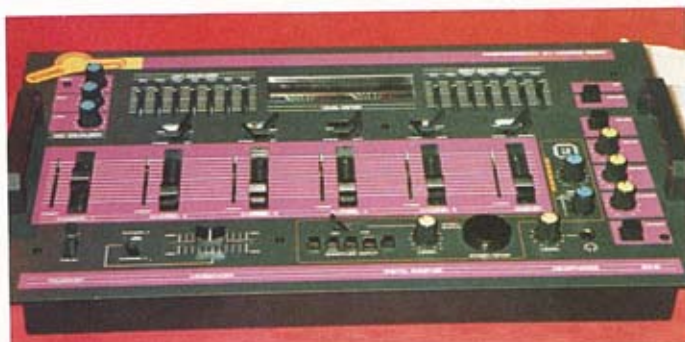


The latest from SGM of Italy.

New Arrivals from Light Engineering

Light Engineering didn't go main-stream PLASA Light & Sound Show this year, instead opting for an 'over the road' pub site and an open buffet and light ale launch for their new Paraflex rig. Triangular in shape, it comes complete with eight different lighting effects and 94 light sources. Completely pre-wired with an on-board power pack, it just needs hanging up and plugging in. All the control electronics are supplied from a Multiform Quattro which you can locate as desired. The rig is obviously aimed at the smaller-location market but the controller can run up to four rigs, so grouping for larger venues is possible.

Also on display were Sound Engineering's new range of loudspeakers, the DJ 1600B vari-speed turntable, and the Disam 125-5 mixer. This mixer has 9 inputs, 12 second sampling, variable delay echo and dual 7 band graphic. Not at the 'Albion', but just announced by Light Engineering, are the latest products from SCM of Italy. They include the Multi Ray, Rayscanner, Duet, Multi-Eyes, Quad and Elite.



Sound Engineering's latest mixer.



The Paraflex rig from Light Engineering.

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MA Lighting USA

MA Lighting Technology, the German manufacturer of lighting control desks, has established its own sales company in the USA. Under the company name 'MA Lighting USA' they are selling their established range of LCD, Light Commander II and Technic desks as well as the new Control Lite moving light system from Amptown.

The company's first 'public' showing in the States will be at the LDI expo at Reno later this month.

The new company is a joint venture between Lightpower Showtechnic of Paderborn (the general distributor for MA) and Amptown of Hamburg. Bernd Knemoeller, managing director of the States company, told L+SI that it was essential for MA to be in the heart of America so that they could offer service and back-up on the spot and emphasised that they have the strength now to do this, both with staff and equipment.

MA Lighting USA will operate out of McQueeney in Texas.

PLASA and Lions in a War of the Worlds

A member of Hastings Lions Club and technical manager at the Town's White Rock Theatre, Mark Horseman worked himself silly in early October with a special one-night only charity production of 'The War of the Worlds'. He was ably assisted by three well-known PLASA companies who gave considerable support for the event in the form of trussing from Penn Fabrication, laser effects from Laser Magic and lighting from AJS. Stalwarts all, the team had worked through the night to get the show on the road.

Equipment used, in addition to some of the theatre's own system included 8 x Martin Roboscans, 1 x Clay Paky Golden Scan, 8 Raylights and 8 Pancans. For effects there were two Peasoupers, two Smoke Processors and pyrotechnics from both JEM and Le Maitre. Theatre control is a Strand Lightboard M and a Sirius 48 was under the control of AJS's Mark Morley together with a Martin 2208 control. The Laser Magic team sat alongside them in a rear stalls control position.



A scene from the dress rehearsal showing the rig and effects lighting.

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Theatre Projects Consultants at Canary Wharfe

Theatre Projects Consultants have been retained by developers Olympia and York since spring 1989 as consultants for performance facilities throughout the Canary Wharfe site. As lead consultants for performance design in Cabot Hall - a six hundred seater multi-purpose assembly and event space that has just opened at the heart of the development - the Theatre Projects team, led by project leader David Taylor, were responsible for creating a design and specification for technical support equipment. "We also gave design input to architects Cesar Pelli to help develop the exciting music and theatre venue," said Taylor. "Careful consideration was given to the total integration of equipment into the highest quality architectural finishes and Glantre Engineering, the successful tenderers for all three systems packages, were conscious throughout the project of the emphasis on best possible quality installation."

The systems comprise production and concert lighting, sound and communications (including video infrastructure) and stage rigging. Glantre carried out the work under a single contract with a final value of around £780,000. Graham Fisher was project manager assisted by Chris Bowen, with Chas Wrieden coordinating on-site with management contractor Bovis Construction Ltd.

Production lighting is based around a large fixed rig of Strand Punchlite luminaires, selected for particular room use or orientation through a multi-connector patch system, custom-built by Glantre. Multi-core extension cables with portable socket boxes enable the user to dim outlets at any level or position in the room. The control console is a Strand Tempus M24 with FX special effects back-up and 120 Permus dimmers housed in a high level plantroom.

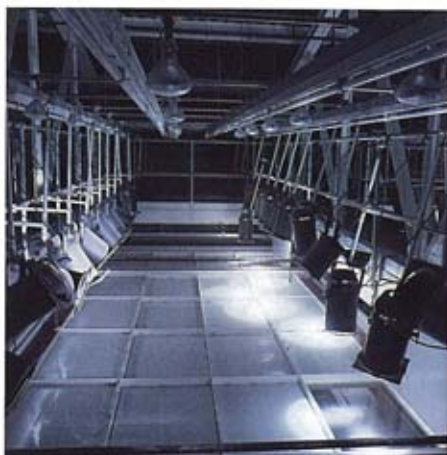
A sophisticated sound and communication infrastructure is provided, integrated into the highest quality finishes of the room. Behind wood panels lie the sound boxes manufactured by Glantre enabling microphones, loudspeakers, tie lines and the sound mixing console to be connected to the sound processing racks hidden away in the upper roof void. 18 channels of amplification and other signal processing are incorporated in the two custom-designed racks feeding a central JBL 14-speaker sound cluster which may be rigged in any of six positions in the room. Connection of the cluster initiates an automatic level control that balances the cluster for the particular position and orientation. A Soundcraft Series 600 mixing console, and two roll-around racks were provided to house DAT recorder, compact disc, cassette and a 1/4 inch tape recorder.

Rigging systems in the room include a huge three-part Roman blind covering the large glass windows looking out towards the city of London. "The draperies use a series of linear drive motors following the facets of the glass," explained Taylor. "Glantre developed the impressive curtain system, which may be moved in-view of the audience during a performance, with General Draperies in New York."

An array of motor-hauled acoustic banners running along each side of the room at high level have been installed and a system of discreet



The Cabot Hall showing acoustic banners and loud-speaker cluster.



Some of the 400 Parcans rigged over ceiling panels.

hook-eyes in the ceiling steelwork allow the connection of Verlinde chain hoists to lift trusses or other equipment, controlled by a custom-designed portable unit. A Sico one-man demountable staging system is provided along with a dance floor, a sectioned Thomas truss in special colour finish and a Wenger portable acoustic shell. Soft draperies and curtain track were provided for theatrical presentations and a top of the range Genie personnel platform was specified to gain access to the 14m high ceiling.

The hall has been in use since September with a diverse range of productions - from formal dinners to choral concerts, from lectures to modern dance. Most recently the hall hosted performances of Siobhan Davies' Dance Company's production of 'Different Trains' complete with a full and dramatic lighting design by Peter Mumford. "The projects for this client involved a huge amount of research," added Taylor, "but we feel the room now has a solid infrastructure of technical facilities that do not intrude into the space or interrupt the architecture."

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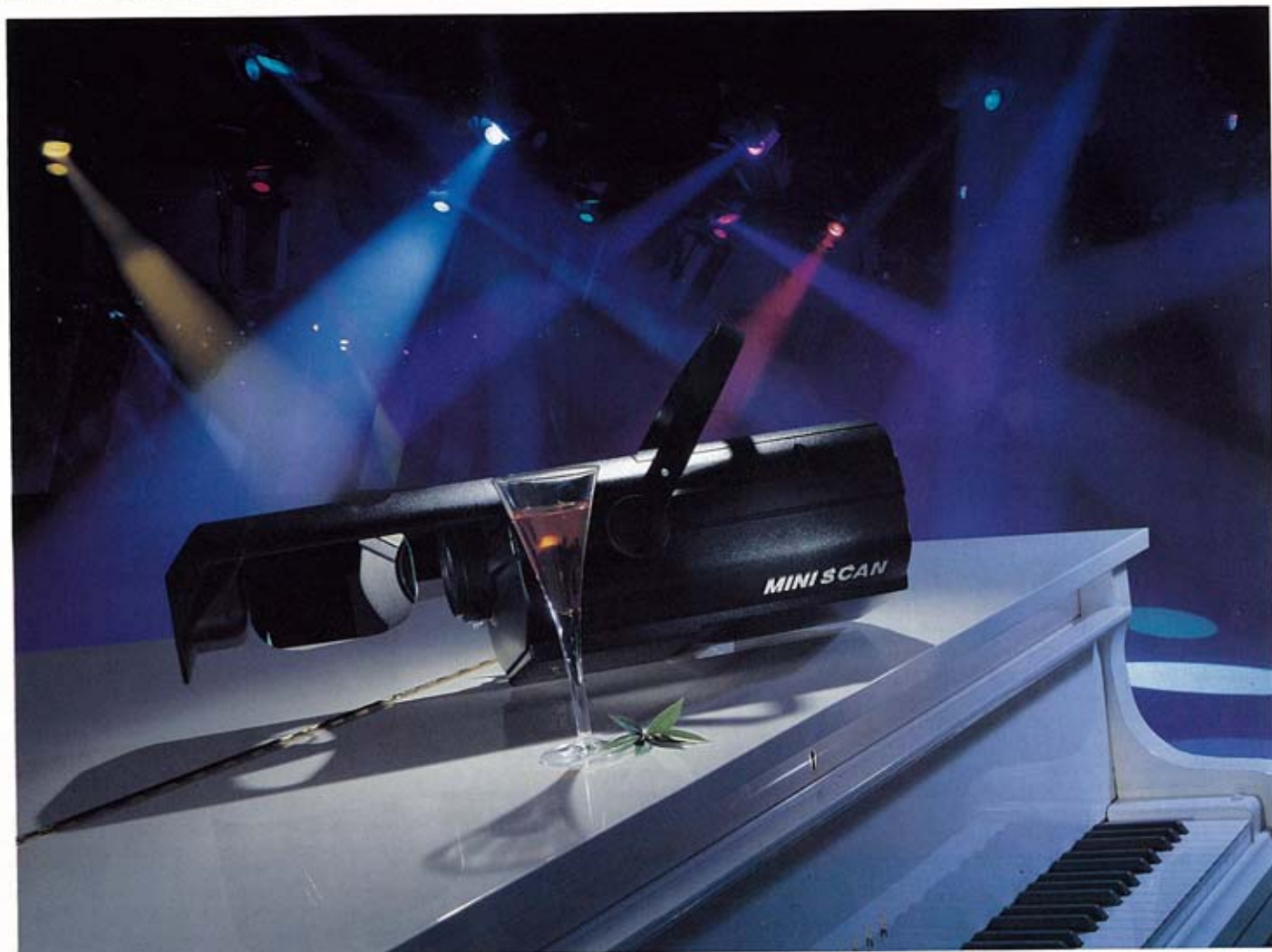
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PEOPLE

To fulfil a recognised need by new management for more efficient project administration, Tannoy-Audix has appointed **Gordon Fiddy** to the new position of operations manager for both broadcast and public address divisions. He joins them from Teleste Cablevision where he was manufacturing manager.

LMC have announced the appointment of **Stephen Hall** to the position of sales manager. He joined the company in July 1990. As sales manager his responsibilities include the day-to-day running of all departments, incorporating support to both customers and the LMC sales team. As part of their continuing expansion programme, **John Adeleke** has been appointed UK product specialist. His new role will cover responsibility for developing LMC's technical support facility and expanding and servicing the UK network, and most particularly the EAW-Crest range. LMC say both of these appointments are designed to further enhance their ability to offer a first class service to their growing customer base.

Squire Sound & Light's managing director **Simon Cummings** has resigned on health grounds. Having suffered from continuing problems with his legs, including a long spell in hospital last year, he has finally succumbed to his doctor's strong advice. Simon will stay on the board of Squire and will continue to help in areas of marketing and publicity. Meanwhile, Squire's parent company, County Sound, has offered him an on-air position.

Fostex (UK) Ltd has announced the appointment of **Roger Patel** to its UK sales team. He joined the company in October. As sales executive for professional products he will be specialising in the promotion of both digital and high end analogue products, working alongside Richard Wear.

MSL have recently appointed **Peter Maddison** as trade sales manager. Peter was formerly with Leamington Sight and Sound where he helped set up the UKD distribution network. After a brief spell with Le Maitre, he returned to UKD earlier this year from where he joined MSL. MSL's managing director Martin Prescott told L+S: "We are enjoying our busiest year to date, and with Peter handling our regional trade sales it gives us more time to concentrate on building up new areas of our business."

Showco Inc of Dallas Texas have announced the appointment of **Randy Wade** to their sales staff as an account executive. Before joining the company Randy held the post of marketing manager for Pan Command Systems and previous to that he was technical director for Performance magazine.



Simon Cummings.



Peter Maddison.



Gordon Fiddy.



Roger Patel.



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STC: Specification, Tendering and Selection

The Society of Theatre Consultants seminar and discussion meeting on the subject 'Specification, Tendering and the Selection of Specialist Contractors' at the South Bank centre's 'Voicebox' on 18th October attracted a good turnout of members and guests.

Seminar chairman Richard Brett (Techplan) opened by announcing that David Staples (Theatre Projects Consultants) had been elected Chairman of the Society to succeed Peter Angier (Carr and Angier) on completion of the latter's three year term of office.

With Richard Brett on the platform were speakers Alan Russell (Theatre Projects Consultants), Charles Wass (Telestage) and Derek Gilbert (Glantre Engineering) a 2-2 split between consultants and contractors.

On the subject of specification, Alan Russell described how this provided a basis for competitive tendering and stressed the Consultant's objective achieving this design intent through the route of lowest risk. Alan went on to discuss the importance of determining standards, particularly in areas with safety implications and explained how quality can be defined in terms of parameters such as materials selection, finishes and tolerances. He contrasted the specification demands of different disciplines, sound for example is substantially an architectural exercise, while theatrical rigging is all about custom fabrication.

The tendering process was covered by Derek Gilbert who remarked on the frequent discrepancies between drawings and specifications prepared by the theatre consultant and the bill of quantities drawn up by the client's quantity surveyor. While welcoming unambiguous tender documentation, he suggested that on occasions there may be merit in asking tenderers to generate their own bill of quantities as this always shows up who has understood the design intent and who has not! Derek stressed the need for consultants to clearly specify their requirements and stipulate separate pricing entries for elements such as project management and engineering, site management, working drawings, handbooks, commissioning and training. These are the areas where certain contractors have shortchanged their customers in the past. Derek concluded by admitting to a Glantre success rate over the past few years of 16 contracts secured against 47 tenders submitted for projects designed by STC members.

The third speaker, Charles Wass handled the subject of contractor selection, and highlighted the differences between familiar and unfamiliar work and territories. He advocated tenderer selection on grounds of resources, capability and track record of successfully completed contracts, and supported use of bid and performance bonds to sort out the serious bidder from the opportunist in those cases where tendering may be open to all and sundry. Charles appealed for new companies to be considered for inclusion on tender lists along with established contractors and talked of his own company's recent entry into audio-visual contracting.

A lively discussion ensued with many contributions from the floor from consultants and contractors alike. Jerry Godden (TPC) found much sympathy for his preference to work with contractors 'whom you know and trust and whose quality of work is proven'. Mike Smythe (Northern Light) recounted a proverb that 'one can pay too much or too little, but it is worse to pay too little'. One contribution stressed the information that can be gained in tenderer selection through a company search; a table was produced with nine sets of financial figures and a separate list of nine well-known industry contractors. Some of the figures were desperately poor and it would have been most interesting to have found out which of the familiar names were those in trouble. The message however was clear, a call for audited accounts or a company search can be a valuable element of prequalification.

There was a general consensus that where consultants wish to include specific proprietary products and these form only a relatively small proportion of the tender amount, it is preferable that the actual products can be nominated - for example 'Kodak Carousel or equal or approved'. This can save the consultants from having to write (and all the tenderers having to read) several pages of specification that lead to the same conclusion but without indication of product name. Martin Carr (Carr and Angier) complained of poor quality tender submissions from many contractors and stressed the value of good presentation. Other significant contributions from the floor included those from Martin Saul (TheatreTech), David Staples, David Taylor (both TPC), Ian Albery (Donmar), Rob Copping (Strand Lighting), Peter Angier, Keith McLaren (both Carr and Angier) and Gareth Davies (Glantre).

Vigorous and constructive discussion between consultants and contractors continued over buffet lunch and drinks, provided by the Seminar sponsor, Glantre Engineering.



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THE HUNTING OF THE SNARK

Julian Williams at the West End's latest mega musical

I started at the technical 'heart' of the show and asked chief electrician Kevin Burgess what he thought about this massive new production at the Prince Edward Theatre in London. "Brilliant", he said. And technically this show is.

'Hunting of the Snark' which opened on 24th October, has a precise mix of quality sound and colourful lighting. It also uses what is claimed to be - for the first time in a live theatrical situation - the biggest-ever installation of AV slide projectors - a unique combination!

What is a Snark? Nobody seems to know, but the tale is based on Lewis Carroll's epic nonsense poem of 'An Agony in Eight Fits'. They are: The Landing, The Bellman's Speech, The Baker's Tale, The Hunting, The Beaver's Lesson, The Barrister's Dream, The Banker's Fate, and The Vanishing. The production has no less than 12 scenes in the first act and 14 scenes in the second act and to fully appreciate the racy presentation style of this work, it's best to be familiar with the piece, and to have heard the music. Having the libretto to hand would also be an advantage.

A true 'multi-media' musical, it commences with a clever introduction of the characters: their names are projected onto a front gauze with the characters themselves in various stage positions in profile behind. The fast pace is set as the projection media instantly changes the 'set', and the character of Lewis Carroll narrates through each scene. The characters are already on the boat at sea when we join them, and they arrive at an island, where they try to find the mysterious Snark.

Mike Batt has designed, directed and conceived this unusual production, apparently wishing to control all aspects himself. He demanded his team of technicians adapt at a moment's notice to keep up with his 'changes' as they built this highly technical production, right up to opening night.

The combination of different disciplines demands enormous attention to detail, in both light levels and illumination control, in conjunction with acutely angled visual projection techniques. Coupled with that were the logistical difficulties involved in the sound balancing of a 52 piece orchestra on a stage and the essential clarity of diction for numerous artistes.

Each department was pushing the limits to reach the required effect.

One of the early sequences is one of the most spectacular moments in the show when, by projection on the front gauze, there are animated images of waves, creating a sea scape, with birds fluttering by, fish jumping out of the water and the crew lined up on the bridge with the ship's wheel, while the bridge is 'yo-yo-ing' up and down.

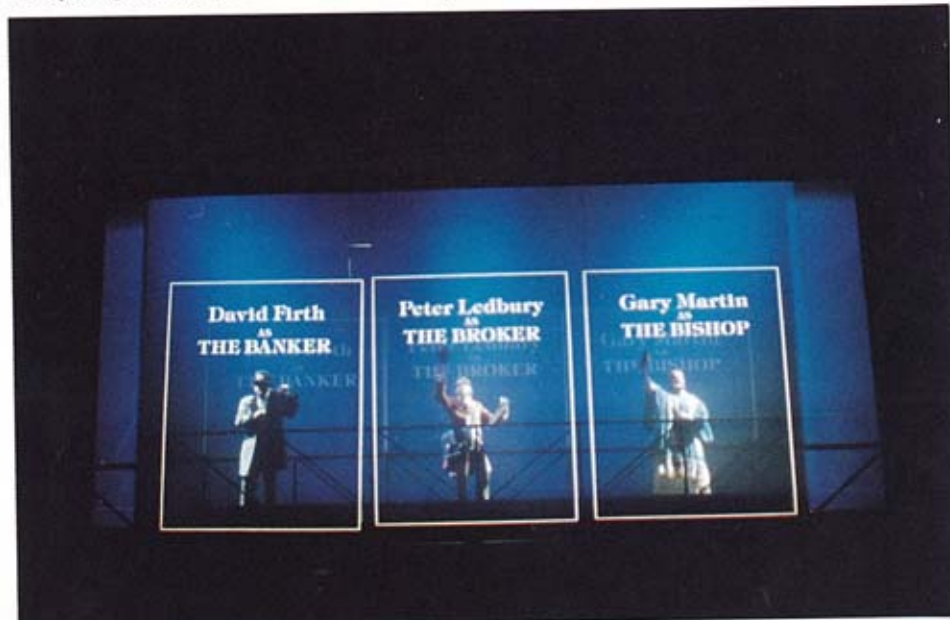
A feature of the iron-clad structural set, which was built by Delstar Engineering Ltd, is the tracking Bridge. It can move vertically and horizontally to any of the five entrances and exits on three levels on the stage.

The stage drive control for the bridge, by Pinpoint Control Ltd, is from manual joy sticks, and is located in an onstage position where the operator has graphic status information displayed on a monitor. The stairs and handrails are pneumatically controlled from positions just upstage of the pros on either side of the stage.

For safety, there is a gate at every potential bridge position. These gates are interlocked so that they can only operate when the bridge is in the correct position. All the interlocks are operated via Pinpoint's Computer.



The opening titles projected onto the lowered gauze.



The main characters are introduced by means of a very effective projection sequence.



Veronica Hart as The Beaver performing 'As Long As The Moon Can Shine'.

The stage acting area is only 20ft deep as the remainder of the space is taken up by the orchestra. Because of the nature of the set it does not allow for a tallscope. Provision is made to access the LX bars alongside the lighting bars. Production electrician Alistair Grant made the point: "This allows us particularly easy access for checking focuses during rehearsal."

The lighting rig is a simple one, controlled from a Light Palette 2 with two advance bars and on-stage electricians bars. The luminaire content consists of a combination of Strand Cantata and Altman Lekos, with some Silhouette 30s and Par 64s, the lighting is predominantly from cross light and is complemented with Vari*Lites, as well as a motorised light curtain in five sections. There are 'Howie' Mini-Strip battens in use for backlighting the orchestra on two levels. The principal luminaires are 14 Vari*Lites, four follow spots (2 x 2kW Strand Solo's on either side of the FOH, and two R&V 500W tracking beamlamps along the sides of the stage at 'fly rail level'), and a Front-of-house followspot traditional front light.

All the equipment was supplied by London-based Theatre Projects Services Ltd.

White Light's new optical effects were used, one of the most interesting being a smoke effect projected on to the auditorium walls.

I talked with associate Vari*Lite programmer Richard Knight who commented: "We've got the smallest rig I've ever worked with - 11 VL2Bs and three VL4s. The 4s are upstage and they tend to deal with the top platform and the stairs. We can get them down onto the orchestra so we can roll the colours to do a few orchestra changes, and the rest down-stage, mid-stage and up-stage.

"Their main function is to slide between the screens. There's a lot of very accurate focusing

required where you're trying to miss the back projection screen and the gauze, sneaking in behind the screen to hit a particular target! It's quite refreshing to do something that is very detailed and have quite a lot of time to play with it.

"Lighting designer Andrew Bridge decided that we'd do the first half of the first act with realistic lighting - to show people the faces of the characters and so on, and to set the production up. It was decided that 'Snarkland', would in effect be 'Goboland'. So much of the work the 2Bs do is gobo work, to make broken forest looks and a wavy sea for the travel bits. It's an attempt to create a kind of magical ever-changing forest."

Speaking with Andrew Bridge between rehearsals, he told me: "This production is unique in several areas in the sense that there is no scenery at all. There's a black box on stage which we affectionately call the 'Black Car Park', and there's a moving bridge - other than that there's no scenery at all!

"Having 52 musicians on the stage produces a potential light leak problem from their music stands. Then there are numerous white screens from back projection screens, to front projection screens, and gauzes. These are used in many configurations with the projectors; all the scenery is projected. The fact that it is a black box in a 'black carpet' (there is black wool serge on all of the surfaces, other than the stage itself), with shrouded music stands, means we have to be very careful.

"Then there are actors who get in the way of all this - and I have to light them without hitting the screens or creating any excessive spill, be it from bounce of a white T-shirt or from just physically hitting the screens. The configuration changes quite often and with some of them it's

very difficult.

"In this sense Mike Batt wanted to create a particular style of production; he wanted a very two-dimensional, proscenium and projection image, and even though the images are two-dimensional, it's made up of three-dimensional formations of screens.

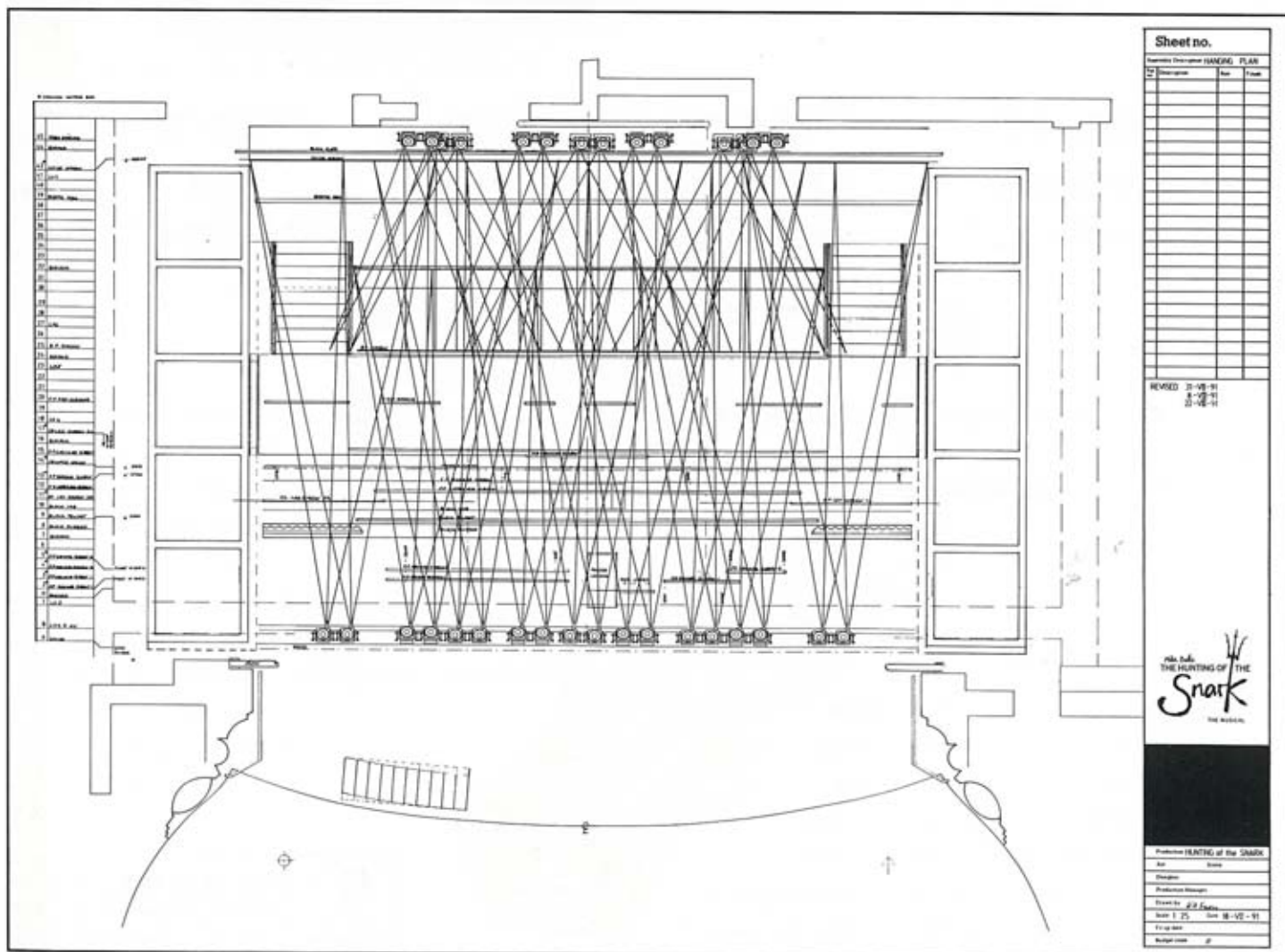
"So you can have a cyclorama picture on the back BP screen; you can then have front projection - windows, and a pub sign - and then a gauze to bleed through which has a 'forest' round it. It appears that you're in a forest looking at a pub with sky behind. It has been extremely difficult. Both Vari*Lites and follow-spotting has been extremely useful in achieving this.

"The other things we're using are the usual 'toys' of colour scrollers. Its a small rig, but most of the lamps have a scroller on them.

"The whole stage is sectioned off into bays. We've got five bays going up and down stage, and in any bay we can drop a screen and trap the actors. Therefore we've got two side followspots and the operator doesn't have to worry about changing the colour, as we can slide colours within cues which works quite well. As the followspot is on a track, when the actor is trapped in, say, Bay 3 with a gauze up-stage and down-stage of it, we can track the followspot up to that bay and cross-light it.

"It's been extremely difficult to get a bright level on the company without ruining the AV. The AV is actually quite bright and everybody has been helping to get it that bright. It works very well. We get quite a lot of light up there without realising we are 'blowing' the screens away!"

Howard Eaton, whose company have supplied production electrical, and lighting services, explained some of the practical



Plan of the onstage projector layout (rear projection at top, pros. bar at bottom).

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For more details including full technical specification please contact the UK sole distributors, M & M Lighting, 110 Gloucester Avenue, London NW1 8JA. Telephone 071-722 4147. Fax 071-722 3940.

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Chris Slingsby, Imagination's creative director of visual communications at work on the projection plan.

problems he has had to deal with. "The problem with the atmospherics was that Andrew Bridge didn't want a cracked oil because you can't get rid of it - he didn't want just smoke. He finally selected fan assisted Skywalker fog generators from German company The Smoke Factory. The main advantage of the Skywalker is its variability. They are 0-10 volt which means they can be operated from sub-masters on the board. A big advantage is that they are able to trickle and not clog-up and overheat.

"We are using one of our Bytecraft Sage protocol converter units to take the AMX 192 multiplex signal from the Light Palette, and produce DMX 512 directly to drive the 60 scrollers and other such toys. Other similar installations such as in 'Five Guys Names Mo' and 'Joseph' are using this now to convert the D54 signal from the Galaxy board. It actually produces two parallel DMX outputs.

"We also have our standard motorised light curtain which is used in five sections with the Rainbow scroller's at mid-stage LX Bar 5 position. It flies to various positions during the show.

"We supply the team of production technicians, for continuity, and to get the same group of people who are all used to working in the same way together; hopefully to a high standard. This takes the problem away from management who don't have to hire individuals.

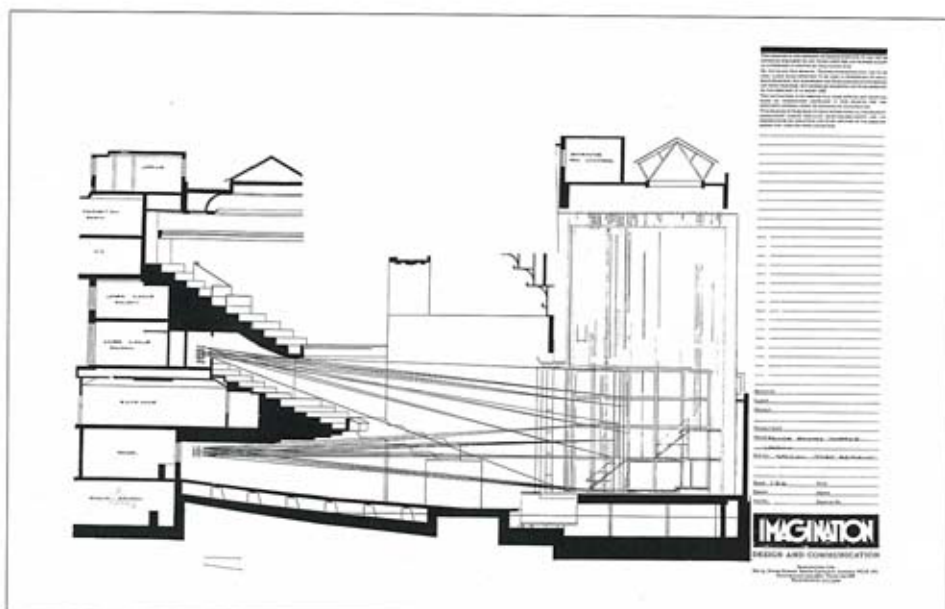
"A remote page button and colour monitor for the Light Palette 2, which Andrew Bridge has always wanted, is not normally available. We provided this and it allows the lighting designer to select his own pages on the monitor at the production desk without having to have an expensive full designer's remote system. It is a simple thing that's essential for this type of production.

"Our tracking followspot consists of a R&V 500W Beamlight with a scroller on the front and it's modified to move into any of the five bay positions at both sides of the stage."

I then talked to Imagination's creative director of visual communications Chris Slingsby.

"One of the particularly nice things about this production was that many of the people involved had our company's background and had come together on our show rather than a commercial show," he said.

London's Imagination, a team who consist of leading practitioners in the art of presentation, cover trade shows, product launches, business television, and privatisation road shows among



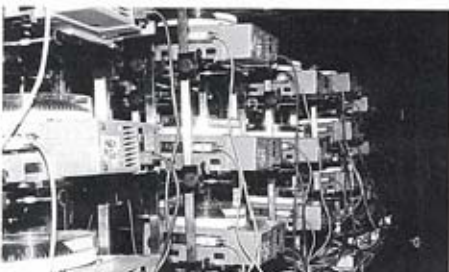
Theatre section showing tightness of projection beams to the theatre structure from both stalls and dress circle.

other things.

"We are first and foremost designers of all this, and secondly we are the technical producers of it," continued Slingsby. "On 'The Hunting of the Snark', our responsibility is the technical production - on most of our projects we are the designers as well; we do a lot of commercial audio visual production and also have a reputation for doing unusual audio visual projection, commercial and entertainment shows. This was a logical extension of that, but more complicated technically than the jobs we are normally likely to do on an everyday basis. It's so large and complex.

"Mike Batt and Imagination's chairman Gary Withers spent a lot of time developing how the screens should be and in what shape, how many there should be, and what they would do, and so on. Mike Batt wanted to create the whole of the scenic elements with projection and there is obviously much scope for depth on a stage. With the orchestra on the stage, he wanted to have the images in amongst the set with the artistes, as a total visual piece.

"He actually does the drawings himself. The visuals are based on his outline drawings which our studio people then take over and turn them into slides. We already knew how he wanted the



Stalls projection room: part of the line-up of 96 Kodak 2060 Carousels.



View from the stage to the projection rooms with the banks of projectors. To the left is the room housing the Genesis computers.



Richard Knight at the Vari*Lite desk.



Howard Eaton (right) discusses his tracking followspots with production electrician Alistair Grant.



Sound designer John Del'Nero (right) with assistant Mike Furness at the Cadac console.



Control is provided by six Genesis computers with the operator's 'go' button just visible centre.



By projection on the front gauze, animated images of waves, birds, fish combine to create a real 'yo-yo-ing' sea scape.

techniques of creating the images, and this required the use of many lith slides with colour gels, instead of colour film and colour stock, and the use of many projectors.

"Using gels, you can maintain a brightness of image more effectively than you can using colour film. He builds up complete scenes using many small elements, with soft edge grads and so on inserted into each slide individually. Many of the slides are hand-made and built up to make enormous images using many projectors to achieve the result and this is why there are so many projectors involved.

"One image might use between 50 and 60 projectors to create it. This style is a unique way of working on such a large scale. However, it does maintain purity of colour and brightness which is critical in this situation.

"Also, this quantity of projectors gives the opportunity for animation. We have a full time studio of artwork people and our own in-house rostrum camera. Apart from processing the colour film we do everything in-house.

"This is a real development story based on multi-vision techniques that we have developed over the years for the conference industry and which has now been taken a stage further.

"The fundamental problem was in making all the projection work in a theatre that wasn't designed to ever take it in that form. So just arriving at the right number of projectors and to hit the screens in the right places without the projector beams catching the ceiling of the dress circle above the stalls, or getting on top of people's heads when they walk through the auditorium, and so on, was a very tight technical job! A lot of careful work went into making sure that it would all just about fit into the adapted projection rooms at the back of the stalls and the circle, to enable engineers to line up and maintain the equipment.

"The reason the projection rooms are on different levels is because they need to reach the different parts of the screens with the beams. There is no way you can project from any one of those places and get the beams to all of the required places. You can break the projection down into two halves; the first half of the show

is all front projection which comes from the stalls and dress circle and that basically uses the same sort of projectors and projections.

"There are many screen overlaps and we have pushed the limits of soft-edging slides together. The bigger the image the dimmer it gets, - the smaller you can keep the image the better. It's a case of how wide you're spreading the light which is a fundamental problem with AV. We got over this problem by taking the image and splitting it on the rostrum camera in perfect registration. Without these fundamental things this job would not have been possible.

"These images and projectors are then lined up using special line-up slides which, when you put all the slides back with the right relationship to each other, you can blend them together to make a perfectly seamless picture. We use special soft graded pieces of film that are sandwiched in with them all. It's a very specialised business. Mike Batt insisted on a 12ft x 8ft picture (from the front projection) for consistency of brightness. These images are then built with soft edging both horizontally and vertically, into images that are nearly 40ft wide by 30ft high.

"We've had to programme the whole of what you see in the theatre, in one-third scale. It was completely created and set up at Imagination's purpose-made studio, with all the projectors, and all the screens and took six weeks. We had six weeks pre-production before that, to prepare the slides.

"The job started for my team in May this year and the first month was spent working out the technical details for the projection. We started the artwork in July which went on until September. It was then an on-going process right up to opening night.

"It was an on-going situation because of the way Mike works, as he creates everything with the pressure of time. As he was also doing other things, you were creating along the way. He would do the drawings and we would turn those into slides while we were still programming the last scene. We had a production team of seven people and a rostrum camera operator. Two people did all the slide mounting, specialising

with the collation of the slides, and three people worked in the studio full time, together with a studio manager.

"On the stage itself there is some quite tricky projection coupled with back projection. Installed in the back wall are 26 projectors for the back projection; all boosted 2055 400W Kodak Carousel projectors. From the LX bar 2 position, 18 carousels were used. The projection throw is so short that we had to develop a method of shooting those images to keep the projectors running parallel to each other, rather than keystone-ing together, which, because of the distortions involved, would have been totally unacceptable.

"The other thing on that screen is that there is a bottom strip which is projected from above the other projectors down at an angle of 30 degrees. The keystone-ing on that was severe, and like everything else they would soft edge together. The slides all had to be created, and techniques had to be developed, to keystone-compensate all those slides so they would be a perfect match, which is much more difficult than it sounds.

"In addition there is the Horizon screen, which is right at the very back, and which comes down in front of the back projectors, behind the orchestra, and above the rhythm section. There are also some blinds in front of the section and we project on all of these screen areas as well. Both screens also had to be keystone-corrected.

"From the dress circle projection room, we have two Pani 4kW BP4 HMI projectors to cover the whole of the front pros gauze with one slide image or through combinations to create multi-layered imagery.

"On the Horizon screen we only had a pair of projectors on each screen area. The basic technique was to shoot those images from a screen and then by using a number of stages of re-copying them, to end up with them distorted to exactly the right degree. So again when they are projected back together you will get a seamless picture. In fact the whole picture at the back of the set is actually five separate slides every time blended together, and I must say that I am pleased with it, because I know what we've

been through to achieve that. You don't realise that it's not just straight on front projection.

"We were working right to the limit of the recommended safe angles with the beams just missing handrails, and the way all those beams work is really tight in every direction, we just miss the borders."

The control for all this work is by the American AVL company Genesis who manufactured the purpose built Genesis computers. The operator has one 'go' control, called with the corner cues. He has to keep his eye on each of the monitor screens displaying the 142 projector's data. Any running problems can be relayed to a resident engineer in each of the projection rooms.

There are 98 projectors from the stalls and dress circle; all standard 2060 Kodak Carousel projectors with auto-change lamp facility and a 250W Halogen lamp. It takes three full-time engineers from production company Martyn Hayes Associates to look after the maintenance of the system.

I asked Chris Slingsby where this is likely to take Imagination, having gained some new expertise and experience. Will other producers think of this as a wonderful new concept for the setting of a show?

"We have already had some enquiries from people who have seen the show, and personally I would like to do some more theatre work. Although it's been a long job and technically demanding, I've enjoyed it very much."

Sound

Contradicting various recommendations in the profession that the actors should use handheld or boom microphones, both of which were unacceptable, Imagination's sound designer John Del'Nero broke the barriers of sound technology in a theatre environment to achieve

the quality of sound that Mike Batt required. He had to ensure that the actors could be heard above the sound produced by the 50 piece orchestra in its predominant position on the stage.

John Del'Nero said: "We've spent a lot of time in Imagination's studio with the artistes working out proper mic positions on their heads. The biggest problem is that the artistes are not necessarily aware of the importance of the placement of microphones. So we took them to the studios and placed a mic at various places over their head, and made recordings to play back to them, so that they could hear the difference, thus they realised why we needed the mic in a particular place. We then photographed that particular position for reference. In that way every artiste has the optimum mic position on their face. As everybody has different shaped heads the positioning of the microphones had to be analysed individually. A difference of just 1/2cm was so important."

Possibly the biggest sound desk installed for theatre production a Cadac 80 channel 'E' type mixer console, with a computer programme written by Mat McKenzie of Autograph, along with a Cadac 22 channel 'B' type 3, are used to mix the show. The Cadac automation system allows the Sony RS DAT machines, along with changes of fader ganging, and processing, including delay units, to be stored and operated during the show cue sequence.

Sound Equipment List

Microphones

- 20 x Sennheiser MKE2 diversity radio mics
- 6 x Neumann U87 mics with boom stands
- 1 x AKG C535 mic with boom stand
- 20 x Sennheiser MKE2 in-line mics

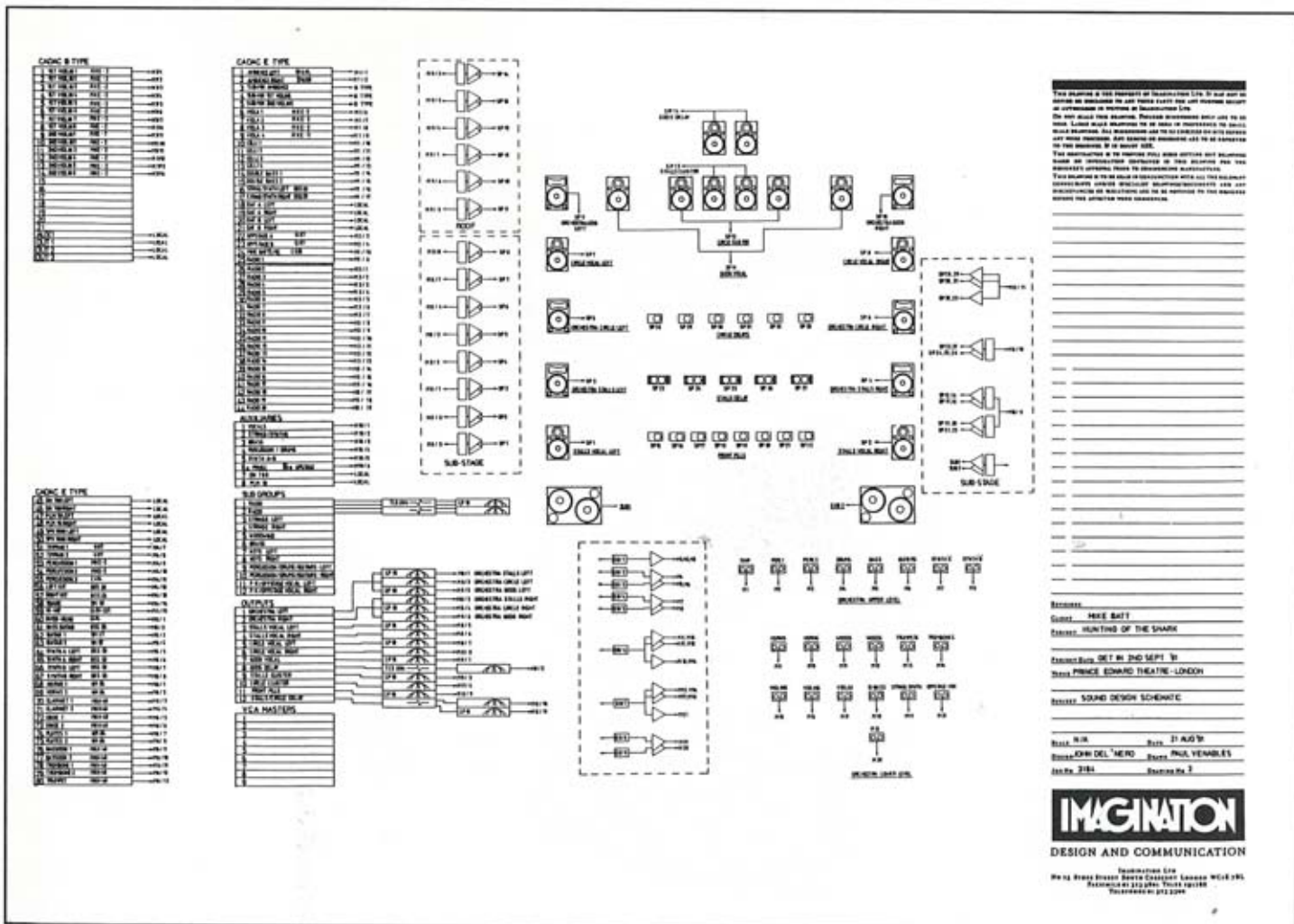
- 1 x AKG C414 mic with boom stand
- 9 x BSS DI boxes
- 1 x Shure SM57 mic with boom stand
- 1 x AKG C451+CK1 mic with boom stand
- 3 x AKG C414 mic with boom stand
- 2 x Shure SM57 mics
- 4 x Neumann KM84 mics
- 9 x Sennheiser MKH140 mics
- 1 x Ambience stereo mic
- 2 x RS DAT machines

Mixing and processing

- 1 x 80 channel E-type Cadac with computer
- 3 x Brooke Siren delay units
- 10 x Meyer parametric equalisers
- 2 x Klark Teknik DN360 graphic equalisers
- 1 x Klark Teknik DN 780 reverb unit
- 1 x PCM70 digital reverb units
- 1 x SPX1000 digital reverb units
- 7 x Formula Q4 mini mixers
- 4 x Formula Q8 mini mixers

Loudspeakers and amplifiers

- 18 x Meyer UM1 ultra monitors
- 12 x M1 controllers
- 12 x amplifiers
- 6 x Meyer UPATa loudspeakers
- 6 x M1 controllers
- 6 x amplifiers
- 2 x Meyer USW subwoofers
- 1 x B2 controller
- 2 x amplifiers
- 10 x Meyer UPM1/Apogee SM1 loudspeakers
- 3 x controllers
- 3 x amplifiers
- 18 x Bose 101 loudspeakers
- 5 x Macrotech 600 amplifiers
- 21 x Galaxy hot spots
- 11 x amplifiers



John Del'Nero's sound design schematic.

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METROPOOL IN 'FIRST' LIGHTING RETROFIT

A pictorial report on a First Leisure refit

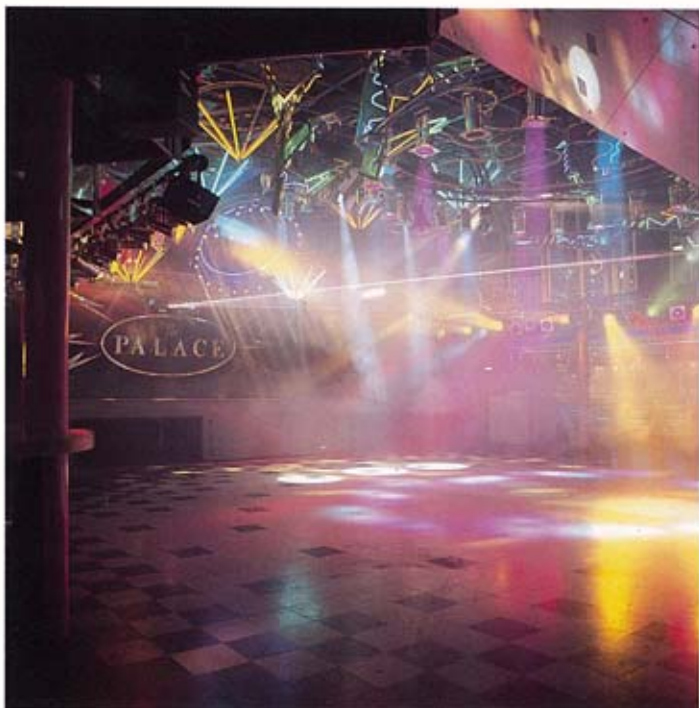
In the June '89 issue of L&SI Tony Gottelier wrote a comprehensive review of the lighting, sound and video systems in the Metropool, then a brand new multi-faceted discotheque in Zandaam near Amsterdam. Since then the venue has been acquired by First Leisure PLC, the publicly quoted company chaired by Lord Delfont, whose unexpected plan to retire was announced as this piece was being prepared. Having decided

to forfeit the world's largest indoor videowall, which they discovered was the subject of an expensive leasing arrangement, First Leisure called in London-based Light Angles to design and install a new lighting rig to fill the hole left in its visual armoury.

We prepared this armchair report and pictorial review to bring readers up to date.



Corn circles and stick men - Light Angles' design features an array of curious neon shapes and colours controlled by an ALS Enigma.



Another angle on the whole rig with predominate neon Conespinners.



Two neon circles with pinspots around the perimeter arc down to provide movement.

I was aware, when I produced the earlier review, that the 6 x 5 metres Philips rear projected Vidiwall was probably an unsustainable feature, even in a venue with a capacity of 4000. Since it hadn't been purchased, but leased in a complex deal, it was no surprise to hear that First Leisure felt it could be sacrificed to a much improved light and laser show.

Out went the videowall and the old lighting rig, in came a new name linking it with some of the largest and most successful Euro discotheques of past and present - The Palace.

The lighting design, according to Chris Filippidis, Light Angles' design manager, closely resembles a series of corn circles, structured in a three dimensional form. A single trussing leg framed in neon, in what is described by Chris as "an impossible cantilever", protrudes from the DJ console and appears to support the entire structure, which is perimetered by 60 metres of Flexiflash.

Two four metre long arcs flank this leg and fall into the booth, each are fitted with pinspots, graduated in colour and controlled by an ALS Enigma to simulate giant peak meters.

To create the essential physical movement, two neon circles, 3 and 2.4 metres in diameter respectively and fitted with pinspots, are winched through a radius over the stage and the DJ position. Six Lynx Elevators control the rise and fall of

four-section neon cones, controlled to create the illusion of spin, further emphasised by eight-head helicopters within.

Abstract neon shapes, made by Partyline Lighting, form random many-coloured images of surreal stick men hanging in the rig. Within a central 4.5 metre diameter neon ring, eight 'S'-shaped neon pieces curl around 16 Macspots. The latter, presumably rescued from the previous rig and, from the maintenance viewpoint, the one item about which I might have some doubts.

Projected effects are provided by six Lightwave Research Intellabeam 700s and a Piovra MSR 1200, with support from a battery of other gizmos with Italian-sounding names, including Corallo, Crazy Moon, Flashdance, Scorpion and Tricorno.

To add to the previous clutch of Palace installations for other proprietors, Mark Brown's Laser Grafix, installed a Purelight 4.5W mixed-gas seven colour laser and optical table, controlled by an LG Prisma multiple output control. A single 4.5M motorized gauze screen was used as well as numerous driven effects.

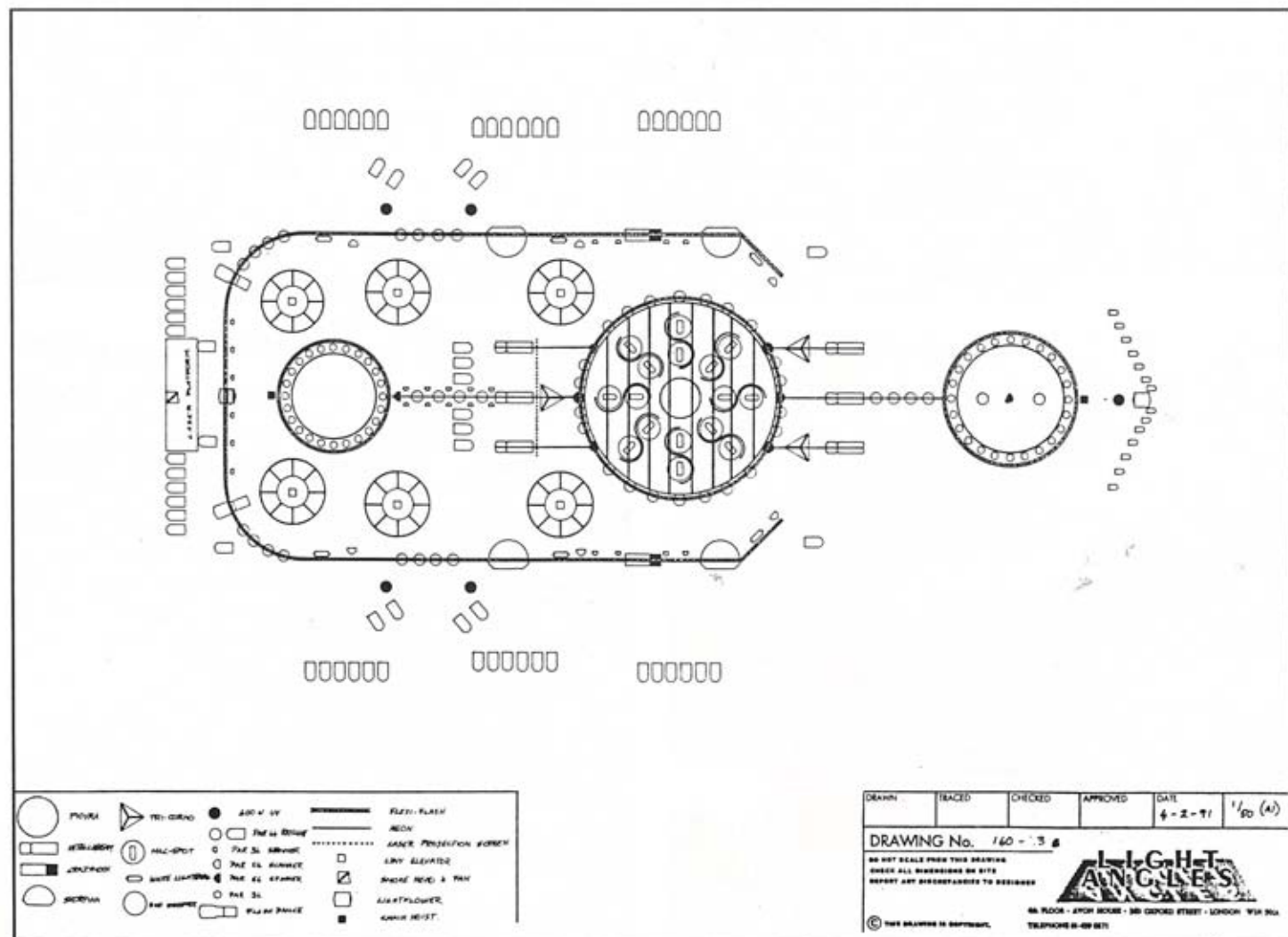
Certainly the pictures are very pretty and we believe that they speak for themselves for readers to draw their own impressions, but one man who was more than happy with the results was First Leisure's technical services director Shaun Doyle who told me: "I think that we've done something really out of the ordinary, for us, at the Palace, and I am really pleased with the way its come out."

L+SI were advised that Stage Accompany, the Dutch blue box speaker and sound processing equipment company, had made some changes to the original sound system, but at the time of going to press no information had come to hand.

Tony Gottelier

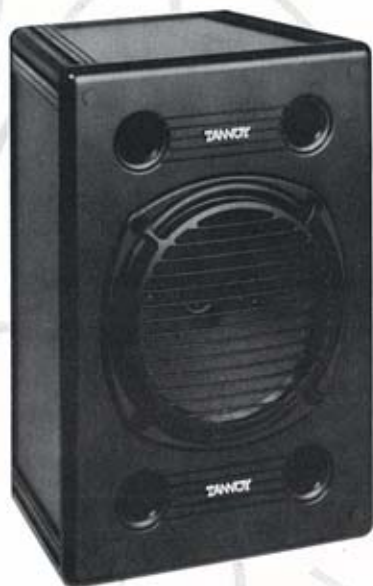
Equipment List

- 1 x Piovra MSR 1200
- 6 x Intellabeam MSR 700
- 2 x Crazy Moon
- 2 x Flashdance 400W
- 2 x Corallo Lightflowers 400W
- 4 x Scorpions 1000W
- 3 x Tricornos 400W
- 6 x White Lightning strobes
- 12 x Scatter strobes
- 7 x UV Cannons
- 48 x pieces of decor tubing
- 136 x pieces of neon various colours
- 80 x Par 36 pinspots
- 6 x Helicopter Par 36
- 24 x Par 36 Scanners
- 5 x Par 56 Spinners
- 6 x Par 64 Raylights
- 60m x Flexiflash
- 2 x JEM Club 20 smoke machines
- 6 x Elevators
- 2 x Mini Winches
- 12 x ACR Spectron Macspots
- 1 x ALS Enigma
- 2 x ALS 128 ch D/A converters
- 1 x Flexiflash controller
- 1 x Pulsar Masterpiece as backup/stage lighting control
- 18 x Anytronics D605 dimming power racks
- 2 x Light Processor 241 switch packs
- 2 x 28U racks



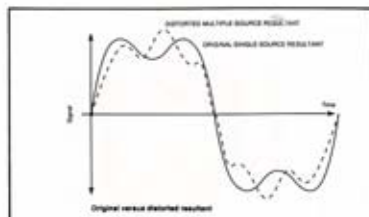
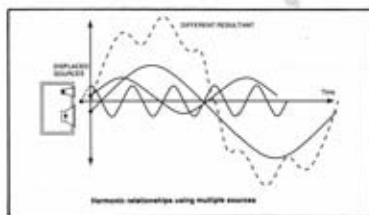
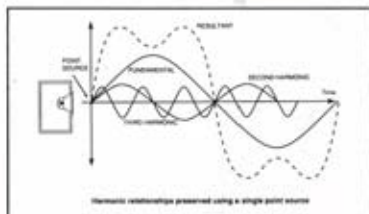
Light Angles' lighting plot for the new lighting rig at The Palace, Amsterdam, nee Metropool.

SOUND IN FOCUS



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The middle graph shows how a normal speaker distorts the harmonic structure. Harmonics split between bass and treble start off at different times.

The bottom graph shows the difference. Tannoy Contractor Series – or just another PA sound. It's up to you.

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VISIONS OF JAPAN

Ruth Rossington has an oriental experience at the V & A

The Japan Festival is one of the largest celebrations of another country's culture ever held in the United Kingdom. The Festival, a British initiative timed to coincide with the centenary of the Japan Society, offers an insight into Japan's culture in a five month long programme embracing more than 350 events in 200 venues throughout the United Kingdom. The Japan Festival has many notable 'firsts': a five day Grand Sumo tournament at the Royal Albert Hall, a display of the latest state-of-the-art robots at the Science Museum, and one of the largest and most innovative exhibitions ever staged at the Victoria & Albert Museum.

Two years ago the Japan Festival and the Victoria & Albert Museum asked world-renowned architect Arata Isozaki to create an exhibition that would convey some understanding of the basic principles of Japanese life and culture. Isozaki's answer is Visions of Japan: an exhibition using traditional craftsmanship, modern reconstructions and state-of-the-art technology to present the theme of 'Life as a Game', and loaded with oriental symbolism. In this exhibition, three of Isozaki's colleagues have presented their individual visions of Japan's culture and lifestyle in the past, present and future. (Isozaki, incidentally, was the architect responsible for the central structural design of the Palladium in New York, successor to the infamous Studio 54 and still operating weekly on American Club MTV.)

Whilst at first the exhibit appears to reinforce the clichéd view of Japan as a country of

contrasting opposites - urban chaos and tranquil gardens, rigid social codes and rampant consumerism, it also offers a view which is far from hackneyed and should go some way towards redefining our image of Japan and the Japanese.

The exhibit is divided into three rooms. The first room called 'Cosmos' illustrates Jodo and Wabi, concepts central to the Japanese idea of the 'game of life'. The former is the world of life after death, and the latter a state of mind which accepts the imperfections of this life and attempts to make a virtue of them. (If only. . .) This room is centred around reconstructions of a temple and a tea-house. The focus of the room is a facsimile of a temple pillar made from original materials, which revolves to represent the balance of forces which dominate Japanese culture.

To the left, behind lattice screens, images flicker across video monitors and revolving cylinders carry photographs of people completely naked but for the tattoos which cover every inch of their bodies. Having lingered sometime over the complex art of the tattooist, time to return to more traditional pastimes.

At the far end of the room a reconstruction of a Jo-an teahouse, shadows a creamy white hearse - symbolic of the process of departure from this world to the next. No lingering here. As to lighting and sound equipment, well the remarkable thing about this room is the way it conveys light and shadow without actually stocking in the hardware. A small grouping of CCT spots wash the room but there's little else

to speak of. Fibre optic technology is used to recreate the splendours of Japanese religious art.

The second room, 'Chaos', is an imaginary reconstruction of contemporary Tokyo life, where economic competition replaces traditional values as the basic rule of life. The result is the chaotic, kitsch appearance of a city: a place of perpetual movement and change.

Technically, visually, aurally (and any other senses you might care to add), this is total overload. On the walls are literally thousands of magazines and comics, paper pinwheels festoon the upper reaches and the ceiling is draped with colourful flags, and several thousand lanterns.

Japan leads the world in the number, ingenuity and variety of its vending machines. They flood the streets, and you can buy almost anything from them; in 1990, nearly £9bn of goods were sold from these robotic vendors. No small wonder then that rows of these machines line the labyrinthine route to lead one on yet further through the maze.

Within the Chaos room, a replica of the famous Kaminari-mon gate standing at the entrance of the Senso-ji temple has been turned into a graffiti of electronic kitsch. Micro-chips twisted into floral wreaths give iconoclastic expression to the way technology has been grafted onto traditional customs. Sony televisions relay Japanese-dubbed movies, alongside ElectroVoice loudspeakers spouting a jarring cacophony of sounds.

Away from this, in the centre of the chaos, stands a giant mechanical shrine constructed of 20 glass and acrylic columns, each with a wheel handle at the base, which when turned, relays a noise which one might expect to hear anywhere, at anytime, in modern urban Japan. This so-called Shrine of Sound is based on Yamaha PC 1002 Professionals using an Atari reel-to-reel, two Yamaha amps and 32 channel, +/-12dB graphics. The second sound source is a continuous repeating CD player. The interactive section is operated from wheels on the shrine, each of which has 16 micro switches which activate one of 16 JVC cartridge players. While this was a simple and effective solution, I couldn't help wondering if digital stores might not have been a more robust approach.

Throughout the chaos, the smell of incense wafts through the air, paper oracles are tied to trees to bring good fortune, and, of course, no view of Japanese culture would be complete with the karaoke machine.

In Japan, there are 383,000 karaoke venues.



A model of the Kaminari-mon gate, transformed into a collection of electronic kitsch.



Karaoke Box in Room of Chaos.



Dreams: A semi-transparent polycarbonete screen and luminous, semi-transparent acrylic and glass floor carry images from liquid crystal projectors.

The display features the compact karaoke booth which has recently exploded into fashion. There are already 60,000 boxes in Japan, and they're on the march.

In Japan even more than the west, the widespread use of information technology is changing society from within. Video images, computer printouts and satellite transmissions are manipulated to create simulated environments that can seem more real than reality itself, and this is what Room 3, the room of 'Dreams' is all about.

It's a simulated vision of a machine-dominated future world, combining liquid crystal projections to create a state of information-saturated existence. Dreams is made up of sounds and projected images; inside its four walls one is bathed in a shower of information and audio-visual white noise. A

semi-transparent polycarbonete screen carrying images from 24 computer-linked liquid crystal projectors creates a media. Parts of this screen are fitted with a liquid crystal sheet whose grey scale can be freely controlled. This allows the boundaries to be blurred between real images, glimpsed through the liquid crystal sheet, and virtual images projected onto the translucent screen. A shower of projections from 18 liquid crystal projectors overhead, scatter onto the luminescent acrylic floor, given opalescent quality by 121 dimmable fluorescents underneath.

Within the room are various tactile communication devices which allow contact with the images projected. With 'Bom', the flicker of data is shaped into a visible cone, drawing one into a constant stream of visual information; 'Hyoro' allows an opportunity to

peer into the mind of a machine and see space through digital eyes. The equipment consists of 10 Yamaha PC2002s sourced from 13 Pioneer Professional Laser Disc players via five eqs and four NEC synchronisation units.

Visions of Japan offers the chance to enter briefly into the 'game' - almost like a crystal maze - and chart one's way through the complexities of Japanese life. It's demanding, fascinating and strange; maybe even a little uncomfortable. I, for one, was relieved at the end to head off in the direction of the sushi bar, to partake of one of Japan's more appealing traditions.

Visions of Japan which opened at the Victoria & Albert Museum on September 17th this year, is the central event of the Japan Festival, and launched a vast new exhibition space at the V&A. It runs until the 5th of January.

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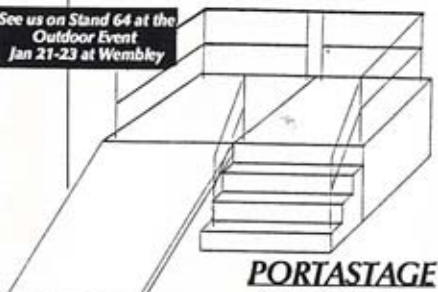
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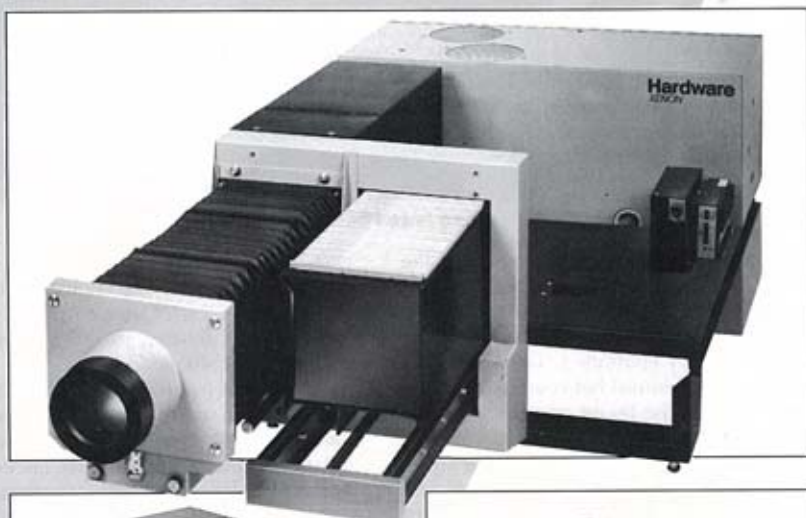
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**SALES AND
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FIXED BUT VARIABLE

Catriona Forcer visits Top of the Pops new permanent studio at Elstree

Back in 1964, a converted church in Manchester became the birthplace of Top of the Pops. Since that time however, most programmes have been transmitted from the BBC Television Centre in London. The initial run was planned for only six programmes but today, nearly 28 years later, TOTP has become a Thursday night institution and is still pulling in viewers by the million.

At the Television Centre, TOTP didn't have a permanent studio, so every week the set had to be built, stripped down and stored. It took two and a half days of studio time to complete at a time when Television Centre studios were particularly busy. Add to this a large scene crew for two nights a week plus the wear and tear on the set, and it began to make both practical and financial sense to look for a permanent studio outside Television Centre.

It was about this time, June 1991, that the programme EastEnders moved out of Studio C at Elstree leaving an empty shell - 490sq m and 10m high, in which to put TOTP. The Planning and Installation Department had eight weeks to make the necessary changes.

"The studio was pretty tatty but we didn't have to do a great deal of building work," explained Fred Humphrey, TOTP's project leader from Planning and Installation. "The main problems were time-scale and budget, which were exceedingly tight. In fact when we did an estimate it was something over £500,000 and we were given strict instructions to chop that back. I was literally scrubbing around for pennies! Some of the money that lighting director Rod Litherland was hoping for was refused him as I needed it to provide equipment. As to it limiting the programme, well I suppose you cut your cloth to suit your purse. Certainly the set designer also faced limitations and he had

to change a lot of his designs although that's not to say they are any the worse for it."

During the renovation, a large underfloor tank (which was rumoured to exist) was duly discovered in the middle of the studio. This was inspected to make sure that the floor would not cave in under the weight of the camera cranes. In spite of rumours of hidden treasure, all that was discovered was 2" of water. The structure underneath was renovated and the water problem solved.

The existing production gallery in Studio C was adequate for EastEnders, but did not have the facilities for a programme like TOTP, where a large number of visual effects are used. Because of the high expense of renovating the control gallery, the decision was taken to install sound and vision facility boxes on the studio floor and link them to the control gallery in Studio A. Studio A gallery (which is also linked to Studio D floor) could then control TOTP on Wednesdays, leaving Studio A floor for resetting. The equipment in Studio A was replaced about two years ago but needed some modification to the video effects. A new vision matrix was also added. As there are no lifts space had to be found for a Charisma video effects machine on the ground floor, which was subsequently built into a stair well.

Communications between the lighting control room in Studio C and the production, vision control and sound control rooms in Studio A, as well as the studio floor were added. "As far as lighting control was concerned, the options were fairly unsatisfactory," explained Rod Litherland. "We could be in Studio A lighting and vision room with the vision operator but a long way from the action if a quick last minute tweak of a lamp was needed, or we could be close to

the action in a corner of Studio C. We chose the compromise and used the existing Studio C lighting and vision room. While the studio floor option would have worked for most programmes, the noise level of TOTP would have made any sort of communications impossible during rehearsal or recording. The existing monitors - a black and white for each camera and three colour - were retained. I considered full monitoring essential as I often glance at the camera previews just before a cut and make adjustments, particularly of back lights and kickers, to compensate for variations in smoke level. With a remote vision operator this would be even more important."

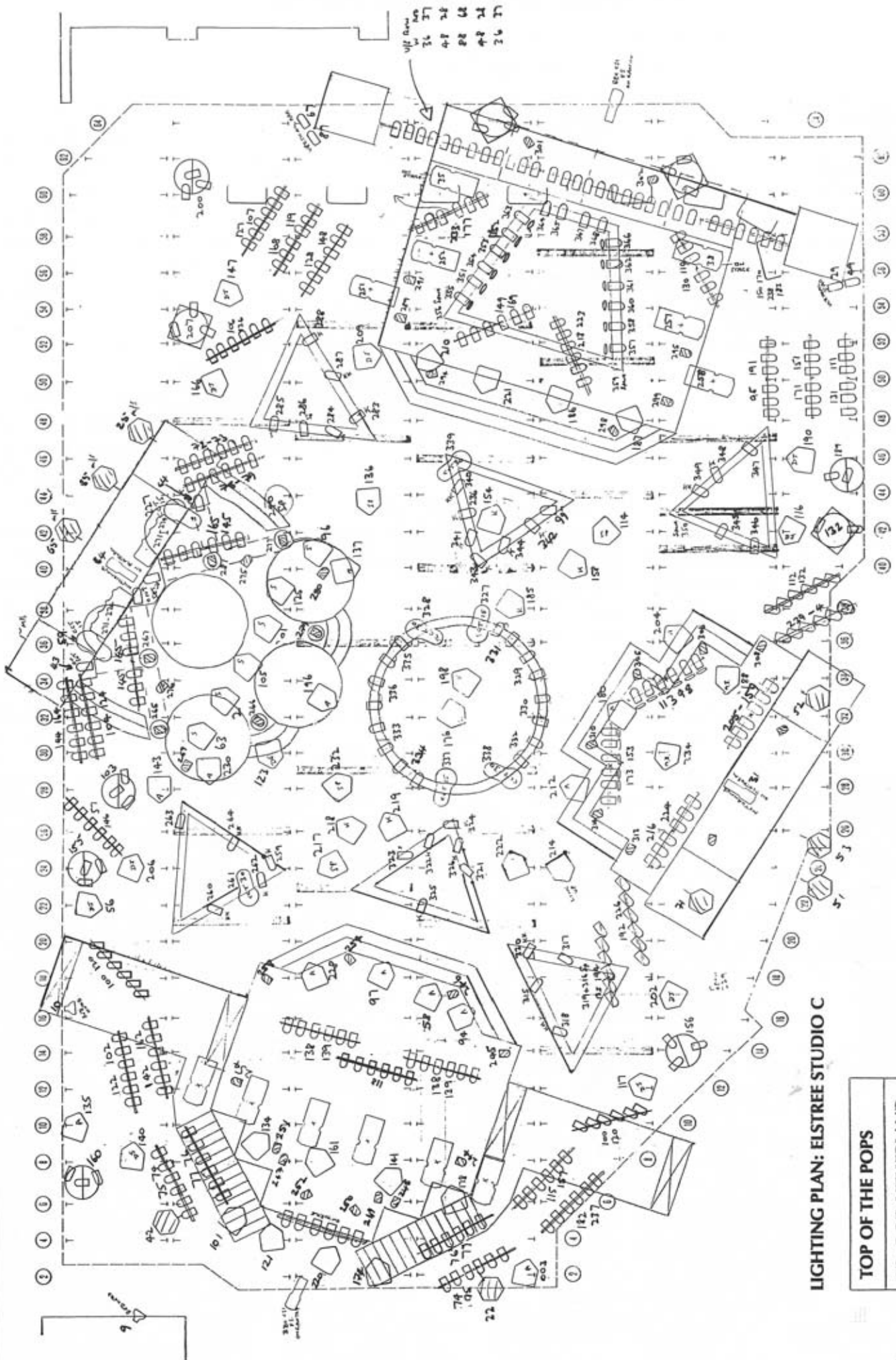
Rod Litherland had been approached by TOTP producer Paul Ciani to become involved in the planning of the studio and the show at an early stage. This involved discussions with the set designer Paul Haines to establish the look of the programme. Whilst a new set was required with four stages, all looking as different as possible, there was no proposal to change the basic format and it was established that it would still take place against a black background.

"The old set at Television Centre actually hadn't been changed for well over two years," added Fred Humphrey. "Most of the changes apparent to the viewer were done by lighting and extra bits dropped in for particular shows. There were no major changes. The basic building block will always be there and they'll hire in the odd flashing gizmo or whatever's required."

In the original model of the set, the designer had placed towers at the upstage corners of most of the sets and these would have provided ideal positions for followspots. An interesting series of walkways joined the four sets together and



Erasure performing on Stage A.



LIGHTING PLAN: ELSTREE STUDIO C

TOP OF THE POPS
 LD: ROD LITTERLAND

provided areas for the audience, as well as potential camera or lighting positions. Unfortunately, the design well exceeded the budget. The present set has, however, retained two towers which are used as spot platforms both to backlight and to key the opposite stage. There are four followspots - two short-throw Niethammer tungsten spots used for both keys and backlight and two CSIs on the gantry which provide backlight on the two main stages.

On the control side it was decided to opt for 120 channels of rock board and a Celco Gold was chosen as it was better-known to the operators who told me they find the programming and modifying of set-ups in the chaos of a TV rehearsal easier than with an Avolites console. A Celco 30way Major was used as a slave to the Gold to provide the 120 channels and both had a soft patch giving a choice of three patches (or six if you record three on the Q-card and keep it in the slot). After the first technical rehearsal this was all to change.

The norm for TOTP had been four or five bands per week. As Rod Litherland's brief had been to move the existing show to a new location he had allowed for two colours per stage with a third colour to provide variation. It was not until the first technical rehearsal that it was announced that the show format had changed. Rod could now expect to light eight bands singing live each week with only one run through instead of the usual two and no extra money. Imagine what the sound supervisor was thinking at that point, being only equipped for the occasional live band!

The rehearsal, with four groups, revealed problems with the programme retaining its original format - even with a good operator. Without promo VTs to sort themselves out and with much more pressurised rehearsal conditions it was an impossible situation.

"To be fair to Celco we were asking the board to do things it hadn't been designed to do," explained Rod. "With enough preparation and time to sort things out between rehearsals it would have been possible to run the show on the two Celcos. However, rock boards are designed to cope with only one stage and are not very user-friendly when one wants to modify individual memories quickly during rehearsal. For example, imagine a presenter doing a link with a group on the next stage in the background of the shot. The presenter set-up is on one group fader, the stage on another and audience/general set lighting on another. During the link you re-balance the presenter lighting and the camera passed to the stage. The only way of quickly recording the new presenter balance is to fade out everything on the stage - not a popular move in the production control room - while pressing the modify button, otherwise you'll end up with the whole of the

output on the presenter memory. The alternative is a lot of note taking and a sorting out session between rehearsals.

"One way of solving this problem we considered was to split the Celco 90 and 30 and use the 30 for links and the 90 for the stages. We were, however, seriously short of channels. The possibility of doing a basic balance at the soft patch level and changing patches during a promo VT had been viable, although not ideal, with the original programme format. Now it would be impossible. When Bob Peill, who had engineered the lighting installation, said he had a spare Galaxy which he could 'plumb' in it seemed the answer to all our problems. It would be able to look after all the balance of keys, links etc, leaving the Celco to do what it was designed for."

Having said that he could do it Bob Peill then had to solve the problem of making both consoles operate any of the dimmers. The original system had used the DMX output of the Celco (which meant that the soft patch facilities could be used) feeding the two 72way Avolites racks directly and the 5k dimmers via DMX/Analogue decoders. It was relatively easy therefore to make the analogue output of the Galaxy operate the 5k dimmers, but to make it drive the Avolites racks without spending any more money on equipment was more difficult. Fortunately, a piece of BBC gear designed to code and decode DMX had recently become surplus to requirements at TV Centre and Bob was able to use it in order to combine the two consoles at an analogue level and then recode the feed into the racks. This did have its problems, like having to solder 128 diodes into a junction box at the last minute, and the fact that it could only cope with 128 channels not 144. The result was the need to change whole blocks of channel numbers which hadn't been labelled and plotted only a few days before.

In early discussions it became clear that, with a permanent set, the expectation from non-programme departments was that there should be a permanent lighting rig and one of the suggestions was to build trussing all round the stages. Rod believed that this would make his job, of trying to make the show look different every week, impossible.

"The harp telescope suspension in Elstree C is much slower when rigging from scratch but it does have one big advantage when working with a permanent set - the ability to re-position luminaires without having to drop them to the floor," Rod said. "It seemed a pity to throw away this bonus in favour of permanent trussing. I therefore suggested that it might be possible to suspend a 7' 6" Par bar from a telescope. After initial scepticism Studio Electrical Services department came up with a method using some redundant 5k yokes. This method has the added

advantage of being able to pan and tilt the whole bar using a pole and has been a great success."

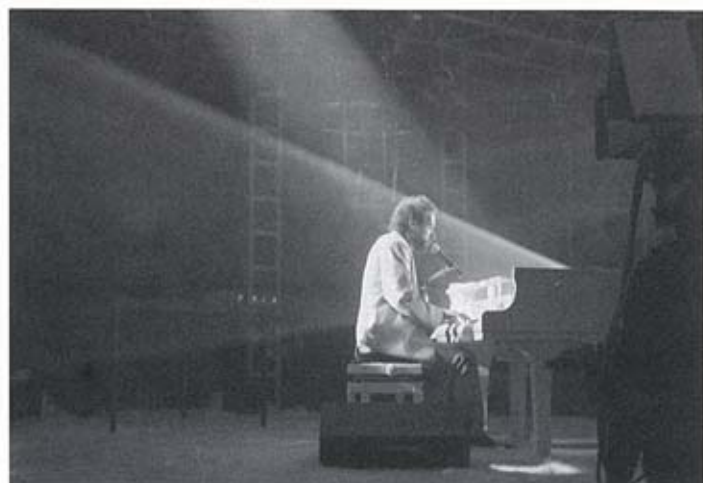
While Rod was not keen on permanent trussing from the practical point of view he did agree that it should be used for design purposes and when it was suggested that money could be found for winches it seemed an excellent idea. Rather than position it over the sets it was decided to put it, with one exception, where it could be dropped down to the floor and positions were found where it could provide support for par can keys to the stages and also foreground interest for the crane cameras looking at the opposite stage. There are six triangles and a circle in the middle of the studio, all fed from the Socapex cables.

There is one truss over a stage. When the design budget started to run out it was suggested that one of the stages could be just a rostra and it could all be down to lighting. This was something that Rod had wanted for many years so he was delighted. The producer wanted this to be the rock stage and asked for a scaffolding bridge across the back of the stage.

The Par bar, or more accurately, in this case, the Raylight bar, with six lamps on a 7' 6" bar, has been one of the basic tools of both concert tours and TOTP lighting for many years. Recently some tours have abandoned banks of Par cans completely in favour of large Vari*Lite rigs with a few additional specials. Unfortunately for Rod, it was not economically possible to fill the studio with a saturation rig of moving lights. The move to Elstree was, after all, a money saving exercise and the budget dictated that the parcan was the only viable way of delivering a lot of light beams over a wide area. There are 50 Par bars.

70 of the existing dual source 5ks previously used in the studio were retained to use as general set lighting, presenters keys etc and 100 hanging Par 64s and 40 short floor Pars were also kept. The set designer came up with some specially constructed hanging pieces which have become known as the 'hamster wheels' from which equipment could be hung. 12 Silhouettes are used for either keys, backlights or gobo projection.

As part of a hire contract package with Michael Samuelson Lighting, which includes the board and dimmer racks, there are also 24 Rainbow colour scrollers which are used in two groups of 12. Initially there was trouble running these from the Celco without the scroll hunting. The Celco is basically an analogue board, the output of which is coded to DMX. Slight variations in analogue voltage result in DMX variation of one or two bits which would be completely unnoticeable on lamps but caused a movement of two or three inches of the scroll. To get over this problem Celco lent them one of the new Navigator boards which is specifically designed for scrollers and moving lights. As it will



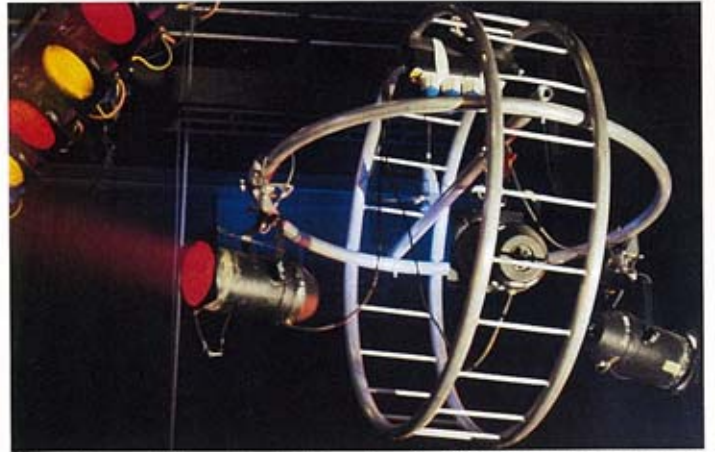
Marc Cohen in performance.



From left to right: Mark Kenyon (Celco Gold), Bill Peachman (Oska) and Alan Rixon (Galaxy).



Stage D at Studio C, Elstree.



One of the specially constructed 'hamster wheels' from which an assortment of lighting equipment can be hung.



Amongst the lighting on Stage C, Rod Litherland has added Cosmo balls to throw moving streaks of light across the cyc.



2 Unlimited going through their paces on Stage A.



Morrissey and psychedelic backdrop on Stage D.



C Stage and an army of Par cans play host to old timers Status Quo.



DJ Carl Cox on Stage B.



Simply Red in rehearsal.

loop into the DMX it means that it can also be used to control the Par cans associated with the scrollers allowing a chase to be set up where the colour changes as the lamp goes out.

The effects lighting is all hired week by week although there is a contract for six Golden Scans and six Super Scans with Richard Martin Lighting for the first few months. At the show I attended the specials were included on stage A (Cathy Dennis/ 2 Unlimited), some Flashdancers in the far corners of stage B (DJ Carl Cox), positioned so the shot from across the right hand side will have them in the background, and some Cosmo balls which Rod is using to throw moving streaks of light across the cyc on stage C. After the first technical rehearsal the executive producer John Bishop decided that he wanted to see a white cyc behind one of the stages. As a cyc had been eliminated from the planning at a very early stage there was only one stage where it was possible to stretch one - the rock stage - and then it would actually touch the scaffold rig at one point. Bands appearing on this stage were Marc Cohen and Simply Red.

"We often have requests from artistes not to have certain colours," said Rod. "Simply Red have said that they don't want the colour red used as it has become a bit of a cliché. Some people seem to have pre-conceived ideas that the programme should either look like a rock concert or a club, but it's a TV programme and it shouldn't necessarily fit into other pigeon holes.

"Rock concerts tend to be seen predominantly in wide-angle and often the star of the show is just a dot in the distance. Television is 80% - 90% close-ups with the occasional wide-angle. You've got to concentrate on just a few lamps which are lighting the artistes and get them absolutely right as you have on providing the whole light show. You have to be able to squash all your effects into where the wide-angle happens as there is no use in providing effects that happen when the director is on a close-up. The skill is to sort out where the wide-angle will be with the director, if he's vague you have to guess, and then concentrate your efforts on those bits otherwise you're wasting your time."

Lighting directors tend to work on TOTP for a period of about two months at a time before moving on to another project - in Rod's case Alf Garnett and Ruby Wax. Their week starts with a planning meeting at 11am Monday morning when they discover who will be appearing on the programme. They go through all the records with the director, designer, special effects people before returning to their office to discuss ideas and decide on the colours for each stage as well as what specials will have to be hired in. In the afternoon phone calls have to be made to the various hire companies to see what equipment is available.

Tuesday is spent in the studio with the crew and electricians implementing the changes decided on the previous day. On this particular day the rock stage had been changed drastically from the previous week when Status Quo had appeared. The 'typical' rock rig of many Par bars had been broken down and the Par bars had been distributed to the other stages as today there were two slow numbers on this stage. The colours were also changed as they did not suit that day's bands.

It is also the day that the lamps used for the various link positions have to be set as they change from week to week. Wednesday is the day that the show is recorded and rehearsals start early in the morning. The usual recording of the show only takes half an hour although the first show from Elstree took one and a half hours because they wanted to make sure that all the links were smooth.



Rod Litherland on the set of Top of the Pops at Elstree.



Julian Lennon on Stage D.



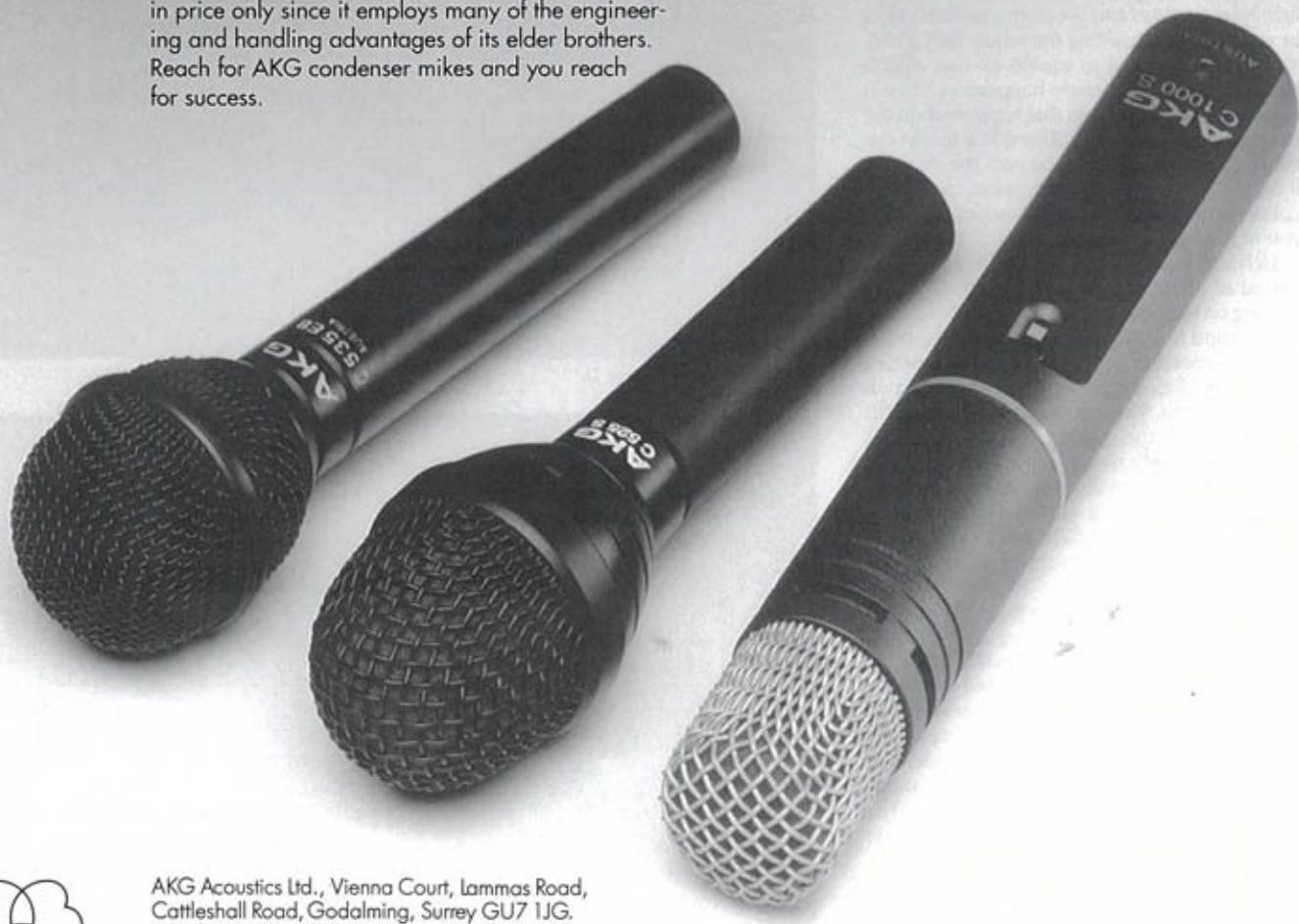
Cathy Dennis, complete with curlers, during rehearsals, on Stage A.

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MIDI PROTOCOL PROTAGONISTS FIGHT BACK

Reactions to Peter Brooks' Viewpoint (L+S October) and a report on the SMX meeting during the PLASA Light and Sound Show

Following Peter Brooks' October Viewpoint lambasting of all concerned with the discussions on open protocols and MIDI Show Control in particular, the magazine has received several responses from those involved. Two letters in particular are reprinted below, one from Charlie Richmond who was the chair of the MIDI discussion group which forged MSC and to which Brooks refers and the other from Vic Lennard the director of UKMA who represent the MIDI Manufacturers Association here. Later in this issue, you can find Celco's Matt Deakin responding directly and in full in his own Viewpoint (page 74).

Whether or not PLASA has been slow in getting directly involved in the protocol parley game may be a moot point, but Peter's criticism really is a 'blast from the past'. Had it been written after last year's LDI it would have been timely, for we had all been told at the protocols seminar by Charlie Richmond, and Zero representatives were in the audience, that MSC was complete and awaiting MMA clearance. He also pointed out that MMA were reluctant to allow copies of the draft to be distributed prematurely. Mind you he offered copies of the draft to interested manufacturers including Zero who actually did receive a copy by another route.

I perceive more of a communications problem than anything else. People in the UK were not fully conscious of the workings of MMA, and PLASA and

this magazine probably could have been more helpful in explaining the Modus MMA (the same applied to DMX512, but as soon as PLASA put round a fact sheet it took off here). If Matt Deakin was not an official PLASA monitor, he probably should have been. But that's all in the past and we must now look forward. PLASA are now engaged in setting up a protocols committee and discussions are going on via membership questionnaires as to the scope and resources required. Interested members are strenuously encouraged to complete their forms as soon as possible.

No sooner was the PLASA office made aware of the decision of the USITT IES sub-committee to abandon further discussion on the adoption of Strand's SMX protocol, at least for the time being, than a meeting of interested members was hastily cobbled together to take place during the London Show. Steve Terry, the committee vice chair, was enticed from his New York lair to explain to members, which included people from Avolites, Zero 88, DHA, Pulsar and others, such as Dave Bertenshaw development director of Strand and Matt Deakin of Celco.

Terry explained that the reason for the current resistance to the adoption of SMX as an advanced standard was largely commercial and to do with its close identification with Strand rather than anything to do with its viability. "We sent out a survey to all known interested parties, encouraging a purely technical response," Steve told the meeting. "Of

only 11 responses the vast majority were negative. Despite being generally for all the wrong reasons, and the number of responses being unrepresentative, it was felt by the committee, which included Ian Ibbotson of Strand N. America, that there was no future in pursuing it for now. It was recognised, however, that with the enormous resources necessary to produce such efforts, there was always going to be a commercial trade-off."

Steve Terry remains a firm supporter of the search for an acceptable advanced open protocol and encouraged PLASA to become involved officially. He was encouraged by the news that the Association was polling interested members on the subject. Around the table this also received enthusiastic support, as did the suggestion of an SMX teach-in. A proposal by a BBC representative with the offer of a neutral venue was welcomed for this purpose.

More discussion produced the suggestion that the removal of the 'S' prefix from the title might go some way to mollifying the commercial considerations, though perhaps not from Strand's viewpoint and investment. It was emphasized that for a PLASA effort to be effective it was essential that a way be found to involve and inform non-UK interests. There was also a brief mention of MIDI and the Show Control protocol designed for desk-to-desk communication, which Matt Deakin advised was now ratified and available.

Tony Gottelier

Dear Editor,

It is always unfortunate when misunderstandings occur and worse when they get put into print. I hope I can correct a few that appeared in Peter Brooks' October Viewpoint. First and most important, there seems to be disagreement over what Matt Deakin apparently said. Prior to the PLASA Light & Sound Show, Mr Deakin had me confirm that the MIDI Show control standard (MSC 1.0) was indeed released and available and that members of the MMA would be receiving copies of it. At that time he indicated that he was participating in a MIDI seminar at PLASA and intended to announce the release of the standard. Shortly after the Show, it was independently reported to me that he had announced the new standard toward the end of the seminar and that most members of the panel and audience seemed to have a fairly clear understanding of what had been said.

After reading Peter Brooks' article I contacted Matt Deakin to find out exactly what he had said regarding the availability of the MSC standard. He faxed me the following quite which was transcribed from a tape of the MIDI seminar. "I have come rather badly prepared and do not have any copies with me. They are available from the MMA and will already have been sent to existing members of the MMA in the regular technical bulletins." With this evidence of the true content of what was said, I can only conclude that Peter Brooks simply misunderstood Matt Deakin.

Further I would like to clarify the process that took place in the development of MSC 1.0. Shortly after LDI 89 in Nashville, I contacted well over 100 manufacturers of high tech show equipment asking them to get involved in the standards-making process and advised them how to do so. Zero 88 Lighting Ltd was amongst these. Over the next year, via frequent 'MIDI Forum' meetings on USITT's CallBoard telecommunications network (accessible world-wide), a series of draught proposals were developed and discussed by a committee of companies who had chosen to join the process. Even more companies had chosen to join the MIDI Forum for the purpose of following the discussions and getting involved only if necessary. The Forum could in fact be joined and read by virtually any member of USITT who wished to - it was not closed or made inaccessible to anyone.

At LDI 90 in Orlando, I went around to the booths of manufacturers who had not responded to my original request to get involved and reported our committee's progress to the people in charge of each booth. At the Zero 88 booth, I spoke with Richard Thornton-Brown, development director, who expressed considerable interest and asked me to send him a copy of the then current proposal, which I did shortly after the show. A final draught proposal was agreed upon and submitted for approval by the members of the MMA in the Technical Standards Board Bulletin of January 1990. This received overwhelming acceptance on a ballot vote included with the TSBB and was then passed on to the Japan MIDI Standards Committee for review. The JMSC submitted this to the Japanese Centre of the OISTAT for comment. The JMSC advised the MMA informally in May that MSC would be approved as submitted and the fully executed formal documents officially making MSC 1.0 at MIDI 1.0 Recommended Practice (RP-002) were received in Los Angeles on 25 July 1991.

The committee has not disbanded and work continues on the next version of MSC, which will expand its capabilities without making anything obsolete. We invite all interested parties to participate and want to make it as easy as possible to do so. Please contact me directly for details. Charlie Richmond, Richmond Sound Design Ltd., 1234 West 6th Avenue, Vancouver, BC, V6H 1A5 Canada. Telephone +1 604/732-1234, Fax +1 604/734 3901. Copies of MSC 1.0 are available to anyone for US\$7 from MIDI Manufacturers Association, 5318 West 57th Street, Los Angeles, CA 90056 USA. Telephone +1 213/649-6434, Fax +1 213/215-3380

Charlie Richmond

President of Richmond Sound Design Ltd., of Vancouver. Member of the USITT Board of Directors.

Dear Editor,

Having read Peter Brooks' piece on 'The Great MIDI Mystery' I can sympathise with his sentiments. On a personal level, I spoke with a representative from PLASA at the 1990 British Music Fair and offered my involvement in the long-standing debate as to how MIDI should be used within the lighting industry. While my background is firmly based in the musical side of MIDI, as director of the United Kingdom MIDI Association I felt that it would be important to be involved in every aspect of MIDI. UKMA is an independent, information-giving body which is also a member of the MMA (MIDI Manufacturers Association).

At no point did PLASA take me up on this offer. Moreover, after speaking with various people within the lighting industry, it appeared to me that MIDI was being very much abused. One particular company required 512, 7-bit controls and so used all available MIDI Controllers from four MIDI channels, a situation guaranteed to lead to total incompatibility with any other system.

The MMA, along with its Japanese counterpart (JMSC - Japanese MIDI Standards Committee), instigates changes and additions to the MIDI 1.0 Specification, and MIDI Show Control is one such addition. This has been under development for some time, and any member of the MMA could have been involved in providing input. Unfortunately, apart from Strand Lighting, it appears that no other PLASA members are members of the MMA. It is also true to say that mass individual membership of the major UK lighting companies would be counter-productive.

Consequently, it would appear to be imperative that PLASA becomes a member of the MMA and sets up a working group consisting of all interested parties if MIDI Show Control is to become an established standard in the UK. As an MMA member, PLASA would be privy to the MMA part of the PAN bulletin board in the USA where an open forum is kept. In that way, PLASA members could be consulted on, and kept informed of, all future developments within MIDI Show Control.

Vic Lennard, Director of UKMA.

UKMA, 26 Brunswick Park Gardens

New Southgate, London N11 1ES

Tel: 081 368 2245 Fax: 081 368 7918

A MAGIC NIGHT

John Offord talks to Palle Palmé of the Berns' Salonger Stockholm



Joe Labero in 'A Magic Night' at Berns' Salonger above and below (left).

Photos: Joakim Strömholm

Now back at its best after a major programme of refurbishment, Berns' Salonger in the heart of Stockholm has a world-wide reputation thanks in large part to its various 'salons'. It is steeped in over 125 years of culture and tradition and the immense variety of entertainment offered.

Artistes such as Edith Piaf, Maurice Chevalier, Josephine Baker and Harry Belafonte have

appeared at Berns' and it was its famous Red Room that Strindberg wrote about in his novel of the same name.

After the 1989 renovation the complex has had a range of new facilities added. There are conference facilities, hotel accommodation, two restaurants and plenty of opportunities for the presentation of entertainment from film to

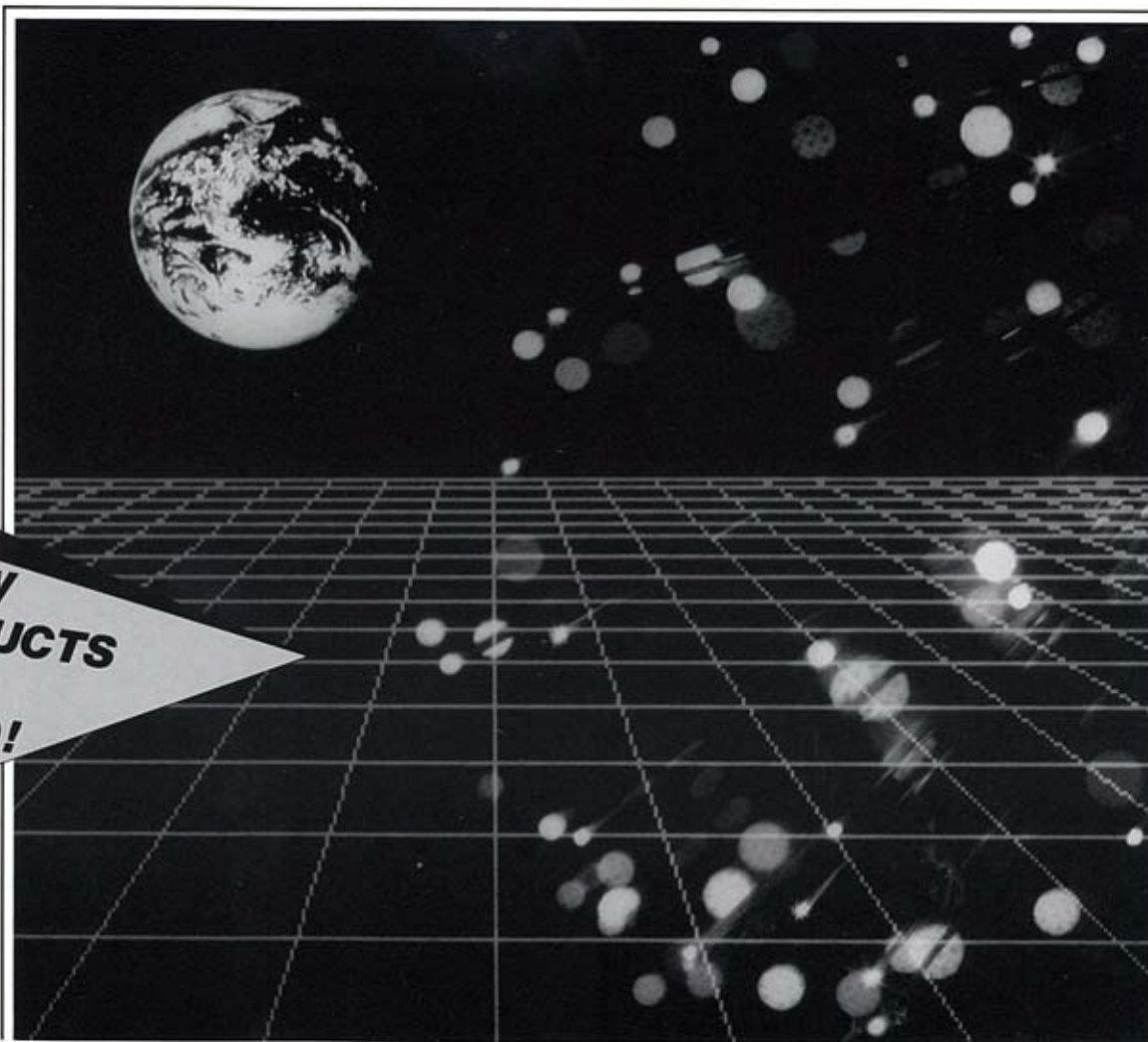
discotheque and other activities such as commercial presentations. However, what Berns' is famous for is its regular 'grand show', and to kick the venue off into a new era, Victor Borge headlined a grand opening week in February 1989.

Many big names have appeared since, but the management decided upon a change of format



The team behind Joe Labero and 'A Magic Night' (left to right) Palle Palmé, with Patrik Andersson, Staffan Alex, Håken Ulriksson, Alex Karlsson, Anders Regné, Örjan Wesslund and John Galva.

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ATTENTION: Yoko Yuyama (Ms.)

and decided to go for a different entertainment style. They looked across the Atlantic and planned for an American casino-hotel type of programme with a magic show of the Siegfried and Roy and David Copperfield genre. It would be something totally new for both Swedish, and come to that, European audiences.

They've evidently cracked it, using their home-grown talent in a young Swedish magician called Joe Labero, but in true American style and with a great deal of help from the technical men at Berns'.

Palle Palmé, technical manager and lighting designer at Berns', pushed hard for the show to take place and made some grand promises to the venue's management: "If we decide to do this style of show we can't let anything go wrong. If we need 200 smoke machines for instance we should say 'no problem'."

He explained how the show preparations took place: "All the illusions were ordered from Los Angeles and from the same people who provide the illusions for David Copperfield and Siegfried and Roy. We also decided, after a lot of evaluation, to buy six of the latest moving lights, the Summa HTI units, and they run beautifully. The lighting rig also has 200 CP62's, 30 colour scrollers (both Rainbows and Lightpaints), 50 ACL cans, and 50 CCT profiles. The Summa lanterns and scrollers run through an Access Pro with the rest of the stage lighting under the control of a Celco Gold.

"The sound installation includes Apogee speakers, a Soundcraft mixer, a couple of wireless microphones and two DAT recorders.

"Production rehearsals began on June 1st in the Congress Hall in Berns' - a show was still running on the main stage - and as each of the illusions started to arrive we rehearsed them into the programme. Director Michael Hylin also took care of the music which included pieces



The lighting rig for 'A Magic Night'.

from Yello, Peter Gabriel, Gypsy Kings to Billy Idol, ZZ Top, Chris Isaac and the Stones.

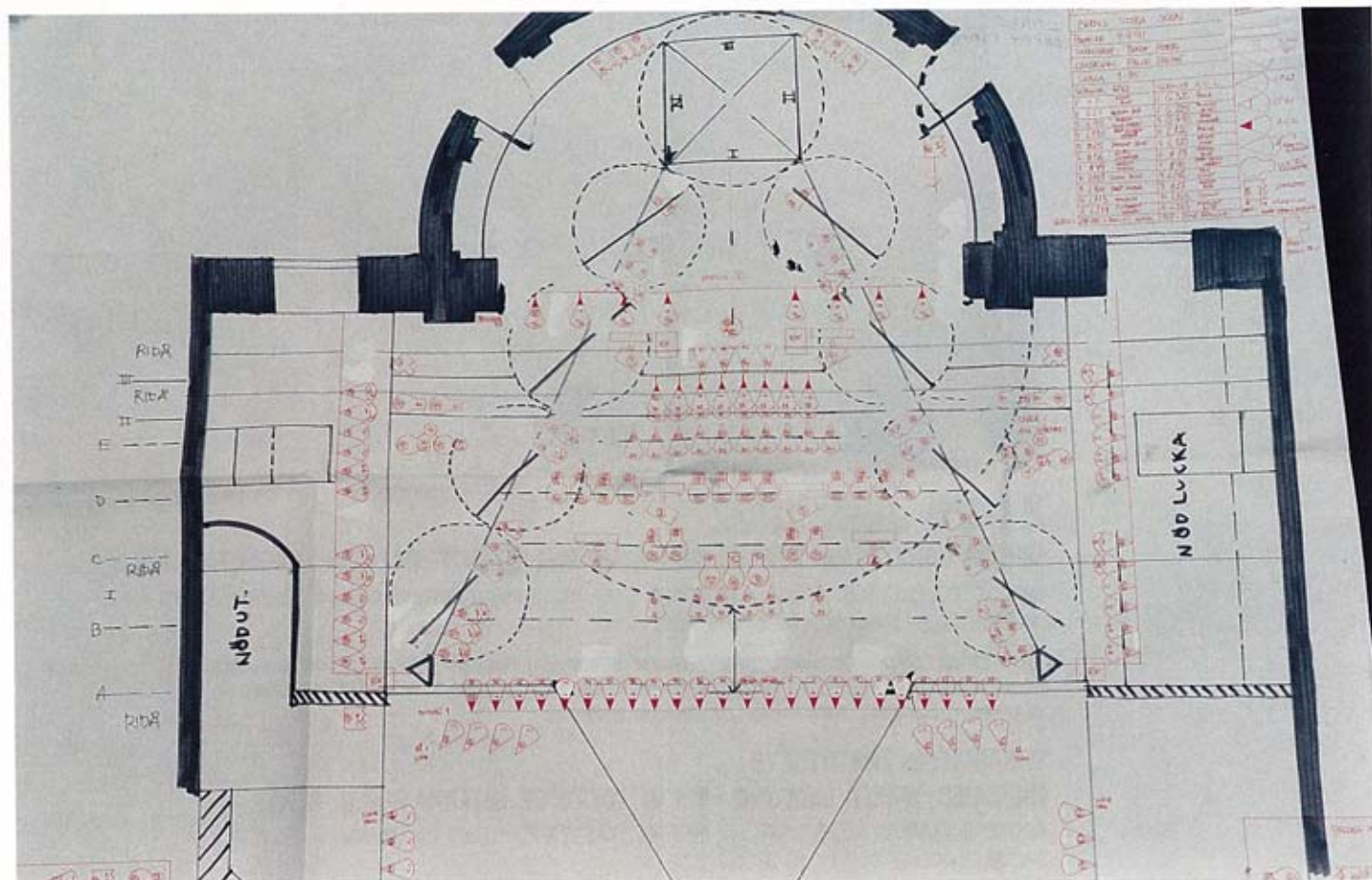
"The model from set designer Bengt Peters was showed to the team in the middle of June and the set started to take shape from that point. Just two weeks before the opening we could begin to light the show. Programming the Summas took quite a time but the crew put in a lot of hours right up to opening night. Along the way we had some problems with various illusions but on the opening night everything worked one hundred per cent."

The show gained rave reviews and has been fully booked every night, and after it has run for

a year at Berns' they are thinking about putting it 'on the road'.

As Palle Palmé told me: "There's no such production in the world that tours outside America, and it's the only show that can compare with David Copperfield or Siegfried and Roy. Obviously they are much bigger shows, but I don't think they would be very good to tour!"

"Our experience with this show has given us a lot of courage and confidence to plan brave new productions for the future. So keep an eye on Berns' Salonger in Stockholm," concluded Palmé.



Palle Palmé's lighting plan for 'A Magic Night'.

PAX TECHNICALICA

Bevis Evans-Teush reports on another significant happening at the Harland & Woolf works in Glasgow

'Pax' is the latest work to come from the Welsh Theatre Group Brith Gof, and the theme of this music-theatre-event is the destruction of the planet by mankind: 'Can we speak of world peace when we have declared war on the planet itself?' The company performs in buildings in which the community works, plays and worships: chapels, barns, cattle markets and disused factories.

A recent production of the work took place in the Harland & Woolf engine works in Govan - the setting for last year's performance of *The Ship* (featured in L+SI September 1990). Brith Gof believe that a direct link with the audience makes the work more relevant and accessible to the non-theatre going public, and like all Brith Gof's site specific work, the space dictates to a large extent the style and scale of the performance. The cathedral-like proportions of the Harland & Woolf works demand theatre on an epic scale.

The show's designer Clifford McLucas didn't simply drop a theatre into the space - his design and the building worked together, taking the form of a circle of 12 towers. This defined the playing area and promenade audience space. Musicians were placed on top of these towers with the next level down on each containing the followspots, lighting and sound control.

There were also five 35 feet towers that were moved around the space and throughout the audience, forming small stages above the main performance area. As you might expect of a show about the environment, the four natural elements played a large part. The effect of the piece was to keep the audience moving, not quite knowing what was going to happen next.

The set included two 40 feet pine trees, a glass water tank and six shopping trolleys with orange motorway flashers on them. As part of the performance actors descended from the roof in the form of angels. The flying equipment for this came from the film *Highlander Two*.

With a setting on this scale the sound and lighting had a challenge on their hands to come up with something to match. Tom Donnellan, the show's lighting designer, took on the project with the kind of zeal that's rare. His previous work in Glasgow includes Test Department's *The Second Coming*, which took place in an old railway shed. The show featured a crane with a generator and HMIs slung from it. This was used as a light source outside the building and shone through the skylights to great effect. Donnellan took some of the unusual elements of this play



Three scenes from Brith Gof's Glasgow production of 'Pax'.



and incorporated them into Pax. As this kind of hardware is important to him, a cherrypicker found its way onto the list. It was used with two 6k HMIs attached. On the floor one minute, in the roof the next, the cherrypicker replaced about 10 fixed lanterns and allowed the lanterns to track in any direction while switched on. When the angels descended, four HMIs were used to light them. Originally shutters were specified for the lights but budget constraints put an end to the idea. As it turned out gel was used and the initial glow looked great as it built up to full intensity, revealing the angels high in the roof, slowly descending in a cloud of smoke.

The wrath of the angels was given force by the use of four industrial fans pointed at the performance/audience space. When the fans, with smoke and the 7k xenons behind them, were switched on simultaneously the effect was amazing.

The roving towers presented a problem as they required independent lighting with no trailing cables. Generators proved too noisy so power packs were used - in this case 12 volt batteries with an inverter to step up the power to 240 volts. An hour's use with two parts connected was possible. However, one of the towers did use a generator. With two Pars and two water pumps, it proved too much for a power pack. Thanks must go to Michael Samuelson Scotland for the free use of the 7k xenons which incidentally came off the set of the film of Aliens Three. They were offered as part of the promotion of a newly-opened depot in Glasgow. I think Tom Donnellan would agree that the show would have lost something very special without them.

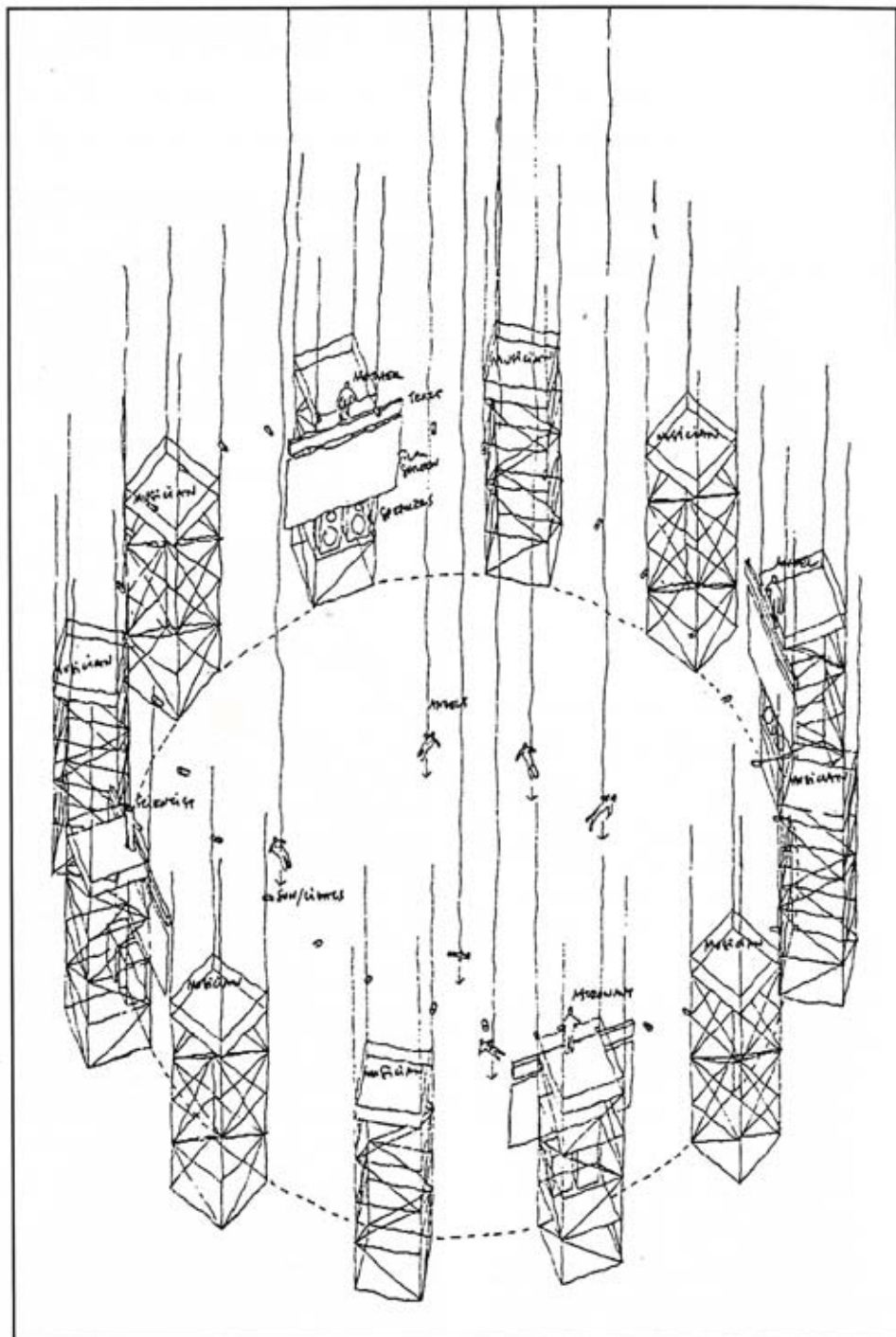
Sound designer Tim Foster from Hardware House had a brief every bit as challenging. Like the set, his speaker system was circular. These were a Hardware House special - 'Hackney Cabs'. The system had to provide an even spread of sound from all sides. Perhaps even more important than this, it needed to give each singer/musician a sense of locality. As a result the final mix became a very subtle blend of directional sound and overall amplification.

Hardware House has worked with Brith Gof's unusual sound requirements before, on their production of Gododdin. This production was staged in a disused car factory in Cardiff, a quarry in Italy, a redundant crane factory in Hamburg, an ice stadium in the Netherlands and the Tramway Theatre in Glasgow. So a disused battleship engine factory wasn't too much of a shock!

Tim was presented with a very wide range of sound sources to work with. These included tape, voice, violins and African drums. Keyboards and tape control had their own submixers to allow control over output. With each musician/singer being on a tower of their own, Kate Tierney on monitor mix had her hands full. In the end she had 12 monitor mixes. As the score demanded a wide range of sound levels these were changing all the time, and the circular set up opened up all sorts of possibilities for moving sound around the space. In the production this was achieved with great effect, and in no way can be considered a gimmick as it was incorporated as an integral part of the action.

One interesting use of the radio mic system was the triggering of samplers. Transducer's were connected to radio mic belt-packs and placed on angels. Whenever they hit their chests a signal would reach the receiver and trigger the samplers.

Brith Gof's use of the technical side of theatre is something new. It is rare to meet a company that integrates the technical with the aesthetic so completely. From the very beginning of a project, the feel, look and sound is considered



A sketch of the performance area for 'Pax' showing towers for Magicians, Astronauts, etc and Angels descending. Also note position of speakers and film screen.

along with the rest of the performance. I think for people that work in the technical side of theatre this kind of involvement is bound to be more satisfying and rewarding.

Brith Gof

Music: John Hardy
 Libretto: Lis Hughes Jones
 Design: Clifford McLucas
 Lighting Design: Tom Donnellan
 Lighting: Graham Coyle/Bevis Evans-Teush
 Sound: Tim Foster/Kate Tierney
 Production Management: Giles Parbery Illicit
 Management and Production
 Production: Tramway Glasgow

Sound

Speakers

Hackney Cabs (Hardware House)
 EV MT2s and JBL floor stacks

Control

1 x Yamaha PM 3000 40 channel desk
 1 x Amek 24 ch/12group monitor
 1 x SP X900
 1 x REV 7
 3 x KT DN360 graphics
 2 x KT DN27 graphics
 4 x Formula Sound S19C graphics
 1 x Orban parametric equalizer

2 x Drawmer gates
 2 x BSS DPR compressor
 2 x Revox D77 tape decks

Mics

17 x DI boxes (BSS, EMO, Countryman)
 1 x SM87
 1 x Beyer MCE81
 2 x Beyer M69
 6 x Beyer MC716
 4 x AKG C535
 1 x Beyer 201
 2 x Neumann U47
 3 x Sennheiser MD 441
 1 x Sennheiser MD421
 1 x EV RE20
 4 x Nady guitar radio systems (Angel trigger)

Power

2 x Hackney Cab controllers
 2 x BSS FDS 360 crossover
 1 x BSS FDS 320 crossover
 1 x Hackney sub-bass controller
 2 x EV crossovers

Amps

5 x Carver PM1200
 2 x Amcron DC300A
 3 x Amcron MT 1200
 1 x Amcron MT2400
 1 x Amcron Macro Reference
 2 x Amcron PSA2
 2 x EAA 1000

THE TRACK EVENT

Julian Williams listens in at the Light & Sound Show

Tracking light systems of one kind or another are at a watershed and it seems there are two key issues: the artistic and economic requirements and parameters and the most efficient method of achieving greater accuracy coupled with an efficient yet safe method of control.

At the PLASA Light & Sound Show in September a seminar was held on the subject and this attempted to assess where we are at in this area together with some idea as to where we might end up. The MIDI control system designed specifically for the current Dire Straits tour succeeded in holding the stage as the main feature of the seminar, and much of the discussion revolved around its advantages. Seminar chairman was Brian Croft of Vari-Lite Europe Ltd and the panel included Dire Straits LD Chas Herington, consultant Jim Douglas, John Sinden of Vari-Lite and Ian Clarke of Light & Sound Design.

Basically, lighting designers are now tracking lighting units or groups of units horizontally and vertically, and sometimes actually combining two directions. And their demands are pressing the system makers to come up with the best method to achieve all this. The technology is there for the picking.

Brian Croft commenced the seminar by describing the meaning of tracking: "The underlying motivation with any automation in lighting is to reduce the total number of luminaires used on any show for logistical and economic reasons. In straight theatre we now want to take these luminaires and move them around the stage so we can change the direction the light is coming from, relevant to the subject on stage, and to gain the maximum utilisation of the luminaires which are often expensive.

"Usually in theatre this is done discreetly in mask between cues, whereas rock and roll, true to its image of sexuality, likes to do it when the lights are on!" continued Croft. "If you have a moving light, and it's moving, and the light's on, you get some very dramatic effects, and rock and roll doesn't have a text or setting such as the time of day to which you have to be faithful."

He then described how complete trusses have been moving lights vertically, with the aid of winches and hydraulic rams, for many years. "Moving in this direction is easy," he said, "but moving equipment horizontally is not so easy. Vertical and horizontal movement at the same time is even more difficult, particularly with heavy loads. However, it's the horizontal movement which we now refer to as 'tracking' and a moving system is the answer."

Panelist Jim Douglas, who was able from his experience to provide a balanced view across the conventional theatre to rock and roll spectrum, described some significant theatrical productions such as 'Time', 'Aspects of Love' and 'Miss Saigon' (all reviewed in L+S) where tracking systems had and still are being used.

Douglas suggested several points needed to be considered. "We need to analyse the reasons why people want moving light systems and what they expect of them. What is the initial motivation for wanting a moving light rig?" he asked, before going on to give some suggestions.

"The first reason is for economy. Managements on theatre productions are more willing to pay money up front than for the ongoing costs of rental." Jim Douglas then took the view that the Vari*Lite system was at a disadvantage in this area as they were only available on a rental basis.

"The second is an access logistical problem.

Does it need to move because you have to get some scenery past it? Once this is achieved, you can then put the lantern in a place that it can actually be of some use as opposed to having it in a fixed place but in a compromised position.

"The third reason is do we want it simply because of the artistic effect? Then we have to ask what its use is going to be during a show and what is important about the output of the luminaire. This is where there is a marked difference between rock and roll and conventional theatre use. In rock and roll the beams are as important as the light that they produce, often being used as scenic element with the illumination a secondary factor.

"In conventional theatre it is the image and a question of using it for illumination purposes, sometimes with gobos. If it's the beam, then a few degrees of arc in terms of accuracy doesn't make a lot of difference. But if it's a question of the image that they produce, then a couple of degrees of arc can make the difference of a couple of metres when it gets to the image it produces on the stage. Things like accuracy and stability then become very important.

"Finally, when we are considering systems that are capable of moving lights from place to place, are we going to be stuck with having two systems - one for moving lights as they stand at the moment, and another bolted-on system for moving them around from place to place? Or are we looking for a completely integrated system which can do everything from one computer so we don't have to worry about all these different links and compatibilities between equipment?

"It probably won't be until we get to the fully integrated system that we are going to see some really spectacular effects, because achieving moves in a pre-determined time is fairly easy with equipment that's reasonably accurate, and can track each other. But I would like to see a system where you can focus a lantern on a particular point on the stage and then track that lantern along so that it stays where you have put it. Until we have fully integrated systems that sort of thing won't be realisable in any form.

"Hypothetically, if one could have a joystick to track the trolley from one side of the stage to another, the light would stay in the same place regardless of where the trolley was. This would be the ultimate system - capable of doing anything. What is being said at present is having a slight fudge - 'a timed cue' - so you rely on the trolley going from A to B in a certain time and

the lantern doing a pan at the same time, for the lamp to stay in the same place. What we need is computer power sitting there working out the geometry for you."

Brian Croft came back with an interesting comment. "It's Vari-Lite's ambition to have groups of lights moving around the stage efficiently in the great repertoire houses of the world where there are very serious labour costs to be saved and where, at present, only about a quarter of a rig is refocusable," he said.

Brian then gave some examples of where tracking systems had recently been used. "In rock and roll tracking is fairly recent," he continued. "The first was with John McGraw's lighting for 'Queen' on their 'Fly Spot' tour and Jonathan Smeeton used some with Peter Gabriel. The big landmark for tracking was obviously Marc Brickman's lighting for 'Pink Floyd' in 1988. In Brickman's more recent lighting for Paul McCartney (see L+S Feb 1990) the track turned on a curve above the middle of the stage.

The debate that followed commenced with Brian Croft claiming that it is from the required accuracy that the next development will come. "If you've got a moving light, and if it's very high, it has to be absolutely spot on in order to make its pre-set focus," he continued.

There was much discussion on this point. From the theatre side it was reported that David Hersey had tried, as an experiment, to use a 'visual' sunrise effect on the recent New York production of Miss Saigon by simulating the movement of light by tracking up and panning, but the system was found to be inadequate.

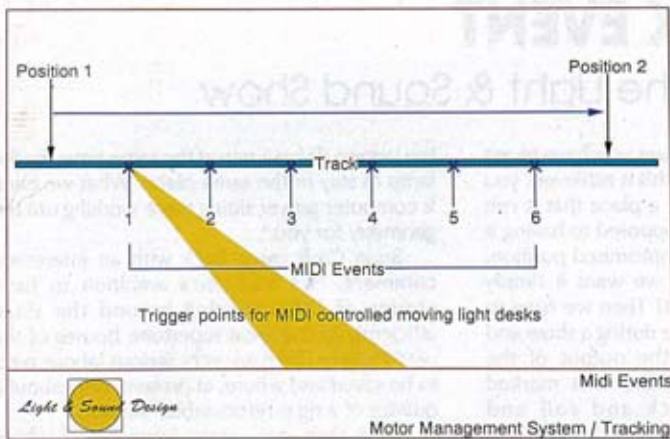
Cable management systems were next on the list for discussion and the debate centred on the data collection system and the pros and cons for the data being collected by rails with more perfection or by more exploration into the use of a radio frequency system. The inevitable DMX question arose again with its faster transmission rate than the alternative steadfast system used by Vari-Lite.

Brian Croft considered that the system Ian Clarke had come up with in a reasonably short time for the Dire Straits tour, where he had used MIDI points along the track which self-corrected, was a good compromise.

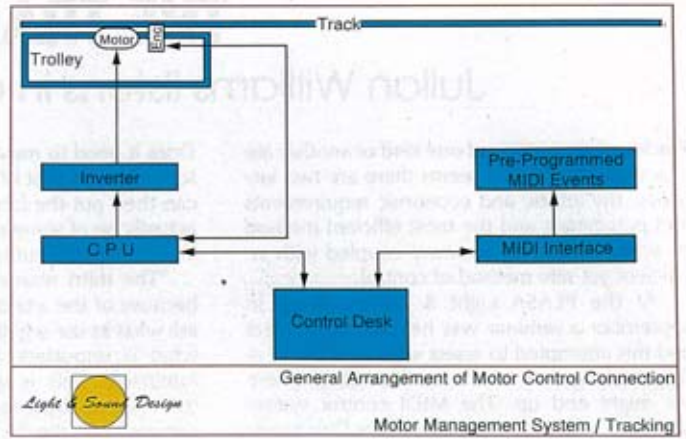
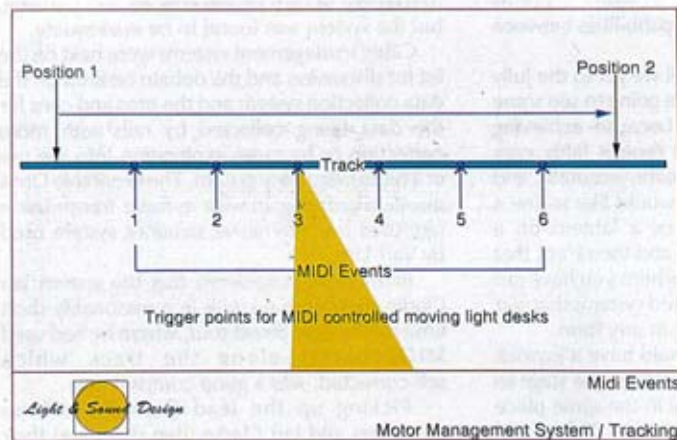
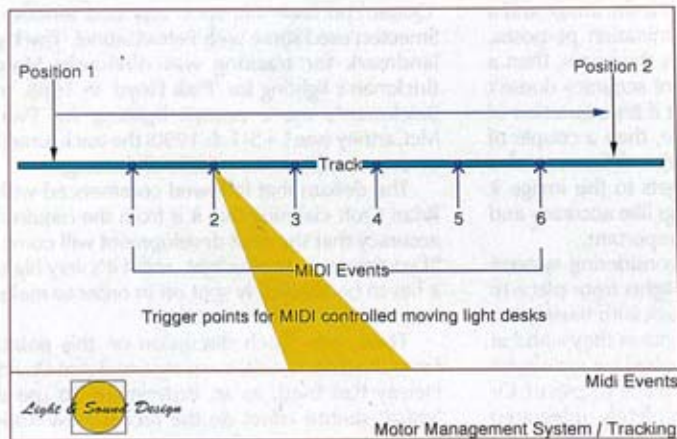
Picking up the lead from there Chas Herington and Ian Clarke then described their system for the current Dire Straits tour, which incorporated two eight-light Vari*Lite trolleys. The innovation here was how these trolleys were triggering MIDI codes to actually signal Vari*Lite



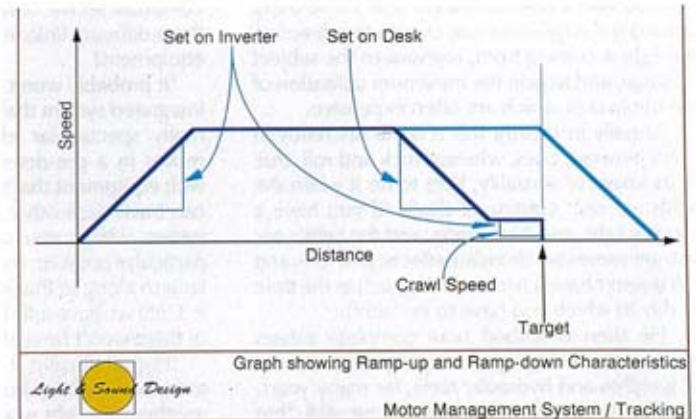
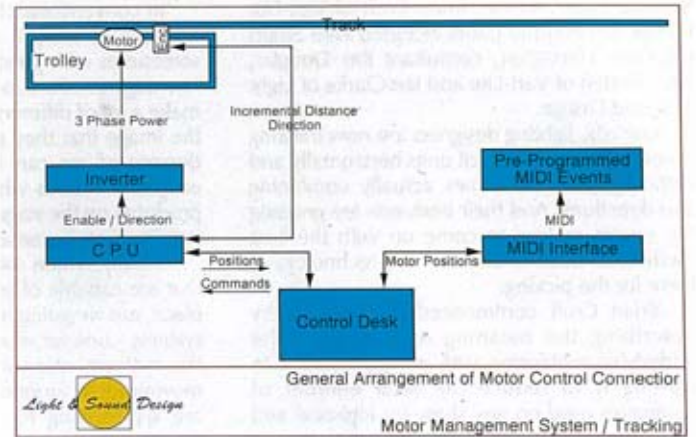
Lining up for the tracking seminar at the PLASA Light & Sound Show are, from left, Jim Douglas, John Sinden, Brian Croft (chairman), Chas Herington and Ian Clarke.



Above and below, a sequential representation of trigger points for MIDI controlled moving light desks.



Above and below, diagrammatics of the general arrangement of motor control connection.



Graph showing ramp-up and ramp-down characteristics.

cues during their tracking moves.

The motor had a friction drive wheel on it and the encoder was a separate small trolley attached to the motor with a flexible coupling, purely measuring the position of the trolley on the track and not the revolutions of the motor wheel drive. As Herington elaborated: "If the motor has a problem such as wheel slip, you are still measuring where the trolley is and how fast it's going."

Herington and John Sinden explained that they designed the system for Dire Straits, with the trolley telling the Vari*Lite when to trigger, so that they are able to cope with the unplanned trolley-move links. They had to cope with the set being changed every night. "We were able to cheat with the MIDI system," said Sinden. "By changing the MIDI each afternoon we're able to re-record and re-run it easily."

Chas Herington continued: "They have a song where the two trolleys are tracking from stage left and stage right staying on as central focus. Because of the pan and tilt you have to correct the lights at certain points along the way. This where the MIDI system comes into its own as

you can put as in as many cues as you care to."

The seminar concluded with an in-depth description of the system complete with AV slides, as detailed above.

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A CARSHALTON CREATION

John Offord looks at a new Studio Theatre in Surrey that comes complete with a luxury scenery workshop



Ancient and modern frontage of the Charles Cryer Studio Theatre (left) and the ultra-new scenery workshop.

With the Fairfield Halls entertainment and arts complex only a few miles away in Croydon - albeit in a different London Borough - and the Secombe Centre in Sutton only two, any new performance facility built within this area of Surrey has to have a complementary rather than a competing role if it is going to be used successfully and survive.

The London Borough of Sutton seem to have planned things that way and taken these factors into account, although I have heard suggestions that their intention was to create something of a much grander nature on and adjacent to the site of their latest arts facility. No doubt the recession put paid to that idea.

The newly opened Charles Cryer Studio Theatre in Carshalton - Prince Edward did the honours on the 9th October - has brought the

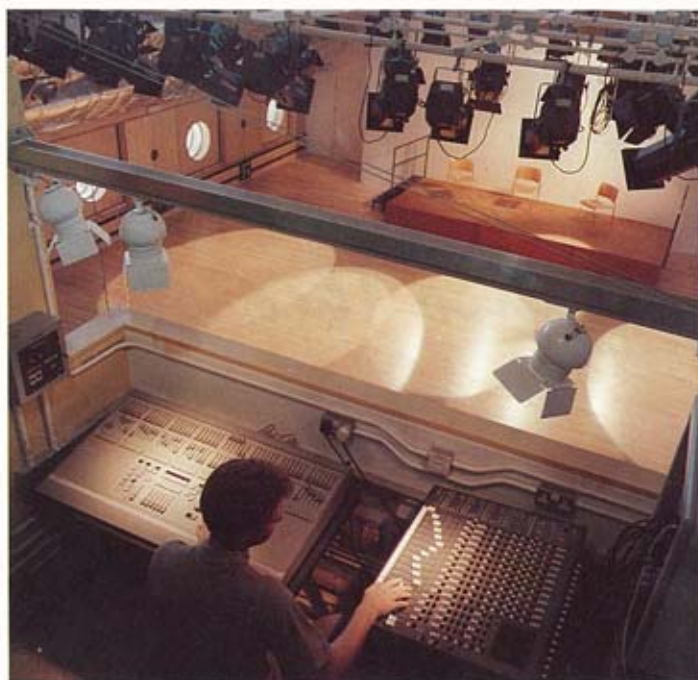
town and the area a neat, tidy and adaptable performance space plus an unusual and uniquely designed stand-alone scenery workshop at the rear.

The Studio Theatre, fronting the High Street, is converted from an older building and has all the latest and most desirable mod cons with swish signage, a light and bright box office, and the latest in foyer and bar area design. Sutton suburban man walking in after a day in his office at Canary Wharf wouldn't notice the difference.

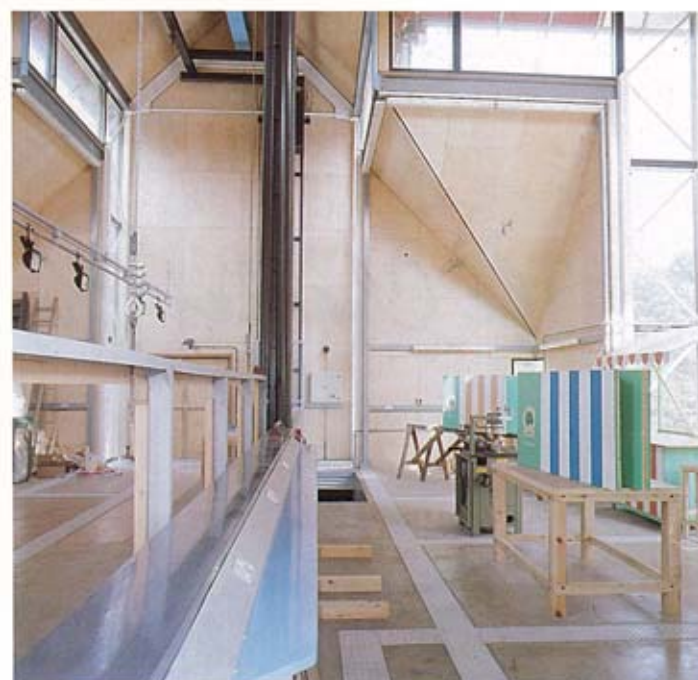
What really counts, however, is the performance space itself. It consists of an 11m x 9m maple wood floor area with three rows of fixed tiered seating at one end, at the top of which sits the control room housing both lighting and sound desks. A grid spans the entire floor area at a height of 4m. Just below grid height at

the opposite end is a small Juliet balcony which is suitable for musicians or indeed Juliet herself if they decide to play that particular piece of Shakespeare. Staging can be arranged to suit each individual performance and seating accommodated accordingly. The theatre sent me bundles of papers showing some alternative layouts but with space on these pages limited, you'll have to take my word for it that they can organise anything from a cabaret show to thrust stage or in-the-round layouts. The absolute maximum seating capacity is 180, but this number is reduced according to layout, at times drastically.

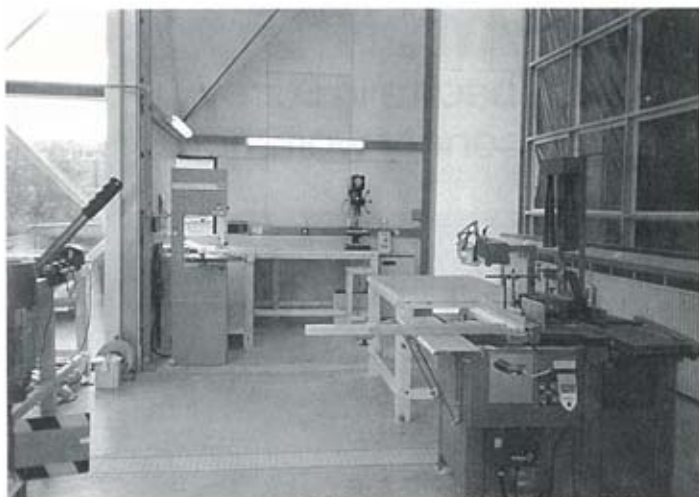
The walls incorporate acoustic panels which have a hard surface on one side and acoustic wadding on the reverse. Depending on how many are 'open' or 'closed', users can vary the



Performance area at the Charles Cryer Studio Theatre.



The scenery workshop at main first floor level.



Another view of the scenery workshop with paint frame to the right.



Prince Edward meets Eddie Hunter on opening night.

acoustic of the performance space to suit their own requirements. Window blinds can be used for complete blackout, but raised to allow natural light into the space for rehearsals, conferences and so on.

The complete grid and lighting system was supplied and installed by CCT Lighting with all lanterns also CCT. Control is via a Zero 88 Sirius with various accessories and this can be used as a 'stand alone' control unit at various locations. Due to space problems whereby conventional dimmer racks and panels could not be installed, CCT designed and built a special dimmer/patch panel, and this combined unit accommodates 48 x 2.5kW dimmers and 106 load circuits patched with single pole fly leads in a rack 100cm wide and 220cm high.

Across a small concourse at the rear of the main complex stands the all-new and tall scenery workshop, designed, according to its attractive sales brochure, by award-winning architects Edward Cullinan. It provides an abundance of natural daylight, a goodly stock of tools and machinery, and under manager Eddie Hunter an excellent atmosphere in which to start your creative work for the next panto or whatever.

The scenery studio is 'open for hire' as a

comprehensive facility in its entirety and all resources or sections may be hired separately for a particular purpose or smaller jobs.

Outside the new equipment which includes a comprehensive 'woodworker' station, bandsaw, pillar drill and morticer, the centre-piece is the 23ft x 38ft paint frame. With this one you stand on the first floor and the frame itself rises and descends on command - provided you press the right buttons, of course. It can also operate as two independent half-size frames (23ft x 19ft), and again, I suppose you have to be just as careful as to which buttons you press or you could make yourself an enemy in double quick time. However, Eddie Hunter's a big fellow, and I can't really imagine anything would go amiss.

The life and times of any performance centre will also have its ups and downs, but I can't imagine the Charles Cryer Theatre's scenery workshop being empty very long - particularly if they tap in to the educational and amateur markets and publicise the facility correctly. And when you think about it, that philosophy probably applies to the Studio Theatre too.

Charles Cryer Studio Theatre

Theatre Manager: Shirley Carpenter
Assistant Theatre Manager: Tony Witton

Technical and general manager: Nicholas Gray
Scenery Workshop: Eddie Hunter
Tel: 081-770 4960/4956

Technical Equipment

PA System: 1 x Soundtracs FM 12:4:2 desk with integral remote controls; 2 x Amcron Macro tech. 600 power amplifiers; 4 x EV S100 loudspeakers; 1 x Revox B77 tape; 1 x Technics SL1200 turntable; 1 x Tascam 112R cassette deck; 1 x Tascam CD401 CD player (tape, turntable, cassette and CD all remote controlled); 1 x TOACD3301 video distribution amplifier. Mics: 2 x Shure SM58, 2 x AKG C1000, 4 x AKG D1200 all with boom floor stands; also two desk stands.

Communications: ring intercom with 4 single headsets with integral microphone and belt packs. Show relay to dressing rooms.

Lighting: (all lanterns CCT) 20 1k fresnels, 10 1k Silhouette 15/32, 10 x 500W fresnels, 10 x 500W profiles. Control by Zero 88 Sirius 48 desk. Lanterns patch into any of 106 pairs of 15 sockets around the floor and in the grid.

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SILVER LININGS IN STEEL CITY

Tony Gottelier visits Cloud Electronics to find out what's what in the discō sound business

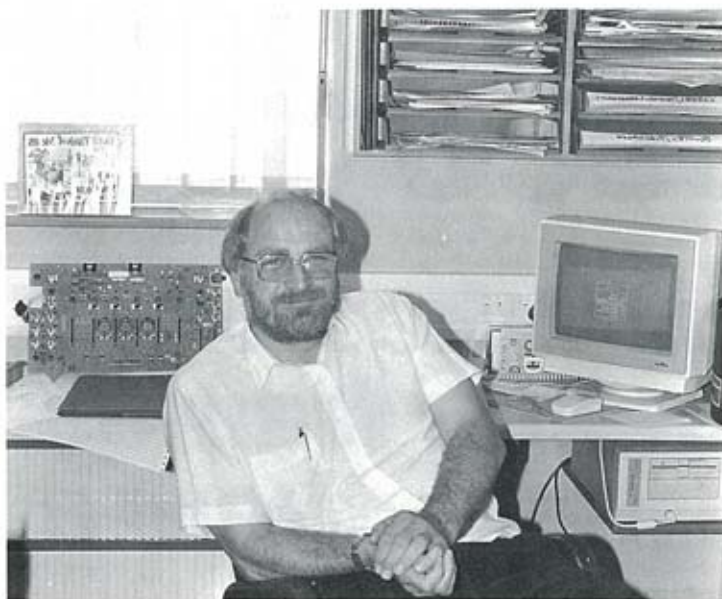
I remember well as a callow youth making my first commercial visit to the Sheffield area and being despatched with a flea in my ear by a local business man, saying, as he showed me the door. "Tha knose Mr Gottelier, thou art a nice chap but thou art a Southerner, and thou art too bloody smorth." (Excuse the vernacular but it doesn't have the same feel otherwise.)

Things have moved on a great deal since then, the dark satanic steel mills have been swept away to be replaced by the Meadowhall Shopping Centre, Sheffield Arena, the Don Valley Stadium and shortly, a large Tivoli theme park. A City for which, as I have said previously, I have high hopes to emulate the American model, and turn itself into a highly successful venture with its superb leisure facilities as the hook.

Yet, I detect that just a smattering of the old 'us and them' still exists and this was gently confirmed on my visit to local firm-made-good, Cloud Electronics.

I was tempted to head this report 'Two's a Cloud', but the business which is Cloud Electronics has come a long way since the founding pair developed it out of a Sheffield musical equipment shop in 1980. But away from the teeth of the storm that was Margaret Thatcher's first recession, they depend these days on many more pairs of hands than just their own and, these unassuming and generous people wouldn't want me to give any other impression. Nevertheless Roy Millington, the commercial brains, and partner Andrew Collier, an electronics wiz who designs all the products in-house, have created a substantial company out of thin air. Is that why its called Cloud, I wonder?

Starting from retailing equipment for mobile discos, they now operate on the basis of attempting an escape from their original mobile disco image by introducing products with a substantial professional appeal. How do they decide what to make next. "We do feel a little bit isolated up here sometimes, being North of Watford Gap," Roy Millington told me, I suspect ever so slightly tongue in cheek in a mild rebuke to this slick Southerner, "and we don't have a rep out on the road telling us what's going on in



Rumbustious Roy Millington, Cloud's commercial partner and car enthusiast at his desk.

the market place. But we monitor sales and trends and talk to distributors, especially overseas who are not slow to tell us what they are looking for. In fact if we listened to them all we would have a product range ten times the size!"

All of this has led to a brand spanking new factory, although Roy admits that even that probably wouldn't exist if they hadn't been somewhat naive, believing that they could do a great deal of it themselves at very little cost. "Actually, it cost a bloody fortune and Andrew and I both gave up the Mercedes we had worked so hard for, in order to help towards the cost. Nearly broke my heart, but no regrets really." Actually Roy is into cars as we shall see later.

Cloud, of course, are famous for their range of disco consoles, sporting grand names like Buckingham and Chatsworth, like Reggae stars which, in some ways, I suppose they emulate. Although the Profile range based on custom-made extrusions and mouldings, of which these are two, find their way into smaller and middle-sized clubs, the lighter weight Compact range, also named after royal piles, are definitely for the mobile operator. All these consoles have built-in mixer of either four or six music channels, with seven or five band music

and three band mic. EQ, crossfade and some have power amps too; The Profiles have touch control to the belt-driven motors of the own-branded VS3000 decks and sophisticated mixing aids as well; Compacts have lower specification decks and 'Start' switches.

Roy is fond of making analogies based on motor marques, on which basis these two ranges are the Ford Granada and Ford Escort of the mobile market (he would probably say Zodiac and Cortina, but I have to keep up with my younger readers). I suggested that a move away from portable consoles, especially perhaps the entry-level Compacts, might help to seal their new sought image. "Not really, because people don't forget that quickly. What we would like to do is up-grade these units but, in our view, this means a move to CD and the economics just don't make sense." Even though Yamaha,

Denton and Nu-Mark have already made mixable twin CD players, Roy believes that domestic players are so cheap that, even with the added-value of facilities that only the DJ would demand, they could never total up to value for money. He may be right, but then the same used to be said of decks, until the professionals demanded higher specifications. "Yes, but its a difficult one at present," says Roy and more candidly, "It's something we look at and say - hrm, let's make mixers!"

Which brings us neatly to the products which spearhead Cloud's drive into the 90s and a wider more solid product base. They manufacture several audio mixers, but it is the new modular CXM mixer which is threatening to give the ubiquitous PM-80 a run for its money and, indeed, seems to have cleverly anticipated the PM-90.

The CXM, and its derivative fixed format variant the CXF, is the result of nine month's hard work for Andrew Collier, a one-man design and development team in himself, doing all the electronic design, the metalwork drawings, the PCB layouts and artwork and even the manual from his eerie at the top of the new building. For a man whose school Geography report once said "Andrew does well to find his way home", - the



Andrew Collier's one man R & D department.



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24 colour frames—
and move them at
an unheard
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TECHNICAL SPECIFICATION				
RATED OUTPUT POWER 4Ω	125 watts per channel	250 watts per channel	400 watts per channel	500 watts per channel
RATED OUTPUT POWER 8Ω	85 watts per channel	135 watts per channel	210 watts per channel	285 watts per channel
BRIDGED OUTPUT POWER 8Ω	N/A	500 watts	800 watts	1000 watts
BRIDGED OUTPUT POWER 16Ω	N/A	270 watts	410 watts	570 watts
FREQUENCY RESPONSE	+0, -1db 10Hz to 50KHz	+0, -1db 10Hz to 50KHz	+0, -1db 10Hz to 50KHz	+0, -1db 10Hz to 50KHz
HARMONIC DISTORTION	0.03% typical 1KHz 8Ω load	0.03% typical 1KHz 8Ω load	0.03% typical 1KHz 8Ω load	0.03% typical 1KHz 8Ω load
INPUT SENSITIVITY	0dBm - 775mV	0dBm - 775mV	0dBm - 775mV	0dBm - 775mV
INPUT IMPEDANCE	20KΩ Balanced 10KΩ Unbalanced	20KΩ Balanced 10KΩ Unbalanced	20KΩ Balanced 10KΩ Unbalanced	20KΩ Balanced 10KΩ Unbalanced
SIGNAL TO NOISE RATIO	100dB below rated output Limiter out, CCIR	100dB below rated output Limiter out, CCIR	100dB below rated output Limiter out, CCIR	100dB below rated output Limiter out, CCIR
OUTPUT RISE TIME	3us (10% to 90%) of 1v 1KHz	3us (10% to 90%) of 1v 1KHz	3us (10% to 90%) of 1v 1KHz	3us (10% to 90%) of 1v 1KHz
SLEW RATE	45 V/us	45 V/us	45 V/us	45 V/us
LIMITER THRESHOLD	0dBm to -10dBm	0dBm to -10dBm	0dBm to -10dBm	0dBm to -10dBm
COMPRESSION RATIO	50 : 1	50 : 1	50 : 1	50 : 1
ATTACK TIME	0.5ms	0.5ms	0.5ms	0.5ms
RELEASE TIME	Automatic Signal related	Automatic Signal related	Automatic Signal related	Automatic Signal related
POWER INPUT	220 or 240 Volts 50-60Hz Via IEC Connector on the rear panel	220 or 240 Volts 50-60Hz Via IEC Connector on the rear panel	220 or 240 Volts 50-60Hz Via IEC Connector on the rear panel	220 or 240 Volts 50-60Hz Via IEC Connector on the rear panel

THE CV 500 POWER AMP AUDITS SPECS

boy done well. "It's all a matter of trying a little harder," is the way Andrew puts it modestly.

Based around a similar concept in extruded and moulded case design to the consoles, which gives a sleek look and practical value to the product, the chassis accepts combinations of three basic modules.

The Master module, which controls the outputs, is the equivalent of two of the CXM standard 40mm wide units, and provides control for up to three zones, the stereo module for music inputs and a microphone module. So a typical configuration might involve eight music modules, two microphone modules and a Master module.

This is precisely the combination which was selected for the fixed configuration CXF mixer which, through the economies of combined metalwork, reduced interplugging and rationalised outputting, is a sophisticated product at a very reasonable price. And a separate 19" by 1u format zoner (all these mixers are based on the 19" wide formula), providing control to five zones is available as an add-on and to take it beyond the spec. of the CXM master module, with which the zoner can also be used to greatly expand existing zoning.

Andrew is keen to emphasise the tamper-proof nature of his design: "These products are made with full-service distributors of professional sound products in mind. The efforts some DJs will go to, to try to make their own unauthorised modifications, never ceases to amaze me. In the end they all end up back at the dealers for repair so with these new products we have made big efforts to design these risks out altogether. Furthermore, the flexible concept of CXM allows distributors and installers to hold modules for emergency cover and to enable designer mixer configurations."

So let's take a closer look at the individual CXM modules, for the facilities of the CXF will generally be the same and the specs are very similar, if even slightly better with the CXF's

reduced number of interconnections.

The Master module offers Crossfade and Chopfade, the latter electronic, AVO, Aux Send and Return control for use with samplers and digital delays, PFL monitoring across outputs with its own LED monitor, fire alarm mute facility and a separate mono sub-bass output (not on CXF). In addition there is an isolated high-level output to sound-to-light controllers (hooray, say I) and sockets to facilitate parallel recording. It is entirely logically laid out and a joy to use. The dual VDU displays, in conjunction with a high power headphone amp, provide full system AV monitoring and the comprehensive facilities satisfy all the major requirements for a professional discotheque audio processor.

The stereo music input module provides for both line and phono inputs, the latter being configurable in three modes, RIAA equalised, or for flat response at either 0dBm or at -10dBm. The hands-on facilities include Gain control, 3-band EQ, Mono override, PFL, Crossfade assignable, Aux sends, Balance, long travel Channel fader and momentary deck Start switch. A subsonic filter gives low frequency roll-off to prevent bass boosted signals reducing system headroom.

The Mic input module offers two balanced inputs, the first matched to 200-600 ohm impedance mics, with a gold plated XLR, PCB jumper for phantom power capacitor mics and a line input for radio mics with a very high headroom for a mixer of this type (+/-20dB). Hands-on facilities are much as the music input, as appropriate, with added Pan facility and a mute switch. The EQ has the added advantage of a sweepable Mid control to give precision control of voice quality. All in all, I can shamefacedly say that I was very impressed with the CXM and can't wait to give it a try, hopefully on our next job (Sorry, Formula).

Having said that, I mustn't ignore the Cloud CV range of power amps, although readers who want more on the AX2300 crossover and GR1500 Graphic can call Roy Millington themselves for details. The four models in the range, designated by the total rated output of their stereo channels, use a high voltage drive technique so that the Mos-Fet output stage delivers typically 15% more output power. More Watts for less Bucks! Some other features: failsafe balanced inputs self-compensate to allow for both balanced and unbalanced; stereo, mono or bridge mode options; earth link switch to simplify earth loop isolation; force cooling to the larger models; soft-start circuit and switch-on mute (great idea, though not so popular with my friends at EMO, I imagine); independent protection on every channel. And there's more!

It is as plain as the nose on my face, and that's plain I can tell you, that this kit is being designed by someone who understands the practical side of using and operating such equipment. So it came as no surprise to me to be told by Roy Millington that Andrew is a practicing musician, on top of everything else. "In fact, he is still practising," said Roy, with cynical smile. "He still does a grab-a-granny gig every Friday." Well, if this sort of gear is the end result, more power to his elbow say I.

And I hope he finds his way home afterwards!



The Buckingham Console. Sounds like a Reggae star.

TECHNICAL SPECIFICATIONS FOR THE CXM MIXER



CS1 Stereo input module — Input data				
INPUT	NOMINAL LEVEL	GAIN	HEADROOM	IMPEDANCE
Line	0dBm/775mV	± 15 dB	>20dB	47K Ω
Phono	RIAA -42.5dBm/5.8mV	+0 -30dB	>20dB	47K Ω
	Line 0dBm/775mV	± 15 dB	>20dB	47K Ω
	Line -10dBm/245mV	± 15 dB	>20dB	47K Ω
Equalisation	HF — High Frequency	± 6 dB or ± 12 dB or Defeat	10KHz	
	MF — Mid Frequency	± 6 dB or ± 12 dB or Defeat	1200Hz	
	LF — Low Frequency	± 6 dB or ± 12 dB or Defeat	50Hz	
Sub-sonic Filter: -3dB 20Hz 3 pole Butterworth 18dB/octave				

CMI Microphone input module — input & output data					
	NOM/L LEVEL	GAIN RANGE	MAX GAIN	HEADROOM	IMPEDANCE
Mic I/P	-49dBm/2.8mV	38dB	55dB	>20dB	>2K Ω BAL
Line I/P	-29dBm/28mV	38dB	35dB	>20dB	>20K Ω BAL
Insert I/P	0dBm/775mV	—	—	>20dB	10K Ω UNBAL
Insert O/P	0dBm/775mV	—	—	>20dB	—
Equalisation	HF — High Frequency	Switched 5KHz or 10KHz		± 15 dB	
	MF — Mid Frequency	Sweepable — 300Hz-5KHz		± 14 dB	
	LF — Low Frequency	60Hz		± 15 dB	
High-pass Filter -3dB 20Hz/100Hz switched Butterworth 12dB/octave					

TECHNICAL SPECIFICATIONS FOR THE CX ZONER

MASTER MODULE — Input & Output Data		
	NOMINAL LEVEL	MINIMUM LOAD
Main Output Balanced	0dBm/775mV	600 Ω
Main Output Mono	0dBm/775mV	600 Ω
Zone Output Balanced	0dBm/775mV	600 Ω
Zone Output Mono	0dBm/775mV	600 Ω
Booth Output	0dBm/775mV	600 Ω
Sub-bass Output	0dBm/77mV	600 Ω
Lighting Controller O/P	+10dBm/2.45V	2K Ω
Record Outputs	0dBm/775mV	10K Ω
Headphone Output	>1W/32 Ω	8 Ω
Auxiliary Outputs	0dBm/775mV	10K Ω
Auxiliary return	-7dBm/350mV	—

GENERAL SPECIFICATIONS	
Frequency Response	-3dB 20Hz (filter) ± 0.5 dB 20KHz
Distortion	THD 1KHz + 10dBm <0.02%
Noise	CM1 Mic I/P ref 150 Ω Equivalent Input Noise -128dB RMS 20Hz-20KHz
	CS1 Line I/P -90dB RMS 20Hz-20KHz
	CS1 Phono/RIAA -72dB RMS 20Hz-20KHz (shorted)



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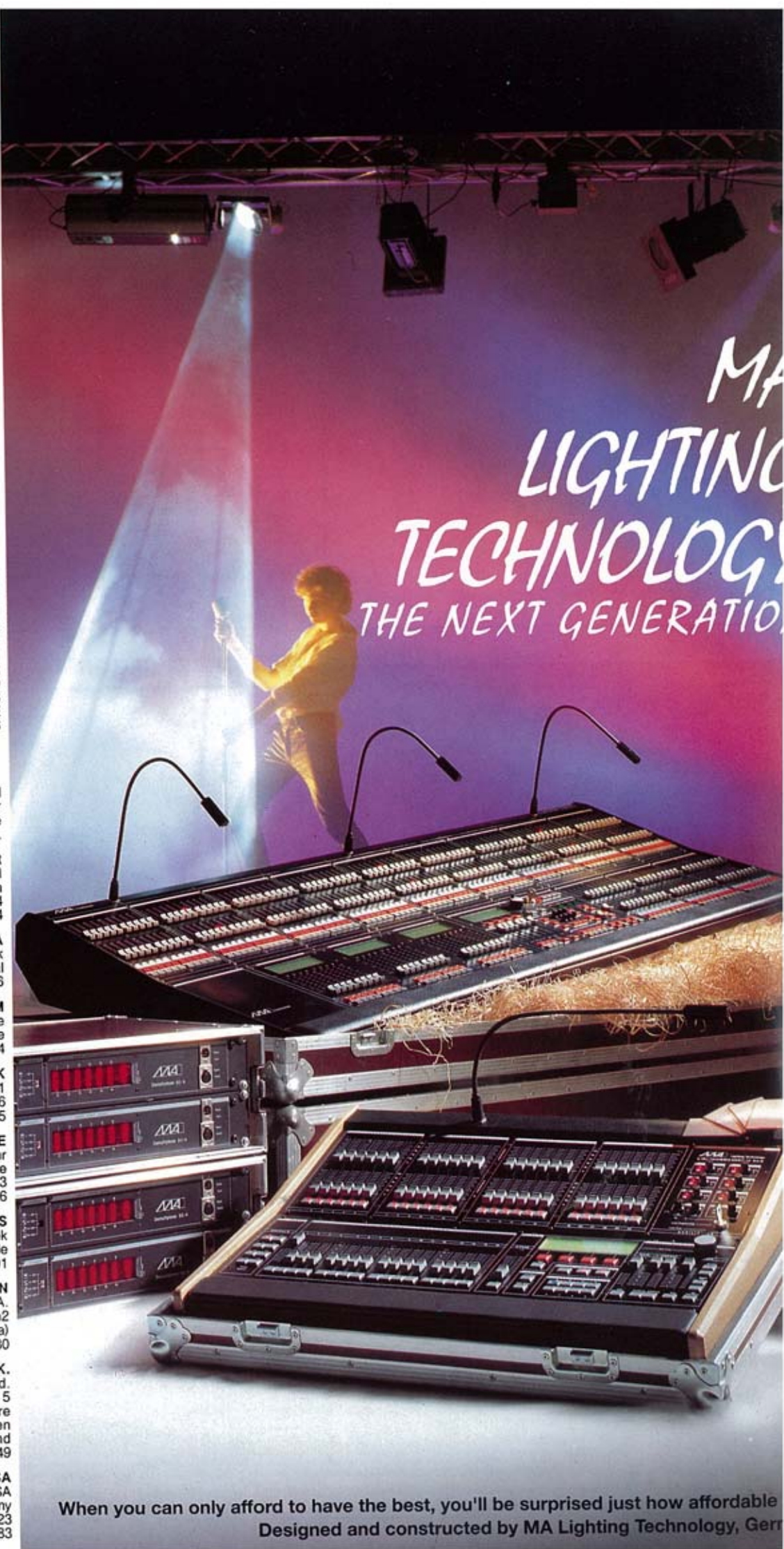
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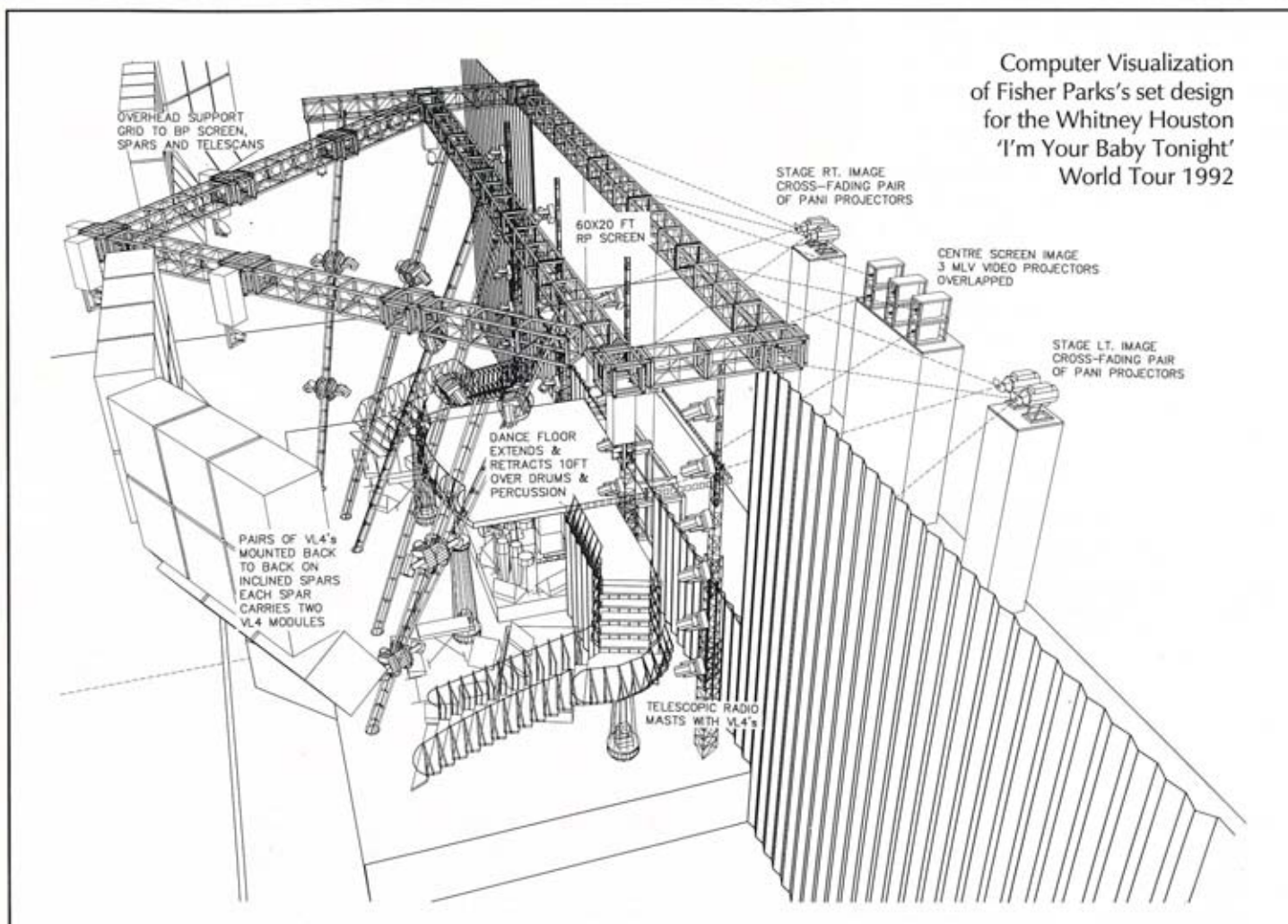
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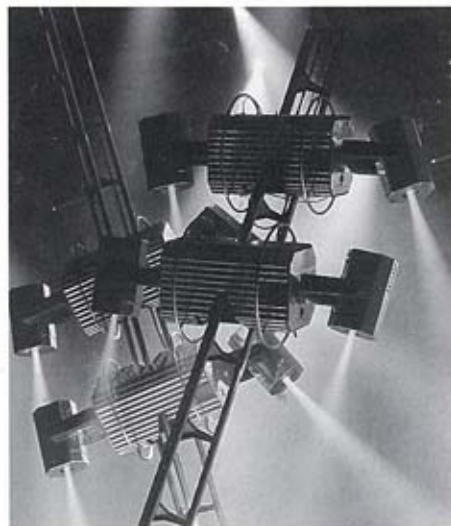
Computer Visualization of Fisher Parks's set design for the Whitney Houston 'I'm Your Baby Tonight' World Tour 1992

Whitney Houston Wembley Arena LD: Marc Brickman

Whitney Houston wanted her 1991/92 World Tour to be a spectacular multi-media production with the design based around Whitney and her six-piece band, accompanied by four backing vocalists and four male dancers.

Marc Brickman, the show director, kicked the project off with two strong ideas. The first, a development of his work with tracking Vari*Lites on Pink Floyd and Paul McCartney, was to rig pairs of VL4s back-to-back on inclined spars which criss-crossed the downstage area from stage-floor to grid. The second was to use a full-width back projection screen to display powerful graphic and video images. The set design and art direction was by Fisher Park Ltd of London.

The stage design provides two performance areas, one at stage level, the other 10ft above the stage. The main performance area is downstage in front of the band, where it extends onto a plexiglass covered thrust over the Vari*Lites. A second performance area is provided by a 20ft wide balcony which spans over the drummer and percussionist. The two areas are linked by curving staircases to stage left and stage right, which are decorated with aluminium and copper balustrading. The



Part of the fully automated lighting rig: two tracking units, containing two VL4s, are mounted on each of the six spars.

balcony is supported on open columns made from cages of aluminium rod. It tracks downstage 12ft when in use. This gives Whitney and the dancers more room, and moves them to a position of only 8ft from the front edge of the stage.

The lighting system is completely automated and features 76 Vari*Lites and 29 Telescans with no conventional lighting at all. The Vari*Lite

spars stand on the stage floor in the main performance area, which the dancers both move around, and hang on to, during the performance. Two tracking units, containing two VL4s, are mounted on each of the six spars. The units track up and down the full length of the spars, which allows them to be moved from positions at stage level, where they underlight the performers or act as kickers, to high positions where they act as top lights. The tracking system, developed by John McGraw of Planview in Los Angeles, is fully programmable for acceleration and tracking speed. Many motion effects are possible, including starting the lights separately yet having them reach their stop position on the same cue.

A rear projection screen 20ft high by 60ft wide is rigged upstage of the band. The bottom edge of the screen is level with the balcony, which tracks upstage underneath it. A combination of slide projectors and video projectors deliver a seamless image of uniform brightness across the full width of the screen. The outer thirds of the image are projected by cross-fading pairs of Pani BP4 projectors supplied by Production Arts of New York. The centre third is projected by three overlapping MLV video projectors from Performance Video of Virginia.

A range of graphic designs were prepared for the show by 4i Limited of London. The subjects ranged from stills of Whitney and her family singing in gospel choirs, to funky cartoon illustrations and acid-video graphics. The images

were laid down onto 10 inch square cibachrome slides which are used in the Pani projectors, and colour-matched video images which are held in frame stores for the video projectors. In a typical sequence a song opens with a full-screen picture which cross-fades through several images during the instrumental introduction, with all three frames changing simultaneously. When the vocal starts, a close up of Whitney is dropped over the video image by luminance keying, and the graphic background gradually fades out. Several video animation sequences were also prepared to run as introductions to some of the songs. The live video projection is mixed from a four camera system. A black silk Austrian curtain masks the projection screen at the beginning and end of the show and during some of the numbers, with Vari*Lites mounted on trusses across its face to create a range of effects.

The position of the upper performance balcony means that Whitney is often seen performing in front of her own dramatically enlarged live image with the screen brightness sufficient to provide a strong background picture even under full stage lighting.

The enormity of the stage set has led to problems in the USA where, occasionally, the system had to be reduced.

"In the States we did a lot of outdoor shows where everything had to be cut down," explained Louis Branton, the Vari*Lite operator. "With the robotracks you have to have a minimum height of 37ft from the truss to the stage. By the time you've added hanging motors and steels you're talking about a 60ft high roof. We go from 25,000 sheds to 5,000 but, with a little work, the system is quite adaptable. There were a few places where we weren't able to get the set in at all so we made do with risers and black drapes. My whole objective during that time was to get the show as close to the full show as I could."

CREW LIST

Tour Manager	Tony Bullock
Production Manager	Norman Williams
Show Director	Marc Brickman
Set Design /Art Direction	Fisher Park Limited
Graphic Design	4i Limited
Video Director	Bob Higgins
Vari*lite Operator	Tony Littrel
VL Tracking Operators	Wayne Boehning Gareth Williams
VL Tracking Systems	Planview Inc
Set Construction	Tait Towers Inc
Video System	Performance Video
Pani Projectors	Production Arts Lighting
Vari*Lites	Vari*Lite Inc
Telescans	Obie's Lighting Productions Inc
Telescan Programmer	Christophe Ducret
Audio System	Maryland Sound Industries Inc



Above, Whitney Houston struts her stuff on her 'I'm Your Baby Tonight' World Tour, whilst below the crowds enjoy a double-take courtesy of a full-screen graphic projection.



Above and right, Whitney Houston fronts graphic and live projection for the hit 'Greatest Love'.



A stunning pyrotechnics effect for the beginning of 'Not Susan'.



Full-screen graphic projection for 'Revelation'.

Roxette

Wembley Arena

LD: Pontus Langerbielke

As there are only three or four major tours in Sweden every year each needing only one lighting designer and perhaps three crew, it is not the easiest of places to pursue a career in lighting design. One man who appears to have made it is Pontus Langerbielke, known commonly as Bullen, who is currently touring with Sweden's biggest pop export since Abba - Roxette. He admits that living in Sweden is not ideal for a career in lighting, but at the moment is doing quite well and would only leave if the situation was to change. Bullen began working in the industry in 1981 touring with Swedish bands and 24 Par can rigs - maybe 40 on a big show! In 1986 he became the warehouse manager for a rental company as well as continuing to design lighting for various groups. He'd already completed two small tours for Swedish artiste Marie when she got a big break in 1987 and toured with a 100 lamp system. Marie then started the Roxette project and Bullen has been working with her and Roxette ever since. He's also been working as crew chief, stage manager and pyro man for another popular Swedish band - Europe - completing three European tours and one in America.

The touring situation in Sweden is quite different from the UK. In the summer, bands play Swedish folk parks which are similar to the American 'sheds'. These hold an audience of between 1,500 and 15,000, and shows usually start at about 11pm. There tend to be four or five crew members and they're expected to handle all the equipment and drive the bus as well. In the winter bands either play the large ice halls or the clubs which can hold any amount of people from 250 to 1,500. For lighting designers it's important that the rig be as adaptable as possible, to accommodate the daily changes in venue size.

The current Roxette 'Join the Joyride' tour started in September and is due to play 45 shows in Europe before travelling to Australia and then on to USA in the New Year. The lighting and set design was the result of a collaboration between Bullen and Patrick Woodroffe, who knows the manager through previous work with Abba.

"I had a rough idea of what I wanted to do and it turned out that Patrick had almost the same idea," explained Bullen. "We worked from that and we got on very well together. I did the stage set mostly on my own. The whole idea for the lighting design was to limit the colours to those used on the album cover which are red,



Above and below right, Roxette performing as part of her 'Join the Joyride' Tour which features a range of Vari*Lites, strobes, ColorMags, Light Curtains and Par cans.

blue and amber.

"I was at Patrick's 4:1 Studio for a week rehearsing the show. The studio's an excellent idea and it worked fine but we didn't end up using that many looks from 4:1. The good thing was that I got to know the rig really well and what it could do. I could also check my colours, and as this show is based on only three it was particularly important."

The rig consists of seven pods each containing 12 Par cans and a VL2B, four 'Egg' strobes and four ColorMags. There are six Light Curtains manufactured by Rainbow and they're individually tiltable and have Rainbow colour changers attached. Effects include five Optikinetics Strobeflowers and two RDS projectors with oil wheels. 15 VL4s and 16 VL2Bs are also in the rig with eight cyc lights with colourmags, and various floor cans, again with ColorMags, on the ground. There is an audience truss which is 80 feet long with 12 bars of ACLs and eight MoleMags. Four front of house followspots and a 72 way plus a 48 way Avo dimmer rack complete the system. The end of the show is marked by a spectacular pyro line-up. To control the lighting, Bullen decided to use the new Avolites QM-Diamond, the first time that it's been used on this side of the Atlantic (Squeeze are currently using one on their tour of the USA).

"I'd been working with a QM500 TD quite a lot, running moving lights from it. I liked the idea



of being able to do time fades and effects like that. I had heard that Avo were coming up with a new desk which was a more rock'n'roll desk with the TD options in it which, for me, sounded the perfect desk. I can do all the time fades but still have manual control of all the lighting channels, to do all the audience stuff. I can have all my TD features and still have a really basic desk. It's like a QM500 but much easier to programme."



Bullen explaining some of the Diamond's features to Oz (Andy) the Vari*lite operator.



Effects lighting for Roxette includes Optikinetics' strobes and two RDS projectors with oil wheels.

ABTT NORTH TRADE SHOW

John Offord goes to the Royal Northern College of Music, Manchester

I trained it there and back in a day from Eastbourne on opening day, and true to form, Manchester was snarled up with traffic and wet. In between the travelling I had a full four hours to get round the stands, take notes and pictures, and have some more extended conversation than is usually possible at trade shows these days.

Held on the stage and in the foyer of the Opera Theatre within the Royal Northern College of Music, most ABTT events win hands down when it comes to a theatrical setting for their trade shows. This one was almost a straight replica of the main event held at the Mermaid Theatre in London in the summer as far as layout was concerned. But the number of visitors doesn't approach London's and I did hear the odd grumble. However, from an exhibitor's point of view, that trainee technician you bothered to spend time with at a show of this nature may well turn out to be a leading technical director in due course, and people do have a habit of remembering who took an interest in them earlier in their career. And then there's the inter-company chat. Two leading business figures in the industry, both with Manchester area based companies, were seen sitting in the auditorium and in strong discussion for well over an hour. Don't tell me neither of them gained something out of that!

But to my tour of the stands. First on the list, it fronted you as you walked down the aisle towards the stage, was **Strand Lighting**. Leading the Thursday team were David Cusworth and Richard Harris and set to join them or relieve them at different points over the three days were David Wilkins, Michael Lister and Chris Roger plus London heavyweights Brian Myers and Ivan Myles. Strand kit was a repeat of what they had shown the previous month at PLASA: LX, Lightboard M, Gemini, Light Palette 90, EC90 dimmers and various luminaires.

Around the first corner, for **Bell Audio** of Newcastle it was their first exhibition after two years of trading. Man at the helm David Proctor was

formerly hire and installation manager at Canford Audio. The company supply and install a comprehensive range of AV and sound products. Next door, **Action Lighting North** were showing Rosco, Teatro and Zero 88 equipment with father and son Graham and David Bassett in charge. In their usual smart and standardised blue setting, the **White Light** (North) stand was being looked after by John Arderton and his assistant sales and hire manager Adam Mansfield. Modelbox wasn't on show this time but their new MSR projection unit was, and the weather was a great deal brighter on stand here than it was outside the building. 'Cloudy with frequent sunny intervals' was the order of the day. No one from London was present, but there was a rumour that Bryan Raven might come up just to spoil their fun.

Clement Rawling of **MAC Sound** heads another company that always comes up with a good-looking stand and he was keen to show me their latest achievement: an Akai digital matrix patch bay system used for the extensive routing of sound effects on the recent tour of Phantom of the Opera. It is based on the Akai PC1000 digital patch bay programmer and was developed for the show complete with visual status on screen. Also on stand was the Mitec Vary Desk system which is available in the UK through Sennheiser. Clem received the board the day before ABTT North opened and was looking for an initial industry reaction to the concept. His own will come after he's given it a road-test over the Christmas period.

Futurist, under the ever-ebullient Sandy McFarlane and right hand man Ted Ruddiman, was showing Strand and Allen & Heath equipment, while next door **Cerebrum Lighting's** Mike Fisher and Greg Szabo were doing their duty for MA with the LCD and Light Commander II range of lighting consoles. Assisting in the performance were Powerdrive stands and truss towers, Golden Scans, Amptown PosiSpots and colour changers.

With one of the largest sales, installation and hire

facilities outside London, **Wigwam Acoustics** took centre stage at ABTT North. They called it a Sound Solutions centre and featured Soundcraft consoles, Sennheiser radio/infra red equipment and AVX Systems induction loop amplifiers. Behind Wigwam, **Steeldeck** were showing some of their staging machinations, as we'd seen at PLASA.

Northern Stage Services of Oldham are an NICEIC registered installer and offer a full range of theatre equipment in a full range of options: sale, hire and installation. Another family affair, Mel Smirk was on stand with nephew Tim. Peter Wright's little stand for **Keylight** attracted attention with his own-brand scrollers and Pancan System 3 available for hire at 'competitive' rates.

Lancelyn Lighting Northwest have a very comprehensive range of equipment on their list and it includes their own-manufactured Theatre Craft range of small luminaires including a Par 38 150W, a 500W fresnel and a prism convex 500W. Based on Merseyside they now have a staff of eight and with their own carpentry workshops manufacture a range of staging. Like Northern Stage Services they are heavily involved in the educational sector.

Mike Sweetland of **Mainstage** was showing their totally new 'TopDeck' loadbearing aluminium extrusion-based stage platforms manufactured by Chris Cronin at Total Fabrications. Mike has high hopes of this range, and I have to agree it has some very useful-looking extras built into the design for interlocking units and adding various accessories such as steps, handrails, kick boards, fabric fronts, plywood fronts and seats. Mike is now looking for distributors from across the UK - and presumably world-wide. At least no one had seen this at PLASA. On stand with Mike was Julia Pollitt and numerous inanimate objects from Rosco, Pulsar, Green Ginger, Zero 88, TechPro etc.

Philip Edwards (Theatre Lighting) is a family run lighting hire and sales firm and Philip himself is also lighting manager at the Royal Northern College of Music. So he was in on this show from the



Strand Lighting's David Cusworth (right) on stand with Steve Curtis of The Green Room Theatre, Manchester.



Phil Parsons of Steeldeck (left) with lighting designer Geoff Joyce, one of the show organisers.



Mike Pollard fronts the new PKE Lighting operation.



Clem Rawling of MAC with digital matrix patch bay system for Phantom.



Ian Grey (left) and Robert Swallow with CCT's new Regal II + 4 DMX.



Greg Moger of Novalight (right) full of explanation.



Zero 88's David Catterall (right) with a Focus 650 under discussion.



Jeff Demain, Stan Bibby and Barrie Crewdson on the Playlight/P&G stand.



Wigwam's Mike Spratt (left) with David Wilmore of Harrogate Centre.



Mike Fisher of Cerebrum Lighting with the Light Commander II.

beginning and knows what visitors, and particularly the press want: a good cup of tea or coffee. The company was busy meeting up with 'family friends' and offers the sort of 24 hour 'we'll get you out of trouble' service so often needed in the world of entertainment. Of course, they can sell or hire equipment of all kinds, and also have a large stock of all popular colour media.

Jack Watling, Robert Swallow and Ian Grey were flying the flag for **CCT Lighting** with luminaires, of course, and their new Regal II + 4 DMX control system as seen at PLASA.

Greg Moger of **Novalight** comes up quietly, and quite frequently, with some interesting pieces of equipment, and on this occasion he showed me a new Swiss manufactured plug-in unit that comes in two sizes (VIP 90/2 and 90/4) and allows for 100 per cent dimming of fluorescent units. It looked neat on demo. Next door Roger Ashcroft of **A & B Theatre Services** had his little dry ice machine working away - remember we first brought this to your notice when Roger produced it at an exhibition a couple of years back? I'm still convinced he could sell loads more of these little self-help units!

I went to the foyer stands last. **Zero 88** had a representative range on view but all alone to do the sales talk, David Catterall couldn't get away from their new luminaire range - by popular request, I should add.

Opposite, Catherine (where did she get that hat?) Harrower of **M&M Lighting** had a compact corner with Rainbow colourchangers, Selecon luminaires and Smoke Factory machines including little 'Scotty', first seen in the UK at PLASA.

A totally new name to you and me is **PKE Lighting**, owned by Jim and Mike Pollard of late lamented Lumo Lighting. They commenced business on October 1st and are set to offer a comprehensive range of products for the film, TV, theatre and AV markets including lamps, filter, dimming and control grip equipment plus an electronic repair service. Interestingly, they were advertising ADB products, primarily for the studio sector.

Apple Sound come from Mold and I can assure you there's no connection. The company has recently moved into larger purpose-built premises and specialises in pro-audio hire and sales. They are main dealers and stockists of Sherman Audio speaker systems.

Number one on the plan, but last stand for me to visit was the emporium of **Playlight** and **P & G**, both Electrical and Draperies. Displayed here was everything from their highly effective logo fibre optic starcloth to suspension fittings, stage tracks and scenery fittings through to hire equipment such as Sennheiser diversity systems to lighting control and ballasts. On stand were Barrie Crewdson (P&G Stage Electrical), Jeff Demain (Playlight) and Stan Bibby (A. S. Green & Company). Boss Mike McMullan was one of the guys I saw sitting in the stalls earlier, deep in conversation.



Mike Sweetland of Mainstage takes a seat on his new staging system and shows off some shiny accessories.



White Light's John Anderton and Adam Mansfield.



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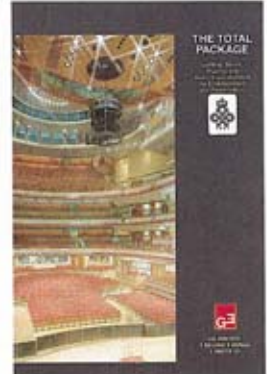
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CONTACT: Rob Thomas

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Now in six languages the Megas console brochure gives Japanese, German, French, Spanish, Italian and English, technical detail on the complete Megas range.

CONTACT: Marketing

HW International - 071 607 2717

The first edition of a new full professional audio range catalogue is now available. The 60 page, full colour brochure provides information on Shure, Carver, Koss, 3G, RCF plus a range of other products.

CONTACT: Andy Wood

Shuttlesound - 081-646 7114

The company's third product catalogue lines up the big names in audio.

CONTACT: Sharon Oates

Celco Ltd - 0322 222211

The new brochure from Celco gives detailed specification on their new 96 channel lighting console the Navigator

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EQUIPMENT *News*

DMXter from XTBA

The Goddard Design 'Lil'DMXter is now available from XTBA. It is ideal for manufacturers and service departments who need to check for valid DMX512. The DMXter will both generate DMX, allowing for dimmer testing or for use as a focus remote, or receive DMX data to analyze the signal for valid data, jitter detection, level checking, number of dimmers, break detection etc.

In addition it tests cables for both continuity and using actual data. It's simple to use with only seven buttons and its menu driven software speaks plain English via a back-lit 40 character display. It runs on either A.C. or its own internal rechargeable battery.

For further information contact XTBA in London, telephone 071- 700 0996.

Martin's new LE700

Martin Audio Ltd used the 1991 AES Convention to launch its new state-of-the-art monitoring system, the LE700. Based around the 'industry standard' configuration of their earlier LE models, the new LE700 utilises a new concept in monitor horn design. Differential Dispersion technology allows Martin Audio to design a high frequency monitor horn which overcomes many problems normally associated with on-stage foldback systems.



The LE700 has been beta tested by Capital Sound Hire, and APR to great acclaim. Capital Sound Hire have been using the LE700 with Simple Minds on their tour of Europe this summer. APR have also been using the LE700 with top Spanish band Meccanno on their European tour.

For further information or details on the LE700 please contact Martin Audio in High Wycombe (0494) 535312..

Scotty

The Scotty, from The Smoke Factory in Hanover, is the world's first completely portable, non-aerosol fog machine. Battery powered, it can be operated at the touch of a button, either directly on the machine itself, or from an optional remote control.

Measuring just 6 x 4 x 4 inches (excluding battery) and requiring no cables or leads whatsoever, the Scotty can be used anywhere on a set and is ideal for all applications where fog is required away from mains outlets. For location work the battery can be recharged from a 12v cigar lighter. Fully charged the Scotty will operate for up to 50 minutes and can be kept on stand-by for up to three hours. It is on the London Fire Brigade's list of approved smoke machines for use in places of public entertainment.

As with all Smoke Factory machines, the fluid used is completely safe and non-toxic and has been tested by the German and American health Authorities, said M & M Lighting, the sole UK distributor. For further details contact M & M in London on 071-722 4147.

JEM - Easy as 1.45

If you require any assistance regarding onward shipping (world-wide) of JEM Stage FX Pyrotechnics the company will supply you with all the necessary shipping documentation required. JEM also have a special shipping helpline on (0790) 54052.

JEM's Stage FX advanced pyrotechnics system is the only pyrotechnics device on the market which is easy to ship because of its HSE classification of 1.45, say the company. Their Stage FX Pyrotechnics UN Transport of dangerous goods code for pyrotechnics is 0337 and is described as 'fireworks' as opposed to 'pyrotechnics article'.

By Road: JEM say that all private carriers are allowed to carry this classification of pyrotechnics, these include Nightfreight, ANC, TNT etc. By Sea: All major ferry companies such as P&O, Sealink etc are also allowed to carry this classification of pyrotechnics, and air shipments of pyrotechnics are a 'breeze'. All major airlines are allowed to carry this classification of pyrotechnics, they can even be flown on passenger flights. "In some cases we have even found this to be the cheapest way to ship pyrotechnics world-wide," reported the company.

JEM can be reached in Spilsby on (0790) 54050.

Wilkes Black Iris

Wilkes Iris Diaphragm Co now offers black zinc plated leaves on all their range of irises that are fitted with incoloy leaves. This treatment should cut down on the amount of reflected light that gets through the optics, improving the quality of the light beam, say the company. The coating is an optional extra but the untreated surface of the incoloy will continue as standard.

The first consignment of 155mm irises with this treatment have recently been taken by Italian-based Teatro.

For further details contact Wilkes in Bexhill, telephone (0424) 217630.

Soundcraft Spirit Monitor

The Spirit range of live sound mixing consoles from Soundcraft has been expanded with the introduction of the new Spirit Monitor. Capitalising on the success of Spirit Live, which brought professional live sound mixing into an affordable bracket, the new Spirit Monitor aims to achieve the same for professional stage monitor mixing. It is equally suitable for touring or fixed installations, and is the perfect complement to the Spirit Live front-of-house consoles.

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For further details contact Soundcraft in Borehamwood, telephone 081-207 5050.



Designer's Graphic Tablet

ARRI (GB) recently relaunched their Designer Graphic Tablet, which they claim has special significance for LDs with more colour changers than fingers! The tablet is a digitiser, with either 12 x 12 inches or 17 x 12 inches free drawing area, on which you draw a layout of your colour changers, plus a number of coloured blocks, representing the different gels on the scrolls. Connect this to an ARRI Imagine or Impuls console (or to a black box containing the console electronics), and what you get is a graphic colour change controller, with DMX output up to 500 separate colour changers or groups.



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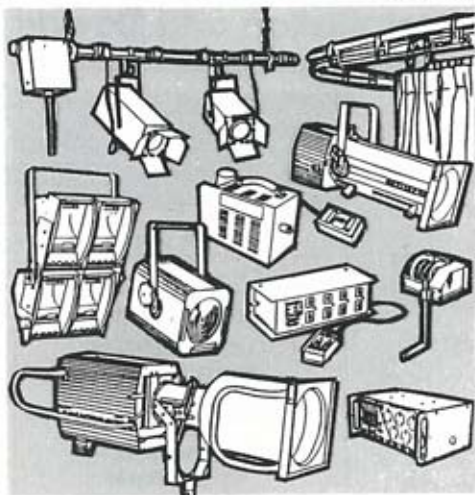
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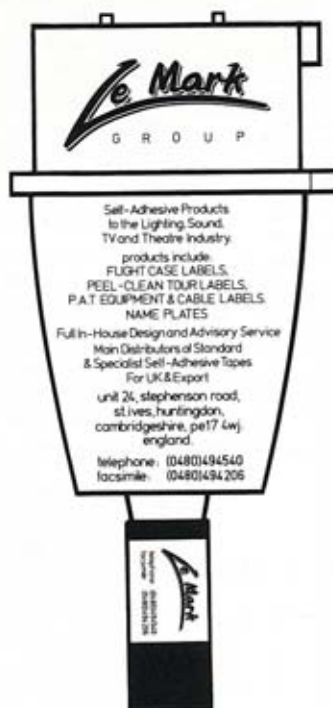
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VIEWPOINT

Matt Deakin on Setting Standards

How do standards come into existence?

In the past lighting industry standards have evolved. For example we use Socapex connectors for Control and Mains multicores and wire them in a standard way because a small number of companies led the way and others followed. This happens either because there is a general feeling that standardisation is better than individuality or because of the IBM factor. This is when one company so dominates the market that for smaller companies its either follow or die.

This is how we all ended up using Socapex connectors and plus ten volt control signals.

The next set of standards were arrived at in a slightly more organised way. At a seminar at one of the USITT shows it was agreed that the growing number of incompatible digital and analogue multiplex standards were making life difficult for users and manufacturers alike. In the space of three hours it was proposed that Strand's analogue multiplex should be adopted as the AMX192 standard (the IBM factor in operation again). It was also agreed that an existing digital multiplex system should be speeded up to 250K Baud and be the digital standard DMX512 we all love. Surprisingly there was no agreement on setting a ten volt analogue standard.

At the end of the seminar a large number of people left their business cards so they could take part in the final review of the standards prior to publication. Although all these people were sent draft copies of the standards less than ten replied with comments. Following this brief review the standards were published, it took one seminar and one mailing. Successful as DMX has been (and AMX in the USA) it took several years to become firmly established.

Apart from the slight tightening up of DMX which gave us DMX512/1990 the next standards to tax our understanding were SMX from Strand and now MIDI Show Control (MSC).

In my opinion SMX will not take off unless Strand are prepared to kick start it by providing complete interface modules or at least software source code for one of two microprocessors. SMX is after all potentially the biggest case of the IBM factor we have yet seen in our industry.

MSC has come into being for similar reasons and to some extent in a similar way to DMX. Different manufacturers were (and still are) using the existing MIDI commands to mean different things. So although they were all using 'standard' their equipment is incompatible. Not much of a standard in fact. This problem was discussed at a number of USITT and LDI seminars. Out of this came a move to set a Lighting MIDI standard. This was pioneered by Charlie Richmond who contacted most of the manufacturers, publicised the idea through Lighting Dimensions magazine and organised an ongoing forum on the USITT's electronic bulletin board.

This method of electronic forums is, in my opinion, the way forward for all future standards efforts. It allows all interested parties to participate or just look in on the discussions. It can run for months with an international input and needs much less time and effort from the participants than face to face conference.

Because it was decided that MSC should be fully compatible with the existing MIDI standard it was necessary to submit the proposal to the MIDI Manufacturers Association (MMA) for their approval and the issuing of a Real Time System Exclusive Number.

Discussions began on 27th December 1989 and the standard was approved by the MMA in May 1991 so it took the best part of 18 months to finalise. This is much longer than AMX or DMX took because more people were involved in the direct discussions and MSC is more involved than any existing standard (but not SMX!).

Where do we go from here? Do we need any more standards? My view is that MSC, by allowing the use of multiple control consoles from different manufacturers to be linked together, reduces the need for an all embracing multiplex standard like SMX.

There is no requirement for a Super Console that can control everything, moving light, colour changers, generic lighting, smoke machines, video projectors, etc, etc. All this would do is cause a programming bottleneck. There will inevitably be new standards required by users and manufacturers so how should we go about setting them? A few simple guidelines might be:

1. There should be a general agreement that there is a real need for a new standard not just a standard for its own sake. This should involve users and manufacturers and would best be achieved at Seminars at the major trade shows. A chairperson should then be appointed to co-ordinate the new standard.

2. Standards must be international. Our market is not large enough to support regional standards especially as they get more complex and expensive to implement. As there is no single international trade organisation maybe PLASA and the USITT should agree to set and manage standards jointly.

3. A discussion period should be allowed of six to nine months with all communication taking place on an electronic forum. This would allow all interested parties to participate either actively or as observers. Most importantly it would allow all participants to see all the discussions and there could be no cries of 'I didn't know what was going on'.

4. Draft standards would be published on the bulletin board and after a further period of discussion and modification would be ratified by one or more of the trade organisations. Then at last the new standard could be published.

Finally I would like to set the record straight on a few points raised by Peter Brooks in the October Viewpoint.

The answer to 'the burning question' is NO, PLASA did not appoint me or anyone else to represent it in the MSC discussions. In fact there never was a 'MIDI Committee', just a group of interested individuals who took the time to participate.

I did not state at the PLASA MIDI seminar or at any other time that the new MSC would NOT be available. If Mr Brooks took the time to check the audio tapes of the seminar made available by PLASA he would have found that all I said was 'I did not have any copies with me'. Copies of the standard are available from the MMA whose address is:

MIDI Manufacturers Association, 5316W, 57th Street, Los Angeles, California, CA 90056, USA. Telephone: 0101 203 649 6434. Fax: 0101 203 668 1120.

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