

LIGHTING+SOUND

International



PAUL McCARTNEY IN PERFORMANCE AT THE SYDNEY ENTERTAINMENT CENTRE

PHOTO: TONY MOTT

- Frankfurt and Rimini: major shows of the season reviewed
- Performance profiles on Sting, Paul McCartney and Tasmin Archer
- Tony Gottelier on the latest DMX gadgetry
- West End hits on tour: Robert Halliday reviews the technicals
- US Theatrical Dealers Association comes of age
- Rebirth of a discotheque: TOTS 2,000

APRIL 1993

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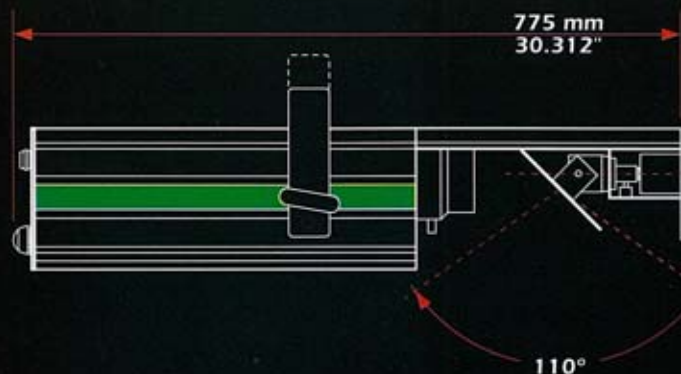
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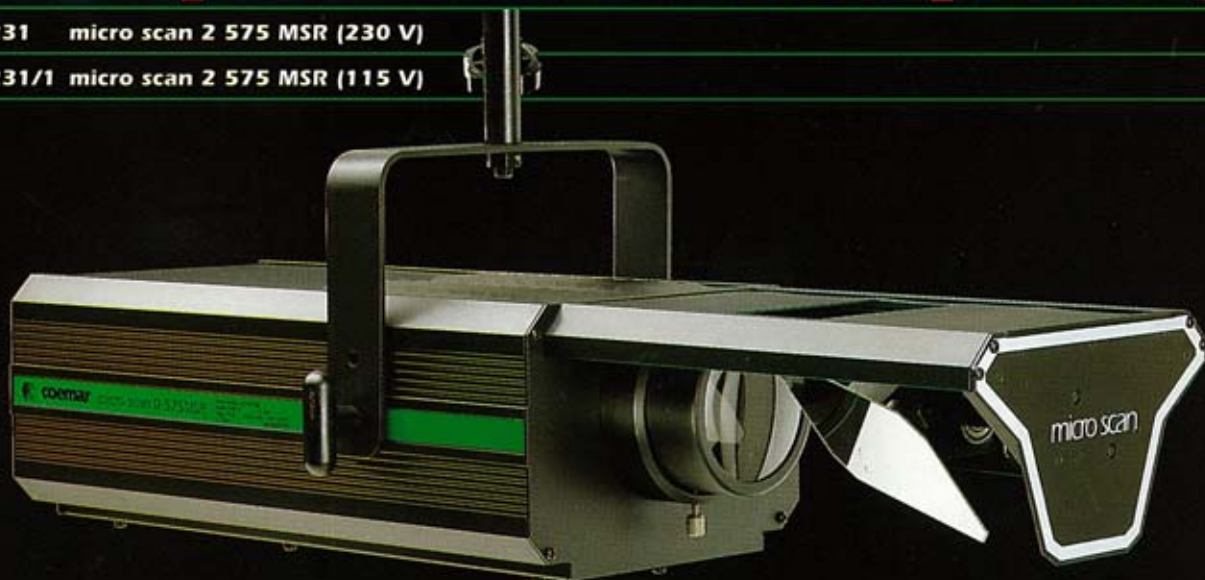


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LIGHTING+ SOUND *International*

APRIL 1993

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The Strand Catalogue

Strand Lighting's new-style Catalogue, delivered with every copy of L+SI this month, has been a year in the making and commands a print run of no less than 80,000 copies.

Business development manager Andy Collier told L+SI: "It provides a comprehensive guide to the main Strand range of stage, studio, location and architectural lighting. As this catalogue is the basis of various European translated versions, some specialised products, peculiar to individual territories, have been omitted. We therefore advise people to contact their regular Strand dealer if they cannot see the part they need."

The layout includes a short-hand iconographic specification for each product which, through the use of small symbols, identifies key data such as beam angles, typical throw and maximum Lux for

luminaires, channel and memory capacity and dimmer protocol for controls. Most products have packed weights and sizes, controls have the footprint dimension to check desk space needed, and suspension equipment includes details of safe working load, studio height, etc. The publication is certainly one of the best of its type we've come across, well-planned, and as a result, very easy to follow. In fact, it's a real neat job.

Open Day Success for Dial Sound & Lighting

The first-ever PLASA member company 'Open Day' held at the premises of Dial Sound & Lighting in Bradford on March 11th was a major success. With good promotion from partners Andy and Kris Blackwell and the support of a free announcement in L+SI and back-up from the PLASA office, the event broke all records.

Andy Blackwell told us: "We certainly got the formula right this time, thanks to an excellent combination of factors. We were well supported by three major manufacturers who showed videos giving background to their companies and products followed by practical demonstrations of equipment. We would also like to thank the personnel from PLASA who travelled up from the South Coast to support us."

PLASA companies taking part were Ramsa Panasonic with Ian Sharpe, Pulsar with Derrick Saunders and Andy Graves and JEM with Jon Petts and Mike Wood.

Ian Sharpe kicked off proceedings by showing a range loudspeakers, in particular the WSA80 combination with the WSA240 subwoofer. The event was also the UK debut of the new WST212 and T215 speakers, currently undergoing detailed market surveys. It also marked one of the first showings in the UK of Clay Paky's Golden Scan 3. For JEM it was an opportunity to demonstrate their new J1 - a 1 litre hand-held smoke machine intended for the mobile DJ market.



Dial Open Day: Time for a quick photocall (top) with John Offord, Andy Graves, Mike Wood, Andy Blackwell, Jon Petts, Ian Sharpe, Derrick Saunders and Yasu Amaha, before Ian Sharpe (below) kicks off proceedings.



A Golden Scan 3 celebration for SIB.

Clay Paky Stands out at SIB

SIB Rimini has always had a reputation for fireworks, so maybe it is because of the scent of past battles that so many of the international contingent gather there each year. A prevalent 'we're only here for the beer' attitude hides a more serious intent which is that we all look to Rimini each year for some really new innovation, or at least some excitement, to lift the gloom of winter and to raise our expectations for the coming season. The Italians can usually be relied upon to come up with something startling, even if only to satisfy an insatiable appetite for market-place gossip.

This year's SIB was no exception, though what was unusual was more a matter of presentation. It nevertheless represented a milestone in professionalism for the industry, writes Tony Gottelier.

In previous years the big galleons of Coemar and Clay Paky, for whom Rimini is a matter of fierce national pride, have faced up to each other from opposite sides of the Ponte Della Fiere, firing product salvos across the divide. This year was to represent a sea change in all of that. Both parties pre-announced their new products. Coemar launched their Baby Color at SIEL while Clay Paky delivered Golden Scan 3 in a well-timed press preview at their Bergamo headquarters. Both moves were designed to whet the appetite for SIB.

It was Clay Paky who took this new mood of professionalism a stage much further at the exhibition itself and set a standard for others to aspire to at future shows. Their stand, which extended from the entrance to Hall B by 600 square, spanned a main aisle to form a virtual Clay Paky avenue. On one side was a reception counter, meeting rooms and distributor's lounge, where the CP&P partners and others could meet and chat to their own customers.

Beyond that the presentation theatre had seating for 25. Across the aisle several small walk-in booths had been set

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Action News



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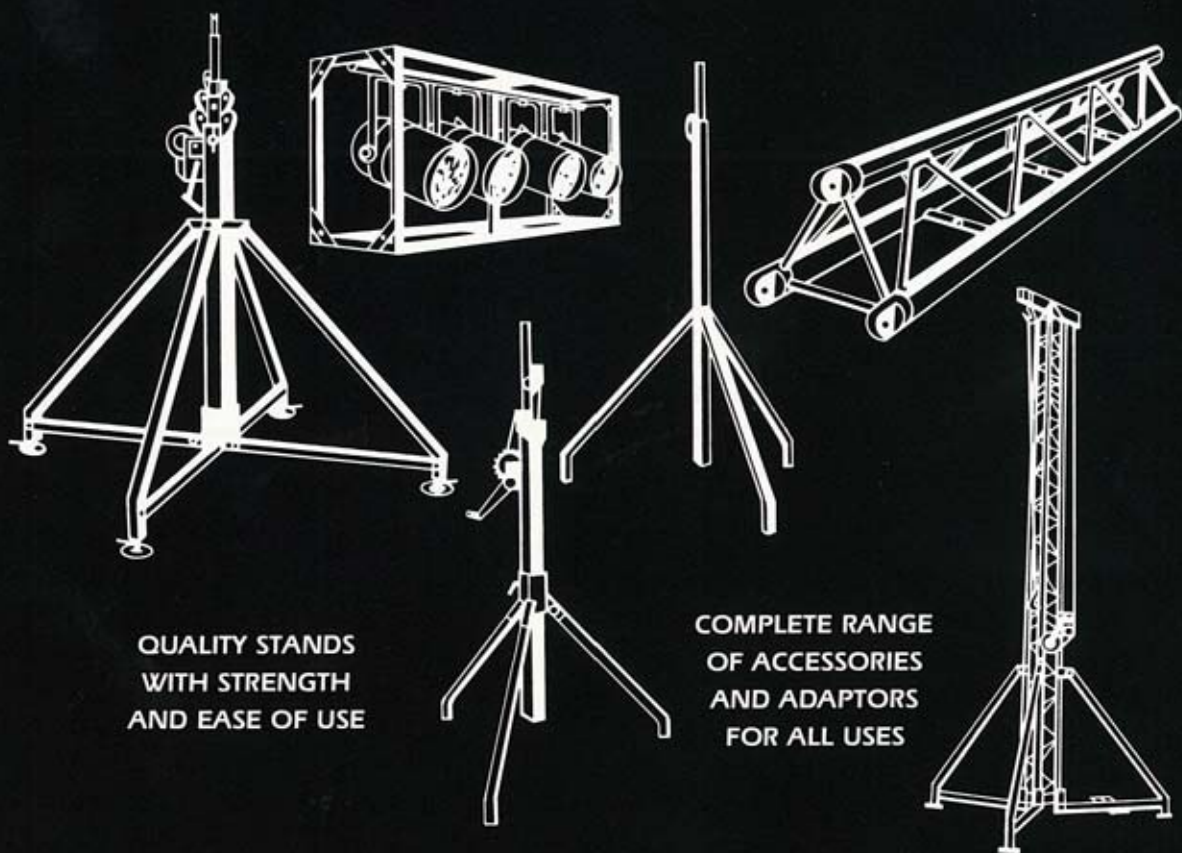
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up, each with different Clay Paky products on show, and with hands-on control to call up the various effects, plus video footage of the luminaires in action. At either end Pulsar, who put the P in CP&P, and JEM, who are also distributed by Clay Paky, set out their wares.

However, it was the ticket-only shows which provided a really new dimension. Visitors were presented with headphones on arrival and the option of English or Italian soundtracks. There followed a very slick corporate video centred around the main features of the new Golden Scan 3, before the screen flew away to reveal the carefully crafted light show beyond. This year designer newcomer Terry Cox who should get full marks for his subtle touch with the massed ranks of 'Threes', for the light show also was totally conceived around this single articulate luminaire. At the end of it there was no doubt about the message we were intended to receive, loud and clear: 'only Golden Scan 3 is better than Golden Scan'.

Much of the credit for this focused approach must go to Clay Paky's affable commercial director Pio Nahum, who told LSI: "At a conservative calculation, the SIB Show costs us 150,000 Lire per minute so we cannot afford to waste a second, nor to be less than highly effective in our presentation." In addition, a series of one hour seminars were organised in a separate lecture room covering the full range of products sold by Clay Paky, and introducing other new products such as Super Scan MRG, the Shadow follow spot and the Piper ICC which are covered more fully in our SIB review in this issue.

In recent years also, Viking invader Martin Professional has also joined battle from across the aisle to Clay Paky, but this time they too went on a radically new tack. The Martin stand contained no trace of the fearsome light shows of the past, instead six Pro 218s played gently onto truss-hung white gauze drapes in a monumental kinetic on an open section of the stand.

The rest became a double-decker with static product display below and a plush meeting lounge above. Peter Johansen, Martin's mercurial owner, also expressed his satisfaction at the outcome of this laid-back approach.

Meanwhile, Coemar, High End and just about everyone else carried on with the mega shows more or less as before. So the question remains, will Clay Paky's clearly defined product approach be emulated by others? We may only have to wait for PLASA to find out.

Showlight's Rocket

The National Railway Museum's working replica of 'The Rocket' will be 'in steam' during the Showlight Dinner at York on Tuesday 20th April. This very special attraction has been made possible by sponsorships from Light & Sound Design Ltd and Lighting+Sound International.

The Showlight Colloquium on Film, Theatre and Television Lighting takes place in Bradford from April 19th to 21st. A full papers programme, to be presented in the city's Pictureville Cinema, is on the agenda, together with a trade exhibition which will feature the products and services of 27 companies in the nearby Alhambra Studio, and a full social programme including visits to the West Yorkshire Playhouse and Emmerdale studios. The Museum of Photography, Film and Television itself will be used for a special screening of 'The Blue Planet' on the first day of the event following a civic reception.

Sponsors for various elements of Showlight 93 also include Yorkshire Television, White Light, Rosco, M&M Lighting, Michael Samuelson Lighting and Syncrolite Europe.

More than 250 people from the all sectors of the lighting industry will attend Showlight. There are still a few delegate places remaining.

Please call Ruth Rossington on (0323) 642639 for full details on the programme and information on attending.

60 and 25 Not Out



Clay Paky's Pasquale Quadri (left) congratulates Bruno Dedoro of Coemar on the company's 60 years in the industry.

Coemar celebrated their sixtieth anniversary during SIB Rimini with not just one, but two vast birthday cakes. The first was presented to Coemar boss Bruno Dedoro, a relative fledgling by comparison, having joined the company only 25 years ago, in itself a cause for personal celebration, on the stand at the SIB Show. Dedoro acquired the company in 1977 from the widow of founder Engr. Marcucci, who provides the 'mar' in the full company title of Company Optical Electrical Marcucci (Costruzioni Ottiche Elettriche Marcucci). The second torta arrived a couple of nights later at the end of the annual Coemar distributor bash held, as usual, in a local Rimini Restaurant.

The presentation on Coemar's vast stand at the Show was remarkable for the generous and unexpected attendance of the company's two main competitors in the shape of Pasquale Quadri from Clay Paky, who came armed with a birthday card (see our picture), and Bob Schacherl, president of US-based High End systems, who brought personal congratulations.

Coemar has come some distance since those far off days in 1932, when it specialised in photographic lamps and external flood lighting.

Festival Rockshop

Herbie Flowers is to direct The Festival RockShop, a major project in the Brighton International Festival involving young bands from up to 45 schools across the county. During the festival major figures in rock music will work with 15 groups a week who will receive expert tuition and advice on all aspects of rock production and performance. Each five day course will culminate in a concert at the Zap Club, with a Best of Bands Gala at the Brighton Dome, where they will be joined by a line up of famous names including Sam Brown.

Workshops in other aspects of performance such as lighting, sound production and recording, video techniques and stage presentation will also be taught. The success of the RockShop is heavily reliant on outside support and a number of sponsors have stepped forward from the lighting and sound industries.

Avolites have offered a Rolacue Sapphire lighting control desk and 48-way dimmer rack, Wybron have loaned 24 of their ColorRam colour changers, Arrow Rigging are supplying rigging equipment, Soundcraft are providing frontline and backline PAs and Theatre Projects have promised production manager Mylan Lester anything that's on their shelves. At the time of going to press, Mylan was on the look-out for walkie talkies, so if anybody out there can help, please contact him on 081-674 7184.

There is great hope that this project could be the pilot for a series of similar events across the whole of Britain.

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For Sagitter - read the small Prince



High End distributors in Italy, Sagitter, established by ex Clay Paky partner Julio Savoldi (pictured above) and his wife Gabriella, announced their first commercial offspring at SIB this year. Called the Prince Scan Light 575, this compact projector seems positioned to stir up the middle ground in the market for articulate luminaires.

Offering 12 colours plus white and 12 gobos, plus 175 x 110 degrees of pan and tilt, strobing shutter and remote on/off from its MSR575 lamp, Prince also claims a highly efficient computer-calculated optical system. Control options are analog, DMX512, or Sagitter's dedicated controller which has its own digital data format.

It was clear that launching this projector so soon after the arrival of High End's Trackspot, was a high risk strategy for Sagitter's relationship with their US supplier and High End execs present in Rimini did not hide their initial concern. However, towards the end of the show, Bob Sachacherl told L+S, "We have had some good discussions with Sagitter and now understand better where they are coming from. We are particularly sympathetic to their predicament regarding the present exchange rate situation, and its impact in their home market, and are happy to affirm that the relationship will continue as before."

Technology rides the high seas

Glantre Engineering is not the kind of company that looks askance at any sort of engineering challenge. So when the company were asked to provide state-of-the-art entertainment systems for 14 venues on board the 67,000 ton P & O ship Oriana, they drew on their substantial experience of catering for the rather specific needs of the performing arts.

The entertainment systems contract is valued at some \$1.8 million and has several high-tech elements. So far the company has submitted and had approved over 100 design drawings which gives an idea of the detailed nature of the task ahead.

The scope of work covers stage and effects lighting, controls, dimming, audio, stage equipment and an interactive network for the teenagers' room. At the heart of the elaborate technical installations will be Richmond 'Stage Manager' show controls, communicating with amongst others, production and effects lighting controls by Arri and Pulsar, audio machines and motorised traveller tracks by Triple E.

Other equipment includes 350 SmartRack digital dimmers, 400 luminaires from ADB, Thomas, Clay Paky and Martin. The production sound systems are centred around Soundcraft mixers, Crest amplifiers, Tascam replay machines, Turbosound and Community loudspeakers and 30 radio microphone channels, as well as ring intercoms and show relay facilities. Extensive video installations are largely based on Sony equipment and include eight large screen video projectors.

Heading the Glantre team are project manager David Lee and project engineer Rob Shuard, who are working closely with theatre consultants John Wyckham Associates and discotheque and effects lighting advisers Wynne Willson Gottelier.

Into the Arena



The all action sports programme 'The Gladiators' has just completed a five day live show at Wembley Arena.

Concert Light Systems of Bolton supplied the arena lighting which consisted of over 40 6-way bars, 28 Molefay 8-Lites, and, according to crew chief Ian Clare, an awful lot of trussing, rigging and motors.

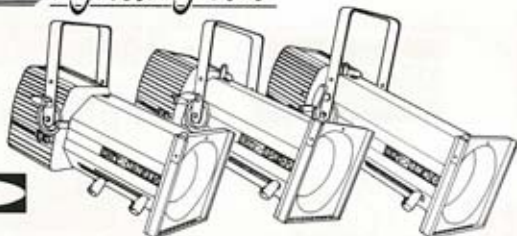
R G Jones designed the sound system for the shows using a central cluster of Renkus-Heinz C-2s and two clusters of four SR1s on either side which were then flown on four frames.

The programme makers had also to consider the smoke machines on the show having faced complaints about their use of CO2. Via set builders Kimpton Walker, they called in Mark White and Andy Evans of Electric Effects to help them clean up their act. In search of an environmentally friendly smoke machine they contacted Mike Goldberg of M&M who was able to supply a specially adapted Smoke Factory Skywalker. The unit was stripped to its innards and built into the specially reinforced floor, having previously been fitted with a custom-built heat exchanger with the nozzle on top.

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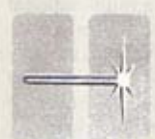
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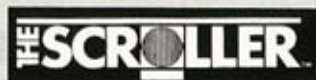
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Out of the Olympics . . .

John Offord talks to Dave Smith of Light & Sound Design on the launch of their new Special Projects Division

Having had their appetite whetted by a big special summer event in Barcelona last year, Light & Sound Design of Birmingham, the ultimate heavyweights in rock and roll lighting, are now planning to blood themselves into the grand event league. Heading their new Special Projects Division squad is Dave Smith, the man who pulled off the successful logistical planning and team-led the LSD operation for supply and installation of television lighting for the 92 Olympics.

I spoke to him following a site visit to the National Railway Museum at York where LSD's new division will be lighting 'Rocket' in steam during the special dinner as part of the coming Showlight colloquium in mid-April. (Both LSD and this magazine are sponsoring this and we look forward to providing you with some extravagant photographic coverage of the occasion!)



Dave Smith: holding all the aces.

"For 18 years now Light and Sound Design have been leaders in servicing major rock and roll tours world-wide," said Dave Smith. "We estimate that we now take care of a large proportion of the major tours and the formation of this new Division is an attempt to move forward and to try and capitalise on the success of the Olympic Games in 1992 and bring some of the expertise gained from 18 years of top flight rock and roll production into the area of special projects," he explained. "We feel we have a lot to give and it's an area where we think we can establish a niche in specialist hire, particularly in the larger multi-media international type of event."

LSD is embarking on a medium-term programme that it hopes will see its new section taking a sizeable proportion of the market over the next three years. But what do they have to offer, in addition to their huge inventory of equipment? Why go the LSD route if you are organising a spectacular?

"When designers have been exposed to some of the gadgetry and wizardry that is now available, especially to the major rock and roll tours, they want to cash in on it and use it," explained Dave Smith. "Increasingly we've been finding that conference and presentation designers have been coming to us purely to get the type of effects they see on rock and roll shows. I feel that this will continue and that they will want more and more

rock and roll technology, mainly because if they don't use it they can start to become 'old hat'. The technology is there, and it's available to all."

The new division will be far-reaching in its endeavours, also aiming to spread its tentacles into the world of musical and touring productions.

"It's another area we plan to look at seriously," continued Smith. "If we can pick up a large touring show then we'd do it. Over the years barriers have been coming down. Slowly and surely, with the advent across the eighties of equipment such as Vari*Lite, techniques have spread across the old divides. Eventually the barriers will disappear altogether and it will be a total 'entertainment' industry. One area will take techniques from another, as appropriate."

One of the sharp-end advantages LSD is looking to exploit is the speed advantage of adapting established rigging skills from rock and roll, and this will apply most specifically to the world of television. "With rock and roll we've always had to put in large lighting systems in a very short space of time - often into venues which are not easy to service. Over the years we've developed systems that can put lights into these venues, on a modular basis, very quickly indeed. Labour is therefore cut down, with people working and developing as a team. It happens quickly and efficiently, and the production always goes ahead."

"In the TV area they seem to spend a lot of time rigging - days and days - and only in the last few years have television companies started to look at saving money in this area. This is obviously an area where we feel we can beat existing TV companies because we can put things in faster, more efficiently and with less labour. It's a very big bonus. It's like having four aces in your hand - and I know I've got a hand I can play well - given the opportunity. What we've now got to do is go out and search for the opportunities. So far we have a low profile in this market, despite the fact that we've done so well out of rock and roll."

I pondered as to whether the somewhat 'heavy' image of high-power rock and roll might be difficult to overcome. "It is a possibility," agreed Dave Smith, "but our directors, managers and teams are all very genuine people and they shouldn't be feared. The business was built up in the early eighties when they were firing from the hip and they practically took over the rock and roll industry. Many stories went the rounds, mostly built on jealousy, because no-one could get a look-in."

"However, it's all past history now. As part of Christian Salvesen plc we are no longer a part of the old-style LSD psyche. We are part of a multi-national public company and we are building up a service for the 21st century." Dave Smith will have a lot to carry on his shoulders across the next few years, but the enthusiasm was obvious, despite the prospect of lighting steam trains in April. "I'm having a ball," he said. "The directors and staff of LSD have made the task particularly easy. They are easy to talk to, I've got access

continued on page 74

Strand VIP Visit



Maestro cinematographer Vittorio Storaro (centre) is pictured on stand at SIB Rimini with Strand Lighting's marketing director David Brooks (left) and Rank Lighting Italy's general manager Fulvio Cotogni. Storaro's long list of awards includes Oscars for *Apocalypse Now*, *Reds* and *The Last Emperor*.

CP&P Benelux



Pasquale Quadri of Clay Paky (right) pictured at SIB with Ben Weijters of Jac Van Ham, general manager of the newly created CP & P Benelux. Based in Tilburg, the operation will cover The Netherlands and Belgium. The move marks the continuing expansion of the CP&P network world-wide.

PEOPLE IN THE NEWS

Martin Audio has appointed **Bill Webb** to full-time head of the company's engineering department. The move marks a return to Martin for Webb who worked as a designer for them 10 years ago following time spent with Tannoy and HH Electronics. Since 1985 he has been a successful managing consultant within the audio industry and completed projects for many of the best known brands including Audiolease, Celestion, Trace Elliot and Turbosound. He has a long development of several projects at Martin Audio the latest of which was the newly launched EM Series of installation systems.



Bill Webb.



Candy Davies.

Julia Pollitt has been appointed ASG Stage Products Midlands sales representative as part of an expanding sales strategy. Julia brings with her many years of experience with stage lighting and sound equipment which will assist with her responsibilities in providing support to existing and new customers under the guidance of ASG's existing technical team Stan Bibby and Alan Cohen.

The expansion of lighting company, Midnight Design Ltd's sales department has led to the employment of **Jenny Williams**, who will run the schools, university and theatre side of the division.

Apologies to **Edward Pagett** who we elevated last month to the presidency of the International Association of Lighting Designers. He has asked us to point out that he is, in fact, the president of

the Lighting Forum.

Soundcraft has recently expanded its management team, with the appointment of **Candy Davies** as marketing manager. Davies, aged 30, brings an extensive degree of experience in international industrial marketing to the new position and will report directly to sales and marketing director Alison Brett.

After six years as Theatre Project's production manager **Ian Bagshaw** has decided to go it alone. During his period at TP he was responsible for a wide range of shows.

Laserpoint have appointed **Pete Maddison** as entertainment systems sales representative to service existing clients and develop the market for the company's Ramwall videowall control system.

As a result of the closure of the Eastern and Oriental division of Electrosonic, sales director **David Kerr** has left the company after 20 years' service.

Clay Paky Dinner



Pulsar director **Paul Mardon** (right) pictured with **Pasquale Quadri** and his wife at a special Clay Paky dinner hosted during the SIB/Magis exhibition in Rimini. Further coverage next month.

Avolites Link with VL5



Avolites and Vari-Lite got it together at the recent launch of the Vari*Lite VL5 for the Society of Television Lighting Directors. Vari-Lite rigged 97 luminaires in their demonstration theatre, with training manager Andy Voller programming two demonstrations. An Avolites Rolacue Sapphire, using DMX to control the VL5s and VL1s was demonstrated to the invited audience.

The lightweight VL5 wash luminaire can be controlled by DMX-512, and connects to conventional dimmers and the strength of the Rolacue Sapphire is the way it can deal with luminaires such as the VL5 with a group of channels. For instance, the colour mix input of the VL5 Dichro-Tune can be controlled using the Sapphire's built-in 'colour control'. This allows the lighting designer to call up actual colours by 'name or number' rather than moving a combination of faders. The lighting designer can select, for example, 'blues' on the built-in LCD screen and easily step through all available blues. In reality the LD is presented with a colour palette.

Steve Warren Avolites sales director (pictured above demonstrating the Sapphire) told L+S: "The Rolacue Sapphire demonstrated the power of the VL5 when used on a DMX-512 lighting control desk."

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NEWS SHORTS

Theatre specialists **The Sound Company** have recently purchased a Soundcraft Vienna 40 channel console through London dealer **LMC Audio Systems**. It was supplied complete with VCAs, matrix, two CPS940 power supply units and new PSU switchover units. Soundcraft modified the unit to facilitate the muting of all inputs and auxiliaries via the eight onboard mute scenes. The console will be put to use on Blood Brothers and forthcoming shows at the Piccadilly for Robin, Prince of Sherwood and Hotstuff at The Cambridge.

The first annual LDI fishing tournament jointly sponsored by **Electronic Theater Controls** and **TMB Associates** is to be held out of Red's Fish Camp, Lake Toho during the LDI exhibition in Orlando. A traditional 'shore-lunch' will be provided, with prizes and trophies also to be awarded. For further details contact Linn Taylor at TMB, telephone (818) 842 9652.

Modelbox is now offering personal computers (PCs) for hire. A full 24-hour back-up service, including on-site call-out during office hours, is included in the rate, with discounts for long hire periods. Production companies will also be able to take advantage of a plotting service from Modelbox. The first hire PC is being used for the new production of City of Angels.

Carter-Voce have recently become main dealers for Biamp and Community products. The appointment was made by TSD Ltd, the UK distributor, just before the Sound 93 exhibition. **Carlsbro Electronics**, working alongside the Trust Network, has appointed F. Payton & Son as the Australian distributor for the Carlsbro range of sound products. William F. White has been appointed the Canadian distributor for **Mole Richardson**.

Arsenal and Sheffield United Football Club fans, unable to get tickets to watch their teams play away in the FA Cup quarter finals against Ipswich and Burnley, still managed to watch the matches live - courtesy of giant video screens. The 48 square metre mobile screens were installed for the day at the Highbury and Bramall Lane grounds by video screen rental company, **Screenco**. Live BBC footage was relayed to the screens, via British Telecom lines, and displayed to the thousands of fans in their home stadia.

ASG Stage Products have moved to new premises in Redgate Road, South Lancashire Industrial Estate, Ashton-in-Makerfield, Lancashire WN4 8DT. Telephone and fax numbers remain as before. The company have also recently been awarded the BS5750 Part 2 Quality Assurance certificate.

Tannoy's award-winning PBM6.5 loudspeakers have been installed into Watershed Pictures' new 24-track studio. The London-based video production company has just added a 24-track studio facility.

Star Hire have been granted a full patent by the UK Patent Office covering their mobile StarStages. A new StarStage will be available in June. The Mark 3 stage is larger than its predecessors, and, according to the company, total installation time is so short that the stage arrives, is used and travels away again all on the same day.

A **Squire** installation has caused a great deal of excitement among UFO spotters in the Guildford area. The police were flooded with calls from local residents after Squire supplied a Novalight Booster for the roof of Bojanglez club. This outdoor effect, which is a very bright rotating 2,500 watts of light via six beams, can be seen from five to eight miles away. Squire has already installed new sound, lighting and effects for the inside of Bojanglez.

Raper and Wayman have specified and supplied a movable PA System for the British Library, at present housed in the British Museum in Great Russell Street. Altec equipment was used throughout, and the system comprises a 1700C mixer, a 9444B amplifier, a 1431 graphic equalizer and two 98728A speakers. Raper & Wayman have also been appointed sole UK distributors of the Ramsa A500 Series of high performance loudspeakers.

Spanish rental company **Fluge** of Madrid have recently purchased a **Martin Audio** F2 System. The sale was made through Martin Audio's exclusive distributor in Spain - **J L Alberdi**. **Ampco Audio Products** of Holland have recently completed an F2 installation at the Paradise Club, Amsterdam. The system comprises six F2 Bass, six F2 Combis and four FSX Sub Bass cabinets.

Trafalgar Lighting have moved to new premises and can now be reached at 2 South Way, Claverings Industrial Estate, Montagu Road, London, N9 0EB. Telephone 081-887 0082.

Following the launch of its A Series rack mounting power amplifiers, Chevin Research has appointed **Audioscene** as its exclusive distributor for England, Wales and Northern Ireland. Audioscene will be responsible for all sales and distribution of the range. Audioscene, a new company, is the brainchild of Alan Kilford, previously with Court Acoustics and Bose UK. The company can be reached at 4 Primrose Way, Chesterfield, Whitstable, Kent CT5 3QN. Telephone (0227) 794636.

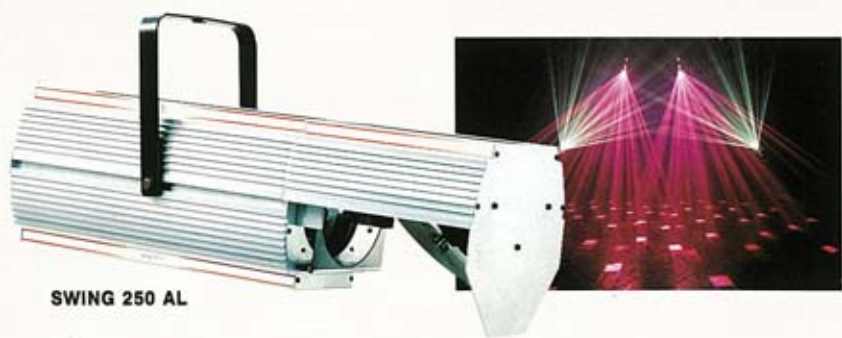
Tannoy-Audix is involved in the major refurbishment of three BAA Airports within the U.K. A contract worth £50,000 has been placed with Tannoy-Audix by Phoenix Electrical to supply additional amplifiers, control systems and loudspeakers to cover the new areas at Gatwick.

MAM have just finalised a dealership arrangement direct with Kaleidovision Ltd, the manufacturers of the UK-designed **Kaleidolight** system. The 'intelligent video' system is being linked with MAM's new design concepts. Much research has resulted in designs for new display formats, the inclusion of new system control, and the specification of new products.

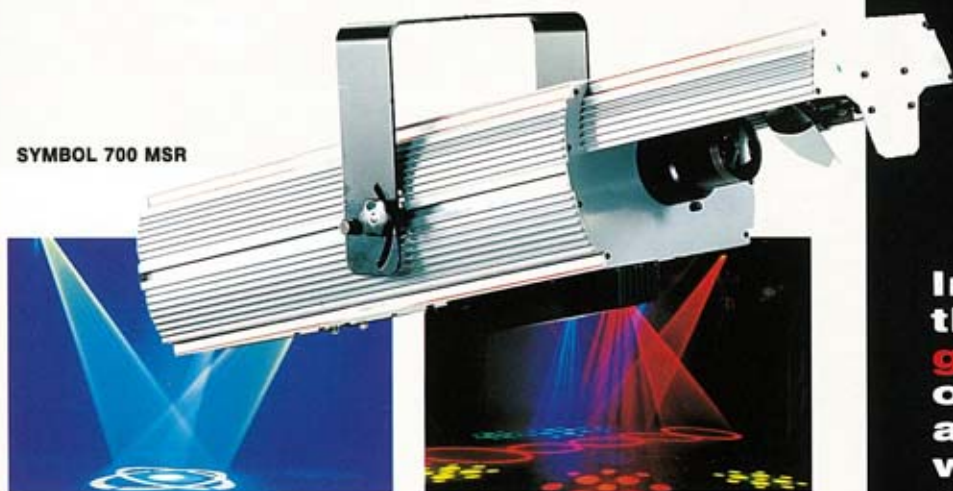
Lodestar electric chain hoists/motors are now available from Pfaff Silverblue Mechanical Handling Limited. Hoists, components and spare parts are now being held in stock at Pfaff's Birkenhead premises.

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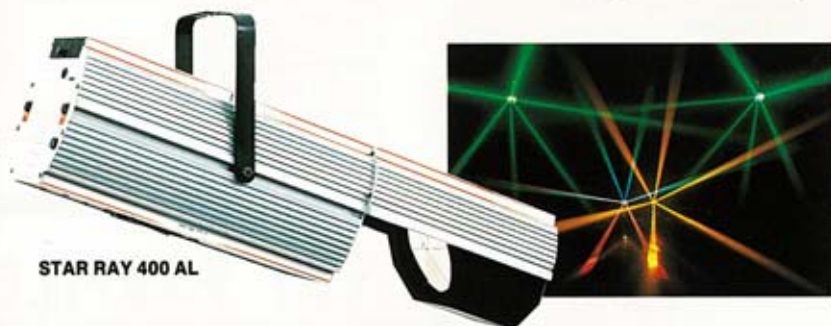
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Entente Cordiale

Gerry Morrissey of BECTU and Joe Aveline of the AETTI recently met with the secretary general of the French technicians' union SYNPTAC, Michel Hellec. The meeting was hosted by the professional training centre CFPTS in Bagnolet on the edge of Paris, where students have access to computerised lighting control, four fully equipped sound studios as well as manual, counterweight, electrical and hydraulic powered flying systems.

A number of issues were discussed with a view to taking advantage of the open market for European Community citizens. These include investigation into a technician exchange between a French and an English opera company, using the French experience as a base for a similar non-performance based training centre in the UK, and extending cross-European co-operation on vocational standards and expectations of skills. BECTU propose to hold an open forum on this to take place just before the ABTT Trade Show, exploring means whereby the Union of the host country would represent a member of the other union if the individual was working in the host country, and the long term objective of creating a unified database of membership information.

Harman International to Acquire Lexicon

Harman International recently announced the signing of a definitive agreement to acquire Lexicon, the manufacturer of digital audio signal processing equipment and disk-based audio production systems. Pending final approval of the agreement by Lexicon's stockholders in April, the company will join existing Harman Professional Group companies. As a wholly-owned subsidiary of Harman, Lexicon will retain its operating autonomy and current management. The company will retain existing distributors, independent representatives and internal staff.



Rover 600 Launch at the ICC

Lighting designer David Atkinson was recently approached by Clearwater Communications to light the launch of the new Rover 600 at the ICC in Birmingham. With a simple set design it was important for the lighting to be versatile, stylish and in keeping with new sophisticated Rover image. The presentation had three main reveals which would have to run from time code.

Atkinson chose to use 12 DHA DLCs which were positioned down stage, below the cine screen which flew in and out during the presentation, giving great flexibility and accuracy. In addition he used a mixture of Vari-Lite VL2Bs as well as VL5s which were programmed by Fraser Elisha. The conventional lighting was supplied by Stage Electrics of Bristol and stock equipment from the ICC, under the control of Michael Matthews.

With the music for the reveal sequences being specially composed for the event it enabled the

lighting to work well with time code.

Special software, written for the event by Richard Bleasdale, was used to run the Celco Gold as well as the Vari*Lites and DLCs, which allowed for flexibility while plotting the presentation.

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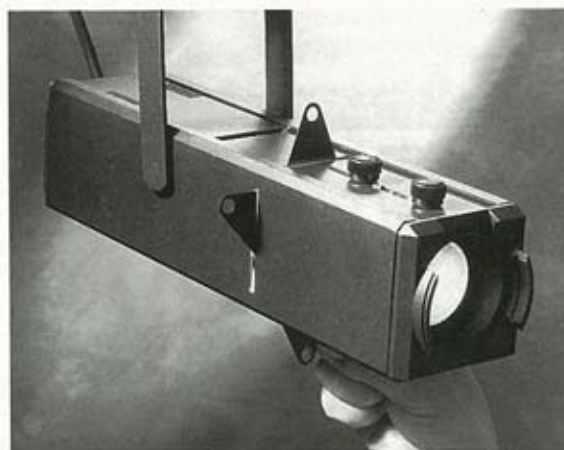
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605	Pale Gold		
608	Warm Straw	206	
609	Straw	HT010	147
610	Light Flame		237 - 248
611	Rose Amber		
612	Golden Amber	134	147
613	Light Amber		
614	Flame	105	158
615	Deep Straw		
618	Orange	HT019	
619	Fire	113	
620	Deep Salmon	106	153
621	Light Red		
624	Pink	247	192
625	Pale Rose Pink		193 x 2
627	Rose Pink		170 - 136
632	Salmon		
638	Light Rose Purple		HT052
641	Lavender		HT058 x 2
644	Deep Lilac		
645	Indigo		
647	Pale Blue	202	117
648	No Color Blue		HT063
649	Booster Blue		201
649	Light Blue	174	117 - 203
650	Light Steel Blue		136 - 174
651	Light Steel Blue		
652	Azure Blue		
653	Zephyr Blue	196	174
654	Daylight Blue		144 x 2
655	Steel Blue		
656	Steel Blue		HT079
657	Primary Blue	118	132
658	Medium Green Blue		195
659	Green Blue		245
661	Medium Blue		
669	Pale Yellow Green	244	122 - 218
671	Light Green		
672	Moss Green	219	
676	Blue Green	209	156
680	Light Grey		
682	Chocolate		

CINEMOID

No.	Product description	Clo	Sim	Com
HT010				
101			102	
1	Yellow		HT013	
2	Light Amber		HT015	
3	Straw		179, 105	
4	Med Amber		158	
HT022				
106			182	
5	Orange		107	
6	Primary Red		109	
7	Light Rose		110	
9	Light Salmon		192	
10	Middle Rose		111	
HT027, HT046				
106			148	128 x 2
12	Dark Pink		113	HT026
12	Deep Rose		115	116
13	Magenta		117	
14	Ruby		174	
15	Peacock Blue		144	
16	Blue Green		174	
17	Steel Blue		144	
HT079, 118, 183				
119			119	195
18	Light Blue			
19	Dark Blue			120 - 165
20	Deep Blue		121	
21	Pea Green		122	
22	Moss Green			
23	Light Green			
24	Dark Green			
25	Purple			
26	Mauve			
27	Smokey Pink			
32	Medium Blue			
33	Deep Amber			
34	Golden Amber			
35	Deep Golden Am.			
36	Pale Lavender			
38	Pale Green			
39	Primary Green			
40	Pale Blue			
41	Bright Blue			
42	Pale Violet			
43	Pale Navy Blue			
45	Daylight			
46	Chrome Yellow			
47	Apricot			
48	Bright Rose			
49	Canary			
50	Pale Yellow			
51	Gold Tint			
52	Pale Gold			
53	Pale Salmon			
54	Pale Rose			
56	Pale Chocolate			
57	Pink			
58	Deep Orange			
60	Pale Grey			

LEE FILTERS

No.	Product description	Clo	Sim	Com
HT010				
101			102	
			HT013	
			HT015	
			179, 105	
			158	
HT022				
106			182	
			107	
			109	
			110	
			192	
			111	
			148	128 x 2
HT027, HT046				
113			113	HT026
			115	116
			117	
			174	
			144	
HT079, 118, 183				
119			119	195
				120 - 165
			121	
			122	

No.	Product description	164	HT019, 157
63	Sky Blue		
64	Med. Red	166	203 - 218
66	Pale Red		196
67	Steel Tint		
68	Giselle Blue	103	
73	Straw Tint	151	245
75	Pale Golden Rose		HT008
77	Green Tint		
78	Salmon Pink		

GAM COLOR

No.	Product description	Clo	Sim	Com
127				
128				
128				
110	Dark Rose			136 - 128
120	Bright Pink			
140	Dark Magenta		109	
155	Light Pink		110	
160	Chorus Pink		192	111 x 2
170	Dark Flesh Pink			
180	Cherry		110	
190	Cold Pink			
195	Nymph Pink	107		
157, 193				
148				
HT046, 113				
166 x 2				
220	Pink Magenta			
235	Pink Red		106	
245	Light Red			HT026
182 - 106				
HT027				
153 x 2				
250	Medium Red XT			
260	Rosy Amber	182		
270	Red Orange	HT019		
280	Fire Red		135	
290	Fire Orange		151, 176, 156	
340	Light Bastard Amber	162	158	
345	Deep Amber		105	
350	Dark Amber			HT015, HT020, 179
206				
134				
365	Warm Straw			
		147		223 - 205
375	Flame			104
385	Light Amber			102
				159
				102
				HT010
				101
				212
				245
				138
510	No Color Straw			
520	New Straw			
540	Pale Green	121		
570	Light Green Yellow		139	
650	Grass Green		139	
655	Rich Green	122		115, 116
660	Med. Green			117
				201 - 213
720	Light Steel Blue			
730	Azure Blue	118		183
740	Off Blue			118
				143
750	Nile Blue			117 x 2
760	Aqua Blue			117 x 2
770	Christel Blue			202 - 203
780	Shark Blue			192
790	Electric Blue			165
810	Moon Blue			171
815	Moody Blue			
820				

LEE FILTERS

KEY
 Clo: Close - Colour
 Sim: Similar - Lee
 Com: Comp - be of a different

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Clay Paky & JEM



Pasquale Quadri 'Paky' of Clay Paky (centre) with John Petts (left) and Mike Wood of JEM Smoke Machines at the Clay Paky dinner in Rimini.

Clay Paky and JEM have just announced that Clay Paky will distribute JEM Smoke Machines in Italy. Nigel Morris of JEM told L+S: "We are delighted that a company as prestigious as Clay Paky has chosen to handle our products and we expect great things of the collaboration. Intelligent lighting needs intelligent smoke!" The innovative Clay Paky stand at SIB in Rimini included a JEM Heavy Fog 6500 and ZR41D, both under full automatic operation from the show computer running the whole display.

Beat the Clock

The Coliseum, Croydon's newest dance club, boasts an opulent Byzantine decor, a pair of giant sphinxes flanking the DJ booth, a glitzy Hollywood theme bar and restaurant, and a JBL sound system supplied and installed in record time by Marquee Audio, UK sound reinforcement specialists.

Club consultant Keith Hardy, who specified the system, told L+S: "Marquee was given only two days before the club opened to do the entire installation. This was particularly difficult because the interior had just been finished and they had to work very carefully around the elaborate decor without damaging it, with only one chance to get it right". The JBL Sound Power system Marquee installed in the Coliseum's main dance area includes four 4726As and two 4745A sub-bass units, powered by C-Audio SR series amps, with BSS FDS360 crossovers, a Yamaha graphic equaliser, a Formula Sound PM90 mixer, and a pair of Technics turntables. The background sound in the Hollywood Boulevard bar and dining area are provided by eight JBL Control 5s driven by HH MX900 power amplifiers, and Pioneer multplay CD and twin cassette decks. The bar's video system consists of Pioneer players and monitors, along with a Citronic VM340 video mixer.

Yamaha Fringe Sound

Yamaha has provided the complete sound system for Howard Samuals' new jazz musical, *Invade My Privacy*, currently enjoying a four week run at the Riverside Studios in London. Billed as 'a musical celebration of the works of Fran Landesman', the fifties beat poet and lyricist, a primary consideration of this production is that reinforcement should operate as unobtrusively as possible, ideally, to the extent that coverage is provided throughout the theatre without the audience even realizing that microphones are even being used! Yamaha has devised a discrete system with sound designer Johnathan Suffolk from the National Theatre, based around its US-built and designed AST technology. Johnathan flew two pairs of S450S AST cabs from lighting bars, one set three metres from the stage and the other 11 metres. Stage left and right he sited an S500 full-range 3-way cabs with an SW118 sub bass unit - also US built and newly arrived in the UK.

Sennheiser's new EM 1046 switchable diversity radio microphone system is also involved in the show. A five channel system is in use with the new MKE 2-4 clip-on mics.

Fisher Projects

Fisher Lighting are proving to be recession beaters. They have been carrying out a number of contracts in the Middle East, and on the UK front they opened an additional office in Edinburgh and are now the Scottish agent for Steeldeck. Fisher Lighting can be reached in Scotland at 48 West Bowling Green Street, Edinburgh. EH6 5PB. Telephone 031-555 6659.

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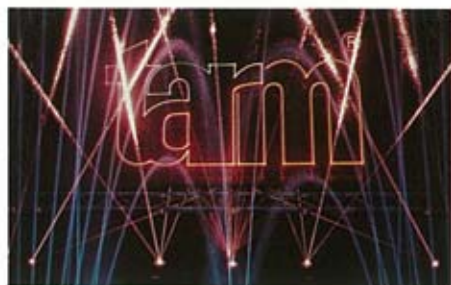


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PROFESSIONAL SHOW LIGHTING

Lasers at the Messe



The 'live' (and very noisy) hall at the Frankfurt Music Fair is now well established on level 3 of hall 9 and the laser show, which runs back-to-back with a live rock stage, was produced by German company Tarm of Bochum. Equipment used for their impressive production included a Coherent Innova Argon laser, Coherent Innova Krypton laser, two Coherent Purelight Argon/Krypton lasers (for graphic projections on side rear-projection screens, Showlaser optical tables, four XY-Fiberray (XY scanner with 50m fibre-optic cable), 51 mirrors and two linear diffraction gratings 150cm x 150cm. The display incorporated water and pyrotechnic effects.

Wholehog at AC

Flying Pig Systems have announced that all future sales for the award winning Wholehog lighting console will be handled by A C Lighting. A new company called Flying Pig Systems Inc has been set up to handle the board's distribution in America. The Flying Pig Systems team wish to spend more time developing new projects and feel that A C Lighting are the right people to promote and service the much talked about desk.

A C Lighting plan to use the Wholehog lighting console as a flagship for their huge stock of professional lighting equipment, giving them possibly one of the most comprehensive ranges in the industry world-wide. The console has already been earning itself quite a reputation for flexibility. In America LD Nick Sholem is using a Wholehog lighting console on the Sting world tour (see On Tour this month), whilst in the UK Colin Jones is on the road with The Shamen using a Meteorlites' Wholehog to control 18 Intellabeams, 26 colour changers, dimmers and star cloths.

Jands & Vari-Lite

The Grand in Clapham is the test-bed for an exciting first in the industry. Forward thinking LB Bryan Leitch is evaluating the match between the new Vari-Lite VL5TM wash luminaire and the Jands Event V2. The test rig consists of 12 of the DMX controlled VL5s and an Jands Event plus 60 fitted with the new Version 2 software specificity designed for use with moving lights. Confident that the system will live up to its expectations Bryan has based his design for the all new Forum Venue on the combination.

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Modelbox/TSL Move

Modelbox, the CAD specialists, have moved to new premises. The new office, designed specifically for Modelbox's bureau and software services, is close to Modelbox's parent company the White Light Group in Fulham. The new address and telephone number is Studio 9, 75 Filmer Road, London SW6 7JF, telephone 071-371 0110. White Light subsidiaries TSL (AV) Ltd and the recently formed Technical Insight will share the Studio address, but will be available on different telephone numbers. TSL (AV) Ltd will continue its main activities which will range from supplying technical equipment for 'dry hire' to organising complete conferences for all types of industrial clients. TSL can now be reached on 071-371-5020.

'Brilliant' Open Day

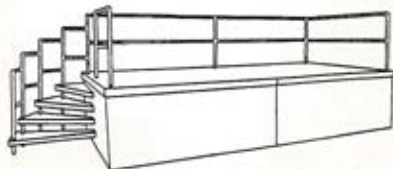


Staging a toast: Charlie Kail (Brilliant Stages), Brian Croft (Vari-Lite), Roger Dix (Samuelson Group), Alan Thomson (Theatre Projects), Brian Smith (Samuelson Group) and Derek Davies (Samuelson Group).

Brilliant Stages' new warehouse facilities in Greenford, West London are open for business - it's official! Charlie Kail (recently appointed a director) and his team threw open the doors to people from across the set design and lighting industries on March 17th, giving them a tour of the enormous space that will take Brilliant Stages a further step forward this year. With 10,000 sq.ft of set construction space, they can now build at least two full-size touring sets simultaneously. More staff have also been taken on and new equipment is currently being installed to expand the construction facilities.

Speaking of 'other projects', Brilliant Stages have never been busier. They've just completed sets for Mike Oldfield and Deacon Blue, and they're now working on designs for Peter Gabriel and Depeche Mode, plus an addition to U2's 'Zoo TV' touring set.

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Numark's director of export sales, Nick McGeachin (left) pictured on-stand at SIB in Rimini last month with Steve Watts of Abstract Design to Light.

Swap Shop for Numark and Abstract

Numark Industries Inc of Rhode Island USA, the manufacturers of DJ sound equipment recently purchased by Jack O'Donnell, announced at Frankfurt that they had appointed Abstract Design to Light of Leicester as their exclusive distributor for the UK and Eire. They followed this up in Italy with an announcement at SIB that Numark will assume responsibility for North and South American distribution of the complete range of professional lighting products manufactured by Abstract, effectively creating a 'two-way street' between the companies.

Arri (GB) Notch up the Big 10

PLASA member ARRI (GB) Ltd is marking 10 years in the entertainment equipment industry with a series of events at their base at Heston, near Heathrow Airport. L+SI readers are invited to two open days, on May 10th and 11th, between the hours of 10am-6pm, to inspect the ARRI ranges of lighting and lighting control equipment, including the amazingly successful new SmartRack digital dimming system. It's not all business: ARRI hospitality is well known, and its events are always well-attended meeting places for lighting professionals from both television and theatre.

ARRI is to be found close to M4 Junction 3, and a shuttle bus will run from Hounslow West tube on the Piccadilly line. More information is available from ARRI (GB) Ltd in Heston, telephone 081-848 8881.



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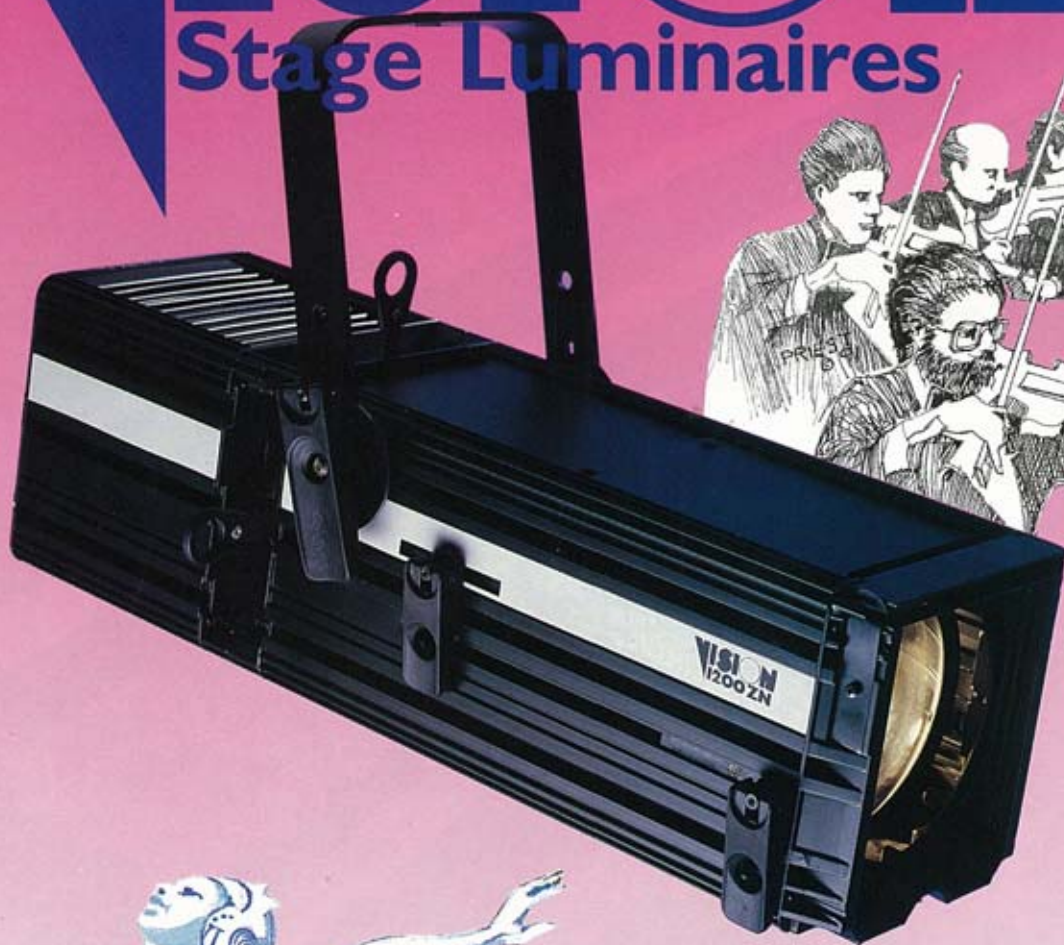
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VISION 1200ZW 24-50°

VISION 2500ZN 9-15°

VISION 2500ZW 12-25°

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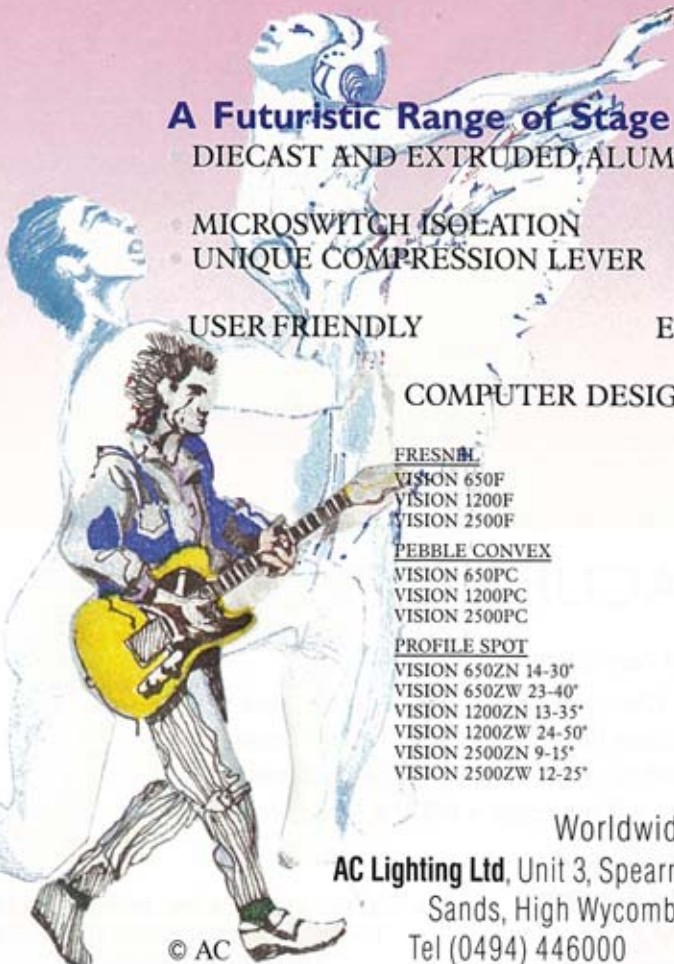
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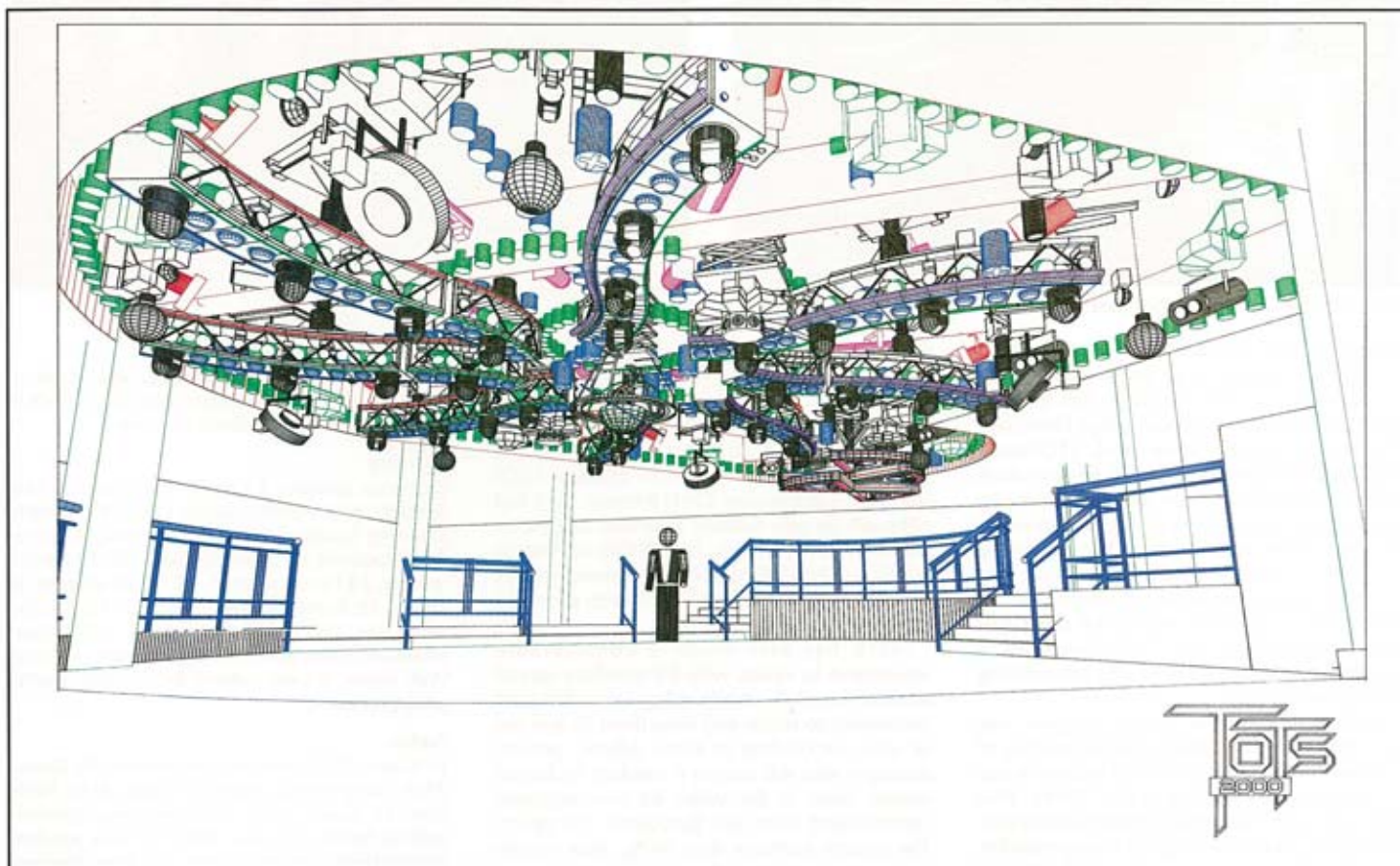
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TOTTERING TOWARDS 2000

The re-vamp of the well know Southend discotheque TOTS is no Essex joke - this is very serious stuff indeed. Tony Gottelier reports



Lynx Lighting's isometric of the main lighting rig at Talk of the South.

TOTS (aka Talk of the South) in Southend, which was launched originally amongst much ballyhoo some nine years ago with an original Lightfactor lighting system, has apparently continued to pack in the punters ever since. One of the few successful discotheques in private ownership to escape the corporate raiders of the late 80's and to remain firmly in entrepreneurial hands, the venue has remained bullet-proof ever since. Nevertheless, no doubt displaying some of the flair which has kept it that way, and despite the recession, owner Lou Manzi decided that the time had come for a total revamp. So after much planning, eight weeks closed for the refit, great wadges of money and the serious application of Lynx Lighting of Yeovil, TOTS re-emerged as TOTS 2000.

The first thing to hit you as you arrive at the club are the 25 foot high neon letters built into the frontage and spelling out the name of the club. One thing's for sure, no one will ever miss this place by accident! Once you enter the body of the club the first impression, apart from the glitzy fibre optic footprints woven into the carpet, is the surprisingly low ceilings. How could Lynx Lighting have obtained any benefit from their well known skills in moving rig design in such an unfriendly environment? Surely any moving elements would decapitate a customer, or several?

On first inspection, the main lighting rig looks



The real thing - the isometric turned into reality. photos: Jonathan Gottelier

fairly standard; one large circular rig with another concentric within it. Both rigs were liberally covered in pinspots, dripping with neon and, perhaps not surprisingly, a large sprinkling of Lynx Synchronospheres. In the ceiling space above and between these rigs are a number of Coemar Samurais, TAS Synchronos and Twins and Coe-Tech Spartan specials (the Coemar effect tilting on a motor).

In the time it takes to do the mental calculations to work out where the £350k lighting budget has gone, things start to happen. As one stands on the dance floor deep in the aforementioned mental activity, the heavens move! The entire rig in motion with segments of both circles swinging into new positions. In

seconds, the rig has been reconfigured as a series of large S's radiating from the centre of the ceiling. The transformation is really quite awesome, changing from what looks like a fairly standard circular rig to a custom built configuration of eight waves, passing through a whole range of disjointed and interesting states in the process. Any of these states can be called up by the LJ at a touch.

In addition to the main dance area rig, there is a further supplementary unit to one side. Again, Lynx' skill in mechanical movement has been applied. This one is based on a propeller fan shape. When open, it forms a circle and features Par 36 downlights, three colours of neon and Lynx' own 100SXs, an intensely powerful halogen spot. When closed, it is bow-tie shaped, allowing both a TAS Synchrono and a Coe-Tech scanning Spartan to be lowered on Lynx Elevators to positions now available between the lighting panels. All the lighting elements are still operational in closed position. Elsewhere, there are two further small dance floors, each with a small circular lighting set-up. These are lit with Lynx Synchronospheres, Coemar Microscans, TAS Synchronos, Neon and Par 36s.

Otherwise, really interesting lighting elements are in the columns and on the walls. The columns appear to be mirror faced but, as you have probably already realised, with a Lynx installation first impressions are often



The main lighting rig transformed into 'S' formation.

deceptive. The mirrored panels rotate, in a system not unlike those toblerone-shaped, three-way advertising hoardings (but these of Lynx own design), to reveal either Dicrolight Blinders, or, on the other facet, LED-based frequency level metres. The wall panels which surround the club work on the same principle, the mirrored surface here giving way to either neon or a plain white surface. The white side is used as a projection surface for Nautic 12v 50W MR16 mini projectors of which 200 are used, half giving colour wash, the other half with gobo projection. This provides a changeable and subtle cyclorama surrounding the club as a whole.

Ashley Rowland, the interior designer, has also added several further lighting touches of his own to the scheme, making extensive use of Crescent side-emitting optical fibres. This material is used around the DJ booth and in stair nosings but, more excitingly, it is suspended in wavy lines above the bars, and forming abstract light sculptures, dropped from the ceiling. All the fibre is sourced by metal-halide 150W colour changing light units, giving a pleasantly, colour changing, neon-like quality, but without the glare.

So how are the 800 plus channels of lighting and all the mechanics controlled? The heart of the system is the new Axon Digital ShowCAD controller from Cerebrum. ShowCAD controls all the lighting, including the house lights and on all dance floors. It also calls cues to the Lynx Telemecanique computerized movement controller, thus enabling the whole system to be managed from a single console. However, to all intents and purposes the lighting is run

from a couple of synths - as the chosen control surface for the LJ is two Roland MIDI keyboards. This gives the operator access, through 96 tactile keys, to the complex cues previously configured through ShowCAD's programming software, via the optional MIDI interface. Light jockey Chris Johnson says that although he was initially reluctant to give up his trusty touch panels, he felt that keyboards would prove to be the quickest and easiest way of harnessing ShowCAD's PC-driven power in performance conditions.

TOTS has also made a considerable investment in video, with 53 monitors spread around the club, many using Lynx-designed mechanics to rotate and drop them in and out of view. According to Chris Adams, project manager and the owner's resident technical expert, most of the video kit was acquired second-hand after the Barcelona Olympics! The system contains four VTRs, two remote control cameras, one hand-held camera, two video mixers, one edit control system and a Fairlight compact video effects generator. The equipment allows spectacular video effects to be produced in real time and is used to get the customers more involved in the whole experience, through extensive use of the cameras. There can't be many clubs with their own video edit suites, but this equipment also gets used to produce promo material for TOTS as well as Manzi's other operations.

The sound system was designed by the in house team led by Chris Adams. He stresses that the whole system was designed with the new noise at work regulations in mind, with extensive use being made of acoustically absorbent materials and partial glazing of the DJ booth. The speakers themselves are concealed as far as possible under raised floors, in ceiling bulkheads or within drinks dais.

At the sharp end of the sound system, as well as the standard Technics decks and the ever-more-standard Denon 2000F dual CD player, TOTS has some other interesting goodies. They are using a Databeat 300 CD system to provide warm-up and party music, so that the beginning of every night can be a little different, without the need for the DJ to dance attendance. They also have a Marantz CD recorder so they can put together their own CDs and mixes, mastered on in-house DAT! The DJ's also have digital samplers, MIDI effects keyboards and an effects processor to play with.

All in all, this new set up is really quite something, and well worth a visit for the Lynx mechanicals alone. And if happy staff leads to happy customers, TOTS 2000 is definitely the place to be because these guys won't be bored with their new toys for years to come! But leave the Essex-girl jokes at home.



The toblerone wall panels in cyc mode.

Lighting Control

1 Axon Digital ShowCAD lighting control system, complete with MIDI interface and using 2 MIDI keyboards as a performance interface.

Lighting

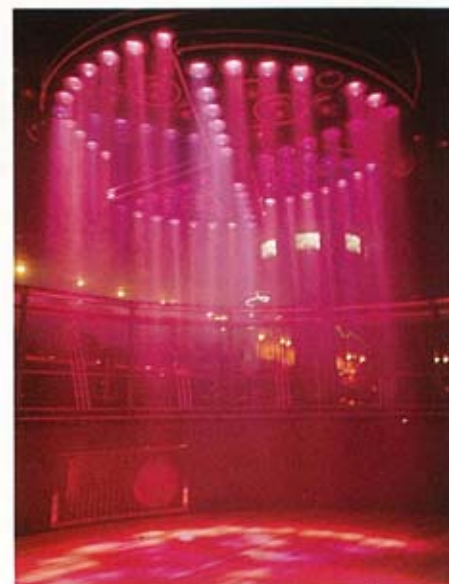
8 Coemar Samurai, 6 Coemar Microscan, 5 TAS Synchro, 6 Coe-tech scanning Coral, 8 Coe-tech scanning Spartans, 6 TAS Twin 250AL, 42 Lynx Synchrosphere, 13 Lightwave Dataflash, 18 Par 36 spinner, 20 Par 56 scanner, 42 Par 36 scanner, 8 strobe, 10 Scatter Strobe, 200 F70, 512 Par 36, 112 Lynx 100SX, 72 Lynx 75SX, qty Pulsar Flexiflash, 200m side-emitting fibre optic, 48 Lynx Wall boxes, 8 Lynx column boxes, 200 Nautic gobo projectors.

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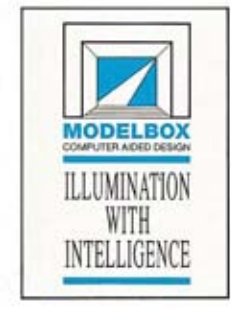
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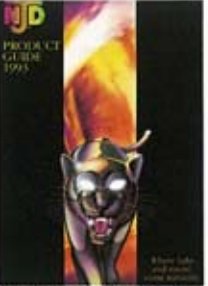
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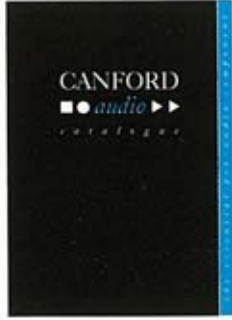
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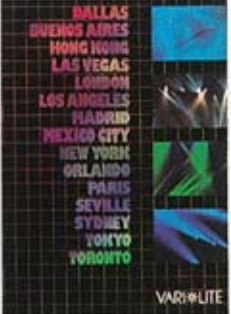
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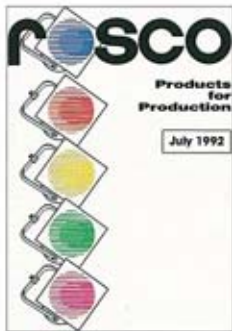
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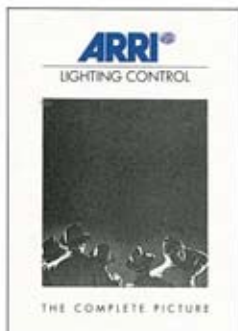
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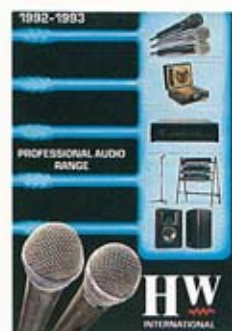
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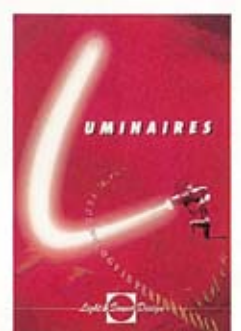
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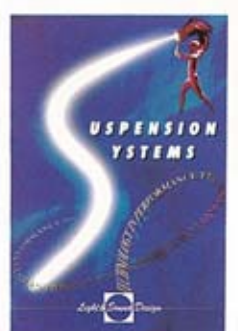
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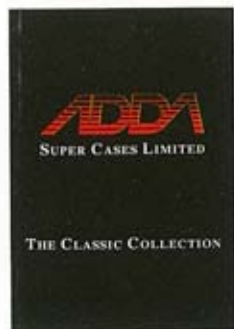
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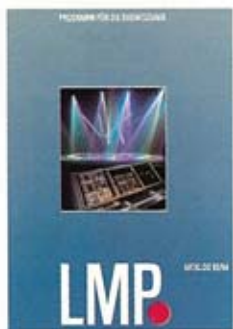
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'PROJECTED INTO THE FUTURE'

SPAGHETTI JUNCTION

This is the time of year when all roads seem to lead to Rimini, not least for the large British contingent who see SIB and Magis as an opportunity to regenerate after a drab English winter. Tony Gottelier and Peter Wynne Willson report

The question which seemed to be on everyone's lips this year was: 'Do we really come here each year, just to make fools of ourselves in the Rose and Crown?' This of course begged the question as to whether there was any really new worthwhile product at this year's SIB.

At first sight the answer could have been no, for once even I fell for this old chestnut - threatening the editor with a re-run of last year's copy under a new heading. Actually, at the end of it all I had a list of some 50 new products and this without taking account of the major launches from Clay Paky and Coemar prior to the Show (see March L+SI and first news page this issue). But as we have also already pointed out, in what promises to be a new era of professionalism, the bruising battles of ever bigger multi-product launches seem to be a thing of the past. This year we sensed that presentation was the key and Clay Paky put down a marker in that direction for others to follow. As one industry stalwart put it to me, "for once I actually knew what I was looking at during their show."

Mind you, it would not have been altogether surprising if there had been little to report, for Italy is going through one of those trading periods reminiscent of the UK in 79/80 when a Government inspired stagnant economy and



Coemar's baby Color extravaganza. Carl Dodds and John Lindsell designed and programmed the show.

spiralling interest rates contrived to bring the whole pack of cards down about our ears. As for some of us it did. The only difference in Italy this time is that lower land prices have enabled many to secure their factories and the banks seem more helpful. Otherwise, things seem finely poised; it may only be a case of which banker blinks first...

Meanwhile, on a positive note, while Clay Paky's Golden Scan 3 presentation impressed, so did most peoples' first view of Coemar's Baby Color, zapped en masse onto a large

black gauze, courtesy of the latest Carl and John extravaganza. The Optikinetics revolving screen, which must have been a contender for best 'product relevant' stand at PLASA last year, once more did its eye-catching stuff, showing off the Luton-based projected images to best effect. As did Paul Dodd's light show for FAL, which featured several new products inspired by him. Both FAL and Coemar shows were driven by ShowCAD. The British DTI supported group, consisting of Anytronics, Cerebrum, Cloud, Le Maitre, OCLI, Northern Lights, The Music Factory and Ryger, nestled together under the PLASA umbrella adjacent two main interchanges in Hall F. Next door in E, the other slightly less official grouping of Citronic, Continental

Lasers, Lite Structures, NJD, Wembley Loudspeakers and Yes, a self proclaimed new force in smoke machines, co-existed in 'pile-em-high' style. Elsewhere, Light Processor, in splendid new livery, showed their 256 channel Integrator DMX lighting controller in Italy for the very first time.

For some lighter snapshots sift through this lot: among leading leisure company execs spotted this year were Shaun Doyle of First Leisure sitting in the Rose and Crown with hands firmly clamped on pockets in mock



Space Cannon beaming up at SIB.



Inside the original stand of Italian sound equipment manufacturers FBT.



Looking in on the NJD IQ light demonstration.



Ryger's Tyrone Le Mercier with his waterproof Touchlite 12.



George Chiverton and Mervyn Lister of Doughty with Italian distributors Guliano Luvisotto, Paolo Sari, Flavio Florian and Renato Villalta of Litec.



Easy 512, a new control from FAL by Paul Dodd.



Bob Hall of Anytronics with the Pro-Dim 2.5 Master.



PLASA's Anna Pillow with Daryl Vaughan and Judy Jones-Vaughan of Synrolite/Apogee (standing) with Iain Price-Smith of MultiForm and PLASA interpreter Claudio Pratelli.



Close examination on the stand of Light Processor.

protection against predatory laser company individuals sharing the same table (will the real Mark Brown stand up please); his MD Mike Payne in the same venue suffering greatly from withdrawal symptoms having given up smoking a few days before, and instead filling his mouth with toothpicks courtesy of Manna Pandrelli, BEDA membership secretary. The flames of this latter scene were fanned by Steve Thomas of Luminar Leisure, who gleefully continued to generate more smoke than JEM and Le Maitre combined. Meanwhile, later arrival ETony Marshall, operations director of Rank Leisure and BEDA chairman, had no doubt been shaken, if not stirred, by several exhibitors before he finally made it to the notorious seaside tavern.

Rumour has it that several Brits filled up with diesel on the way down, easily done if you aren't alert, and some even ended up in Ancona by mistake. The lights went out at the Clay Paky bash on Monday night, though typically they came on again as soon as the candelabra appeared. The lights were on, with no one home, at the start of the Coemar party on the Tuesday evening, when the hosts failed to turn up at the appointed time due to a mix-up. And Mark Brown of Laser Grafex and John Adams of Lightfactor both left Rimini wetter behind the ears than when they arrived.

New products at SIB this year -

Control: Anytronics introduced their stand-alone 10A wall mounting dimmer, the Pro-Dim 2.5 Master: **FAL** launched the Paul Dodd influenced Easy 512 'scanner controller', which is as simple a controller as you can get for the purpose, and provides touch access to 12 pre-programmed sequences for use with their, or presumably others if DMX-receiving, articulate projectors. **Light Processor** showed their new 256 channel Integrator, designed with the discotheque light jockey in mind, and with some useful facilities for mastering programmable driven mirror devices and making good use of the flexibility of digital multiplexing for other lighting. **Pulsar** introduced a new slim 6 channel switch pack, suitable for both resistive and inductive loads up to a combined total of 15 Amps. And your sweaty fingered scribe was particularly taken with the new Touchlite 12 from **Ryger**, which will continue to be highly touch responsive even after taking a bath. (See our photograph)

Articulate projectors: Clay Paky's Golden Scan 3, and Sagitter's Prince for the Mini market would have pride of place here, but both have been covered elsewhere in this issue, or in the previous issue. In addition, Clay Paky announced a new version of the Superscan, their top of the range luminaire. Called the

MRG it includes the addition of eight 'M' size gobos which can be rotated in either direction to programmable speeds and positions. **Coemar** unveiled their ambiguously-named MSR700 and 1200 Samurai Light (as in weight) with off-board psu for the top model, designed to appeal to the concert market. Main features: 12 colours and gobos, strobing, full-range mechanical dimmer and remote iris. **FAL** revealed the Power Scan, their 1200HMI model, with seven colours plus white, seven gobos, and strobing shutter.

The multi-faceted **FLY** Fos 4 which impressed us so much at PLASA and seems on the brink of taking the leap into touring, has had many added improvements. These include 30% more light output, 12-bit resolution motor control and SFX projections, including fire, sea and rain simulations. As before the image animator coupled to the ability to project coloured transparencies, added a dimension as yet unavailable from the competition. **TAS** released Mini Ultra-Scan, based on the Philips 200 MSD, with ten colours, ten gobos and strobing shutter. Aside from these there was a plethora of waggly mirror units coming at you from all sides.

Others which caught the eye were a whole range of small units from **Studio Due**, both moving yokes and mirror units, **COEF** who offered both compact HMI575 and 1200 models, whose special feature is the facility to superimpose eight plus eight gobos, and **Lampo** who launched Columbus, a compact unit, in MSR400 and 650W halogen versions.

Disco centre pieces: I have separated these from the rest of effect lighting because there

were almost as many of them as there were waggly mirrors, though these units would more aptly grace that title. For the uninitiated, they are generally based on a central single discharge light source, with a lens system which enables several projected beams to radiate in cartwheel fashion from the central hub. These are then deflected by individual, tilting mirrors around the perimeter of the fitting to change the angle of dispersion. To this can be added a variety of extra effects in the form of colour change, or beam distortion devices. It is generally accepted that the originator of this particular technique was **La Novalite** with their Galaxy (née Asterix), which unit also provides 'starburst' beams. Among this year's new entries are Enigma from **FAL** which uses the 800W tunnel lamp to generate 16 coned beams with multiple colour change onto manually adjustable mirrors; Domingo from **Lampo** provides four pairs of beams, three coloured, from an HMI575 lamp, or alternative reflection by rotating mirrors; using the same lamp, or the HMI1200, **Griven** offered Helios another 8-way system using a combination of mirrors, partially silvered dichroics and mirror discs to generate numerous pre-programmed effects.

Other lighting effects: Griven also introduced two units based on the 'centrepiece' principal, but cut down into a fan shape with five emitting beams each. Thus Smile and Manta can be used elsewhere over a dance floor. Additionally, they offered Kite, a projector which uses a four segment rotating mirror plus pan and tilt, with colour change and rotating gobos, all but the latter driven from a music source.

Ariane, the French company who perversely delight in the names of American States for their products, gave us Arizona this time which is apparently designed to help one through the night (on the tiles, that is). Two light sources are built into a single fixture to provide two gobo-shaped colour changing beams onto a waggling mirror, thence off a quadrant for multiples. **Clay Paky** launched Piper ICC, an HTI150, or 24v 150W Halogen, dichroic colour changing projector offering seven colours plus splits.

For the record **Coemar's** new Baby Color offers nine colours and white, splits, high speed iris and shutter. **FAL** also use the ENH 250, as per the Baby Color and the Arizona (readers should be aware of the restricted lamp life), in fact a pair of them are inside Gobo-Twin which projects two rotating beams of fixed, but interchangeable, colour and gobo patterns. On the other hand, they have used their 800W tunnel lamp in four new colour generating fixtures: the Colourplus produces a wide array of rotating colour cones, Coloursweep which



FOS 4 projectors on the stand of FLY.



Powerdrive and ShowCAD on the Cerebrum stand. Rob Oey (left) of Toverli of Amsterdam with Cerebrum's Rod Bartholomeusz and Dominic Calvert.

adds an animated mirror to move these beams around, Multi-tunnel generates a flat array of eight colour changing beams in their successful Skorpion format, and Dichrospot produces eight cones with four colours.

In a move down-market, which they may live to regret image-wise in the UK, FLY launched a range of low-cost effects units based on a cut down version of their aluminium extrusion, the range includes cones, blades, pencil beams, starbursts and even a strobe. At the other end of the scale, I note that they offer two colour bumping (slowest 5 secs) projectors called Varicol, of 16 selectable dichroic colours, using the 36v 400W halogen lamp with on-board dimmer, or HMI575 with shutter.

Meanwhile, La Novalite have adapted their centre effect technique to the border light (Cometa), though this time with eight 12v 100W lamps in a row and eight tilting mirrors to provide an animated light curtain, can-can fashion. In addition, mirror discs are provided to provide the option of burst beams. The originators of Galaxy and also the patented Booster, one of the most eye-catching alternatives to a searchlight you could hope to see (and not a Xenon in sight!), also came up with Revolution. Another patented item - Novalite take no risks these days - this projector generates a selection of both mixed colour and single coloured beams in both wide conical dispersions and flat sheets, not unlike laser scanned effects.

Luminaire: It is a striking thing that most Italian manufacturers of disco effects also make a range of theatre luminaires. Whether this is because they have emulated the ranges of other manufacturers, who were traditionally in the theatre business, or not is hard to prove. The fact is that the snobbery which exists in the UK over such matters doesn't occur in Bella Italia. Thus, Clay Paky were able to launch Shadow, a follow spot based on their HMI575 and 1200 projectors, with bolt-on panel for electronic control of the eight colour choices, iris, and mechanical dimmer. Also using the 1200HMI, FAL added a new follow spot to their INSE range and also introduced their own external attention-getter based on 2000W Xenon, the Stella which, as the name suggests, yields a rotating starburst of beams. (I hope they've



Lighfacto's Dick Carrier (right) with George Lin of Wellson Enterprise Co of Taiwan.



Golden Scan 3 bursting out all over.

checked the patents!). FLY, cutting back even more on their extrusion, provide a neat little flood fitting based on the linear 300W Halogen lamp called EOS, with barndoor option and tempered glass filters. Griven's new one is a 200W GY16 fresnel, or PC spot.

SFX: There were a number of smoke innovations to take note of. In particular, Lampo launched a low fog machine which operates very effectively entirely from the chemical composition of its two-part fluid, and without the aid of refrigeration. We had a good view of this product after the Show at their factory, and it seemed a perfect solution, the mixture having been certified safe by the authorities. Bye bye dry ice, liquid CO₂ or nitrogen, to say nothing of chunky air conditioners?

Le Maitre gave first vent to their patented Genesis heat exchanger which generates up to three times more smoke than its predecessors, vapour which stays in the air like that from cracked oil machines, and is apparently a piece of cake to maintain (and not before time, I would add!). These new blocks are already installed in the old range of their metalwork, plus the twin turbo-nozzled Venturi 6000, which was used most effectively to blow away the karaoke demos on an adjacent stand. (But not effectively enough - Ed.) By PLASA show time the complete range will be in spanking new livery.

At the economy end of the business, YES are now also using this Le Maitre technology in their new four model range, which is topped by the Y4 which, with the help of a specially designed fan, claims to blow all else away with a capability of up to 15.7 cubic metres of top quality fuff, per second.

Sound: This article is not intended to focus on audio, as there is extensive coverage of all the new innovations from Frankfurt in the current issue. Just to mention Cloud's new CX Mixer Zoner which wasn't at Frankfurt, this slim unit is ideal for bar or discotheque use where simplicity of operation is essential. The two mic and three music, into three output zone mixer secures all pre-set controls, including the two band EQ, behind a tamper-proof cover leaving only the volume controls accessible. A fire alarm mute is provided across all three line inputs. I also spent an interesting time looking



Freddy Lloyd of Zero 88 Lighting (left) pictured on the PLASA stand with Nic Michaelatos of Production Projects of South Africa.



Jonathan Ciddor (left) and Paul Owen (right) of Lightmoves Technology Australia with Mike Lowe on the Teatro stand.

at Vestax' new Swiss-made panoramic speaker, though not listening to it because, just for once at this Show, the levels on the stand were so low that while I could hear myself think, I couldn't hear the damned speaker. Anyway it looks intriguing, using an omni-directional double ended cone shaped diffuser, suspended vertically between a tweeter and a mid-range woofer. The sub-base unit uses a hexagonal base reflex cabinet to provide the bottom end, or you can get a single full range unit based on a combination of the two models. Great claims are made for these units, you can't call them boxes (see our picture), but, of course, they have to be heard to be believed. Never mind, a quaint idea if they deliver.

Tony Gottelier

And every other year it's MAGIS

The layout of the halls at Rimini is confusing, with several areas within one space designated as different halls with no discernible division. The Magis hall however, was well defined and a quiet haven for escapees from the mass disco areas.

Some of the new items follow and a collection of detail that caught the eye. The show was not marked by a crop of real innovation. There was an active group of companies exhibiting film equipment.

Spotlight hosted a large stand which carried product from Rosco, Strong, Compulite, Tomcat, Genie and ADB for whom they are agents, alongside their own range of sleek theatre luminaires. The Vario PCs and Area fresnels have melded into the Combi range. The unsuccessful toggle clamp has been replaced with a conventional locking handle. Where the gel slots of some other manufacturers have a nasty wire clip to retain the gel-frame (and to get caught in cable, and clothing and bent out of use) the old Spotlights had a light channel - with the lower web slotted, to maintain convection cooling of the gel - sprung into the die-casting which neatly finished the front. That has all been dropped in favour of three sections of double runner extrusion. Lighter in weight, I guess, but not as solid.

If you wondered why the competing ADB luminaires were on the same stand, the reason is historical. Spotlight was the agent eight years ago, before they produced their own luminaires



PLASA group exhibitor OCLI at their first Italian showing.



The new panoramic speaker from Vestax.

and, according to Snr Andraghetti, holding the two makes has enabled contracts to be won where different styles of lantern are required. My personal preference is for the more traditional lamp housing with lens tube, and there was a new cutaway ADB to view. The PTFE rods, clearly there to lend smoothness to the lens movement, were of little use, however, as the rest of the arrangement gave that traditional feel of graunch and judder.

The colour frame holder is an uneasy combination of asymmetrical die-casting, lengths of extrusion bonded inside and covered for no obvious reason with a pressing, all topped off with one of those catchy springs mentioned above. A nice touch is the large diameter compression spring that locates and separates the condenser lenses. Smart, and practical it eliminates that annoying rattle, as underground trains pass below the theatre, setting up subsonic vibrations that can set loose lenses dancing. Before leaving Spotlight, it should be mentioned that they still exhibit their disco gear, including wheel effects with exposed motors and even exposed mains-voltage connector strip. A feature of their early followspots was a blower poked into the



David Brooks of Strand Lighting (left) and Fulvio Cotogni of Rank Lighting Italy and the new Draco 20k tungsten halogen location profile spot.

housing wherever the heat built up. Their latest effort does not suffer from those idiosyncrasies and has a very neat manual semaphore colour-changer that collapses into itself for compact and protected travel.

The Teatro stand had that minimalist Mike Lowe look - all the equipment hung from eye level bars ready to be examined. A new dual wattage lamp holder could be seen in certain luminaires, it indexes firmly into high and low filament positions and the leads leaving the holder are protected with a coil-spring sleeve - which is a great way to avoid the awful braided glass sleeving which so often shreds itself into the lamp house interior and one's fingers. However, where a rear focus adjusting knob is fitted they can be trapped by the lamp tray in the fully open position. Not a big deal and they are not the only luminaires to suffer from this. Given that there is another knob at the front, and it is only a small thermoset moulding which should be easy to replace, my guess is that like the bumper/fender caps on VW transporter vans, once gone they stay gone. The microswitch interlock, there to stop only the most thoughtless tec from making toasted polythene and sausage sandwiches when



The eight-headed Cometa (above) and Booster from Novalight.

relamping, is tongue-in-slot principle and very difficult to defeat - some manufacturers leave the switches accessible, or in one case I have seen, so close to the lamp holder that they could be actuated with the back of a careless hand. A new borderlight in three or four cell units has a basic symmetrical 'hammered' bright aluminium reflector and will take a four colour range of stained glass filters - almost a novelty in these dichroic days. (see Siel report, March L+S)

Atmospherics were provided by Smoke Factory who have taken the problems of touring seriously. Telemetric control is available even for the cute Scotty machine and much of their equipment is rack (therefore flight case) mounted (not the Scotty). The 'Factory Fan' is a centrifuge blower that looks the part, not just a table fan to stick in front of a machine.

Teatro are also agents for DHA Lighting and on the wall, over a watery horizon, the red sun never set, but it smoothly rose again . . . and again. The gobo manipulators are still a bit spartan, exposed motors but enclosed connections and, though a little fiddly to set up satisfactorily and with speed control that is too coarse, the effects are good. Someone has to



John Jeffcoat fires off the new Y4 from YES.



JEM's Jon Petts with Australians Caroline Grafton of Connections magazine and Rod Salmon of Light Audio Video Australia.



Brian Bennington (left) and Colin Gebbie of Continental Lasers of Belfast.



Wembley Loudspeaker's Paul MacCallum (left) with new man Tony Collins.



L+S's Tony Gottelier (left) with Donald Cameron of OCLI and Peter Johansen of Martin Professional (right).



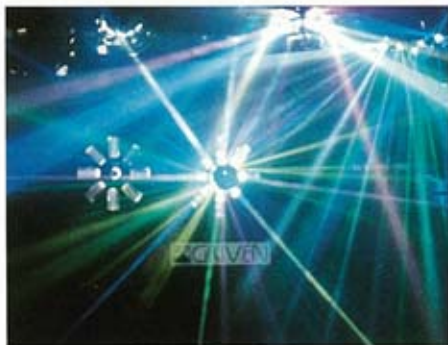
Neil Rice of Optikinetics (left) with Lightfactor Sales' John Adams.



Tyrone LeMercier of Ryger with Caroline Clark of PLASA Show organisers Philbeach Events and interpreter Clauia Pratelli on the PLASA stand.



Rick Wilson (left) and Dave Winfield of Le Maitre with the 'turbo-charged' Venturi 600, new Genesis-based fogger.



The Given lightshow.



Designer Paul Dodd (left) pictured on the FAL stand with Keith Woodcock of Carlsbro Technical Services and Tony Marshall of Rank Leisure.



Keith Greenwood and Kevin Hopcroft of NJD Electronics.

carry the flag into the millennium for the old Strand Electric FX projection.

Rank Lighting Italy had an impressive array of products on show, including their Color Call range of color changers. The Sirio is a new 18k HMI fresnel which is smart and very compact. It's not many years since it would have been a struggle to squeeze a 10k into the same volume - the ballast is almost as big. The Draco, its incandescent twin is 20k, was not demonstrated lit in deference to visitors not wishing to be barbecued as they passed by, or perhaps to the air conditioning which mercifully kept the Magis hall cool. On the subject of temperature, in the Alto range of theatre spots (launched at Plasa 92, and having their first outing in Italy), the extrusion-form lamp house of the 2.5k gently simmers. It was hard to tell whether it was the coating that was softening, or if it was my fingernail that was melting. It is rated at 290 degrees centigrade, a case for those cooker warning labels that turn orange when the substrate is too hot to handle. In the interest of weight-saving the lens section is folded sheet that imitates perfectly the extrusion. The descender for the lamp holder is a long, and very vulnerable tube, but the 'bomb doors', which click open for access, are a treat to use.

Taliesin West Studios showed their own flicker-free HMI ballasts, and a range of HMI Pars, Durapar from DN Labs, which by design and mostly by reflector-diameter to arc length ratio, produce a beam that is over 21,000 foot candles from a 4k (approx equal to 18k in a fresnel). A four lamp 10k modular system, commonly used configured as **40,000k**, looks like an overgrown 'blinder' - and probably would. Suspended from a length of rough-cut scaffolding, held to light-weight truss with two nylon cable ties, was a **Mole** studio light with all axes articulated: pan, tilt, focus, individual barndoor flap and barndoor rotate (pan and tilt were a bit wobbly which may have been down to the mounting arrangement). But wait! Did I not see a studio light with all axes, including barn doors, motorised by Charlie Paton at the

ABTT show about 12 years ago and looking no more prototypical than this 1993 offering? The control, however, was fairly slick with the RDS Tact touch stylus console, which did enable a real novice to take control. Planted around the rest of the plot were several Mole-Richardson Molequartz fixtures, in their dusty plum livery standing majestically like grand deciduous trees in a plantation of neat young conifers. Breeding still shows.

The **Arri Stand**, almost unique within the whole exhibition, had design form. Great white wedges floated on cool blue light, from concealed florries no doubt, to echo the silver and blue livery of their studio lanterns. The Arri tripods look gorgeous with anodised tubes and polished diecast fittings; they even have an odd leg that can be extended to accommodate uneven terrain. Arriflex 535B, the new 35mm camera, is small and very light with mylar body shell for use with 'steadycam' equipment. A time code is applied direct to the film for speedy editing. This and the also new 16mm camera are examples of really adult engineering. The 16SR3, specially developed for use with HDTV, has a video take-off, and micro adjustment for the matte box lens light protection. Both cameras will accept the new modular lens drivers. Up to three can be mounted on a bar alongside practically any lens - but would you use anything less than a Karl Zeiss to mate with the iris, focus and zoom rings? The daisy chain and a curly cable leads off to a hand controller which can incorporate a memory module. Each driver has incremental (optical) and absolute (conductive plastic track potentiometer) encoding.

Multicam had their eponymous remote camera mounted to a long, modular, counterbalanced arm, the view was displayed on a large monitor on the stand, providing better than average shots of 'slack-jawed shoppers' who start furiously primping their hair when caught on camera in the high street window. Instead of wandering out of frame, here they could be followed around the area -

if the operator was good enough. A submarine style control station had three handwheels for pan, tilt and rotate with four 'gears' for response. I could just about hold the shot, but to keep pulling focus was beyond me. Would autofocus be too much?

From time to time a rather baleful man would drive a small but perfectly engineered 'porter's trolley' camera mount around the stand, expertly manoeuvring between equipment. The wheels were split and the grip onto an optional track could be adjusted. Steering, off track was by front or back wheels, or indeed all four if you wish to take off diagonally. It seemed to lack look-and-learn programming, which I would have thought would have applications for a well rehearsed shoot.

Laser Innovations, a small, but fast growing software-based company from Suffolk, have developed a laser effects and graphics system: a sealed head with galvos, scanners, shutter, RGB modulation and servo for gratings etc. The control is based on an expansion card for a 386 PC which, with dedicated scanning processors, can control up to eight effects heads. The program has some neat features: high resolution graphics, animation sequences, pattern generation, image metamorphosis, text in several modes, dynamic view manipulation and recall of shows from hard drive.

For me, this all pales in the light of the associated Laserdraw software which will take an image file from a windows programme such as Corel Draw, or a DXF file as from Autocad, and auto-animate a sequence. It also gives the operator manual control over the image with X,Y,Z, roll, pitch, yaw and rotation of image or viewpoint. Mirage emulates all major laser company formats, unless they are EPROM-based. Finally, word has it that **Cambridge Technology** (USA) is supplying laser head galvos that will run at two or three times the frequency of those of its almost neighbour and senior competitor, **General Scanning**.

Peter Wyrne Willson

TDA COMES OF AGE

John Offord talks to Theatrical Dealers Association president John McGraw and administrative director Lori Rubinstein in New York

At LDI in Dallas last November the Theatrical Dealers Association of America came good, five years almost to the day since the formative meetings held in Las Vegas in 1987 when bye-laws were agreed and members of the first board elected. After the intervening period of solid hard work and not a little political brokering, administrative director Lori Rubinstein felt that a significant milestone had been reached.

"This time, for the first time at LDI, we had people coming up to us saying 'we've heard about you, and we'd like to join'. We felt we'd crossed a big hurdle." With 140 members on her list, and a couple of strong membership benefits now fully operational, there was good reason for the confidence. TDA had started as a dealer-only outfit, but it has developed along the way to become a very PLASA-like body with manufacturers now admitted into membership and with representative seats on the board, and it looks set to continue on this path to become the trade body for the United States and Canada.

Lori Rubinstein explained how the association had got off the ground. "For years in this industry there was the fear that if dealers spoke to each other they would share too much valuable information and steal secrets from each other. Slowly, however, people learned that they could talk and share information, and that they had common concerns that could be dealt with from a mutually beneficial position.

"Insurance was a major factor in inspiring people. The cost of insurance had been talked about for several years at various trade shows, but nothing developed. Eventually several companies made a commitment to do something. At that time I was working for one of the businesses involved, a dealer, and with other interested parties we spent six months writing up the bye-laws and enlisting support. Representatives of 25 companies eventually attended the first meeting in Las Vegas. We started with a cocktail hour to introduce everyone and the following day commenced business at eight o'clock in the morning. Eight hours later we emerged with the bye-laws approved, an elected board of directors and with officers and committees established. We set some early goals and agreed to go forward from there.

"Initially there was a lot of discussion about



John McGraw, president of the Theatrical Dealers Association.

whether or not manufacturers should be part of the association. A faction felt very strongly that it should be for dealers only, and that we should use the power of the group to force certain concessions and to resolve issues with manufacturers from a position of strength in numbers.

"This situation has changed as the years have gone by. We have in fact found that manufacturers have been some of our most vocal and supportive members, have attended most meetings and participated in the various programmes we offer. We soon realised that the dialogue would be much more beneficial to everyone if it was an open one and if it was held with better intent."

The TDA then set out to poll its membership and ask them which issues were of most concern to them in working with each other on a day-to-day basis. The end result was a closed door session with over 80 members attending. "For four hours there was solid discussion about product development, dealer qualifications, stocking levels and so on," continued Lori Rubinstein. "It was the first time in our industry in our country that anything like this had ever happened. It had taken many years for this trust

to build up, but at LDI last November we added two positions to the board of directors specifically for associate members so that they could become more involved with our work and feel part of the Association." (The original bye-laws had included manufacturers as an Associate class.) Potential dealer members of the Association have to cope with a set of entrance criteria before they are accepted as members of the TDA. They have to maintain a sizeable level of product lines, operate a showroom open to the public in a commercial area, and employ a full time sales staff.

Current TDA chairman is John McGraw of Production Arts Lighting of New York. "We became involved with the TDA initially because we wanted to try and understand what the group was attempting to accomplish. Once I got into the group and saw that there was the opportunity to experiment, educate and move forward, I became very interested in the business set-up and how companies operated.

"We put together seminars on how to read financial statements, how to understand performance, and how to interpret the information that's available from your accountant so that you can understand what's going on in your own business so that you can grow and remain healthy. I wanted to see a benchmark established that people could use as a reference point and to learn the trends within the industry as a whole.

"We commenced a survey and had over 30 companies send in three years' historical data. We were immediately able to see some trends in the industry. I think that this is one of the most important things from my own personal perspective and it is also one of the most important things the Association has done."

Lori Rubinstein emphasised the importance of the business survey. "Most dealers need to go to their bank to borrow money. Now, for the first time, banks have something to compare companies to. They can compare us to other industries that may have a similar profile. What we are doing is providing members with figures from within our own industry and every member who has shown the survey results to their bankers say that the banks have been suitably impressed."

TDA's early success with their insurance programmes has been surpassed by another important service, their Credit Reporting Plan.



John McGraw, together with TDA's administrative director Lori Rubinstein, at their office in New York.



Lori Rubinstein with Anna Pillow, Plasa's membership and marketing manager, at the LDI exhibition in Dallas last November.

no-one is purely shopping locally. They're also shopping regionally and nationally," explained Lori Rubinstein. "Some purchasers have been moving on from one company to another using up credit with each. The reporting programme enables us to alert members to this sort of situation. The less bad debt everyone has the healthier they all are."

Such programmes are difficult to operate successfully and rely heavily on the diligence of the members taking part. In the TDA's case no-one is forced to join and the decision as to whether to participate and what information to provide is left to individual members. Lori Rubinstein: "We're currently averaging just under one million dollars a month on the report and we're finding the same people are showing up on reports from several different suppliers. It provides a very current picture because it shows who is paying their bills right now. In addition to the basic membership fee, it costs only \$50 to join the programme and once one bad sale has been stopped it has more than paid for itself."

Chairman John McGraw is proud of what the TDA has achieved so far. "Like Lori, I think that at LDI last November the Association really crossed the threshold in producing the business survey meeting and the dealers and manufacturers workshop on the same day. It really brought a great deal of attention to the TDA and we got a lot more response because of what had been done. Several major manufacturers wanted to get involved with the survey and at their respective meetings with their dealers promoted what was happening within the TDA. Both Strand Lighting and Rosco, for instance, thought their dealers should participate in the business survey next year and that they could benefit from the information they would receive as a result."

As chief executive of PLASA I am happy to report that the TDA is just as open and positive on its dealings on the international scene. PLASA has been given permission to use any available TDA material if it decides to go ahead with its own credit reporting plan - currently under discussion at executive committee level. On the survey front it would seem sensible to consider planning PLASA's next one along the same lines as TDA's so that results could be used on an internationally shared basis.

With membership now approaching 150 companies and with huge potential for growth, taking into the account the sheer size of the market, the TDA looks set to become an immensely powerful body. I have strong feelings that the Theatrical Dealers Association will be a major asset to our industry in the future.

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ON TOUR

AND PRODUCTION NEWS

Sting Royal Albert Hall LD: Nick Sholem

Since going solo in 1985 Sting has acquired a reputation as a man of serious concerns, a supporter of worthy causes, a righter of wrongs. Alongside this moral intensity has grown a similar preoccupation with the more cerebral aspects of contemporary music, most notably Jazz.

Not surprisingly with the average British rock music fans' short attention span, predilection for 'tunes they can hum to' and desire for simple emotive themes such as, love, sex and heartache, his popularity has waned in the UK. Certainly, it was his hardcore loyal fans who sold out six nights at the Royal Albert Hall, the only UK venue featured in his latest tour which is to support the release of his new album 'Ten Summoner's Tales'. It was therefore a pleasant surprise to see a set stripped of pretention. The choice of songs was light and remained for the most part within the context of rock and roll and the crowd were on their feet for the first number and only sat down again once, during the mid set 'slow passage', the natural pause where prudent performers give themselves the opportunity to build to a rousing finale.

This complete change of mood was amply reflected in Nick Sholem's design and light show, the focus of which was the impressive Kibuki system that provided seven different back drops during the show. With effectively no stage set, other than some discreet scenery flats to dress the side of stage, the backdrops gave added momentum to the show as well as the drama they normally impart by their sudden changes.

For example, Nick withheld the first drop until the end of the sixth song, a natural break where Sting switched from material off his new album to some earlier Police classics. The effect was electric, the opening backdrop had been a flat grey breakup pattern (perfectly restrained whilst Sting peddled his new wares); its replacement was a loud, brightly coloured abstract that leapt out with similar vigour to the songs. Such a device is cheap, simple and effective but under normal circumstances is a once in a show occasion which, however well matched to the moment, loses its impact as the show progresses. With the addition of six further looks it maintained interest

far more effectively than any multi-thousand pound stage set ever could. It must be said that the mechanism, designed and built by Brilliant Stages, was not cheap, but unlike most sets can at least be recycled and with equal impact, used by other performers for the price of some new drapes and art work.

The lighting rig comprised two box trusses, the downstage one 20' x 52' held an uncluttered assortment of Par 64, 5kW Bambinos and seven of the 13 Intellabeams 700HX as well as two top-mounted Pani short throw spots. Upstage, a slightly smaller 12' x 52' box held the balance of the Intellabeams, more Pars and half a dozen 1kW floods and 400W UV floods (the latter specifically for lighting the backdrops), with the Kabuki system also suspended from this box. The backdrops are made up in 10' panels with a potential for seven panels across. Unfortunately, due to the confines of the Royal Albert Hall and its unusual seating arrangements, it was in this instance only three panels across. Despite this and Nick's worst fears, the backdrops did not look too small or out of place. For the most part he lit the band with uniform back light from the Pars and provided top light either from directly above each band member with a 5kW or from Pars set approximately 8'-10' to one side.

When employing the side/top light technique he did so from only one side of stage throwing the band members into soft relief. This worked especially well in the Albert Hall where the audience are (for a hall with a capacity of 9,000) seated very close to the performers and can clearly see facial expressions. Floor light was limited to primarily upright on the backdrop panels and some small floods on the band whilst the scenery flats to the side of stage concealed half a dozen Pars, focused across stage.

The flats themselves were painted in the same flat grey breakup as the first backdrop and although this looked fine once the backdrop was in place at other times they looked awkward and out of place - certainly black would have been more appropriate. Since seeing Nick at 4:1 Studios he has become far more confident with the Whole Hog desk. Although this was only the second show of the tour (Sting developed a sore throat that led to several cancellations both here and in the United States) he was no longer someone who had 'just passed his test' but was now 'learning how to tune the carburettor to make the engine more efficient'. He particularly liked being able to break

the rig up within the desk into working groups or building blocks that suited him for editing and creative purposes. For example, if he called up his rear band wash, included in that group would be their respective Color Faders and access to their colour palette. Thus he could modify fade time, intensity and colour all in one place. In the 90 minutes we spent chatting during sound check he was repeatedly examining and modifying looks whilst happily telling me how easily he was able to exploit the board's features, surely a man at home with his desk. As he pointed out in rehearsal, the great thing about the Wholehog is how unencumbered you become; no separate desks for the colour changers or Intellabeams, no foot-switches for the Kabuki or smoke machines - unified control seems to keep the operator's attention focused on the job in hand.

Another feature he really liked was the ability to programme ahead of cues. Put simply, while a cue is running the board will look ahead and preset colour changers or Intellabeam beam sizes in the next cue, instead of having to do so manually. This relieves the operator of some pressure, especially when time between cues is short, and also allows the opportunity to look at what is happening on stage. Can anyone come up with something similar for sound engineers and get rid of the flight deck of the USS Enterprise from front of house? Although the equipment for the European leg of the tour is being supplied by Meteorlites the main lighting contractor is Upstaging from Illinois who 'generously', in Nick's words, "went out and bought 47 brand new Morpheus Color Faders which we're using on the tour over here". Upstaging are also providing the crew chief Rich Lochlin, from the US, to give Nick continuity of service. Rich has been to Europe several times before and thoroughly enjoys the chance to work with differing equipment and under varied regimes. He thinks the experience is not only of great benefit to himself but also to the parent company 'back home'. He also drew special attention to the inferred prestige he gains working with the world's most famous 'Spotmeister', the ubiquitous Bob Batty.

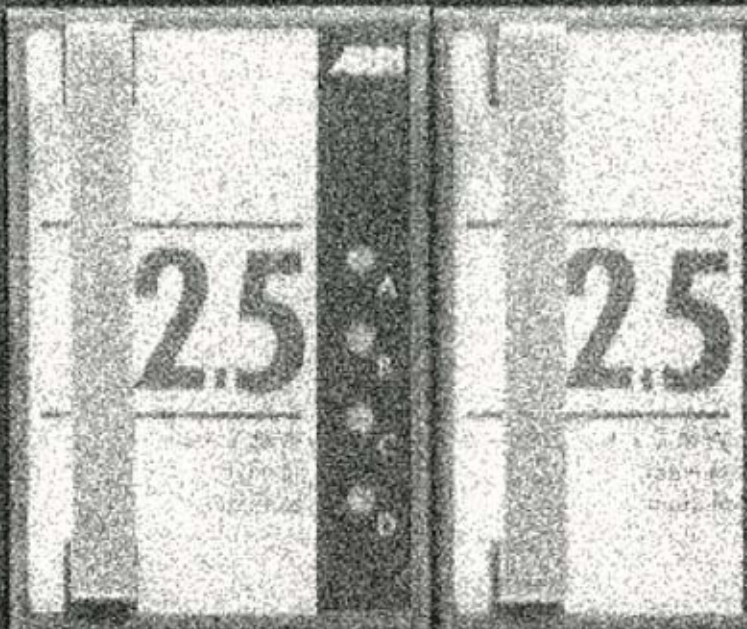
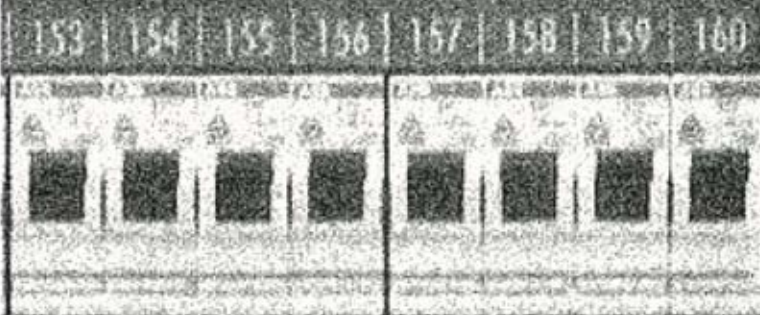
Clair Brothers Audio are providing the sound equipment on both sides of the Atlantic with Mike Keating, who also does 38 Special, mixing front of house. All the S4s were flown, a necessity in the RAH. Mike had the PA dispersed in a slightly unusual array, using only the short Clair bumpers which are only two cabinets wide. The main



Sting on stage at the Royal Albert Hall in London, complete with Kabuki backdrop.

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'stacks' either side of the stage facing forwards were five cabinets deep, six cabinets were hung facing directly out either side of the stage, with a further pair facing backward for the unfortunate fans in the choir stalls. 18 cabinets a side might seem a bit over the top, but in this context they worked well. Because of the quantity of speakers they were never over driven and the sound was loud and clear (I must confess to only getting as far as the third tier of the balconies so I can't vouch for the 'promenaders' at the top). With what was a simple, uncomplicated set it would have been easy to lose concentration and push the sound too hard, it was nice to see a front of house engineer who, when the situation arose, was able to sit back and leave the desk alone, as with the content of the show it remained well balanced throughout.

The choice of songs and the way they were played contributed in the main to making this an enjoyable evening. Being able to go to a show, see one of their favourites, and come away smiling, is surely a welcome respite from the worries of the current era. Not only was the choice well made but there was noticeable pleasure in the delivery, especially the two Beatles songs he covered which came across as fresh and lively. Sting has made a shrewd and timely decision. Hopefully we'll see more of him in the UK next time.

Tasmin Archer St. Georges, Hall Bradford LD: Steve Hall

In the intimate confines of Bradford St. George's Hall, Tasmin Archer's sensitive rendition of the group's recent hit and other equally powerful songs from their repertoire came over well. In view of the success of the single and her recent accolade at the Brits Awards the credentials of stardom seem assured - it was therefore a surprise to witness the reserve of the production. Lighting consisted of front and rear trusses with a total of

84 Pars. The stage set comprised two risers, and despite the intrusion of two monitor desks stage left, the overall appearance was clean and simple. Tour manager Peter Hillier explained the prevailing ethos. "Tasmin and the band have been working intensively for the past ten months and their success is due in no small way to their own application: At this point in their career it would be too easy to over-do things for short term gain. Despite the amount of work put in, their live show experience is limited and for that reason and a desire to adopt a more long term view it was decided to try a modest low key approach." Based on this evening's performance it was a well founded decision (playing to her home town audience was obviously a help), and the show was simple and direct. She resisted the temptation to twee-ness and displayed a natural, if somewhat restrained, stage presence.

The sound system was provided by Skan PA from Reading owned by Peter Howard, and, though perhaps less well known in R & R circles (they've made an expertise of the Rave business), they acquitted themselves as well as any of their larger competitors. Andy Corrigan, the front of house engineer, was keen to point out that the Court boxes were loaded with non-standard drivers, Pilot for low/mid and Vitavox S6 on the highs, a decision arrived at for these producers consistency of manufacture.

Powered by C Audio amps (Andy's quote of 'more bang for your bucks' seemed curiously out of place in the context of this show), the sound was well balanced. Tasmin's strong voice featured prominently but not to the exclusion of the rest of the group and overall the sound level was comfortable - my only criticism being an occasional over emphasis in the more resonant bottom end frequencies. Andy mixed on a Soundcraft 8000 (Skan generously provided two of these consoles - one for Dean Collinson, the recent Arista signing, who is supporting the tour) he also used a small eight channel sub-mixer for the flown PA.

Call me an old fart if you like, but I thought the

best sounds of the night came from an old Hammond C3, purchased complete with Leslie cabinet for only £900. Where do they find them?

Despite the basic lighting system LD Steve Hall was easily able to match the moods of the songs by the use of two dozen Lekos (split between front and rear trusses), mostly fitted with Colormags, and he was able to produce varied emphasis on a largely static performance. As with the PA company, Super Mick Lights were more than generous with the equipment provided which included one of their own Crackers, three Molemags and a P750 beam light, as well as the aforementioned Pars and Lekos, all of which were controlled by an Avo 60 channel Rolacue through Avo racks.

The back truss supported a black star cloth on tab-track, which when drawn revealed a white cyc. Steve was skillful in his use of the cyc, choosing a lot of heavily saturated colours and he kept the Molemags that lit it often at less than 50% fade.

With Molemags' inherent problem of gel burn, especially with supersaturates like 181 Congo blue, Steve used two cuts of each of the darker colours in adjacent positions which enabled him to set the mag slowly scanning between the two, thus alleviating the problem, though this did reduce his range of colours. Another simple but elegant device he employed was his use of the star cloth in 'sleeping satellites' where he overlaid a chase at 100% on a fixed fade of 50% which made the starcloth gently twinkle. Unfortunately, Dave Cox on the lighting crew had some fraught moments with the tab system - but then who hasn't! Anyone who can produce a jam free track that doesn't take one man all day to put up might care to give Dave a call.

The tour finished at the Town & Country Club on March 9th where a documentary video was made (Chris Clowey who did the Brits is producing), after which a short break is planned. If the single which has just been released in the States takes off, a tour over there will follow in May.

Paul McCartney Sydney LD: Marc Brickman

Inspired by the success of his 'comeback' tour which played to nearly three million people in 1989/90, Paul McCartney took to the road again in early March, kicking off in Perth, Australia, after completing his current album 'Off The Ground'. The tour will continue through until late summer 1993, with an itinerary that includes the USA, Canada, Europe and eventually the UK.

The show was essentially a Beatles show. In the space of two-and-a-half hours Paul McCartney performed no fewer than 20 Beatles songs, to which he added six from his new album and a smattering of the best of Wings. There was even

an overt Beatles configuration to the show with McCartney centre stage flanked by two guitarists and an elevated drummer behind him. On either side, but rarely spotlighted, were the keyboard players.

The immense stage is the result of a collaboration between Marc Brickman, lighting designer, Brian Clarke, who designed the painted drops at the back of the stage and the scrims that cover the PA system on either side of the stage, and John McGraw who handles the engineering side of the stage.

John McGraw describes his job as 'solving the technical problems that are created at the artist's end'. On this tour Paul McCartney stressed that he would like the stage to be empty at the beginning of the show. Unless the stage is very high, it's quite a complicated thing to do as there is nowhere to hide the equipment. As John McGraw admits to hating high stages, another

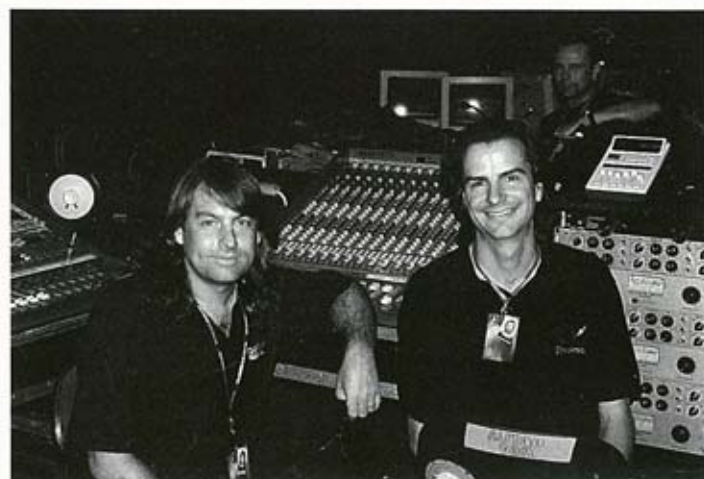
solution had to be found. The result was a set of mainstream lifts, some almost 50ft wide, that lower down from the stage and another set of palette lifts close to the floor that rise up 24 inches to the height of the lowered mainstream lifts. The equipment then rolls from one lift to the other. Brian Clarke has an international reputation as a painter with a particular interest in architecture. At 210 ft wide and just under 100ft high, his work for the present show is his largest painting ever.

"Paul wanted the new design to be much more organic and natural than the very formal grid system we used last time, but without being too obvious or too literal," explained Brian Clarke. "If you wanted to create an organic design, you could make lots of leaves and flowers, but if the visual concept is too literal it becomes limited and reduces the intellectual and imaginative possibilities for interpretation. However, when the



Paul McCartney in Sydney.

(production photos: Tony Mott)



Sound men Paul Boothroyd (left) and Greg Smith.



A wash of Vari*lites and Telescans.

design is more abstract, many avenues are open for interpretation. The abstract elements in the painted sets are designed to change their appearance, in harmony with the lighting, according to the dictates of the music. So what might look like falling leaves during one piece of music may become birds moving across the sky a few moments later in reaction to a much more dynamic song.

"It seemed to me that I had to treat this work with the same level of rigour and discipline that's involved in working architectonically. I spent the first three weeks in rehearsals with Paul and the group, which meant that the initial stages of design were all a direct result visually of a musical experience: it's not just something pretty to put behind the group while they're singing." After a very successful 1992 where, amongst other projects, Marc Brickman designed the lighting for the Olympics opening and closing ceremonies, and The Genesis world tour, he was once again asked to do a Paul McCartney tour.

"As Paul McCartney hadn't performed in a stadium for quite a while. He was a little nervous about projecting himself in front of such a huge audience. So he jokingly suggested a huge magnifying glass at the front of the stage that'd make him look about 30ft tall. And that's how I basically came up with the 60ft high video screens. He triggers me. He definitely challenges me," explained Marc.

"One of the things about lighting is that it has to make the performer larger than life - especially on a big set - and really focus the audience's attention. You can use it to emphasize things, such as guitar solos or reflecting the mood of songs, but

sometimes you just want to illuminate the stage. At the beginning of each show on the last tour we had 15 minutes of white light, nothing else, because, as Paul hadn't been on tour for 10 years, we reckoned people would want to get a good chance to see what he looked like. But you couldn't do that for the whole show or it would just get boring." Marc began planning the current tour at the end of August last year. "As with the last tour there are four tracks, but eight pods compared to four last time.

"I'm using 32 Telescans (four on each pod), eight of the brand new projector units for the outdoor shows, another 16 Telespots and 96 VL4s. I used VL5s on Genesis indoors and they worked fine. In fact, they wanted me to use them on this tour. However, for the stadium shows I wanted that really bright white colour - hence the Telescan 12ks." At this point Marc went quiet as he remembered Didier Lecler from Telescan, the man behind this projector, who recently died.

"I don't think most people in the industry know that he died about a month ago," continued Marc. "Didier died an hour or two after the opening night of our press show in London. It was strange talking about the projection as it was pretty much his brain-child. He had the idea of taking a 12k and making a really bright projector. He's taken a 6k lamp and collected it so it's as bright as a 12k. They have two different sets of masks and slides so you can get a stunning effect. Indoors we use them very simply: outdoors it's a pretty huge picture." The projected images come from a variety of sources including Linda McCartney's photographs, Brian Clarke's designs on stained glass for 'Let It Be', and also some graphics from

Telescan.

"Other specials are the moving arm at the front of the stage. Pianos travel in and out and there's a magic piano that comes along a track," Marc said. "The arm, part of John McGraw's brief, swings out over the audience during two numbers 'Let Me Roll It' and 'Hey Jude'. It's a hydraulic monster. We have no lasers this time although on numbers like 'Live And Let Die' we've created the same kind of feeling - total pandemonium! We use a lot of fireworks outdoors on this one and it really works well.

"The only problem so far has been time, just like on any other production; time to get the thing programmed and to get it on the road. Until you play the first show and the audience and the band start feeling right, things change and you need to programme. Last night we had a really good show. I'm winding down my rock and roll work though. It's partly because I can't really keep these hours any more. I've been up too many nights 'til five and it's all getting a little nerve-wracking!

"Ultimately I want to direct films. I've been really lucky to have the acquaintance of legendary figures like McCartney and Springsteen. Now, I have something to say myself that I want to come out. They've written their music and played it. There's something inside me that wants to get out and I'll never be happy until I've tried it. I'd be happy making a film like *Strictly Ballroom* - that's more my cup of tea than Hollywood blockbusters." Brickman will leave the show in the capable hands of Christophe Ducret, Telescans, and Mark Risk (Sparky), the Vari*Lite operator.

The New World Tour utilises the new Showco Prism sound system (proprietary design by Showco, Dallas, Texas) which was set up in the standard arena mode of eight columns wide by four deep. Sound Engineer Paul Boothroyd (Pablo) and Greg Smith, who is a system engineer supplied by Showco, told me about the sound system. "This is an unusual situation because we're actually in a stadium mode tour, but they decided to put on three shows in Sydney Entertainment Centre," explained Paul.

"The rest of the stadium PA is in the truck," added Greg. "It's actually 12 wide by six wide with 24 sub base, plus a front fill so there's considerably more gear. It's easier outdoors because you haven't got so many reflections to deal with," continued Paul. "But then again if you've got a massive, big grandstand behind you then you get a hell of an echo off that."

The monitors are Harrison consoles: there's a 32-channel Mainframe board with two 16 channel side-car desks. The new SRM Prism monitor wedges are on the tour for the first time. Front of house are two Midas 40 channel desks, plus a 16-channel sidecar desk. Effects include Lexicon 300s, AMS DMX 15s, Lexicon 48OLs and 224s.

"Paul likes his vocal to have a variable delay on it depending, obviously, on the song," said Paul. "It's very simple, just a bit of reverb to whet it up



Pre-performance preparations with hydraulic arm shown centre.



Brian Clarke's paintings provide the stage backdrop.

a little bit, and the use of delay. I'm using some external EQ and tube levelling compression because I think it's got a smoother sound to it. My prime objective for the sound on this tour is to get Paul's voice larger than life and as smooth as possible with his vocal everywhere. The external equipment we have helps to contain it, without squashing and sucking it too much. It's a warm sound which suits his vocal very well.

"There's a bit of everything in this show. It covers a lot of periods including the 'Unplugged' material which is very much acoustic so we go from one extreme to the other. It's head down, eyes down, and cue cards out.

"The sound is actually a joint contract and the

front-of-house control gear as far as the consoles is supplied by Concert Sound of Watford, England. They're excellent consoles and they're not just standard Midas XL3 consoles. They've been reworked by them and they sound beautiful so they deserve a plug. "We're taking the gear world-wide with the main contractor Showco supplying all the black boxes, amplifiers and monitoring, whilst Concert Sound Supply the two consoles out front as well as power supplies and other equipment." Monitor engineer John Roden describes his job as very complicated because there is an awful lot to do.

"Paul plays two pianos, bass guitar, electric guitar and three acoustic guitars," John explained.

"He also plays at three different positions on the stage and we do a complete acoustic set. It's a bit like having five bands in one on stage. Keeps me busy! We're using the new SRM Prism monitor wedges, although I can't reveal what's in them because I think they're a bit of a trade secret. Basically it's a 12" JBL 50 speaker on a customised horn that Showco designed. There are some little tricks in the cross-over and a very powerful amplifier.

Paul is very versatile; one day we'll play a pub gig and the next he'll be up there in front of 40,000 people - so we've got to be versatile too. We have to be able to change and react to different situations because that's what he wants to do."

Launching Fords in South Africa

When Production Projects of Arcadia was first approached in October last year to light a product launch that would turn into a 2700 square metre exhibition stand, everybody in the 25-strong company was rather impressed by the sheer scale of the concept. The show, for the South African Motor Corporation (Samcor), was to run for 10 days in March this year and subject would be the new Ford Telstar and TX-5 and the Mazda 626 and MX-6. It would then 'change over' to an exhibition stand for the Rand Easter Show and become the largest single display ever in the 99-year history of the event. Over one million visitors were expected to attend.

One of South Africa's foremost AV production companies, Audio Image, was again responsible for the production and Production Projects was chosen to undertake the lighting. During a four-week set-up period an empty exhibition hall was transformed into a 5500 square metre theatre with a motor car display containing everything from jets of water cascading against a stormy



Subtle effects for the Mazda display.



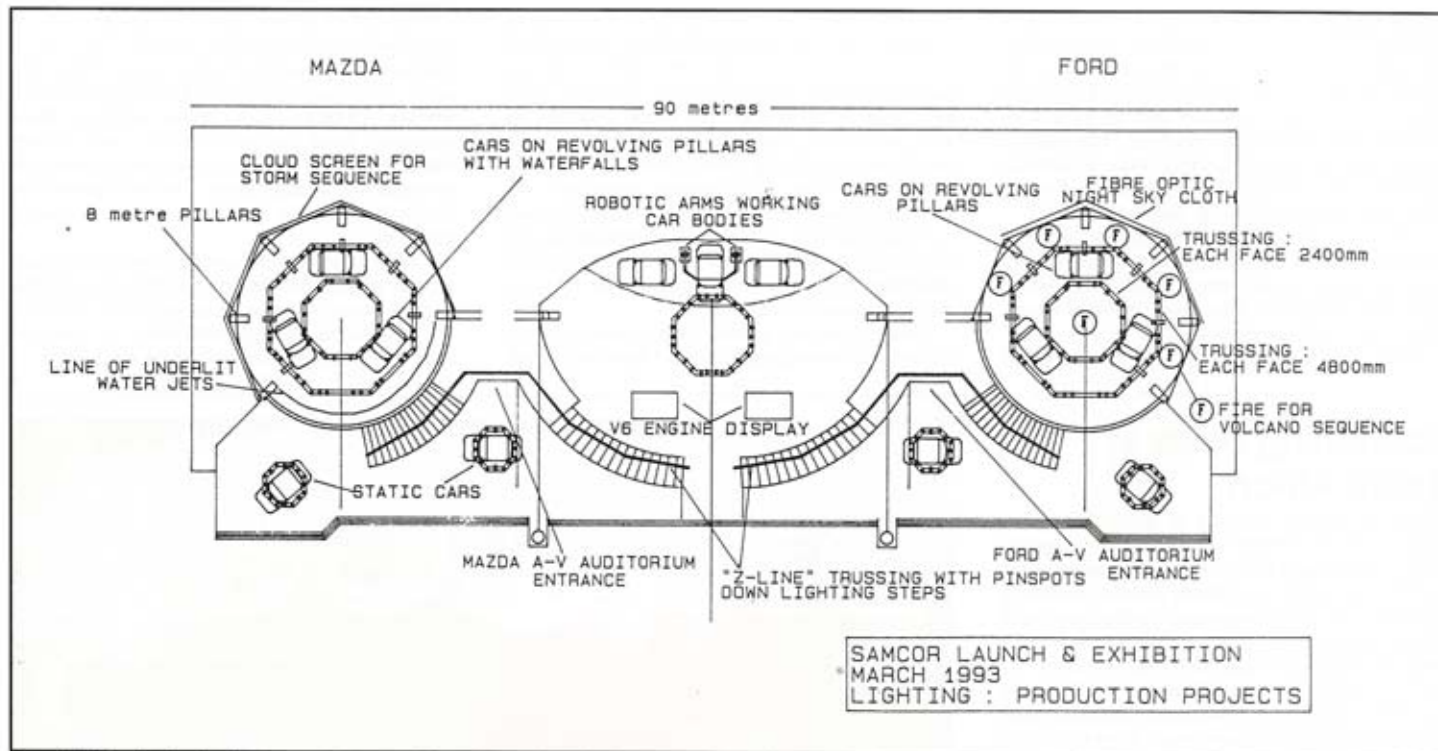
Robotic arms 'assembling' a car.



The central stage area showing the high-gain BP screen behind..



The Ford display



Organisational plan for the Samcor presentation.

backdrop to bursts of flame reaching skywards, from fibre optic galaxies to robotic welders. The 500kW Production Projects grid is claimed to be the largest custom rig ever to be constructed in South Africa for a product launch.

A videowall of 33 monitors, 66 slide projects with 45 slides in each, a 16-track sound system, a water effects feature with 36 fountain jets and the lighting were all controlled by a single computer feeding SMPTE time code to the various controllers.

Production Projects opted for ADB control with a Tenor in command. Partner Nic Michaleto told L+S: "The Tenor was our obvious choice for a project of this scale and complexity. With the addition of the Voyetra Midi package we made full use of the Tenor's Midi features.

During the launch the complete 90 metre long set was hidden from the audience by black curtains on three separate track systems, enabling them to open all the way to the sides, revealing the set as part of the opening sequence. Apart from the massive amount of special staging required, 18 kilometres of curtaining, 5400 square metres of

carpeting and 10 kilometres of electrical cable were used.

Lighting equipment included 320 Par 64s supplemented by 2kW profiles, Svobodas, Par 56's and Par 36 Pinspots as house and walkway lights. 240 3kW and 5kW dimmers were employed. Smoke machines were JEM ZR 41Ds and trussing included 72 x 2.4m in nine octagonals and 16 x 1.2m in two octagonals.

Production Projects

The company was founded in 1981 by partners Nic Michaleto and Rudi Kesting as a lighting design and staging company specialising in the design and execution of theatre and industrial theatre productions and promotions. In its short history it has been responsible for lighting well over 1000 productions including many major opera, ballet, drama and extravaganza productions in South Africa. Most recently they have been involved in a co-production of 'Queen at the Opera' (October 1992) which featured the music of the British group Queen, and the staging of Jesus Christ Superstar.

Regular visits to the major European trade shows has kept them in touch with latest technological developments and through their comprehensive list of agencies and suppliers they are now in the strong position of being able to obtain virtually any product or service on a world-wide basis. As South Africa agents for ADB they have been responsible for lighting installations in many of the major theatres in the Republic. Other agencies held include JEM, SGM, Chris James, Lodestar, Spotlight, Amptown and Powerdrive.

In addition to sales they have a comprehensive hire stock and designed their own trussing system, tailored for their own requirements.

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THE ABC OF DMX GADGETRY

Tony Gottelier reports on tools to help the user of the industry standard protocol

We seem to be submerged in acronyms these days, or if not, in a meaningless assemblage of initials which constantly add to the jargon, but add nothing to the understanding of the language. Of course jargon is a modern equivalent of cockney rhyming-slang, invented to restrict access to traders conversation in the street market. A code.

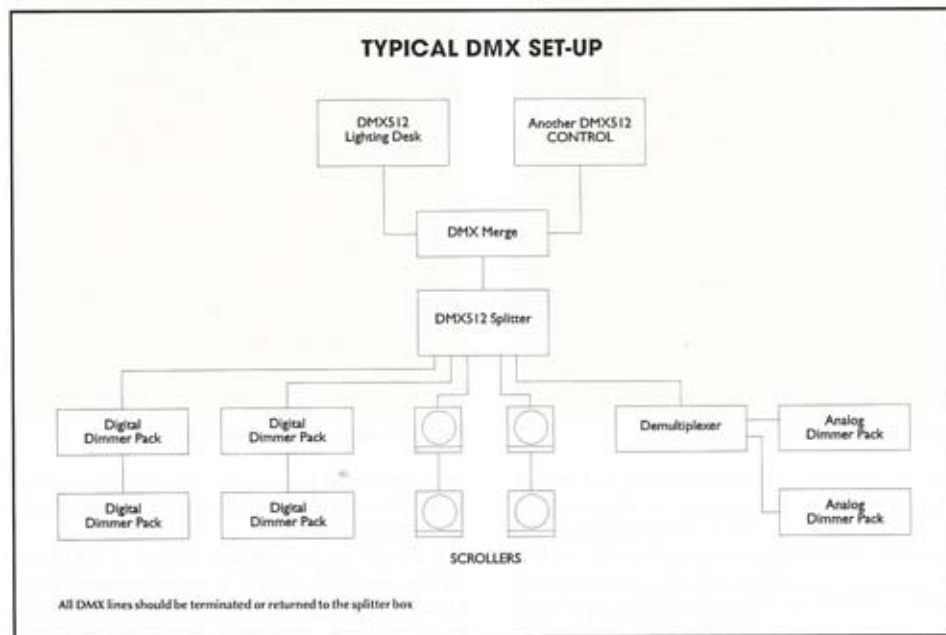
These days the use of jargon is widespread for a similar reason, it makes those in the know feel warm and cosy on the inside, and facilitates the instant recognition of a fellow traveller. It leaves the rest of us, the outsiders, verbally challenged. The computer industry is a case in point where they are positively wallowing in the stuff. We poor mortals can barely tell the difference between our GUIs (gooey - a royal term of endearment), WIMPs (a personal insult?), and WYSIWYGs (wiziwig - Elton John's hair piece?). Those who know the language of digi-rap can carry on a high speed conversation about their latest 'go-faster' piece of lap-top hardware with barely a word from either the Oxford or Webster's, morocco bound or not.

While it is easy to point a finger at our cousins across the pond as the source of much of this stuff, I am reminded that even the F word is an acronym, so there's nothing very new about it. Nevertheless, until recently the entertainment lighting industry has been virtually free of this mysterious verbiage, satisfying itself with knowing the ident numbers of its favourite Lee and Rosco gel colours by heart.

Of course, we had Blondes and Redheads and Gobos and these, and others, are all part of our jargon. However, the closest we got to the use of initials was Par lamp and Par can and, I suppose, Leko almost qualifies. In fact the only true acronym I can identify is Laser, and that was probably already in the language before most of us realized what it stood for.

Similarly, five years ago, few people in the business in Europe knew DMX from a DMZ, or from ABC for that matter, but now all of that is changing. We also have MIDI, RS232, 422 and 485 and even a company calling itself XTBA!

It is a sign of the success of DMX512, as the only standard digital data protocol we have,

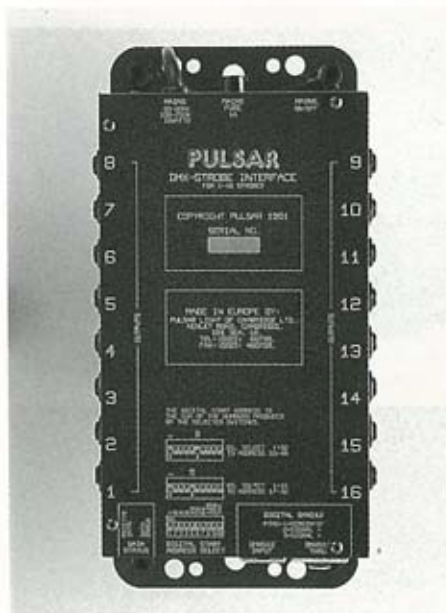


that so many people are trying to stretch its use beyond the letter of the standard, the latest being an attempt to bend it into providing 16-bit resolution to motion devices which have been designed, or adapted, to receive it. Furthermore, it has attracted quite a little industry making various support systems, or tools, and also peripherals, designed to make its use easier and more transparent to normal mortals, than it otherwise might be. So some of those foregoing initials are going to feature pretty heavily in this article which is an up-date on as much of this kit as we could find. It should be pointed out that it was not within the scope of this article to include conventional (i.e. analog/dmx/analog) demultiplexers, nor multiplexers for that matter (jargon: mux and demux). There are many of these available in all sorts of configurations from 6 to 256 channels and from a variety of manufacturers of dimming equipment and others.

XTBA, who have set themselves up as specialists in the science of DMX, are the

one-stop source in the UK for much of the equipment covered; that which they don't make themselves, they sell on behalf of others. This includes their own 'Smart' series of interfaces as well as products from LSC and, probably best known of all the two devices of the American Goddard company, the DMXter (nee Lil' DMXter) and the microDMX. They don't yet sell AB Micro's DMX-LAB, but Chris Cook at XTBA told me that they are thinking about it. They are also on the verge of launching two new products, both of which sound useful. The first is a translator from Strand D54 protocol to DMX, which could be a valuable add-on to existing Galaxy or Gemini installations (see also Sage 483). The other will be a simple system of MK size boxes to provide a permanent 'clean' DMX network in any installation.

I have tried to batch all these items together in a logical way and therefore the order in which they appear in the article has nothing to do with preference.



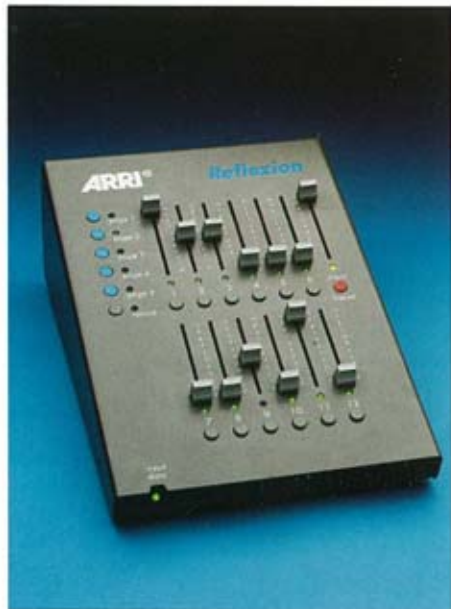
Pulsar's DMX strobe interface.



The Response Network Controller from ETC.



Goddard Design Co's Lil'DMXter.



Arri's Reflexion console.

It has become apparent recently that not all DMX receiving equipment is designed to accept the full parameters of the standard and this can cause problems in the field. In the research for this article we came across several devices which seem designed to accept DMX at a slower rate than the standard, and one, at least, which is crucially sensitive to the length of break.

While it might be reasonable for a transmitter to adopt this policy, it seems less than sensible for a receiver, which should always be capable of receiving the full spec. These days there are plenty of cheap high speed processors capable of doing the job, and a lot more besides, although that wasn't always the case. Adam Bennette of AB Micro suggests that this may have come about, historically, because manufacturers have designed receivers which they have subsequently tested only on a lighting board which they happened to have on the bench at the time. If this desk did not output DMX at the highest possible rate, as many don't, they may have wrongly assumed that their new receiver would work with any other transmitter.

Not so, of course. We might call this pigeon DMX, though in the US it is known as 'dirty DMX'. Also, it is worth remembering that some of the receiving equipment still in use was not originally designed for DMX and may be working from a crude translation back into its



Maris Ensing's DMX Doodah.

own dedicated language. Adam has come up with his own solution to these problems which is called DMX-LAB.

It should be pointed out, though it isn't part of the standard, that it is recommended that DMX receiving devices are optically-isolated. Many are not. Therefore, some of the DMX distribution equipment, which also provides line isolation, is at least worth considering for that purpose alone. Furthermore, it is advisable that DMX data lines are terminated with a resistor (100ohm) to prevent reflections in the cable, which can become a serious problem, the longer the length of the line.

DMX-LAB helps to solve many of the above anomalies by generating its own DMX and providing the ability to modify the DMX timing, manipulate start codes, frame size and refresh rate to suit any receiver. In addition it analyses and tests for fault diagnostics and produces a wide range of real-time trigger signals for detailed analysis of DMX signals on 'scopes and logic analyzers. Direct access to all functions is provided-there are no menus to negotiate.

If this seems a tool applicable only to development engineers, note that it also receives and transmits simultaneously at full speed, but with complete control over output timing, and can also act as an opto-isolated buffer in a noisy environment. In this way, it can get you out of a jam and solve a problem



DMX-LAB.

which has only become apparent at show-time. Like the DMXter, it can be used to test cables and correct common faults, given examples of which are: reversed cables, wrong terminations, insufficient drive for long cables, signal deterioration, or earth loops. It can also act as a 'riggers remote'.

The DMXter, which is the best known of these units, is a hand-held device which generates, receives, checks and verifies DMX512 data without the necessity of a lighting console, for example to speed up focusing and testing during fit-up. This enables the user to bring up and adjust, auto fade or auto step any number of dimmers to any specified level, or to bump through the system one at a time to check lamps, patches and dimmer channels.

You can do the same with other DMX products, such as scrollers, as well. So, for example, you can quickly check that all your scrollers come up on the same colours. It will also tell you whether a desk is generating a valid signal and analyze what is being sent. It can test data cables, even single ended, using snapshot to compare data at the desk, to data at the cable end. It even has a flicker finder facility. The DMXter operates from only seven buttons and claims to speak plain English via a 40 character LCD display, though since it is made in Brooklyn, New York, the English may not be exactly BBC! But it operates at 240v or



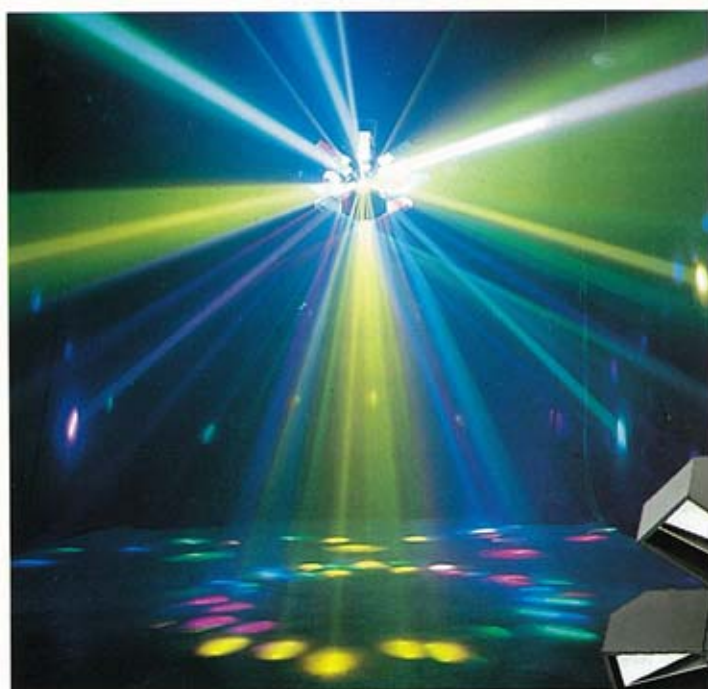
DMX down under: The Softlink range from LSC (above), Bytecraft's Sage 483 (top right), and LSC's Linklight Multiplexer (bottom right).



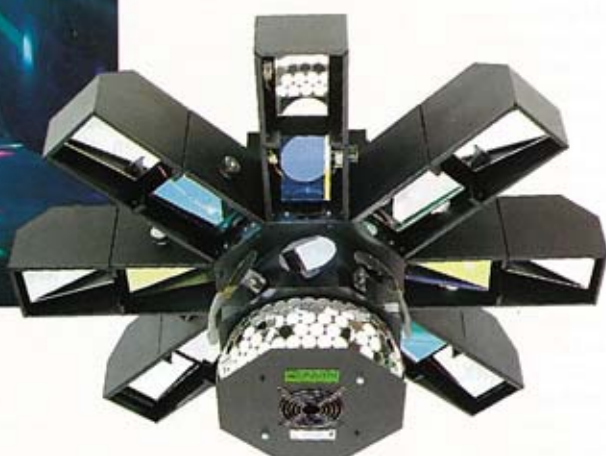


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181 118	126 167	141 113	1 119	204 170	57% 92%	71% 51%		PgXX Move	
9	10	11	12	13	14	15	16	F1 Order	
chan 9	chan 10	chan 11	chan 12	chan 13	chan 14	chan 15	chan 16	F2 Screen	
7Eh 80h	8Dh 00h	01h 5Bh	0Ch 7Ah	92h Ech	85h 82h	49% 66%	55% 0%	F3 Mode	
17	18	19	20	21	22	23	24	F7 Output	
chan 17	chan 18	SC Scan	Colors	GOBOS	Pan Mr	Tilt Mr		F8 Freeze	
1 85	204 111	181 118	126 167	141 113	1 119	204 170		F9 Restor	
25	26	27	28	29	30	31	32	F10 Save	
chan 25	chan 26	chan 27	chan 28	chan 29	chan 30	chan 31	chan 32	ESC Quit	
146 236	181 130	126 168	141 0	1 95	204 150	146 236	181 130		
33	34	35	36	37	38	39	40	CHANNEL 19	
chan 33	chan 34	chan 35	chan 36	chan 37	chan 38	chan 39	chan 40	Name SC Scan	
126 168	141 0	1 96	204 147	146 236	181 130	126 168	141 0	Home 1	
41	42	43	44	45	46	47	48	+T1+ Move	
chan 41	chan 42	chan 43	chan 44	chan 45	chan 46	chan 47	chan 48	+ - Level	
1 126	204 129	146 236	181 130	126 168	141 0	1 145	204 100	* Mode	
49	50	51	52	53	54	55	56	Ins Insert	
SC Scan	Colors	GOBOS	Strobe	Pan Mr	Tilt Mr	chan 55	chan 56	Del Delete	
146 149	181 118	126 167	141 113	1 119	204 170	146 236	181 130	F4-6 Color	
57	58	59	60	61	62	63	64		
chan 57	chan 58	chan 59	chan 60	chan 61	chan 62	chan 63	chan 64	Start 0	
126 168	141 0	1 99	204 112	x 0	x 0	x 0	x 0	Number 60	

The DMX Monitor from Meteor Light & Sound in the US.

from its own battery.

Additionally, you can now add a Show Saver option to the DMXter to back-up your lighting console with up to eight memory states either especially programmed or via snapshot. These can be replayed in any order, crossfading from one to the next. This option also monitors the DMX transmission continuously during a show and will hold and re-transmit the last valid preset in the event of a data failure.

The DMX 'Doodah' is another newcomer, this time from the eponymous company, founded by ex-Electrosonic software development manager, Maris Ensing. Again, 'doodah' is a hand-held unit with LCD display, which acts as a generator or receiver of DMX, allowing the user to view and edit up to 512 channels of data. The standard 'Doodah' is intended for both testing and installation work, where it can be used in place of the lighting desk during set-up, and comes in the lower band of pricing for such units. The 'Super Doodah', which follows, will provide a serial interface to a PC, which will allow both viewing and control of the DMX data stream.

The microDMX is a four-button, simplified version of the 'ster, designed purely as a rigger's remote without the 'engineer's' options and snapshot memories, at half the price. Otherwise, it supports Colortran and Avab, as well as DMX, and should become as standard on the production electrician's belt as the Maglite. XTBA have come up with a useful combination between it and their Smart Merge, which allows parallel focusing, while the lighting desk is occupied with plotting.

SmartMerge combines two DMX data streams into one complete DMX output. This means that two lighting boards can be combined to double control capacity, or a dedicated controller such as an automated luminaire controller can be added to a lighting desk saving both time and the possibility of duplicated addressing errors. Alternatively, outputs from two desks can be combined or

overlapped where they are required to address the same luminaires, on a highest takes precedence basis. (Referred to throughout the XTBA literature as, 'highest takes president'. Not so in the case of George Bush, though I suppose it depends what you mean by high!) As the result all systems can also share the advantages of soft patches, data splitters and opto-isolators in the DMX loop.

Smart Splitter is a buffered DMX distribution system which takes a single incoming data line and provides one isolated, and one non-isolated, 'through' line, plus four opto-isolated 'outs'. Of course, you should never splice a data cable, so Smart Splitter can be very useful in simplifying cable runs and optimizing daisy-chains, as well as providing protection where none exists on-board the DMX receivers. The idea of the loop-through is to protect against power failure at the splitter itself.

Multisplit which is made by LSC in Australia but sold by XTBA, is an isolated data splitter which provides as many as 20 buffered outputs in similar vein to the Smart Splitter. The idea is that you can divide the signal on a device-by-device basis so that you could have a line dedicated to scrollers, one for dimmers and one for automated lights, for example, with further divisions according to the geometry of the rig in question. In this way, any risks which may be associated with daisy-chaining are reduced, together with providing the added security of full electrical isolation on every data line. As the Multisplit may be situated up to 1km from the DMX source, and the receiving devices may be up to a further 1km away from there, it must be assumed that the Multisplit is regenerating the signal on all outputs. (The maximum cable length allowed under RS485, under which DMX512 runs, is 1km).

Flying Pig are also producing a one into eight DMX splitter box with opto-isolated outputs. Meanwhile, they are working on a protocol converter which at present talks DMX to



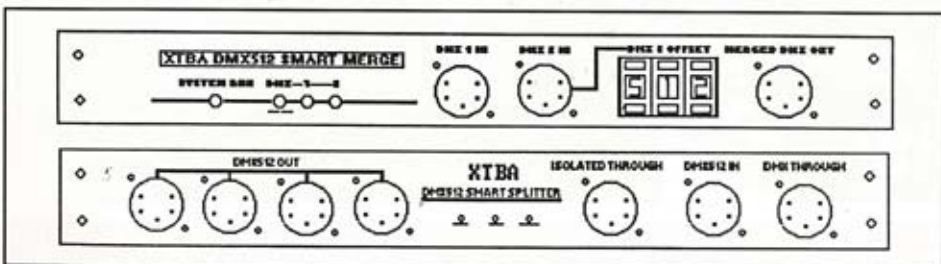
Flying Pig System's DMX Buffer Box.

Showtalk, though ultimately it is intended to be more universal adding Intellabeam 12-bit format and Martin. This unit will also have a frame store enabling snapshotting of several back-up states.

Softlink which is also made by LSC, is a stand-alone DMX soft-patch unit which will accept up to 256 control channels and proportionally patch them to up to 512 dimmers. Any number of circuits may be patched to a single desk channel, each at any chosen level, and maximum levels may be set to inhibit desk or dimmer channels. All set-ups and changes are 'transparent' on the unit's LCD screen. Up to nine set-ups can be saved in memory for future use, or as a back-up, simply recalled by the use of the ten integral faders. A new triple-input Softlink allows the outputs of three desks or controllers to be overlapped on 'highest takes precedence' basis, or 'stacked' end to end, and distributed to two outputs. There must be something in the air in OZ, because the next, and somewhat similar unit, also comes from there.

The Sage 483 is a complex protocol translator as well as a soft-patch. It can accept and transmit simultaneously two DMX or AVAB digital data streams, plus two AMX192 or Strand (D54) analog multiplexes and 96 channels of analog parallel inputs. All outputs may be individually user programmed to any combination of any of the inputs, either end to end, or on 'highest takes precedence' basis. It is thus a useful desk combiner as well as a valuable back-up system. In combination with the Bytecraft DimMaster, it can operate as a 1888 x 1888 proportional soft-patch and a number of these patches can be stored in memory. Finally, the phantom-powered Felix riggers control may be used in conjunction with the unit, quite independently of the control desk. The Sage 483 is part of a family of DMX compatible items made by Bytecraft in Victoria and distributed in the UK by Howard Eaton Lighting.

The Response network controller from ETC in the USA via Arri GB, is a versatile interface which can combine the outputs of two desks into one dimming system, or enable control of two different dimming systems from one console, and provide seamless back-up options. The unit accepts DMX512, or Colortran (D192), or AMX192 on one input and the first two only on the other. The two outputs can each put out DMX or Colortran. The inputs are configured to the outputs in any possible combination, by assigning any one of the two



Diagrammatic representations of XTBA's SmartMerge (top) and Smart Splitter (below).

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Universal interface from Pulsar.

input control channels to each output channel. In this way soft-patches can be combined, different input sources can be re-numbered and combine patched and up to 1024 dimmers controlled from two different systems concurrently. Back-up is provided in the shape of the second console, or via the optional Snapshot mini-control console which holds 12 overlapping sub-masters and operates through its own dedicated input port.

Reflexion is Arri GB's own back-up console for any desk outputting DMX512. This lightweight, lap-top sized unit looks like a simple preset desk but this is deceptive. It can store 60 back-up memory states. Meanwhile, it sits on the DMX line from the main console, synchronizes itself to the data rate and to the number of dimmers and continuously monitors the signal. Should the signal from the desk fail at any time, Reflexion sounds a warning and maintains transmission of the last received good data. The operator can then make a smooth transition, using the master fader, to any of the stored states and continue the show from there via the sub-masters. The unit also has 12 analog inputs so that it can be used to control houselights, for example, as well.

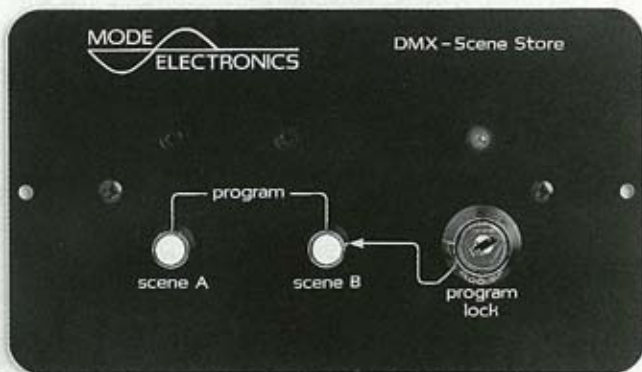
DMX Monitor new from Meteor USA, to be distributed in the UK by Avitec, is a new PC-based software package and expansion card which acts as a screen driver for any DMX desk which has no monitor. With its ability to freeze incoming data, for edit prior to re-transmission, it presents itself as a useful diagnostic tool for error checking on a DMX line, as well as a useful visual-aid to plotting. In latter mode, this enables the LD to organize his channel groupings on screen to suit, name them individually, or in groups, and even to colour code them. The DMX Monitor is automatically bypassed in the event of a power failure at the computer.

The **Universal Interface** - from Pulsar Light of Cambridge, not only converts DMX512 to 36 channels of standard analog, but can do the same for RS232 and MIDI as well, though obviously not simultaneously; the latter enabling a keyboard to control standard dimmers. It also has a test mode to sequence through all channels. The company also has a cute little device for driving strobes on the DMX line.

The **Pulsar Strobe Interface** will decode a block of 16 output channels, either DMX or RS232, into analog triggers for strobes. This is done by giving a +15v level out when appropriate faders are lifted over 50%, below which 0v is delivered. The unit is designed for local mounting on the truss to maximize the benefit of the single data cable.

Mode Scenestore. Those looking for a simple security system to protect against controller failure, where either the order in which memory states are required is irrelevant, or where a rigid order is otherwise acceptable in an emergency, should look no further than Scenestore. In combination with Mode's DMX dimmer packs, Scenestore can recall up to 256 states in two equal tranches, actually held in the packs, at the touch of one of two buttons. You can then bump from one state to next, or call for sequential playback.

In conclusion, DMX512 may be far from perfect but it's all we've got at present that is, in any sense, universally acceptable. To that extent we are all learning to cope with its little foibles and inadequacies and the equipment covered in this review will go a long way towards making this task a lot easier. If we have missed anything out - we are truly sorry. But send in the details and we will up-date in future issues.



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WEST END ON THE ROAD

Robert Halliday provides the technical background on the current batch of touring hits

The middle of January this year was a bad time for London's West End. Indeed, according to many of the entertainment industry's commentators, it's always a bad time in the West End; but January seemed to bear them out.

On the same night, the city lost two of its longest running musicals, *Me and My Girl* and *Return to the Forbidden Planet*, the relative newcomer *From a Jack to a King*, and a number of other shows besides. All of this not long after the loss of such shows as *Aspects of Love* and *Which Witch*. Yet London's loss has become the rest of Britain's gain, as three of the shows, *Me and My Girl*, *Return to the Forbidden Planet* and *Aspects of Love* have been re-born as touring productions. Given that in their West End versions each of these shows made strong, but very different demands on their cast and crew yet consistently succeeded in pleasing their audiences, the challenges of making the shows work on the road and match the expected high standards have been highly demanding.

First out was *Me and My Girl*, which set off from the Edinburgh Playhouse in December last year, even before the London version had come to an end. Produced by Pola Jones, the show re-united all of the original production team - Martin Johns as set designer, Chris Ellis as lighting designer, and Rick Clarke providing the sound - to put together a show based directly on the one which moved from Leicester to the Adelphi over eight years ago. Ted Irwin, the show's production manager, describes the result as a "big, old-fashioned show, with cloths, flats and winches in a false floor."

The major design changes have been in straightening out some of the strange angles that were a hang-over from Leicester; the result, despite being based on a fairly old design, is a "very fresh looking show, which looks bloody good," according to Irwin.

In re-working his lighting design, Chris Ellis has been "realistic about the show being on tour," according to production electrician Paul Franklin, working with Ellis again after touring *Annie Get Your Gun* last year. By carefully rationalising his rig, Ellis has reduced the 600-plus lamps from the Adelphi down to around 300. "Chris has changed some of the



A completely re-worked *Aspects of Love* now out on tour.

photo: Clive Barda

lamps - a few profiles have been altered to Par cans to do the job of several specials, and we've used Rainbow colour changers instead of the semaphores of the original," says Franklin.

The rig, supplied by White Light, is toured on six lamp bars multi-cored back to three of the hire company's 48-way Arri touring racks supplemented by one six-way 5k rack, with the whole lot controlled by an Arri Imagine 250. Extra lamps are toured to supplement each theatre's front-of-house rig, if required, and the whole show goes in on a Sunday, and opens the following Tuesday. "The current rig is very different from the original," says Franklin. "Yet the overall look remains the same." Rick Clarke's touring sound design takes the opposite approach to the lighting and is larger than that used in the West End. On the road the show uses 12 radio mics, for example, rather than the seven used in London. "We've done this to reduce the problems we encounter from venue to venue," says Clarke. "The shorter set-up time means that there's less time to optimise float microphones, and in venues without a

proper pit the radio mics are essential to provide enough level over the band". The orchestrations used are the same as the original, and are played by an 18 piece orchestra. The music and vocals are then taken through a Soundcraft Vienna 40 desk (with a 24 channel Yamaha PM1800 submixer), through six Yamaha delays and equalisation, and then out through a Community distributed cluster.

The equipment in general is an improvement on the London original. "We're using better reverbs, Lexicon 1000s, better delays from Yamaha, better speakers - Community RS220s in the cluster, NFBs on the pros and RS juniors for front fill - and a more extensive rig than in London. The whole system is part of the touring system that I've been developing for a long time, and it works very well," says Clarke. The overall improvement, according to Clarke, comes not from the fresh set or equipment however. "In London, the show became something of a tourist attraction, and was often filled with people who didn't really understand it all. On the road, it's found a British audience



Gary Wilmot in the lead for *Me and My Girl*.



Return to the Forbidden Planet - spoof version of *The Tempest*.

photo: Catherine Ashmore

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'The Sun Has Got His Hat On' from the national tour of *Me and My Girl*.

again; so many people are laughing that some scenes are lasting three times longer.

The result is that the show has been sold out since it opened, and the tour has already been extended at least once. The completely different storyline apart, *Return to the Forbidden Planet* has a great deal in common with *Me and My Girl*. It, too, came into town from the regions, having started life at the Bubble Theatre and then re-appearing in Coventry. It, too, enjoyed a lengthy West End run. And it, too, won the SWET 'Oliver' award for best musical, although *Planet* caused more controversy by beating both *Miss Saigon* and

Aspects of Love to the title.

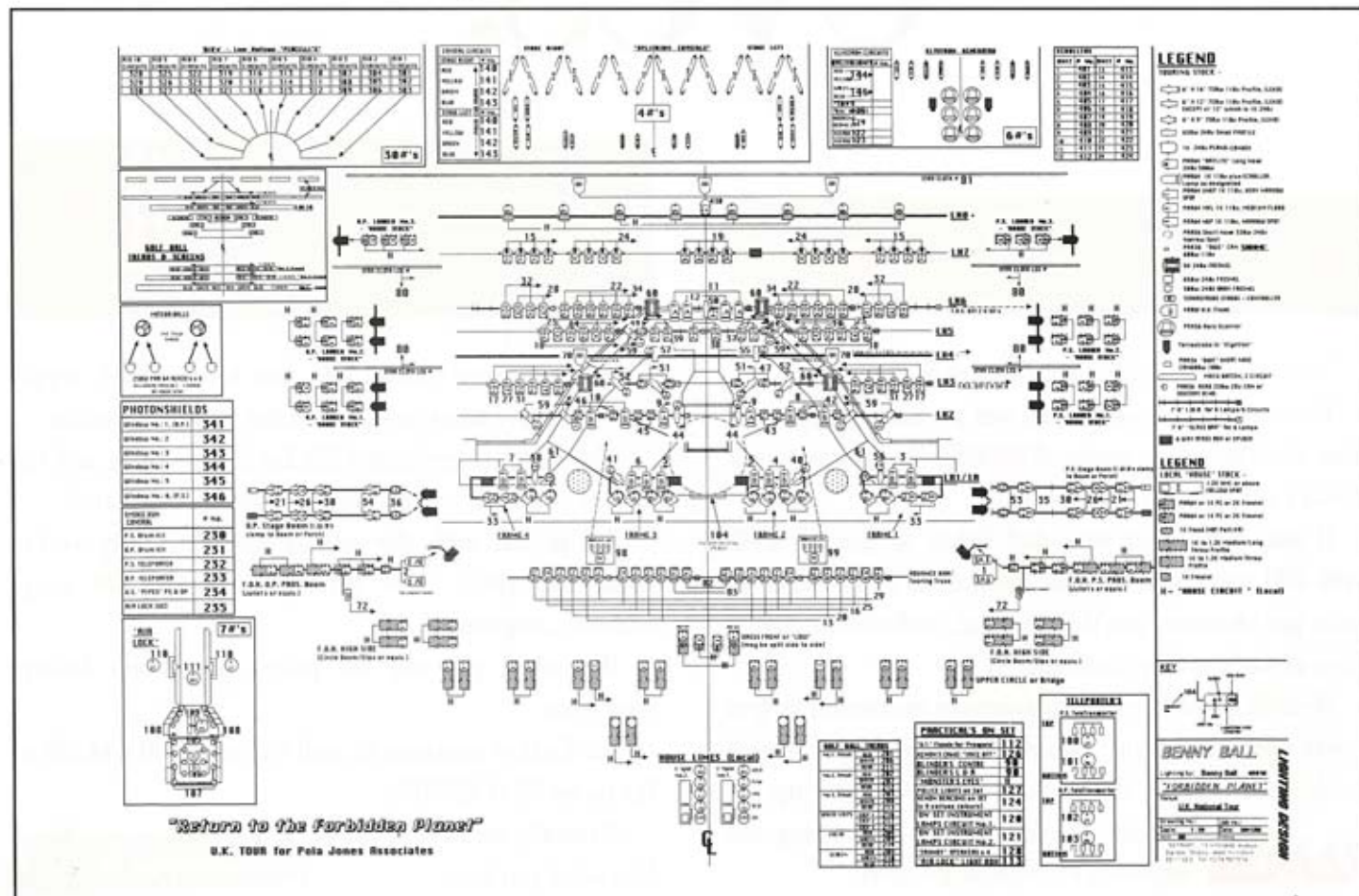
The two tours also have a lot in common, both being produced by Pola Jones and production managed by Ted Irwin and PMA. *Forbidden Planet* re-united its original team, with designer Rodney Ford, lighting designer Benny Ball and sound designer Bobby Aitken expanding on their work from London. Gerry Anderson's special effects also remain as this spoof version of *The Tempest*, or 'Shakespeare's forgotten rock and roll masterpiece as the programme has it, hits the road. Using rock and roll numbers from the fifties and sixties, with all of the music performed by the cast on

stage, the demands the show makes on its sound system are rather different from those of a more traditional musical.

As a member of the team who produced the original version of the show, Autograph's Bobby Aitken is now well-used to these demands, reckoning that the UK tour is his eleventh production of the show. "We're using standard Micron radio mics, some on the brass instruments, and guitar radios. We're also using Sennheiser hand-held units and some cabled hand mics - there are lots of jokes with these as they are thrown from person to person. The audience expects the cables to get tangled up - sometimes they even do!" The rest of Aitken's design routes the signals through a 56 input Midas desk to Amcron amps and on to a Meyer speaker rig, including two sub-base units a side in the orchestra pit. A computer next to the sound desk controls the multitude of reverbs via MIDI. "The design has been simplified for the road, as we're not splitting the music and the vocals as we have done. We've also spent a great deal of effort preparing the equipment; we only have two amp racks, and everything is multi-cored together so that we can get the gear in and out as quickly as possible."

Like Aitken's sound rig, Benny Ball's lighting design reveals the true nature of the show, which sometimes becomes an exuberant rock and roll gig which has somehow found its way into a theatre. "Most of the rig is working as backlight and chases; we don't tour a front-of-house rig because all it's doing is essentially a single-colour wash," explains production electrician Chris Jaeger.

The rig, again supplied by White Light, is made up largely of a wide variety of Par cans, together with a few profile spots, UV floods, strobes, scanners and over 30 Rainbow scrollers. The rig is not just up in the air, though, since every piece of scenery has at least six practicals on it. "There are 27 multi-cores feeding the set, and one person concentrates



Benny Ball's lighting plot for the UK tour of *Return to the Forbidden Planet*.

on getting all of them in during each fit up," says Jaeger. Smoke also features strongly, and is supplied by Skywalker and Optimist machines. "Control is from a Light Palette 90, which Benny specified because of its chase facilities," Jaeger explains. "We often have three or four chases running at once, with lots of cues and submasters, and we've got it down to the push of a button. We have had a lot of problems with crashes and error messages, though, and on one occasion Strand didn't get it working until 6pm, with an 8pm show that evening." Jaeger isn't sure what's been causing the problem, since Palette 90s are in use successfully elsewhere, though the Planet desk is running the latest version of the software.

The Plymouth-built set supporting all of this action is an enlarged, though simplified, version of that seen in London - the trap which used to feature centre stage has gone, for example, though the other lifting sections remain, along with the video system featuring interjections from astronomer Patrick Moore. Ted Irwin again feels that the overall result is "immeasurably better" than its London predecessor. "We've had the chance to pick all the good bits from the earlier productions, and it looks much fresher and crisper." Chris Jaeger, like Rick Clarke, has noticed the different response the show receives on tour. "In London, the show acquired something of a cult following and people knew all about it.

On the road, the audiences don't know so much. In Bristol the first night was like a rock concert, and then the next night we had the 'theatre' audience in. Blackpool started off as hard work, but they were all up and dancing by the end." Aside from enjoying the challenge it presents, Jaeger feels that the show's weekly moves work, since the show "packs 'em in". So strongly, in fact, that some of the venues it has visited have already booked a repeat visit. The final show, *Aspects of Love*, is also the one that pulled out of the West End earliest. Described as an intimate, 'chamber' musical, the show never quite had the appeal to passing tourists that have kept many of Andrew Lloyd Webber's other shows packed to capacity for so long.

The tour differs from the other two in that it makes no attempt to re-create the West End production. Instead, it is based on an earlier Australian version directed by Gale Edwards. Gone are the elaborate travellators and tracking systems of Maria Bjornson's original design. Instead, Roger Kirk makes use of a revolve within a white box, which can be transformed through the use of flown and swagged gauzes and cloths, and two sliding arches.

The idea, according to production manager Kim Robinson, was to "stop any encumbrance, and make the show much more fluid." The show was built, rehearsed and opened in Birmingham with the Birmingham Rep's



Return to the Forbidden Planet - "better" than its London predecessor.

photo: Catherine Ashmore

workshops building the set and the Alexandra Theatre providing the launch venue. Robinson describes the arrangement as 'bliss', with everything no more than ten minutes walk from everything else. The Alex's somewhat awkward get-in is, he feels, also a blessing in disguise, since having got the show in there he can see no access problems anywhere else.

British lighting designer Nick Richings has overseen the lighting for the show, recreating Nigel Levin's Australian design. The requirement for Tuesday night openings on the road means that Richings has kept the rig fairly simple, with many of the lamps topped with Strand's new Color Call to provide the wide range of looks the show demands. The rig, supplied by Stage Electrics, is toured on six-lamp bars and run from 216 ways of Celco dimming controlled by a Gemini 2+. Richings echoes Robinson's comments when describing his work on the show, which he sees as, at heart, "a very small piece not trying to be a razzle-dazzle show." Achieving that apparent simplicity takes around 250 electric cues, yet despite that Richings felt that the whole production period went very well. As he says: "We went in on Sunday night and had our first preview the following Saturday, which is quite an achievement for what is essentially an all-new show."

Sound designer Richard Ryan, of Martin Levan Sound Design, reflects Richings' comments about the tight schedule. Ryan was perhaps the British team member most familiar with the production, having served as sound designer on the show in Australia. The sound rig also resembles Martin Levan's London

original, using a 21-channel Sennheiser radio-mic system controlled through a Commodore Amiga computer to feed a Cadac J-type desk, which in turn feeds a speaker rig of boxless Tannoy 15" dual concentric drivers backed up by some Bose 303 base units, all supplied by Wigwam Acoustics.

From Ryan's point of view the system not only provides a better sound quality, adding depth to the sound without a specific loudspeaker being discernible as the source, but also simplifies touring. "The system is easier to set up because there is no box system curve - you are EQ-ing for the speaker rather than the room." The system remains a complex one however, since it uses a delay system split between the principal characters and the chorus, and which is variable depending on the character's distance upstage to help to keep the sound natural. The effort is worthwhile, however, since even Wigwam's Mike Spratt describes the opening night's sound as "uncannily natural", finding the "different approach very refreshing."

Aspects, too, is selling out rapidly, and perhaps more than the other two shows demonstrates the power of bringing theatre to people rather than trying to get people to the theatre; a show that was never really an out-and-out hit in the West End is now selling strongly. Whereas an audience might come and see the occasional show in central London, the demand in the regions seems very strong indeed. In addition to these shows *Buddy* continues to tour while still running in London, the current production of *Elvis* has never even bothered with the big city, *Les Misérables* continues to work its way slowly around the country, while both *Cats* and *Phantom* are about to spawn younger versions in Bristol and Manchester respectively. And all that's before even mentioning the drama being toured by the big subsidised companies and other producers.

Whether the West End is in a crisis or not will no doubt continue to be debated endlessly. Shows will always continue to sell there, even if only to tourists visiting the city and looking for a night out. And the passage is two way - as shows move out on to the road, so too do shows move in for West End runs.

But the public seem to like their theatre brought to them, and as public transport diminishes and the fear of violence increases, this trend can only increase. It may mean extra work and greater challenges all round, but in the end it's the public that calls the tune. And, judging by these three musicals, the shows are all the better for it.



Aspects of Love - working its way around the country.

photo: Clive Barda

ANOTHER FINE MESSE

L+SI's editor brings back the product development news from the halls of the annual Frankfurt Music Fair

'Who buys all these speakers?' was a comment I picked up more than once at the 1993 Frankfurt Music Fair in March. Obviously someone does and it also serves to remind us how big the music industry is and that we are involved with just one sector of it. And L+SI makes no apology for this report being a 'list' of what we found on a two-and-a-half-day visit: numerous additions to ranges, numerous product refinements, more control. It's the annual show window on who's done what to their portfolio for the year ahead. And we've done our best to provide you with a broad note of what was around on the show floor. Anything we might have missed will duly find its way into our equipment news pages in the months ahead.

Products from **Meyer** were represented by Jürgen Dudda, their German dealer. On display for the first time in Europe were two loudspeakers: the high power MSL-2 Series and the compact MPS 355 enclosure. Designed to provide low distortion sound across a wide bandwidth, the MPS 355 is ideally suited to high quality installations in clubs, restaurants and leisure facilities. The new MSL-2 Series of products is a further development of Meyer's



Back at the Messe: concerts in the Galleria.

highly successful MSL-3 design, with the new loudspeaker utilising the same wide dispersion horn unit in an arrayable enclosure. Very high clarity, with low distortion, is achieved by the combination of a 15" LF driver and 2" HF unit.

Also on view was the huge Meyer MSL-10A arrayable arena system, together with examples from the rest of the range including the popular and compact UPA-1C. The USM-1 and UM1-C stage monitor units were also on show, accompanied by the advanced SIM System II

acoustic analyser equipment. Playing a supporting role were examples of the ATM Fly-Ware range of loudspeaker rigging hardware.

Latest major installations of Meyer equipment by Jürgen Dudda include the Friedrich Stadt Palast project in Berlin where a total of 52 Meyer units are involved. Opera Leipzig is also to benefit from a Meyer installation, L+SI was informed.

Wharfedale announced three new additions to its range of Force Series speakers. Force 3 is a highly-styled wall-mounting, Baker-effect, wide dispersion system for voice and music. Force 7 is a full range line source unit for the high quality installation market. The big Force 10SB is a high-power

sub-bass enclosure designed for discotheque, theatre and audio visual installations and Wharfedale claim it has "unparalleled size/cost performance". Its 15" drivers use edge-wound voice coils, dual suspensions, and a 10.4 Kg magnet assembly to ensure ultra-linear and stable cone movement.

On the stand of **JBL** various models from the forthcoming Soundpower range were previewed including a full touring version with integral flying hardware, and portable and fixed



Daryl Vaughan (left) of Apogee UK, John Root (right), vice president of sales and marketing at Apogee Inc (USA) and Andreas Wiebe of German distributors Desch Beschallung Stechnik, with the new AE-8B stage monitor.



The new Celestion SR Series loudspeakers.



Gary Orrell shows the new Wharfedale Force 10SB.



Dynacord's PSX-Series of mixers.



First amps: the SRA1000 and SRA1600 from Celestion.



Tannoy's new System 15 DMT II unit.



FBT's LX64 digital light mixer.



Daryl Thorpe with the latest design-work from OHM.



The new 'Star' from Studiomaster.



Soundtracs' Jade (48PB) fully automated production console.



The new Miscara range from HH.



The 'Dizzy' mixers from FBT Elettronica.

installation versions. The full Soundpower series will be launched later in the year. New on the stand were the MPA power amps, designed for use in conjunction with JBL loudspeakers. Each of the five models are available in stereo power ratings of 275, 400, 600, 750 and 1100w per channel and are rated at two ohms per channel which are bridgeable into four ohms. All the series incorporate Open Input Architecture which allows inputs to be configured for a wide variety of signal processing by the addition of input cards. Also on stand were the recently launched Array series and the ES52000 digital controller.

Apogee Sound has entered a new market with the introduction of its Motion Picture System One (MPTS-1), designed by the Lucasfilm THX Division. Manufactured exclusively by Apogee, the new system brings Lucasfilm THX standard to facilities and venues such as screening rooms, post production studios, dubbing stages and theatres which require a system that can be installed with minimal clearance behind the screen and function effectively in a small to mid-size environment. The system consists of three channels (left-centre-right) of compact, three-way tri-amped loudspeakers, two channels of surround speakers, one sub-woofer and a sophisticated processor with the 12 separate outputs necessary to operate the system.

Preliminary information was available from Apogee on their new System 8000 loudspeaker and P-8001 processor. The 8000 is specifically designed for use in larger clubs and theatres and features a three-way configuration with two 15" front loaded woofers, a horn loaded 10" midrange in a separate chamber and a 1" compression driver for the top end. These components are loaded into a trapezoidal enclosure that allows for true acoustic coupling when multiple enclosures are placed together. The P-8001 provides active crossover between the woofers and the mid-high drivers with completely separate processing circuits for each set of components. The bank of dip switches on the back allows the user to tailor the processor's protection circuits to work with virtually any power amplifier and adjust the tonal balance to suit individual styles of music.

Community showed their N Series products

for the first time in Europe. Specifically designed for nearfield professional applications, these units are fitted with integral steel edges that feature rigging points and the enclosures are internally reinforced for safety. In their range of bass speakers, the CSX-50B unit has a new sub-woofer. An internal 150Hz crossover with a high pass output enables simplified single amplifier channel operation of the CSX-50B. The company also unveiled a range of four high quality professional power amps, badged for them by Crest Audio. These are for Community's export markets and will be available as part of a package with Community loudspeakers.

Tannoy has relaunched four of its award-winning Monitor Series loudspeakers after introducing a number of new features. A new range of capacitors has been custom-built for the System 8, 10, 215 and 15 after exhaustive listening tests and close liaison with capacitor manufacturers. Additionally, Tannoy now uses coils vacuum impregnated with a vibration-reducing resin within the DMT crossover. A split crossover has been created with the inductor mounted on the cabinet's cross brace away from the other crossover components and driver magnets. The up-dated speakers will now feature a new HF tulip wave guide for improved definition and they are equipped with a new copper-clad rectangular section aluminium high frequency voice coil. Another development for System 8 and 10 is a merial-filled injection moulded polyolefin copolymer cone which is thicker at the neck and thinner at the edge to "ensure excellent response whilst preventing fatiguing and break-up at the cone's neck". The cones are terminated with a nitrile rubber surround attached in a two-part moulding process.

For **RCF** the new Monitor 8 constant directivity compact acoustic speaker system provides "pure sonic accuracy" in a compact enclosure. Also new were the S800 Lab Series and P540 professional series low frequency transducers which have been designed for long-term reliability. All speakers in the series have been designed for high-loading applications.

Court Acoustics' new TR250 is a high-powered high efficiency full-range speaker system in a compact trapezoid

enclosure for portable or installation use. A two-way full-range system, it has been specifically designed for high quality vocal and lead instrument projection. When used in conjunction with any of Court's bass enclosures it forms a compact yet powerful three-way system for live or recorded music. The unit can be stand or wall mounted.

Launched by **Celestion** is a new range of PA cabinets and wedge monitors using its popular PA drivers. The CR and CRi Series consists of 16 units with a choice of textured acrylic enamel or triple-weave carpet finishes and corner stacking and pole-mount fixtures. Three new 18" loudspeakers have joined the Celestion BX range and the latest addition to their K range is the 18" K18J-300.

The major news from Celestion however was their launch into the wider pro-audio field with the new SRA series of amplifiers. It signals a broadening of the company's product range. With a unique 'soft-switch' dual-rail system, the switch to the upper rail is inaudible and seamless to the point of being invisible to distortion measurement. The SRA has logic-controlled power-up sequence and a continuously-variable cooling fan.

Dynacord had a wide range of new product introductions. Their SRX Series is a premium range of loudspeakers and adapted for on-the-road applications whilst the new S-122 is a compact constant directivity two-way speaker system with direct radiation. It is designed for use both as a passive full-range system and in combination with the corresponding Electro-Voice sub-bass cabinet and an active crossover as a small two-way PA system. The company also showed some new delay units, the P-1A compact processor system, a new power mixer in the PSX Series, new reverb and effects units, the M1 stereo mixing console, a new microphone in the Single-D cardioid MC200 and the 1684A automatic microphone mixer, a rack-mountable and expandable four-channel mixer that is designed for commercial sound reinforcement.

Five new microphones were announced by **Audio-Technica**. The AT-863 is a line-level output boundary unit with an in-built pre-amplifier. The AT-880 has been developed for the broadcast and recording industries - it can pick sound waves in water, for instance, or the



Glyn Baxter shows SoundMaster's VEX3 active stereo crossover.

structural noises in buildings or bridges. The AT-890 has been developed for noisy environments where other microphones would pick up too much ambient noise. Useful for conference systems, the AT-9750 is a high performance, low cost, boundary microphone. Audio-Technica also launched the AT-MX35, a portable mixer with two digital samplers and has been developed for discotheque and home markets.

Eminence used the Fair to launch their new Professional Series. The line will consist of 10 loudspeakers from 10" 200 Watts through to an 18" 600 Watt unit and will include two co-axial models. Aluminium chassis will be employed. Completing the range will be two compression drivers for use with 1" and 2" throat horn flares. Both models will utilise titanium diaphragms with aluminium wire to allow frequency responses up to 20 kHz.

Citronic have new products based around their award winning SM250 Remix unit. Teknodeck is a complete remixing station which includes the proven CL300D vari-speed turntables, the SM250, MC250 and GR250 mixing modules. High on style and user-friendly features the console is constructed on a steel frame and has smart moulded end cheeks and a soft front handrail. Connection sockets are neatly recessed under the handrail. The Remix Concept is a new product that offers the benefits of a smart console to the DJ who wants to use existing separate turntables. This small and lightweight unit has on-board mains signal and stud connectors for turntables to make interconnecting both quick and easy. It has all



SHURE

Shure's latest Beta 87 microphones.



Citronic's VS200 Video Sequencer.

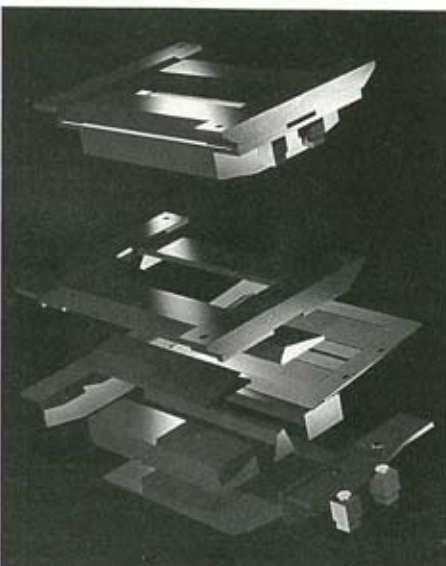
the features as the Teknodeck.

Also from Citronic is their Series 16 sampling system. It offers extended non-volatile memory capability with a flexible memory management system at very low cost. You get 16 seconds of memory as standard that can be configured as four by four or eight by two seconds and it doesn't forget your carefully constructed samples when you switch off the power. A special feature is a loop facility which can be pre-programmed while it's playing without generating gaps or delays. There is an instant re-start facility for seamless output and a recessed record defeat button to prevent accidental erasure of your work.

Citronic's VS200 is a six-in and four-out video controller with some innovative features for the medium budget video installation. Any one of the six video inputs can be selected and



Stage Accompany's SA 1600 power amplifier.



Neodymium driver SA 8535 from Stage Accompany.



Citronic team of Mike Gerrish (right), Elaine Dinnage and John Tucker showed new products based around their award-winning SM250 Remix unit.

held on the four outputs or monitor channel. Associated audio channels are also automatically routed to the respective audio out. By selecting one of the 10 internally generated colours as a background and releasing the 'hold', any or all of the six internal sequences can be introduced to animate the display between the background colour and the selected video. The 'flip' mode simply switches the background with the foreground and the sequencing speed is variable. The VS100 is a six into two controller that allows any of the six inputs to be routed to either or both of the outputs. The channel two output is intended as a monitor channel and is fitted with a separate headphone drive. It can be used as a second output if required. As with the VS200, all channel displays are seven-segment for easier operation and both units incorporate an optional frame blanking feature which will help to minimise any frame roll which may occur when non Gen-locked video sources are used.

The **OHM** product range has been re-vamped and the MR130i two-way satellite system, the installation sub-woofer MR-380 and the adaptable MR 260i had their first outing in Germany. Also prominent on stand were the high power BR-10, the BR-215 sub-woofer, a new sub, the BR-15, and the BR-15M stage wedge. Based in Cheshire in the UK, OHM exports over 80 per cent of its loudspeakers, with by far the largest proportion going to the Far East.

Studiomaster pulled out all the stops with their new Star System. A 'new type' of mixing system. It is billed as 'perfect for multi-track recording, excellent for integration with hi-fi's,



David Lyth with Volt's new loudspeakers with pressed steel chassis.



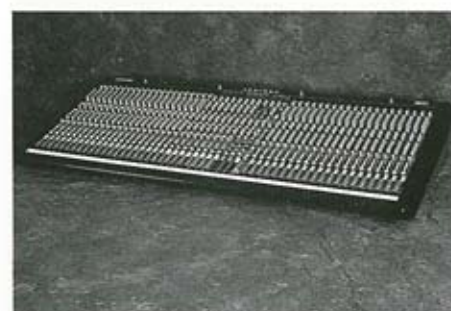
New from AKG: the C5900 and C5600.

ideal as a keyboard mixer - yet portable enough for PA use'. With an upright stance, it certainly looks different. As a PA console the Star has eight XLR mic (with +48v phantom power) and eight line inputs with four auxiliary sends for effects and foldback mics. Four auxiliary sends allow for effects to be added (the pre fade aux's can be used for foldback mixes), and any of the 10 stereo inputs can be used for stereo keyboard, sound module and guitar sounds or as stereo effects returns. All inputs have PFL's for monitoring individual signals and the main left and right outputs are balanced for driving power amplifiers in the largest of PA systems. Other consoles on stand included the Stagemaster 16-8 stage monitor board, billed by Studiomaster's Stake Farley as the "best kept secret in rock and roll" and the Showmix with three models- 16-2, 16-4-2 and 16-8-2 - all expandable up to 40 channels. It was also the first time in Europe for their Diamond Pro consoles (five models), aimed at the contracting market. On the speaker front the company launched their KMX12 and KMX15 cabinets - 12" and 15" units that have been manufactured to Studiomaster specifications.

The latest addition to the growing range of Spirit consoles from **Soundcraft** is Spirit Folio, a professional portable mixer available in three frame sizes: 10/2, 12/2 and 12/2 rackmount. It



A page from Sadie disk editor system from Studio Audio and Video Ltd.



The Century GT console from Crest.



Kelsey's Richard Vickers (left) with Alain Vanzella of Coach Audio Sales of France and their new cable drum system.

is targeted as a PA mixer for giggering bands, small venues and conferencing. Every input and both master outs have 60mm linear faders for smooth and precise control. In addition, every mono channel includes a mic input with 48vDC phantom power, three band EQ with a swept mid section, and a high pass filter as standard. There is full provision for outboard gear with two full feature stereo inputs available on all frame sizes. These can be used as effects returns or for sources such as keyboards. Two auxiliary sends may drive effects units but Aux 1 is also switchable fader from the master section to create musician's foldback mixes. It has been designed for true portability. With its integral carry handle, slim design and very light weight it can be carried anywhere like a brief case. Also from Soundcraft, demand for a larger frame desk has caused them to introduce a 32 channel version of their Spirit Auto. It has 72 inputs on mixdown, 32 automated channels and 64 automated mutes, full automation and snapshot recording of channel faders, channel mutes and monitor mutes.

Spanish manufacturer **D.A.S.** showed their new 2000W amplifier, the P-2000 and the Factor 5 'personal music monitor', with the 5Pro version magnetically shielded for multi-media applications.

Volt Loudspeakers launched their first range of loudspeaker units built with pressed steel chassis. The new range is available in 200mm, 380mm and 457mm diameters with voice coil



The Renkus-Heinz C-3 is a medium throw trapezoidal loudspeaker system designed primarily for two specific applications: to complement the long throw C-2 loudspeaker in large arrays or for use as the primary loudspeaker in smaller concert systems and other live entertainment applications.



Beyerdynamic's new MC 834.

diameter of 45mm on the smaller unit and 75mm on both larger units. The 200mm units are available as either a co-axial covering the audible range or as a bass/mid-range only unit. Power handling is 150 watts in each case. The 380mm units are available with two different magnet sizes giving 200 watt and 300 watt power handling while the 457mm is available in single and dual coil versions with 300 watts power handling only.

HH came up with a huge table full of mixing consoles in their new Miscara range. A total of eight models is included, with three powered versions and five unpowered. They are billed as ideal for interfacing with other HH pro audio products to provide a 'complete answer' for live applications. The range covers the M1202R unpowered unit with four stereo and four mic inputs through to the powered M1602PD with three stereo and 10 mic inputs. HH also showed the Pro Series V loudspeakers (first launched at PLASA) and the totally new Invader Series of powered enclosures for compact single unit systems for one-off occasions such as public meetings and events.

Renkus Heinz showed their TSC (Total System Concept) loudspeaker family. Latest addition is a new dual-15" subwoofer, the C-3 SUB, which features a unique tandem drive design that optimizes sub-bass performance and minimizes cabinet size. The compact C-3 SUB is only 32 1/2" high by 21" wide by 23 3/4" deep, yet it easily handles 600 watts of power. It produces an output level of 127 dB SPL (continuous program) from 30Hz to 100Hz.

Italy-based **FBT Elettronica** had a wide range of new products. Their 'Dizzy' mixers are available in five versions. All have four stereo channels. New professional power amplifiers included the Symbol 6000 and PWM 80 for the live music market. FBT also showed two complete PA systems incorporating powered mixer and two cabinets. New speakers included the GS 60A sub-woofer in their Gold



The popular new PS10 system from Nexco.

Line Series.

FBT are also moving ahead in the lighting field. Their LX64 digital light mixer is a console capable of controlling 64 dimmer channels. It has 100 memory scenes and 100 memory presets and MIDI interface and a wide range of effects options. Other products included the DMX28 dimmer pack and the DMP32 Demultiplexer.

First brought to your attention in our report last issue on Sound 93, **Lab Gruppen** launched their LAB1200 300 watt four channel power amplifier. This unit is lightweight and is designed for 19" (2U) rack mounting. It can be used in many applications such as multi-channel monitor systems, four-channel reproduction, and compact amplification in active two-, three- and four-way systems. It has double DC and VHF protection and two proportional speed fans. LED indicators show output voltage and headroom. Also new from Lab Gruppen is the DSP24 digital speaker processor, a two in, four out digital crossover and equalisation system for installed or touring sound applications.

Soundtracs showed their Jade console which incorporates a 'dazzling' array of features such as DSP gates on each channel, fader automation, 24 group busses, parametric FdB equalisation and 12 auxiliary busses plus EQ on monitors. Jades come in a wide variety of different frame sizes and configurations with patchbay options. The Solo Logic console offers all the existing features of the highly popular Solo Midi plus integral 12 bit VCA fader automation (including MIDI muting), machine control, four band EQ and full metering on each channel. The new Solo 8 Live is available in 24 and 32 input frame sizes and provides four assignable mute groups for scene muting, four stereo effects returns with EQ on 60mm faders, full meter bridge with mechanical VU's and eight discrete buss - L/R and mono buss output. The new Solo Monitor has 10 discrete buss outputs, a mic splitter for each individual input, four band EQ on input channels and four assignable mute groups for scene muting. It comes in 24 and 32 output frame sizes. Also on stand were loudspeakers from **Spendor**, who were acquired by Soundtracs in January this year. Their established 25/1A and 45/2A active studio monitors were shown.

Crest have launched themselves into the mixing console business with their Century Series consoles. There are four model ranges available in a variety of frame sizes from 24 to 64 module positions (16 to 52 inputs). Century

GT model consoles come in four or eight bus formats and all feature 4-band sweepable EQ, programmable scene mute busses on inputs and EFX returns, 8 auxiliary sends and a discrete mono bus. Two-way matrix outputs and comprehensive EFX returns are available on each group module. The LM range of dedicated stage monitoring mixers offers many high quality features and facilities normally found only in more expensive consoles with the LM 8/4 unique in providing 8 stereo and 4 mono outputs - suited to the growing need for multiple stereo stage mixes and in-ear monitoring. Two further model ranges, TC and SP, have been designed to offer simplified features to suit less complex sound reinforcement applications. TC and SP modules are all available in four or eight bus form. In the near future a stereo module will be available for any of the front-of-house consoles and at the same time an optional expanded matrix module will become available offering metered output mixes derived from all groups plus left, right, mono and two additional balanced line inputs. As many matrix modules as required can be fitted. Century FOH consoles can be custom configured with a mix of different input and matrix modules with the master section placed either far right or centrally. All frame sizes are available short loaded if desired. The company say they are at the first stage of a five year plan to make their consoles as significant a portion of their business as power amplifiers.

Leading Dutch company **Stage Accompany** introduced new Champion and Leader Systems. Although available for several years, the recent success of the SA Performer Series initiated the development of a number of pre-assembled and pre-wired standard system configurations for both systems. And thanks to the success of the recent introduction of the SA 8535 neodymium compact driver, which is installed as standard in all cabinets, the built-up systems now possess some excellent features. One of the most striking is that the weight of the full-range cabinets and stage monitors has been reduced by at least 10kg per unit. In addition, the maximum output has been increased by some 3.5dB.

By means of various options the complete systems can be made suitable for almost any application - flight-cased, wheeled, flying systems, etc. And you can have them in any colour you want. Also, by designing two special corner panels for on-the-road use, SA has succeeded in developing very flexible systems that are suitable for any number of



Andrew Colley (centre) demonstrates one of Cloud Electronics' CXM mixers.

applications. The systems range from simple two full-range cabinets, a SA 1600 amplifier (recently improved), a CP 22 connecting panel and a 4HE rack for the SA1600 and CP 22 through to a very powerful PA system consisting of eight full range cabinets, two SA1600 amps and associated processing equipment.

The new CX233 mixer/zoner from **Cloud Electronics** of Sheffield is a professional multi-purpose unit. The two microphone and three stereo music inputs in conjunction with the three output zones make it an ideal choice whether the requirement is for a simple bar mixer or as part of a complex discotheque sound system. The inputs can be routed in any combination to the three output zones. All the option and routing switching, together with equalisation controls are concealed behind a tinted plastic panel, leaving only easily understood level controls accessible from the front panel. The three stereo output zones each have a front panel level control and can be switched to operate in mono. Two band equalisation is provided for each zone. A remote music mute facility is provided which can interface directly with a fire alarm control panel.

Hill Audio chose Frankfurt to introduce their TSA (Total Symmetry Amplifiers) range of high power amplifiers and the Stagemix and Gigmix consoles. According to the specifications, the two TSA units, TSA1202 (2 x 800w) and TSA1602 (2 x 1000w) use only NPN power



PIC Systems's family of amplifiers.



Michael Schneider of Lichtronic Licht & Lampen with Multiform's new Zodiac lighting board.

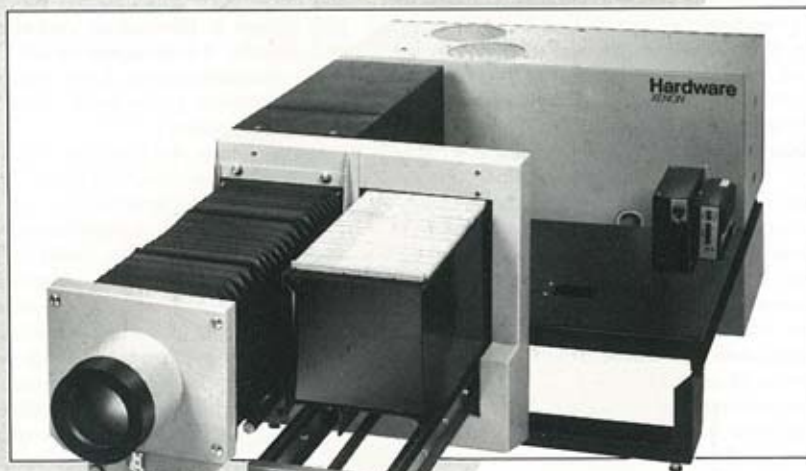


Hans Freytag of C-Audio alongside a 1A amplifier fitted with their new DAC converter card.

Hardware Xenon

High power projection

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Designed for giant image projection in large auditoriums, onto monuments, châteaux, inflatable structures or any background created for special events.



▲ **600 Watts Xenon** - 4000 lumens
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- high quality definition, thanks to 5-element lenses,
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2000 Watts Xenon
Use range from 15 to 150 metres.

5000 Watts Xenon
Use range from 15 to 300 metres.

◀ **SKY LIGHTS**

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devices which are arranged on a 'sliding bias' configuration resulting in a sonically superior totally symmetrical output stage of unparalleled linearity.

Stagemix and Gigmix are semi-modular in construction and are available in 16, 24 and 32 input formats. The Stagemix features four band EQ, two auxiliary sends, eight output groups, mic input and output on each channel and individual channel metering. A special feature of the eight output groups is their comprehensive EQ section which comprises of six fixed bands and two sweepable notch filters, eliminating the need for expensive output equalisation. Gigmix features four band EQ, six auxiliary sends, eight groups, eight fully routable line returns and individual channel metering. A key feature is its ability to offer a large number of channels in a compact and highly portable format.

Sennheiser launched their long-awaited BF 1051 handheld radio transmitter and receiver system which is a dynamic mic with super-cardioid polar pattern optimised for close miking and extremely high feedback rejection. It is powered by 9 volt batteries with an operating time of eight hours and has an adjustable 'squell' control. The BF 1051 is a diversity receiver operating on two switchable frequencies and includes Sennheiser's HiDyn Plus circuitry. The company added further to the BF range with the BF 516, BF 515, BF 512 and BF 511 - all variations along a theme of live musician mics. Also on show was the EM 1046/SK50 8 channel radio diversity switchable system, as well as the complete range of Sennheiser live microphones.

Shure had a big bundle of new microphones and associated equipment. The new Beta 87 is a technically refined supercardioid hand-held condenser microphone and is based on the proven design of their popular SM85 and SM87 units. It will also be available in a wireless version. Continuing on the wireless front, the new EC Series has been designed to meet the toughest world-wide standards and specifications. Comprised of two dynamic transmitters and two condenser element transmitters and a diversity receiver, the EC series is ruggedly designed for long-term reliability. On the modest budget side, Shure have launched their T Series for performers and presenters. There are three separate systems: The Guitarist, The Vocal Artist, and The Presenter.

The all-new Shure L5 portable battery-powered wireless receiver is designed to be used with any L Series wireless transmitter for improved system portability and a whole new range of application possibilities. Shure say it is ideal for video production and broadcast situations where mobility and

comfort are essential. The WA404E is a high performance wireless antenna/power distribution system. It is a two-input, two-channel, eight-output amplified antenna splitter neatly combined with a DC power distribution system for up to four diversity receivers. It allows the use of four diversity receivers, or eight non-diversity receivers, with just two antennas. It virtually eliminates the problem of unwieldy multiple antennas operating in a single location, whilst adding high quality power distribution as well.

Finally, Shure have gone right over the top in pushing forward to the front of their promotion the classic Unidyne microphone that defined the era from the big bands of the thirties and forties through to rock and roll and rhythm blues of the fifties and sixties. There is a resurgence underway for the microphone with the nostalgic look of the Unidyne.

New for **SoundMaster** is their VEX3 active stereo electronic crossover which is designed either for setting up fixed installations or for touring rigs where the speaker complement can change from one venue to another. The bass to mid crossover can be adjusted in 50Hz steps up to 800Hz, whilst the mid to high can be varied in 250Hz steps up to 4kHz. The operating frequencies are indicated on the seven segment LED display.

Kelsey Acoustics' new modular patchbay series, the KA48, features multiple choice across a wide number of features: balanced or unbalanced construction, a choice of five different terminations per bay, high connector density and simplified normalling. It provides two rows of 24 jack sockets in a 1U of 19" rack space. More gadgetry on the Kelsey stand included their new Cable Drums, which come as self-build units and as such pack totally flat. A new method of attaching the cable drum via rollers to the frame means that a central axle is not required. In addition, as there is no central axle, connector panels can be attached to either side of the drum, allowing up to 64 AXR or D series universal connectors to be mounted on the side flanges. Three standard sizes of cable drum are available: 250mm, 400mm and 500m wide.

Kelsey's popular cable crossovers are now manufactured in the UK and also stocked by Canford Audio. They are now made in 'wider' standard 1m lengths and evidently the price has gone down!

Recently awarded the State Award for Design for styling and creativity by the Austrian Design Institute for its Tri-Power Series, **AKG** has announced more Tri-Power microphones. The C 5900 is a professional vocal microphone for use on stage and in the studio. The transducer element of the mic is mounted in a cradle suspension which cancels footfall, handling and

cable noise. The transducer mass and suspension elasticity have been carefully matched. A synthetic-rubber model of an anechoic chamber is placed behind the transducer element to prevent reflections inside the microphone body. The results are very high gain before feedback due to a frequency independent hypercardioid pattern and an ideal frequency response. The C 5900 provides an integrated bass cut/roll-off switch. The C 5600 instrument microphone makes first use of the backplate version of an AKG large-diaphragm transducer, a breakthrough that combines the benefits of two time-tested technologies. Another first is the high frequency dispersion cone. This device, mounted behind the transducer element, helps divert reflections away from the diaphragm. Like the C 5900, the C5600 also uses a cradle suspension. It has a cardioid polar pattern and an integrated bass cut/roll-off switch.

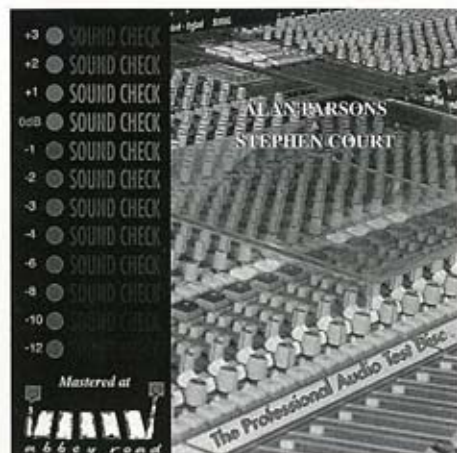
Added to the AKG range of wireless microphone systems is the WMS 190 for portable or stationary use in theatre, stage, film and conference applications. The new WMS 100 system is labelled as cost-effective and user-friendly. It is designed for full mobility. Other announcements from AKG state that their slimline gooseneck mics are now available in white.

For the future, AKG had 'pre-information' on their Audiosphere BAP 1000, the first product of an entirely new kind and the first Individual Virtual Acoustics (I.V.A.) processor. IVA creates an acoustic virtual reality based on individual properties of the human ear. The Audiosphere simulates an ideal acoustic environment via headphones. All sounds seem to come from the room, not - as in conventional headphone reproduction - from inside the head.

Latest additions to the **Beyerdynamic** product range include five new microphones. The MC 834 is a studio cardioid condenser mic aimed at musicians and the home studio market. For percussion miking, the M 54 is a gooseneck mounted miniature hypercardioid dynamic unit. The MC 713 studio condenser is now available as a wireless capsule: the CM 186 is a slim-line unit with a high quality transducer which was developed for the handheld transmitters S85, S185 and S700. For hands-free applications, the NEM 192 omnidirectional and NEM 193 cardioid have been introduced.

On the wireless front, Beyerdynamic have introduced two new systems in the lower price range. The true diversity systems S 250 and S350 will replace the S 170 system. The S 150 wireless system, which has only been available up to now for guitar transmission is now also available in a handheld and pocket transmitter.

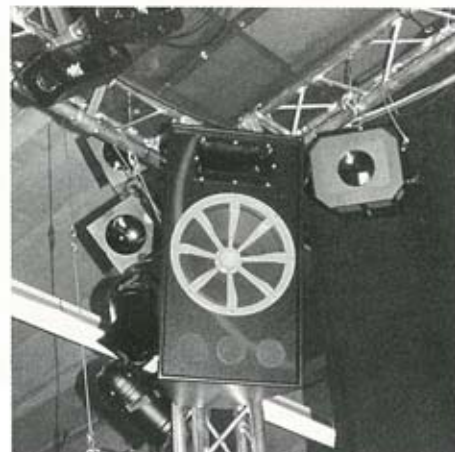
The Sadie disk editor system, launched by



'Sound Check' - the professional audio test disc from Alan Parsons and Stephen Court.



The Fine Light colourchanger from Feiner.



A Wembley Spyder high up on the stand of Haerle.



Optikinetics' Neil Rice (left) explains the Solar System on the AHA! stand.



Erhard Grickscheit of Strand Lighting Germany with the LD90 dimming system.



Clive Bradbury of Celestion shows the new SRA amplifiers.



Ian Sharpe of Ramsa Panasonic with the new T15 loudspeakers, which, following Frankfurt, were brought into the UK for market appraisal.



David Bissett-Powell and Martin Kelly of Martin Audio announced the sale of a £50,000 F2 system to Spain by distributor J. L. Alberd.



Avolites' Steve Warren (right) puts their Rolacue Sapphire through its paces on the Camco stand.

Studio Audio and Video Ltd at the APRS Show in 1992, had its first Frankfurt showing and commercial director David Mortimer reported an excellent response. A very cost-effective off-the-shelf solution to professional audio editing, Sadie has been designed to run on a PC - an IBM 486 or compatible under Windows 3.1. The company report that sales levels are now up to at least 15 systems a month.

C-Audio showed for the first time printed circuit boards retro-fittable into their 1A Series of amplifiers in one of the four slots provided in the amp. A DAC (digital to analogue) converter card allows digital information to be inputted directly into the amplifier. In addition there is a limiter module pcb and an active crossover module pcb. Also on view was the new ST1000 3U bi-polar modular amplifier giving 1250 watts per channel into four ohms and 5000 watts into four ohms bridged. Side-by-side with C-Audio, EAW showed their JF range as first shown at the SCIF show reported on in our March issue. New was a special bracket for flying the JF80 in TV studios and the like. On the same group stand, ARX Systems showed their range of signal processing equipment including a parametric equaliser, compressor/limiters, graphic

equalisers and amplifiers.

Metro Audio's MA-SC2 is a new single channel belt-pack which is louder than the MA-CBP1 and for use in areas with a high ambient noise. MA-DC2 is the dual channel version. MA-CPS3 is a new dual channel desk-top power supply for up to 24 belt packs per channel and the MA-CPS4 is a dual channel 19" rack-mount power supply for up to 32 belt packs per channel.

PIC Systems showed their new family of amplifiers on the John Henry Enterprises stand. These range from the PSA500 suitable for small installations through to the PSA20-30 for demanding touring or industrial applications. There are currently six units in the range. The amps have been designed to drive a wide range of impedance from 16 to 2 ohms, with maximum power and continuous ratings normally achieved into 4 ohms. By selecting bridged mode the total capacity can be increased to an 8 ohm load. The amps have comprehensive protection circuitry. The range has been developed with low cost and high reliability in mind.

d&b Audiotechnik has widened their Series 02 with the addition of the 602-LS loudspeaker and 1801-SUB, both shown for the first time at Frankfurt. The 602-LS forms part of a cohesive passive controller system based round the

P1200L mainframe amplifier. With a peak of 133dB-SPL, it is a very loud loudspeaker, having the characteristic of a 60 x 40 degree dispersion angle, it is also particularly suited for mixed uses with the wider dispersion 902-LS whose overall dimensions it matches exactly. The 602-LS utilises two drivers, a 2" exit HF driver linked to a constant directivity horn and a 12" LF driver. A P1200L mainframe fitted with 602-CO/M controller modules will drive up to four speakers in stereo.

The deceptively minute 1801-SUB is an active subwoofer. Featuring an 18" driver it is capable of delivering 129 dB-SPL peak over the frequency range of 38-110/160Hz (selectable). Four units can be driven with the P1200L mainframe amplifier fitted with the 1801-CO/M controller modules. In addition to controller modules for the 602-LS, 902-LS and 1801-SUB, an AMP-L/M input module is also available for the P1200L allowing its effective use and compatibility with a wide range of speakers including d&b's own Passive Systems.

News from the stand of Nexo was that their PS10 small speaker system, available since last November, has already exceeded all sales expectations. It has been designed to be an extremely versatile system and its shape allows it to be placed in a variety of positions including



Florian von Hofen takes The Smoke Factory into the lead on DMX control with his DMX-box.



PLASA committee members Ian Sharpe of RAMSA (left) and Freddy Lloyd of Zero 88 (right) with CCT Lighting's David Manners.



Keith Dale of Celco and Frank Rethmann of LMP with the Aviator.



The new CD-33 from Vestax shown with a DSG-200 8 sec digital sampler below. The CD-33 features a joystick control for fast forward and reverse scanning and up and down pitch bend for easy mixing. It also has an instant cue memory. A PMC C-40, 14 input mixer is shown at the bottom of the picture.

specific clusters and wedge monitoring, and it can work in arrays or as a stand alone unit.

There was a lot of equipment stocked on the stand of **Harrison**, including their new Exel-Series speaker systems. To cover a wide range of applications, units include the Exel-10 compact, the Exel-12 with 12" diameter 150w cone driver, the Exel-15 mid-sized unit, the Exel-M12 stage monitor/foldback two-way system and the Exel-Sub which comes complete with top-mountable pole adapter allowing other speakers to be operated in satellite mode. Other new products from Harrison include the K200 and K300 power amplifiers and their big brother, the K4000.

With the pro-audio market moving towards integration, and with the inter-connection of various audio and electronic devices, **QSC** showed their QSCControl with Medialink, billed as a totally open system integration for sound reinforcement. Medialink protocol has been chosen by many leading companies in the industry. It allows seamless, transparent integration of microcomputer-based devices into a reliable real-time and fault tolerant network. For instance, QSC's EX Series amplifiers may be connected easily to the Medialink network system via QSCControl, implementing monitoring and control. QSCControl's purpose is to enhance the user's ability to customise control panels and easily view network configurations. It also provides easy storage and recall of individual equipment



Also new from Vestax (top) is a 19" DCC machine for mastering. The DCC-1000 will provide a professional format medium for musician and DJ. The new PMC-41 'house version' of PMC-40 (bottom) features all rotary controls. This 'New York' style mixer was designed with the aid of New York DJ Roger Sanchez.

configurations.

Peavey had a mass of new product. Latest in their digital power amplifier family is the DPC 1000. A lightweight 1U unit it is capable of delivering 500 watts RMS (continuous) and 750 (program) into a 4 ohm load with both channels driven. The unit can also run in bridged mode. The CS Series of power amplifiers have been improved to provide new two ohm power performance levels and now become the CS-X Series. The CS 150X unit is a 1U solid state stereo power amplifier capable of delivering 85 watts RMS per channel into 4, 8 or 16 ohms at 1% THD. The unit had been re-designed to reliably drive mismatched lower impedance loads to impressive power levels and employs a specially designed toroidal power transformer with three different voltage taps. The new PV Series of power amplifiers includes three units. Common features include two-speed fan cooling, level controls for each channel and stereo/bridged mode select switch. The basic specifications are impressive for relatively small and lightweight units and they are quiet running.

Midi Master II from Peavey, with eight MIDI inputs and outputs, has been designed to be the master of your MIDI set-up. This 'command centre' can do just about anything you can imagine and serves as the MIDI routing system, completing the total MIDI interface. In addition to routing, processing and continuous control support, there is a MIDI merge function. The

processors are still available for the eight outputs during a 'merge' application, and six filters are available to screen out data that is not required for other MIDI products in the chain after the MIDI master. The filters are set up for note on/off, aftertouch, control change, program change, pitch bend, system common and system real-time messages. MIDI Master II has the capacity to load a patch, save a current patch, receive program change, transmit memory, edit patch name and chain program changes.

On the speaker front, Peavey showed a wide range of new and recently introduced product. The HiSys 118 is a new addition to their popular premium range of HiSys enclosures and provides high level sub-woofer performance. Their new DTH 2, 3 and 4 loudspeakers are designed as true minimum profile enclosures. All are trapezoidal in shape allowing for array configuration. The DTH 2 is a two-way system, the DTH 3 a three-way system and the DTH 4 a 'pseudo' three-way system with a second 1505-8DT woofer used to reinforce the low frequency response of the system. All units are covered in a battleship grey carpet and the front grilles and 16-gauge metal. The new 112 and 115Ti enclosures are performers' units with high frequencies supplied by their 2" titanium diaphragm compression driver. Impulse V is a mini two-way system with a hi-fi sound character. Unique locking slots on either side of the trapezoidal enclosures makes arrays and multiple unit installations an easy task.

Peavey Electronics' new Versamix is a 16 channel rack-mount/console audio mixer. Each channel features a front panel gain trim as well as high, mid and low equalisation. The master section has a stereo tape return with a novel playback/record enable switch.

In the lighting field, Peavey's small packaged systems include the PV Lite 3008 and 4008 that include Lightbars, stands, controller, lamps, gel and gel frames. Other products include the Rhythm 1200, also available as a package, and a Midilite package. This latter system provides everything needed to mount the PV Lightbar on the lighting stand and create lighting environments via MIDI controllers.

Chevin Research showed two new ultra-slim, ultra-light 1U rack mounting power amplifiers. Both have two channels; the first features 300 watts per channel into 4 ohms and is aimed at the small installation and PA markets while the second has a higher power output (as yet undisclosed). Also shown first time were their compact A2000 and Quad-6 2u rack mounting power amplifiers.

'Sound Check' - a professional audio test and demonstration CD produced by **Alan Parsons**



Seen above on the Austin Armstrong stand (left to right) are Pat Austin and Doreen Armstrong with Bert Wouters and Frans Schapendonk from Audio Direct in Holland. Audio Direct were officially appointed distributors for Benelux at the show. Austin Armstrong specialises in manufacturing 4 and 8 channel power amplifiers for the music and cinema industries.



Clive Green with the CADAC J-Type on the stand of Jürgen Dudda.



Open for examination. NJD Electronics' Kevin Hopcroft (right) and Bernd Steinigke of Steinigke, their German distributors, with one of NJD's big-selling IQ250 projectors.

and **Stephen Court** - was on special offer at 12. It contains 92 tracks of practical material compiled as a result of careful research and investigation into the needs of the professional audio engineer in various fields. It is reviewed by Ken Dibble elsewhere in this issue.

Moving to the world of lighting and rigging, **LMP Lichttechnik** and **Lightpower** covered the most ground as far as represented companies were concerned. LMP takes care of Celco, Zero 88, High End Systems, LSC, Lite Structures, Light Processor, Le Maitre, Powerdrive, Delcom and RVE in Germany. So, as you can imagine, there was a rather grand melange of equipment in action. **Zero 88** found the simple way to explain MIDI with their XLS control console and courtesy of a mini-stage and some friendly software from Gagits of Manchester. LMP's own MIDI show control system was doing some neat stuff too and according to company boss Uli Petzold it was a major show success for the company. **Celco** had their Aviator and Pathfinder control systems and **Light Processor** their latest Q12 and Q24 control boards and the 256 channel DMX 'Integrator'. Hanging high up, Lite Structures showed their new Gigrig portable stage lighting truss, designed to be the lightest, smallest and quickest pre-rigged truss system available. It can be used independently or in configuration with their Megalite for larger applications. The system is manufactured from 2" high tensile aluminium and is connected by high strength cast hook sections. No corner blocks are required for rectangular rigs as all trusses can be joined together at 90 degrees as well as end-to-end for longer spans. The 2.1m length will take six Par 64s, the 2.7m eight.

The **Lightpower** stand did its back-to-back thing with **CP&P Germany** as usual so this conglomerate included **Pulsar** and **Clay Paky** along with **Lightpower** represented companies



MA Lighting's control consoles on Lightpower.



The new Gigrig from Lite Structures.

MA Lighting, **CCT Lighting**, **Roscolab** and **Doughty Engineering**. The big launch for Clay Paky was obviously Golden Scan 3, already reviewed in our March issue after its appearance for the press in Italy and at SIEL in Paris. Totally new was the 'Shadow' HMI 1200 follow spot, a latter-day Jade projector, complete with a control panel at the front end and exactly where it ought to be. More details on this one in our report from SIB at Rimini next issue. Pulsar showed their new SLC4000-19 four-channel sound/light unit.

Not to be outdone on the trussing front **Slick Systems** had a new and impressive folding truss system. This substantial version is a high-performance triangular system and comes in standard lengths of 2.4m and 1.2m. It has a remarkable knack of folding very flat and will be in full production by the time you read this piece.

MEC Systems exhibited at Frankfurt for the first time. Their structural system range has been extended since its original launch at PLASA last year to create with one standard component not only a series of six, five, four and two way corner joints, but a winchable four and two way sleeve which has a built-in fail safe device. MEC also launched Circuit Tube, a unique power support system. This Australian-designed product will be manufactured by MEC in the UK for the European market. Constructed of lightweight aluminium it is compatible with all European sockets and can be used to create lighting grids, pre-wired portable bars, self-supported plug-in power ducting and so on. It has snap lock fit



Bruno Souchaud (left) of CP+P France, Stefan Thiel of CP+P Germany and Derrick Saunders of Pulsar with Clay Paky's new Shadow HMI200W followspot.

mountings and fits all 50mm pipes or conduit fittings. The combination of systems now available out of MEC will give them a good opportunity to break into the show and presentation markets, amongst others.

Briefly mentioned in our news pages in March was the first sighting of the new Fine Light colour scroller from **Feiner Lichttechnik**. This unit will fit Par 64s, 6" ellipsoidals, Tratto and Cantata luminaires as standard and others when appropriate adaptor plates are used. Its 16 colour capacity (more when a PC is used) can be scrolled end-to-end in 2.5 seconds and the units can be controlled by any PC or lighting board via analogue (0-10v) or DMX-512 signal. A low-noise fan is employed with a quieter slow operation mode.

An instrument of particular note on the stand of **Haerle Lichttechnik** was the Sky Rose from **Ultralite**. This is a new outdoor 30-beam moonflower effect unit which has adjustable rotation speed and panning facility together with strobe effect. There are three lamp versions: HMI 2500W, HMI 1200W and HMI 575W.

For the first DMX control in the smoke business, Florian von Hofen of **The Smoke Factory** proudly showed amongst his range the 6 six channel DMX Box which changes a DMX512 signal into 01-10v.

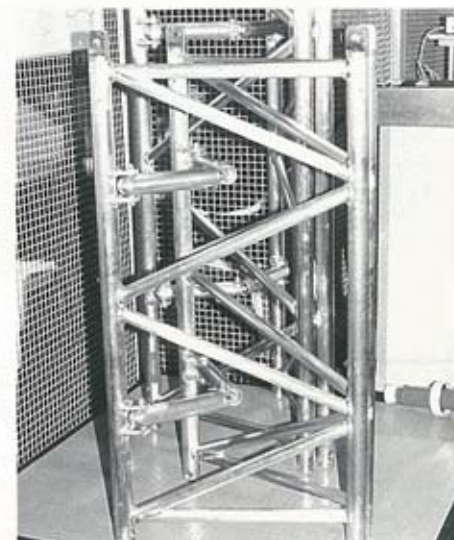
Multiform Lighting launched their Zodiac 18 level memory lighting board. This is an 18 channel two preset memory control desk with 180 level memories that can be used as 10 pages of 18 scenes assigned to the B preset. Alternatively they can be assessed as a block of sequential memories via Go and Back buttons using an illuminated display to indicate the current and next scene numbers in use. In addition, the Zodiac includes a separate chase section that can be programmed with eight 60 scene level chases. These can be tagged



Ultralite's new Sky Rose.



Friends in competition: LSC's Gary Pritchard (left) of LSC with Zero 88's David Caterall.



Slick Systems' new triangular folding truss.



EMO Systems kept busy and had their biggest box to date sited at stand-top.

together to form a single 480 scene chase. Facilities include single stepping, sound trigger, crossfade, and one shot operation. As well as 0-10v analogue outputs the desk provides options for DMX512 and Midi format serial outputs and a memory card for storage of programmed data.

NJD Electronics were in strong evidence on the booth of their German distributors **Steinigke**. A total of 24 of their IQ250 lighting effects projectors were on stand and according to managing director Kevin Hopcroft, these and the new Blitzer dichroic flower effect are being ordered in such quantities that their Nottingham-based factory is on continuous seven-day production to cope with demand. Extra staff are also having to be recruited. The dual animated dichroic beam effect 'Dancer' was also on view, together with all the latest control equipment launched by NJD at and since the PLASA last September. Newest is the MP820 Midi power pack. This is a self-contained eight channel pack which when connected directly to a Midi keyboard will provide instant response to note and velocity. By using a sequencer a light show can be totally programmed to synchronise with backing tracks, making it possible to produce a dramatic light show that follows the music perfectly.

Also on the Steinigke stand, the new Cometa from **Novalight**, with a row of eight moving mirrors, drew attention... which is the sort of news you'll find more of in our report from SIB in Rimini, also in this issue.

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USITT IN WIDE OPEN WICHITA

Bryan Raven reports on the 1993
United States Institute of Theatre Technology's Exposition

USITT STAGE EXPO

"Wichita! What are you going to do there, count cattle?" This was the parting comment from my travelling companion as we went our separate ways at Houston Airport. When I arrived in the place late on the Wednesday night I found the airport virtually closed up. My colleagues informed me that so was Wichita!

I spent all week with people saying "London! What the hell are you doing here in Wichita."

Wichita is in the middle of the Kansas plains, very flat (and in March, very cold). Kansas, of course, is famous for the Wizard of Oz, the aerospace industries based there and its wide open spaces.

The Stage Expo part of the 1993 USITT convention continued this theme. There was a large amount of open space in the hall with a lot of unsold exhibition sites. It meant that the 3,000 visitors 'rattled' around to a certain extent.

The conference is mainly attended by members of USITT, an organisation that draws much of its membership from universities and colleges around the US. The seminars/meetings ranged from 'Using Wigs of Today to Create Yesterday's Hairstyles' to 'Welding Safety' and from 'R&D: The Manufacturers Speak' to 'Costume as Art'. They appeared to be well attended and appreciated by the attendees I spoke to.

But to the exhibition. It was probably indicative that the 'New Product' showcase took only half of its allotted two hours. There was very little new in the world of lighting and sound that had not been seen elsewhere before.

Rosco had a prototype of their new Omega XT smoke machine which can be controlled from either a DMX512 signal or a +10 v signal. It also has a novel feature of an air inlet valve on the rear of the machine. This allows compressed air to be added to the smoke to produce an effective haze-style fog. It can also be used for blowing smoke out of the chamber at a high speed to simulate cannon or gun fire.

Of interest to the hire companies is the fact that this facility can also be used to clean out the smoke machine by blowing air through at about 100psi, thus removing the excess fluid and avoiding blockages.

Another product of interest to rental companies is the range of tapes marketed by **Anchor Continental**. Show Time is a 'non-residue' tape, similar in quality to traditional gaffer tape, but without the sticky mess left behind on the cables and flooring.

Ed Fitzgerald from **Clear Com** was showing their new range of headsets, the Pro 40. On first glance this is a very similar product to the TecPro headset but with completely 'field serviceable' components. Clear Com has also launched a compatible budget range of intercom called Q-Com. Also on demonstration was their one-way wireless intercom system, IFB, which has been designed for use in large arenas, saving the need to run cable out to followspots which perhaps don't need two-way contact.

Strong had their new medium throw 1kW/1.6kW xenon followspot. It's about 15% cheaper than its larger counterpart, with the added advantage of an integral power supply. Still with followspots, **Lycian** had a 2kW xenon unit on their stand along with their ever-increasing range of medium-size spots. Their new one has been brought out with the Super Trouper market in mind and has some nice features, most notably an adjustable counterbalance and an ability to operate from either side.

The tallest exhibit was the Starlift, first seen in the UK on Glantre's stand at the PLASA Light & Sound Show, and now manufactured and marketed by **Tomcat Inc.** Capable of lifting large weights such as trusses with the minimum of fuss, it is ideal for the rock and roll market. Tomcat are hoping that their expertise in this area will increase the sales of the Starlift.

David Goddard of **Goddard Design Co** was showing his follow-up to the Lil' DMXter launched at LDI, the μ DMX. This is a handheld, battery-powered DMX source which allows the testing of DMX systems such as dimmers and scrollers at the push of a button, or two.

On the subject of DMX, there were two other exhibitors showing their expertise of DMX. **Meteor**, a sister company of Avitec in the UK,

were showing their DMXtek, a PC-based package allowing up to 384 channels of DMX to be viewed at one time. An 'event playback' is in the pipeline.

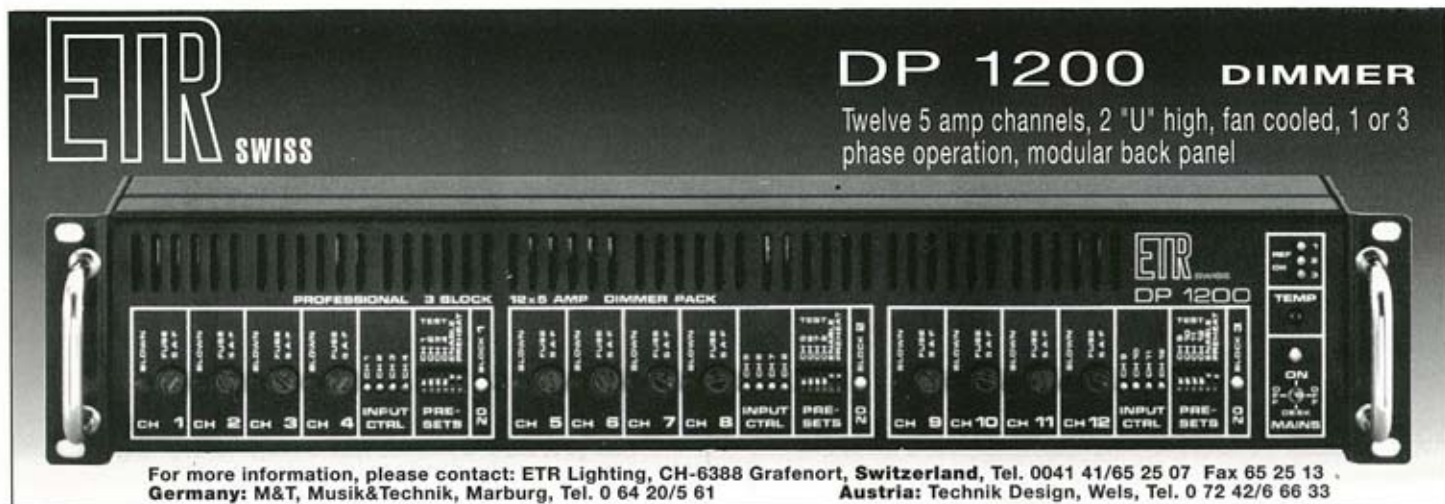
Doug Fleenor (Doctor DMX to his friends) was also showing his range of DMX interfaces and splitter boxes on the **Dove Systems** stand. (For more details on various DMX devices see main feature by Tony Gottelier this month).

The ever-increasing number of software companies for lighting designers were well represented. **Modelbox** had travelled from London to consolidate their successful launch of the new Laplight (now packaged with Autosketch) in Dallas last year. **Lux Art** were showing their simple CAD package, that's been purpose-written; **Single Candle Software** were showing their programme that caters for the budget end of the market and **JCN** were offering a range of software for the whole industry, as well as lighting, but were hampered slightly by the fact that their booth was delayed and didn't arrive until the last day!

A newcomer to the scene were **Claude Heintz Design** who demonstrated their MacLux Pro software. Written for the Apple MAC, Claude Heintz' programme appeared to be very user-friendly. It allowed editing of the design in both the drawing and the database. It also has the facility for some cue modelling and, by the addition of an extra piece of software, 3D modelling.

The battle of the ellipsoidals continued between **ETC**, whose revolutionary Source Four luminaire won 'Product of the Year' at LDI in Dallas, and **Strand Lighting**, who were showing their new range of Lekos. Bill Gallinghouse of ETC reported that over 9,700 of the Source Four units had been sold since their launch last November. The unit uses a glass-like borosilicate dichroic reflector and a custom-made 575W lamp. This results in much less heat being projected forwards resulting in shutter blades and a gobo holder that are 'touchable' to the human hand. This will threaten the livelihood of gobo and colour manufacturers, since the need to replace these after a period of time is removed.

Also on ETC's stand was the latest lighting console from their stable - the Obsession. Designed and built to compete with Strand Lighting's Light Palette 90, it offers control over 1024 channels by using two strings of DMX512



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and more features than I could ever imagine using. Strand themselves were concentrating on their new marketing strategy - the Century system (similar to the Eurosystem available in Europe). The heart of the system is the new Leko, which, according to Steve Norman, Strand's marketing manager, has surpassed all sales expectations. The first two production runs have already been sold. He explained that Strand's world-wide policy meant that they were able to pass on their economies of scale to the end user aiming specifically at the smaller companies.

Several staging companies were represented. **Wenger** had what appeared to be a very impressive system that allowed for a full load to be put on staging with a span of 12' by using purpose-designed columns, decks and side trusses.

Another staging company, **Stageright**, were showing Alla Breve Opus II, a very impressive acoustic wall and ceiling system for converting traditional theatres into concert venues in a matter of minutes.

Of the various sound companies represented at the show, the main one to catch my eye (or ear) was **Bag End**. They were showing their new ELF (Extended Low Frequency) subwoofers. By using the ELF-1 Low Frequency Integrator and its companion series EL-18 transducer system they are able to provide an extended bass response in a relatively small enclosure. From the demonstration we received at the end of the show, most of Kansas can testify to their clarity at high volume.

Charlie Richmond of **Richmond Sound Design** had a busy show demonstrating their range of MIDI show controllers and Stage Manager software.

Compared to recent trade shows there were very few scrollers on show. Both ETC and

Wybron were showing Wybron's new Coloram-4, a scroller designed for the new ETC Source 4, whilst Strand Lighting had a sample of their Colour Call scroller on display.

The special effects for the show were provided by **Genco** who were demonstrating the Le Maitre range of smoke machines and **SFX** who were showing a complete range of effects from cracked oil machines to cobweb machines!

Probably the most unmissable product of the event was 'Lightning Strikes!' - a 300A 70kW discharge source designed to provide more than two million lumens of lightning effect. A whole range of different controllers are available. The bad news is that they are only available for rent; the good news is that there is a UK outlet - Cirro Lite.

Amongst the busiest stands on the floor were the general theatre supply companies such as **Design Lab** from Chicago, and **Olesen** and **Syracuse Scenery & Stage Lighting**. For them the show appeared to be a busy affair, re-establishing old contacts and creating new ones.

A report on the show cannot go without a mention of the various costume and make-up companies who at least added a sparkle of colour to the Expo. I suppose it was inevitable that at some point Dorothy and her various friends paid a visit.

One of the more interesting concepts of this event comes from the various mini-exhibitions. 'Cover The Walls' was an exhibition of student's work in the theatre with photos, plans and drawings of a range of productions. 'Tech Expo' was a small exhibition of various inventions and innovations, mainly from colleges and universities. They ranged from a one person cow costume to an ambient light switch for practicals. Kryolan Corporation had

also sponsored an impressive exhibition of 'The Art of the Theatre Mask'.

Next year the show is at Nashville, renowned home of Country and Western music. I hope for everyone concerned that it is an easier place to get to than Wichita.

The choice of Wichita has to be seriously questioned since a lot of people were dissuaded from attending because of the difficulties in getting there from within the USA, let alone from elsewhere. Even visitors from Los Angeles and New York needed to change flights at least once to get there.



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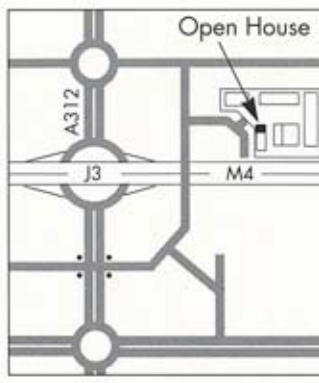
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SERVO DRIVES POINT THE WAY

Computerised flying and a new steel grid make an appearance at the Royal Opera House - Clive Odam and Ian Napier report

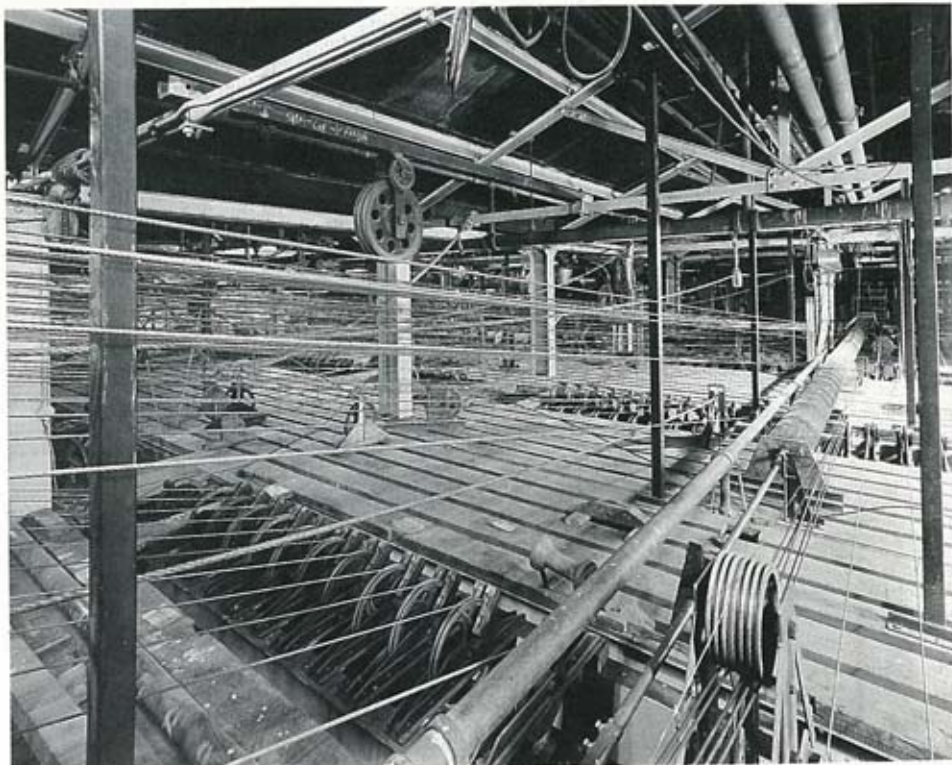
1992 was the year when computerised flying made its first appearance on the stage of The Royal Opera House, Covent Garden in the shape of 30 variable speed point hoists and a fully automated control desk.

The Royal Opera House, Covent Garden is a 19th Century theatre designed by E.M. Barry that opened in 1858. In 1901 it had its last major refit, carried out by Edwin O. Sachs when 59 counterweight sets were installed and the grid raised to its present height of 22 metres; six of these sets are 500 kg capacity and used for the permanent lighting battens, the others are 250kg and carry 18 metre long barrels for the suspension of scenery.

Since 1946 two internationally renowned companies, The Royal Opera and The Royal Ballet, have been housed there and today the ROH runs what is probably the most demanding repertoire of any theatre opera house in the world. With six or seven operas and ballets in the repertoire at any one time, a different production is performed each evening and a new or revived production opens every two or three weeks. Added to this are rehearsals on stage each morning, often with full sets and lighting.

In the past, the problems involved in flying large or heavy scenery have been solved by installing a new electric hoist specially for the production, or adapting hoists fitted originally for another production. More recently chain hoists suspended from the grid have been utilised. This piecemeal approach meant that the grid had become dangerously cluttered and difficult to work in.

In recent years ROH has been planning a major development project to bring the theatre up to modern technical and safety standards so that the demands of the schedule can be met with safety, efficiency and economy. However in February 1992, when this scheme was postponed until 1997, it was decided to undertake an immediate refurbishment of the grid area during the four week closed period in August. This refurbishment would consist of



The grid prior to August 1992.

installing a new framework of RSJ's above the original to support new pulley sheaves for the counterweight sets (the wires on the counterweight sets were beginning to show signs of wear and needed replacing, as did the pulley sheaves that all dated from 1901). The original wooden grid slats were to be replaced by steel channels. All the old electric winches would also be removed and replaced with 30 single wire point hoists and a computerised control system.

The timetable meant that there would be only six months to design a suitable system, manufacture and install it - a prospect to strike

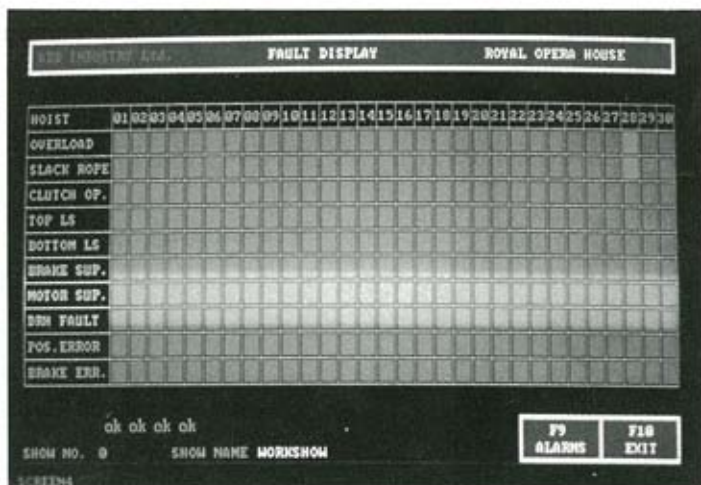
fear into the heart of the most intrepid theatre consultant! It was decided to site 15 hoists on either side of the grid, each with a single 6mm wire rope and capable of lifting 250kg. The hoists would have vertically mounted helical winding drums that would enable the wires to run to any position on the grid and down to the stage. A mechanical clutch would allow the wire to be manually wound on and off the drum for setting purposes without the need to move the hoists electrically, thereby avoiding the need to reset limit switches or position signals. A drop pulley was designed that could be carried easily around the grid and locked securely in any position without the need for tools. This meant that it would be possible to re-position hoists safely in the grid while work continued on the stage below.

The month of August approached rapidly. Having placed all the orders for the equipment only four weeks remained to complete the installation. The Royal Opera House's own night crew worked very hard during the month of July removing as much redundant equipment from the grid as was possible while contractors S.P.D. Builders worked through each night to install the steel supports for the new overhead counterweight pulley sheaves. The dark period began on Sunday the 9th August. A two-shift system, involving the ROH technical staff during the day and contractors Mike Chapman Enterprises overnight, ensured that the work was completed on schedule.

The specifications for the control system that would meet all the ROH's requirements were governed by three overriding factors: cost, a delivery time of five months or less and, the unusually rigorous operating demands that would be placed on the system. While the specification was being finalised, investigation into the appropriate drive system for the motors



The grid as it is today. Chain hoists still have their uses.



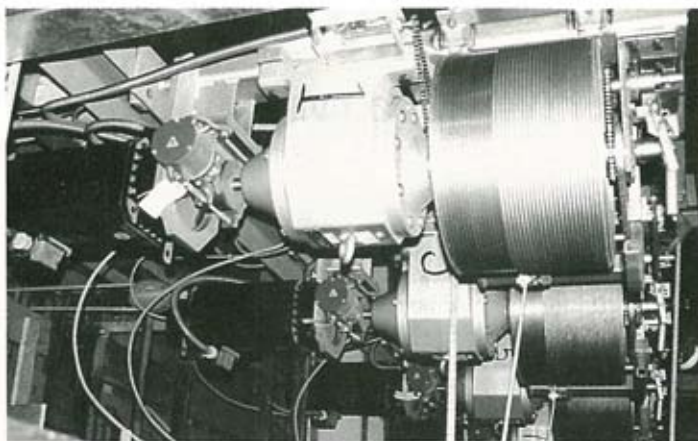
Screen 4: Fault display - One of seven different display screens for operator information.

was continuing. The decision was crucial because, no matter how excellent the control system, motor/drive operation is the one definitive factor when assessing the system for performance and safety. The requirement to cope with varying loads at varying speeds, together with the ability to produce continuous and, if necessary, maximum torque at zero speed are important factors in the specifying of a sophisticated powered flying system. One other important factor was noise - the motor/drive combination had to be virtually silent due to the siting of the winch units in the grid space above the stage area.

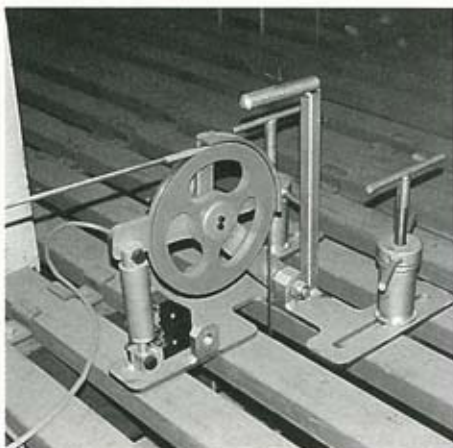
The system requirement was for 30 winches, each capable of lifting a maximum load of 250kg at speeds from 0 to 1.5 metres/second. The system also had to control synchronized groups of up to 15 hoists running at pre-recorded speeds to pre-recorded positions utilizing a purpose-built control desk. Discussions with various manufacturers, plus previous research and knowledge, indicated that the ROH's requirements would be met by a combination of an AC drive together with an induction motor and position sensing encoder. A very impressive demonstration by ABB Industry Ltd of their DRH 4 quadrant servo drive and QK induction motor convinced us that we had found the right product just in time. After the order for the drives and motors had been placed ABB then indicated that they could also build the control system in time to meet the August deadline.

Even though this was their first venture into the theatre world ABB engineers in Heidelberg had already designed and built a multi-axis control system to install wings on the latest European Airbus project. This system was based around the T300 multi-processor PLC system which already had the software modules written for it and it formed the basis of the proposal to The Royal Opera House. It was then a question of designing a control desk to meet the specification. ABB Industry is a member of Asea Brown Boveri, the world's largest electrical engineering group, and their ability to call upon almost unlimited resources to complete the project successfully weighed heavily in the ROH's final decision to award them the overall contract. Orders were placed at the end of May, 1992 and the equipment was delivered to the ROH for installation at the beginning of August. By the beginning of September the system was up and running and handed over as a fully working system in October - a time scale that is probably unique in the world of theatre engineering!

The powered flying system that is now resident in the ROH has to cope with one of the most demanding environments in the theatre



The hoists: 15 are mounted on each side of the grid. Each hoist has enough cable to position the drop pulley anywhere on the grid and still reach the stage. The vertical winding drums enable the wires to run directly to the pulley position without diversions.



Point hoist drop pulley, designed to be sited at any angle or position on the grid. Slack wire and overload detectors are built into each pulley with flexible (orange) cable connection to the hoist.

world: there are over 550 changeovers, rehearsals or performances every year and the 24 hour shift system means that up to 20 to 25 operators have to be trained to use the system while at the same time fulfilling their other role as counterweight flymen. The desk layout and functionality had to be such that operational complexity was kept to a minimum. This was achieved by providing a multi-screen colour VDU showing both text and graphical information, a rigging panel incorporating a joystick for manual operation and four identical playback panels to permit programmed multi-scenic movements. The system memory is divided into eight shows, each show capable of holding 99 cues, 20 groups and 10 pre-set 'deads' per hoist and backed up by floppy disc storage.

Operator training using individual tuition organised by Theatre Technical Training Services Ltd and ABB's comprehensive operating manual has been given a high priority by Opera House management. This, together with an enthusiastic and positive response from the crew, whose past experience has often only involved manual flying systems, has ensured that the hand-over was smooth and relatively trouble free. The first few shows involved only simple flying movements but the pace of change has now quickened perceptibly as the system is called upon to do increasingly complex scenic movements.

The experience gained by using the system in a working environment has highlighted ways that its performance can be enhanced and ABB are already engaged in the process of designing and implementing the modifications to achieve this. Fortunately, the control desk's PLC

software can be altered easily without affecting the axis control loop and this means that desk key functions can be changed on site without hardware modifications and a minimum of system downtime because the control system software is unaffected. The installation of this system has provided the Opera House technical staff with the unique experience of being involved in the development of a powered flying system from the design stage through to its full operational use.

Authors' note: All the suppliers and subcontractors who contributed to this project worked extremely hard to ensure that it would be a success and that the Opera House had no interruptions to its programme. However, we would particularly like to thank the following:

Paradigm Technical Services, system consultant.

Michael L. M. Barnett who did all the mechanical design of the winches and pulleys.

Mike Chapman who performed extraordinary feats to complete the replacement of the grid and reinstatement of the counterweight sets.

John Hastie, Mark White, Andy Evans, David Colmer and Les Garwood who did so many wiring connections without any crossed wires.

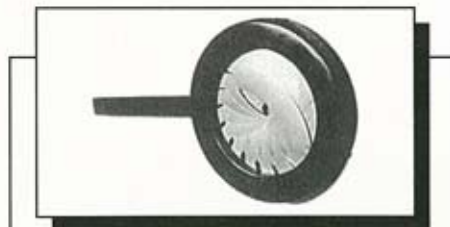
Smith and Forbes Ltd who made 30 winches in three weeks.

ABB Industries Manchester.

Roland, Annette and Regina from ABB Heidelberg.

The Royal Opera House Technical Staff and Stage Crew's.

Lastly but not least, the **Fly Crew**, whose support, enthusiasm and good humour has integrated the system so quickly and smoothly into the House.



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EQUIPMENT *News*

Time Code Thingeys



A range of 'Thingey' time code readers/generators is now available from Maris Ltd. These units can be supplied either as hand-held units or in 1U high rack mounted format. The display is a 2-line, 32 character LCD.

The 'Standard Thingey' is capable of generating and reading FILM, EBU and SMPTE timecode. On reception, the 2-line LCD display shows either incoming time code or the user bits, as well as the time code type and the functions of the three buttons on the unit. It also provides a facility to synchronise the time code generator to a video source such as video camera, tape machine or laser disk player or to devices such as film projectors. The synchronisation is done through dynamic adjustment of the time code parameters, so that the time code speeds up or slows down as required. This unit may also be remote-controlled via remote switches or the printer port of a PC. A port is provided which outputs a pulse for every frame of time code read or generated - this allows a simple interface to devices requiring synchronisation to time code or video.

The 'Ultimate Thingey' also provides a serial interface, a real-time clock and storage of preset parameters. It comes with software for the IBM PC which allows you to send and receive time code and user bits to and from the PC, as well as remote control unit. The 'Ultimate Thingey' will record as well as read user bits, and may be synchronised to the PC over the serial port. It allows recording of time and date onto tape. With the appropriate software this unit may be used to control external devices from triggering information contained within the user bits of the time code.

All Thingeys have a balanced input and a dynamic range better than 20dB, with a maximum input voltage of 1.5 volts peak-to-peak. A radio receiver may be fitted internally to any of the Thingeys which allows for wireless reception of timecode. A matching transmitter (DTI approved and licence exempt) is available which gives a range of 20 metres. Thingeys are powered from a battery adapter or other external power source.

For more information contact Maris in Meopham on (0474) 813702.

Avolites DMX

Avolites Ltd have introduced a new product to their range of lighting control equipment - the Avolites DMX Splitter-Isolator. The unit features eight buffered DMX output lines, configured as four opto-isolated pairs, DMX loop-thru for further splitter-isolators and a linear PSU mains input for operation from 90 to 265 volts AC. Using opto-isolation and buffering, the Avolites DMX Splitter-Isolator prevents signal deterioration and earth loops and also gives mains isolation between dimmers, intelligent lamps and their control desks. The 1U unit is supplied with detachable front ears for mounting in a 19" rack and is of a durable steel construction.

For full details contact Avolites Ltd in London, telephone 081- 965 8522.

Integrated Rainbows

Camelont have introduced the Maxi Power Supply Unit (Maxu PSU), an integrated power supply and digital splitter box, which will support up to 12 Rainbow colour changers. Its small size makes it suited to being rig mounted alongside the Rainbow colour changers. A mini PSU, which will run up to six Rainbows, is being launched this year. The DMX signal from a control desk is fed into the splitter box section of the Maxi PSU and an internal 24V dc power supply unit powers both the colour changers and the internal DMX buffer circuit. The power/control signal link is distributed from the splitter box in two parallel outputs, each of which can support up to six individual colour changers.

The DMX splitter box section incorporates an earth selector to prevent problems which may be caused by variations in the signal earth. This enables the user to separate the earth in the colour changer system from the rest of the DMX line and the equipment connected to it. The Maxi PSU contains a relay card which ensures that the re-amplified DMX signal will bypass the unit in the event of a power failure. In large systems, where several Maxi PSUs are daisy-chained, a power failure in the supply to one of the boxes will not affect the others in line.

Other safety features include internal fuses for each output to colour changers, which will prevent the pcb from being destroyed by the high short circuit current. The line driver circuits are mounted in TC sockets and are easily changeable.

For full technical information contact Camelont in London, telephone 071-284 2504.

DMX Option for VL5

DMX512 capability is now available from Vari-Lite Europe. This option has been provided to increase the useability of the VL5 in situations where the full series 200 control system is not practical. For further details contact Vari-Lite in Greenford, telephone 081-575 6666.

Sound Check CD

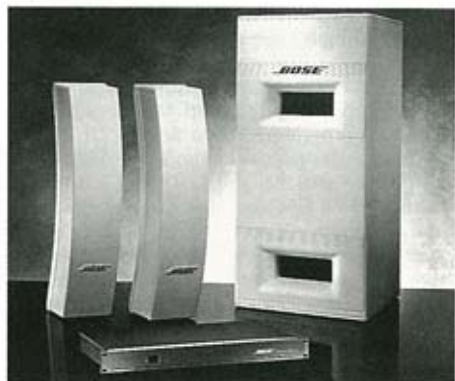
Sound Check, a professional audio test and demonstration CD is the result of five years work by Alan Parsons and Stephen Court. It contains 92 tracks of practical material, compiled as a result of research into the needs of the professional audio engineer. The CD contains everything from standard reference tracks for research and development or installation engineers, to demonstration tracks for quality assessment and a sales aid for dealers and contractors.

Sound Check was mastered at Abbey Road Studios in London, and co-produced by Alan Parsons and Stephen Court. Alan Parsons is the internationally acclaimed record producer whose hits range from Pink Floyd's Dark Side of the Moon, through to Paul McCartney and Wings, Al Stewart and The Alan Parsons Project, and is a founder member of the Record Producers Guild. Stephen Court has a world-wide reputation as a sound designer. His work, including lectures and articles on loudspeakers and control electronics has also won awards world-wide, and has prompted the concept of Sound Check. Later in the year a double CD case version will be released containing a miniaturised spectrum analyser with built-in calibration microphone for use with the third octave bands in this CD, and which will form a compact spectrum analyser system.

For further details contact Court Acoustics in Slough, telephone (0753) 833524.

Bose launch Panaray

Bose have launched the Panaray loudspeaker system and its key element is the unique curved enclosure that houses a five-driver array. Each curved enclosure, called the 502A controlled array, delivers tightly controlled vertical and horizontal coverage patterns (120 X 170 degrees) as well as smooth band-to-band beamwidth characteristics. The Panaray system is modular and consists of the lightweight mid-high frequency array enclosure, the 502B Acoustimass Bass Enclosure, a compact bass unit and the 502C systems controller and a 1U rack-mount equalization/crossover unit.



A new high power 12" woofer with a 4" voice coil drives the 502B Acoustimass bass enclosure. The dual channel 502C systems controller contains Bose-patented active equalization and 18 dB/octave crossover circuitry. It features electronically balanced inputs and outputs, +4/-10dB input sensitivity switches, three operating modes and bass mono sum and level controls. A complete line of accessories are offered with the system. The 502A enclosure can be mounted or flown in a wide range of configurations with a U-bracket, single point bi-pivot bracket or two-point gravitational bracket. The 502B bass enclosure can also be suspended with a gravitational bracket. Bose is also offering a 150 watt constant voltage transformer for distributed systems.

For further details contact Bose in Sittingbourne, telephone (0795) 475341.

Stage Struck

Aliscaff, the manufacturers and suppliers of aluminium products, including portable staging and extruded couplers, now offer tiered seating for hire or sale which can be supplied with or without seats.

Manufactured using aluminium framing with robust timer decking the system is so designed to be robust whilst being light enough for ease of assembly. The design eliminates the need for nuts and bolts when erecting by using adjacent unit couplers.

The system allows for ease of access even though seats may be occupied, with each tier rising in 200mm increments, allowing for unhindered audience viewing. Walkways can be incorporated to any part of the system by removing two seats per tier to form a gangway.

Safety factors include 1000 kgs safe working load per deck with a safety factor of 3:1, plus overlapping decks to eliminate seats falling behind. Guardrails can also be fitted to make a fully contained system that can be used in any location and in any configuration.

For further details contact Aliscaff in London, telephone 081-808 5005.

to the directors at all times, and with the support of Christian Salvesen I can see no problems at all. I like the challenge, and as we take a larger market share more resources will be added. "It's a big canvas. I believe large multi-media events will further establish themselves as part of our way of life; events you can take the kids to, with fireworks, son et lumiere etc. Most of them will be televised or recorded in some way. It will become part of the norm.

"This is not to say we won't be interested in smaller productions, but we will be heavily targeting the very large world-wide televised special events where we have the expertise and the equipment to supply any production company or organiser as a one-stop shop: crew, production managers, graphics, display, and so on.

"It would be nice to say to a potential organiser that we will be able to dovetail the lighting production into the larger overall event production, attending to all the production services needed within the lighting field, bringing in all the necessary areas of expertise as required. It exists in the rock and roll field - it's all there."

LSD see their huge manufacturing base as an essential part of the move into presentation and event work. "We manufactured many of the lighting units we required for the Olympic Games," explained Dave Smith. "If there's anything a designer wants that we haven't got available off-the-shelf then with our manufacturing facilities we can either make it or adapt something to suit his needs. We're constantly doing that on the rock and roll side, so I see no reason why we can't bring that type of expertise to play in the area of special projects."

Dave Smith has been well-primed for his new post. "The Olympics was a fabulous, fabulous job. I'd just finished 'The Spire' at Salisbury which I thought was going to be the biggest job I'd ever do for Meteorites when I was asked to work on the bid team for the Games and then to move on to be production manager.

"It was a daunting prospect, but it was a challenge and it looks great on my CV! At the end of the day it was a matter of surrounding myself with people who I'd worked with in the past who I knew could do the job. And that was basically the key to its success."

LSD's managing director Steve Dawkes confirmed the group's commitment to the growth of the new Special Projects Division. "We have a small but very capable team within our 'Special Projects' division who have the total resource of the company behind them but this should not be necessary. "Light & Sound Design have to be better placed than any other company world-wide to service the needs of any special event, thanks to its commitment to research and development, its complete spectrum of lighting equipment, large manufacturing facility and such products as the Icon. All you have to do is call Dave Smith."

Power Gems

A new range of electronic ballasts capable of driving any MSR or HMI luminaire, and which can monitor and report back on their performance in five or more languages, has been launched by Power Gems Limited.

Compatible with all major daylight sources, the Gems series ballast units will operate across a range of power ratings. For example, the Gem 425 can drive a 4kW, 2.5kW, 1.2Kw, or 575W luminaire. Inside the unit is a micro-processor which manages the ballast's functions. It can provide the operator or rental owner with the working history of its last 99 operations via a security-coded key. A 16-character display gives operational modes such as 'successful strike, output running flicker free at 90% power', and can alert the operator with warning messages such as 'check lamp and cable'.

All power handling circuits within the Gem series ballast units are of a modular construction and design. A flashing display diagnoses any faults. Downtime is reduced because modules are easily replaced without any assistance from an engineer. Gem series ballasts supply constant power output for prolonged bulb life, improved colour temperature matching and will dim to 50% power. Housed in a steel case with a robust lifting handle, the unit only needs a 184 mm wide (x 475 mm deep) footprint. The Model 425 (4 kW) weighs 20.5 kg, and Model 250 (2.5 kW) 17 kg.

For more information contact Power Gems in Salford, telephone 061-745 7444.

Lab Gruppen SS1300

The SS1300 is now available from Network, the exclusive UK distributor for Lab Gruppen amplifiers. Designed for quality sound systems and high power mobile use, the SS1300 is a light weight and compact power amplifier. The SS1300s chassis is constructed of 2mm black anodised aluminium with a 4mm thick front panel.

Both its power supply and two output channels are cooled by two proportional speed fans with airflow from front to back. The DC rail voltage is derived by an advanced switch mode power supply which is different to previous designs in that the magnetic energy in the ferrite transformer is controlled with a pulse width processor and magnetic flux sense windings. The result is a power supply that is not dissimilar to a traditional bi-phase bridge but with stabilisation so efficient that the maximum output power available from the amplifier is still within specification, even if the line voltage varies between 180 and 260V AC. The input stage is totally discreet to achieve the best bandwidth and linearity. Lab Gruppen chose a conventional bi-polar output stage for the SS1300 because of its sonic excellence, easy serviceability and noise, and high current capability and as with other Lab Gruppen products, the SS1300 benefits from extensive safety approvals.

For details contact Network in London, telephone 081-885 5858.

Optical Film from Rosco

Rosco have developed a new range of optical films. Each film is grooved to provide precise optics which will bend or transmit lighting in different ways to increase the effectiveness of a single lamp. Parallel Light Film extends light beyond its normal throw distance by channelling it parallel to the light rays. Right Angle Reflector Film bends and reflects the light rays at 90 degrees, regardless of the angle of transmission. The films are made from heat resistant polycarbonate. For further details telephone Roscolab in London on 081-659 2300.

Interactive FX



This controller has been designed to be an affordable method of triggering sound or lighting effects from on-stage action via microphone-fed tone generator or hard-wire switch. The 19" rack mount unit provides eight channels to MIDI converter, with two each In and Out MIDI channels and 64 performance memories.

The fx will interface with any MIDI interface, which these days means many lighting desks and MM Productions are keen to put across the advantages of using the equipment in conjunction with digital samplers such as the Akai S series. The unit is currently available for hire only. For further details contact MM Productions in Harwich, telephone (0255) 241130.

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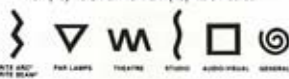
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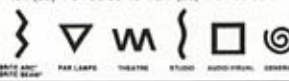
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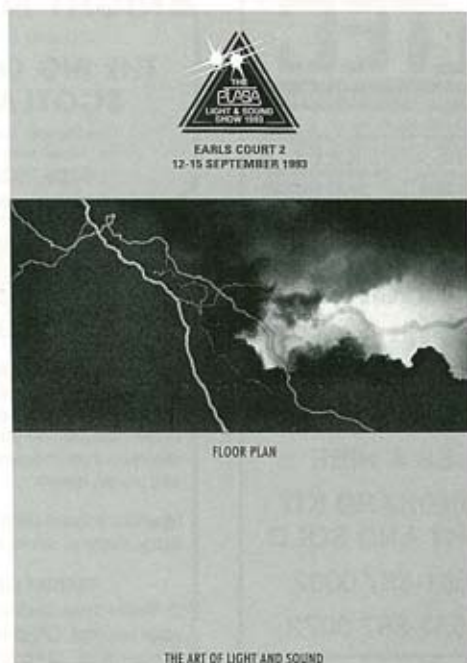
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VIEWPOINT

Vic Lennard on Is MIDI Essential or Optional?

1993 marks the tenth anniversary of the first MIDI Specification, ten years in which MIDI has made stunning advances into originally unintended areas of industry. MIDI, the Musical Instrument Digital Interface, was initially conceived as a method for connecting synthesizers built by different manufacturers and it is probably fair to say that the instigators had little idea of how their creation would flourish. At last year's NAMM Show in the USA, the comment was made that MIDI should now stand for the 'MIDI Instrument Digital Interface', such is the current diversification!

MIDI was not an overnight occurrence. Years of experience went into the conception of the protocol, a fact borne out by the small number of changes to the original MIDI Specification. While there have been additions, the rudimentary MIDI commands have remained intact.

Is MIDI a standard? Not in the true sense of the word. MIDI has never been passed before any of the independent standards organisations such as ANSI, and as the whole ethos of MIDI is based on trust and co-operation between manufacturers, no-one checks whether equipment bearing MIDI sockets correctly conforms to the specification. The term 'MIDI' has never been patented and, as far as I am aware, no copyrights have been taken out except for those that exist simply due to long-term usage. Consequently, MIDI is open to abuse, and even in these recession-hit times there have been surprisingly few instances of mis-applications of MIDI.

MIDI is not user-driven. Manufacturers generally decide on the direction for their equipment and then thrust it on the user in the hope that whatever market research has been done will be reasonably accurate. While this is true of many industries, it must be remembered that MIDI has a very narrow market; one bad marketing decision by a small manufacturer can be the last it makes.

For those of you looking on from the outside, so to speak, the main problem is where MIDI ends and other technologies begin. While this delineation is quite obvious where electronic musical instruments are concerned, the addition of various MIDI applications has opened up several grey areas especially pertaining to lighting consoles.

While MIDI was used for many years to provide a link between computer software and a lighting controller, such systems were invariably designed by people within MIDI with the intention of using a spare computer sequencer track to control a somewhat unsophisticated light show. I certainly remember seeing two or three inexpensive systems of this kind around 1989.

The appearance of the MIDI Show Control (MSC) Specification in July 1991 came as a surprise to many in the UK lighting industry. Spearheaded by Charlie Richmond of Canada, few people in the UK were aware of its existence either before, or for quite some time after, its release. Talking with Charlie at the PLASA Show last year, it became clear that some six or seven years of his experience of working with



Vic Lennard, 37, has been a technical music journalist for six years and a musician for longer than he cares to remember, with various album credits to his name. Having effectively wasted an honours degree in Actuarial Science, and after ten years as a maths teacher, MIDI finally presented him with what he had been searching for - the perfect bond between maths and music. In 1990 he created the United Kingdom MIDI Association, an information-giving organisation for anyone working within MIDI from manufacturers to users while, as a journalist, he has had more than 350 articles published in over 20 magazines. After years of running MIDI courses, holding seminars and writing about MIDI, Vic Lennard has finally had his first book published. *MIDI Survival Guide* (by PC Publishing) is being launched at the forthcoming MIDI & Electronic Music Show.

computer-controlled lighting systems had gone into MSC. Even more significant was the fact that several UK lighting companies were starting to use MSC; the demonstration of Aviator was most impressive.

While the basic MIDI specification has remained unchanged for ten years, the creators used a very open structure to allow for future applications as and when the technology allowed.

Are such applications simply presented to manufacturers by a small band of designers? Emphatically no MIDI Show Control where a working group steeped in expertise collaborated with all interested parties is a typical example. Another is MIDI Machine Control which was instigated by some of the major tape recorder manufacturers.

In my experience, few UK companies get involved inside MIDI. Only a handful are members of the MIDI Manufacturer's Association (MMA) in the USA, the body that, with its Japanese counterpart, controls changes and additions to the MIDI specification. Yet clearly people working within the audio, lighting and motor control industries have a wealth of experience that should be put to good use. Their input is essential if the future applications of MIDI are to be truly representative of what the various related industries require.

The close tie-up between the Interactive Multimedia Association and the MMA means that companies such as Microsoft, Apple and IBM are becoming involved with MIDI in a big way. Indeed, Microsoft's Windows 3.1 environment actively supports MIDI via its built-in drivers; the next generation of Windows NT (New Technology) promises to further this integration.

Perhaps the biggest problem is that of knowing where to look, and who to speak to, for information. A good starting point is the forthcoming MIDI and Electronic Music Show at Wembley (23 - 25 April) where most major MIDI manufacturers will be exhibiting - Akai, Korg, Peavey, Roland and Yamaha to name but a few. A three-day series of seminars includes a host of MIDI, digital audio and technology-based demonstrations and discussions by many leading lights of the UK industry. For those of you who are unfamiliar with MIDI, it might be worth coming along to my own seminar on Sunday morning (25th April) at 11.30 a.m. where the basics will be explained.

MIDI started out as a means for helping keyboard players to connect together two synths but times change, and so must the people within MIDI. Don't let the technological advances leave you behind.



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Organised by Professional Light and Sound Association (PLASA) with the British Government. Many well-known manufacturers will be participating in this Group.

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Italian Group

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* With the show still several months away, many more international companies will be participating. Their names are not currently listed above pending final decision.

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